The Society of Toxicology would like to invite you to join us in Baltimore for our 43rd Annual Meeting. Symposia, workshops, roundtables, and continuing education courses that cover a wide range of topics have been selected by the Program Committee and the Continuing Education Committee.

Baltimore offers the opportunity to combine cutting-edge science and comradery in a city known for its harbor and its National Aquarium. We look forward to seeing you there.

Marion Ehrich
SOT President
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up-to-date information at www.toxicology.org
### SOT Annual Meeting Events Calendar

#### Saturday

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:00 PM to 7:00 PM Registration</td>
<td></td>
<td>Baltimore Convention Center</td>
</tr>
<tr>
<td>4:00 PM to 7:00 PM Speaker Ready Room</td>
<td></td>
<td>Baltimore Convention Center</td>
</tr>
<tr>
<td>5:30 PM to 6:00 PM Undergraduate Education Program</td>
<td></td>
<td>Baltimore Convention Center</td>
</tr>
<tr>
<td>5:30 PM to 8:45 PM Education Fellowship Interviews</td>
<td></td>
<td>Baltimore Convention Center</td>
</tr>
<tr>
<td>5:30 PM to 6:00 PM Pre-Workshops Reception (Ticket Required)</td>
<td></td>
<td>Baltimore Convention Center</td>
</tr>
<tr>
<td>6:00 PM to 9:00 PM Undergraduate Education Program for Minority Students—Lecture &amp; Reception</td>
<td></td>
<td>Baltimore Convention Center</td>
</tr>
</tbody>
</table>

#### Sunday

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 AM to 5:00 PM IUTOX Executive Committee Meeting I</td>
<td></td>
<td>Baltimore Convention Center</td>
</tr>
<tr>
<td>8:00 AM to 10:00 AM Placement Committee Meeting I</td>
<td></td>
<td>Baltimore Convention Center</td>
</tr>
<tr>
<td>8:00 AM to 5:00 PM ToxExpo™ Set Up</td>
<td></td>
<td>Baltimore Convention Center</td>
</tr>
<tr>
<td>8:00 AM to 5:00 PM Undergraduate Education Program Session</td>
<td></td>
<td>Baltimore Convention Center</td>
</tr>
<tr>
<td>8:15 AM to 12:00 NOON Continuing Education Courses</td>
<td></td>
<td>Baltimore Convention Center</td>
</tr>
<tr>
<td>10:00 AM to 3:30 PM Placement Services: Office (Registration Only)</td>
<td></td>
<td>Baltimore Convention Center</td>
</tr>
<tr>
<td>11:45 AM to 1:15 PM CE Luncheon for Speakers, Committee and Students (By Invitation Only)</td>
<td></td>
<td>Baltimore Convention Center</td>
</tr>
<tr>
<td>12:00 NOON to 3:00 PM Toxicological Sciences Editorial Board Meeting</td>
<td></td>
<td>Baltimore Convention Center</td>
</tr>
<tr>
<td>1:00 PM to 3:00 PM IART Meeting</td>
<td></td>
<td>Hyatt Regency Baltimore</td>
</tr>
<tr>
<td>1:00 PM to 4:00 PM TEF Board Meeting</td>
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<td>Baltimore Convention Center</td>
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</table>

#### March 20, 2004

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:30 PM to 6:00 PM Undergraduate Education Program Orientation for SOT Hosts, Peer Mentors and Advisors</td>
<td></td>
<td>Baltimore Convention Center</td>
</tr>
<tr>
<td>6:00 PM to 8:00 PM Undergraduate Education Program</td>
<td></td>
<td>Baltimore Convention Center</td>
</tr>
<tr>
<td>6:15 PM to 7:00 PM Continuing Education Walk-Through</td>
<td></td>
<td>Baltimore Convention Center</td>
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</table>

#### March 21, 2004

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
<th>Location</th>
</tr>
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<tbody>
<tr>
<td>1:15 PM to 5:00 PM Continuing Education Courses (Ticket Required)</td>
<td></td>
<td>Baltimore Convention Center</td>
</tr>
<tr>
<td>4:30 PM to 5:15 PM Awards Recipients Photographed</td>
<td></td>
<td>Baltimore Convention Center</td>
</tr>
<tr>
<td>5:15 PM to 6:30 PM Award Presentation (All Attendees Welcome)</td>
<td></td>
<td>Baltimore Convention Center</td>
</tr>
<tr>
<td>6:30 PM to 7:30 PM Welcoming Reception (All Attendees Welcome)</td>
<td></td>
<td>Baltimore Convention Center</td>
</tr>
<tr>
<td>6:45 PM to 7:15 PM Student Advisory Committee Meeting I</td>
<td></td>
<td>Baltimore Convention Center</td>
</tr>
<tr>
<td>7:45 PM to 8:15 PM Student Advisory Committee Meeting I</td>
<td></td>
<td>Baltimore Convention Center</td>
</tr>
<tr>
<td>8:00 PM to 10:30 PM Arizona Night</td>
<td></td>
<td>Sheraton Inner Harbor Hotel</td>
</tr>
<tr>
<td>8:00 PM to 10:30 PM Arizona Night</td>
<td></td>
<td>Camden Room</td>
</tr>
</tbody>
</table>
## SOT Annual Meeting Events Calendar (Continued)

<table>
<thead>
<tr>
<th>Event</th>
<th>Location</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:00 PM to 7:00 PM Joint Reception of the Mountain West and Southern California Regional Chapters</td>
<td>Renaissance Harboplace Hotel Homeland</td>
<td></td>
</tr>
<tr>
<td>5:00 PM to 7:00 PM Roundtable of Toxicology</td>
<td>Hyatt Regency Baltimore Constellation F</td>
<td></td>
</tr>
<tr>
<td>5:30 PM to 7:00 PM Taylor and Francis Reception</td>
<td>Hyatt Regency Baltimore Constellation</td>
<td></td>
</tr>
<tr>
<td>6:00 PM to 7:30 PM Biological Modeling Specialty Section Reception</td>
<td>Baltimore Convention Center 301</td>
<td></td>
</tr>
<tr>
<td>6:00 PM to 7:30 PM Carcinogenesis Specialty Section Reception</td>
<td>Baltimore Convention Center 325</td>
<td></td>
</tr>
<tr>
<td>6:00 PM to 7:30 PM Inhalation Specialty Section Reception</td>
<td>Baltimore Convention Center 336</td>
<td></td>
</tr>
<tr>
<td>6:00 PM to 8:00 PM Metals Specialty Section Reception</td>
<td>Baltimore Convention Center 324</td>
<td></td>
</tr>
<tr>
<td>6:00 PM to 7:30 PM Neurotoxicology Specialty Section Reception</td>
<td>Baltimore Convention Center 337</td>
<td></td>
</tr>
<tr>
<td>6:00 PM to 8:00 PM Northeast Regional Chapter Reception</td>
<td>Sheraton Inner Harbor Hotel Camden Room</td>
<td></td>
</tr>
<tr>
<td>6:00 PM to 7:30 PM Regulatory and Safety Evaluation Specialty Section Reception</td>
<td>Baltimore Convention Center 302</td>
<td></td>
</tr>
<tr>
<td>6:30 PM Immunotoxicology Specialty Section Student and Post-Doc Mixer</td>
<td>Wharf Rat Brewery</td>
<td></td>
</tr>
<tr>
<td>7:30 PM to 9:00 PM Gulf Coast Regional Chapter Reception</td>
<td>Hyatt Regency Frederick</td>
<td></td>
</tr>
<tr>
<td>7:30 PM to 9:00 PM Neurobehavioral Teratology Society Social</td>
<td>Renaissance Harboplace Hotel Federal Hill</td>
<td></td>
</tr>
<tr>
<td>7:30 PM to 10:00 PM Oxford University Press Dinner (Location to be Announced)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**Up-to-date information at www.toxicology.org**
SOT Annual Meeting Events Calendar

Tuesday

Events are listed alphabetically by the event start time.

6:30 AM to 8:00 AM
Comparative and Veterinary Specialty Section Officers Meeting
Baltimore Convention Center 302

7:00 AM to 8:00 AM
Academy of Toxicological Sciences Board of Directors Breakfast Meeting
Hyatt Regency Baltimore Frederick

7:00 AM to 8:30 AM
Mechanisms Specialty Section Officers Meeting
Hyatt Regency Baltimore Douglass

7:00 AM to 8:30 AM
Regional Chapter Presidents’ and Officers’ Meeting
Baltimore Convention Center 306

7:00 AM to 8:00 PM
Speaker Ready Room
Baltimore Convention Center 311

7:30 AM to 8:30 AM
Student Advisory Committee Meeting II
Baltimore Convention Center 304

8:00 AM to 9:00 AM
In Vitro Specialty Section Officers Meeting
Hyatt Regency Baltimore Camden

8:00 AM to 4:00 PM
Message Center/Lodging Information Booth
Baltimore Convention Center Charles Street Lobby

8:00 AM to 4:30 PM
Paracelsus Goes to School
Baltimore Convention Center 336

8:00 AM to 4:00 PM
Registration
Baltimore Convention Center Charles Street Lobby

8:00 AM to 4:00 PM
SOT Office
Baltimore Convention Center 305

8:30 AM to 11:30 AM
Scientific Sessions
Baltimore Convention Center
(See Program Description for Room Locations)

8:30 AM to 3:45 PM
Informational Sessions
Baltimore Convention Center
(Consult the ToxExpo Directory for Session Times and Descriptions)

3:45 PM to 6:00 PM
Biologic/Pharmacologic Toxicology
Baltimore Convention Center 301

4:30 PM to 6:00 PM
ToxExpo-Exhibits Open
Baltimore Convention Center Exhibit Hall

4:30 PM to 6:00 PM
Annual Business Meeting
(SOT Members Only)
Baltimore Convention Center 316

4:45 PM to 6:00 PM
ToxExpo 2005 Exhibit Space Selection Meeting
Baltimore Convention Center 307

6:00 PM to 7:30 PM
Comparative and Veterinary Specialty Section Reception
Baltimore Convention Center 302

6:00 PM to 7:30 PM
Women in Toxicology Specialty Section Reception
Baltimore Convention Center 302

7:00 PM to 9:00 PM
Joint Northern California Chapter, UC Davis Alumni Reception
Sheraton Inner Harbor Hotel Potomac

7:30 PM to 10:00 PM
University of Rochester Alumni Reunion
Renaissance Harborplace Hotel Federal Hill

9:00 PM to 11:00 PM
MCV/VCU Department of Pharmacology and Toxicology
Hyatt Regency Baltimore Harborview

March 23, 2004

8:00 AM to 9:00 AM
In Vitro Specialty Section Officers Meeting
Hyatt Regency Baltimore Camden

12:00 NOON to 1:00 PM
SOT/EUROTOX Debate
Baltimore Convention Center 307

12:00 NOON to 1:30 PM
St. John’s University College of Pharmacy, Toxicology Alumni Luncheon
Hyatt Regency Baltimore Annapolis

1:30 PM to 4:00 PM
Forum on Grantsmanship and Sources for Research Support
Baltimore Convention Center 325

1:30 PM to 4:30 PM
Posters Sessions
Baltimore Convention Center Exhibit Hall

1:30 PM to 4:30 PM
Scientific Sessions
Baltimore Convention Center
(See Program Description for Room Locations)

2:00 PM to 3:00 PM
Complimentary Refreshments in Exhibit Hall
Baltimore Convention Center Exhibit Hall

4:30 PM to 6:00 PM
Annual Business Meeting
(SOT Members Only)
Baltimore Convention Center 316

4:45 PM to 6:00 PM
ToxExpo 2005 Exhibit Space Selection Meeting
Baltimore Convention Center 307

5:30 PM to 7:30 PM
Journal of Immunotoxicology Editorial Board Meeting
Hyatt Regency Baltimore Annapolis

5:30 PM to 6:30 PM
Regional Chapter Contacts for K-12 Education Committee Meeting
Baltimore Convention Center 304

6:00 PM to 7:30 PM
Comparative and Veterinary Specialty Section Reception
Baltimore Convention Center 338

6:00 PM to 7:30 PM
Dermal Specialty Section Reception
Baltimore Convention Center 324

6:00 PM to 7:30 PM
Food Safety Specialty Section Reception
Baltimore Convention Center 336

6:00 PM to 7:30 PM
Hispanic Organization for Toxicologists Specialty Section Organizational Meeting
Baltimore Convention Center 317
### SOT Annual Meeting Events Calendar (Continued)

**Wednesday, March 24, 2004**

Events are listed alphabetically by the event start time.

<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 AM to 4:00 PM</td>
<td>Registration, Baltimore Convention Center</td>
<td>Charles Street Lobby</td>
</tr>
<tr>
<td>8:00 AM to 4:00 PM</td>
<td>Exhibit Liaison Committee Meeting, Baltimore Convention Center</td>
<td>334</td>
</tr>
<tr>
<td>1:30 PM to 3:30 PM</td>
<td>NIH/NIEHS an Informal Session for Students with the NIEHS Director</td>
<td>Hyatt Regency Baltimore</td>
</tr>
<tr>
<td>2:00 PM to 4:00 PM</td>
<td>Board of Publications Committee Meeting, Baltimore Convention Center</td>
<td>333</td>
</tr>
<tr>
<td>4:45 PM to 5:30 PM</td>
<td>Council Meeting with Students/Post-Doctoral Fellows, Baltimore Convention Center</td>
<td>309</td>
</tr>
<tr>
<td>5:50 PM to 6:00 PM</td>
<td>Council Meeting with Student Advisory Committee, Baltimore Convention Center</td>
<td>309</td>
</tr>
<tr>
<td>6:00 PM to 7:30 PM</td>
<td>Epidemiology Specialty Section Reception, Baltimore Convention Center</td>
<td>309</td>
</tr>
<tr>
<td>6:00 PM to 7:30 PM</td>
<td>Ethical, Legal, and Social Issues Specialty Section Reception, Baltimore Convention Center</td>
<td>333</td>
</tr>
<tr>
<td>6:00 PM to 7:30 PM</td>
<td>Immunotoxicology Specialty Section Reception, Baltimore Convention Center</td>
<td>302</td>
</tr>
<tr>
<td>6:00 PM to 7:30 PM</td>
<td>Mechanics Specialty Section Reception, Baltimore Convention Center</td>
<td>337</td>
</tr>
<tr>
<td>6:00 PM to 7:30 PM</td>
<td>Occupational Health Specialty Section Reception, Baltimore Convention Center</td>
<td>301</td>
</tr>
<tr>
<td>6:00 PM to 7:30 PM</td>
<td>Risk Assessment Specialty Section Reception, Baltimore Convention Center</td>
<td>324</td>
</tr>
<tr>
<td>6:00 PM to 7:30 PM</td>
<td>Toxicologic and Exploratory Pathology Specialty Section Reception, Baltimore Convention Center</td>
<td>336</td>
</tr>
<tr>
<td>7:00 PM to 10:30 PM</td>
<td>Academy of Toxicological Sciences Reception/Banquet</td>
<td>Hyatt Regency Baltimore</td>
</tr>
<tr>
<td>7:00 PM to 8:30 PM</td>
<td>President's Reception (By Invitation Only)</td>
<td>Renaissance Harborplace Baltimore Baltimore, Baltimore</td>
</tr>
<tr>
<td>8:00 AM to 4:30 PM</td>
<td>Guest Hospitality Center, Hyatt Regency Baltimore</td>
<td>Calvert/Pratt</td>
</tr>
<tr>
<td>8:00 AM to 4:00 PM</td>
<td>Message Center/Lodging Information Booth, Baltimore Convention Center</td>
<td>Charles Street Lobby</td>
</tr>
<tr>
<td>8:30 AM to 11:30 AM</td>
<td>Scientific Sessions, Baltimore Convention Center</td>
<td>(See Program Descriptions for Room Locations)</td>
</tr>
<tr>
<td>8:30 AM to 1:30 PM</td>
<td>Education Subcommittee for K-12 Education Meeting, Baltimore Convention Center</td>
<td>304</td>
</tr>
<tr>
<td>10:30 AM to 11:30 AM</td>
<td>Complimentary Coffee, Baltimore Convention Center</td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td>11:30 AM to 1:30 PM</td>
<td>Finance Committee Meeting, Baltimore Convention Center</td>
<td>304</td>
</tr>
<tr>
<td>11:30 AM to 1:30 PM</td>
<td>Toxicology Mechanisms and Methods Editorial Board Meeting, Hyatt Regency Columbia, Baltimore Convention Center</td>
<td>319</td>
</tr>
<tr>
<td>12:00 NOON to 1:00 PM</td>
<td>A Conversation with the Directors, Baltimore Convention Center</td>
<td>319</td>
</tr>
<tr>
<td>12:00 NOON to 1:00 PM</td>
<td>Issues Session Toxicology: Does Funding Source Influence Research Integrity?, Baltimore Convention Center</td>
<td>307</td>
</tr>
<tr>
<td>1:30 PM to 3:00 PM</td>
<td>Education Committee Meeting, Baltimore Convention Center</td>
<td>304</td>
</tr>
<tr>
<td>1:30 PM to 4:30 PM</td>
<td>Poster Sessions, Baltimore Convention Center</td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td>1:30 PM to 4:30 PM</td>
<td>Scientific Sessions, Baltimore Convention Center</td>
<td>(See Program Descriptions for Room Locations)</td>
</tr>
<tr>
<td>2:00 PM to 3:00 PM</td>
<td>Complimentary Refreshments in Exhibit Hall, Baltimore Convention Center</td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td>6:15 AM to 8:15 AM</td>
<td>Town Meeting: SOT Endowment: Your Future: Presiding Linda S. Birnbaum, Vice President</td>
<td>Hyatt Regency Baltimore</td>
</tr>
<tr>
<td>7:00 AM to 8:30 AM</td>
<td>Guest Hospitality Center, Baltimore Convention Center</td>
<td>327-331</td>
</tr>
<tr>
<td>7:15 AM to 8:30 AM</td>
<td>Town Meeting: SOT Endowment: Your Future: Presiding Linda S. Birnbaum, Vice President</td>
<td>Baltimore Convention Center 318</td>
</tr>
<tr>
<td>7:30 AM to 5:00 PM</td>
<td>Childcare Services, Hyatt Regency Baltimore Chesapeake</td>
<td>Exhibit Hall</td>
</tr>
<tr>
<td>7:30 AM to 9:00 AM</td>
<td>Immunotoxicology Specialty Section Officers Meeting, Baltimore Convention Center</td>
<td>306</td>
</tr>
<tr>
<td>7:30 AM to 9:00 AM</td>
<td>MidWest Regional Chapter Members Breakfast, Marriott Inner Harbor Patapsco Servern</td>
<td>7:30 AM to 5:30 PM</td>
</tr>
<tr>
<td>8:00 AM to 4:30 PM</td>
<td>Guest Hospitality Center, Hyatt Regency Baltimore</td>
<td>Calvert/Pratt</td>
</tr>
<tr>
<td>8:00 AM to 4:00 PM</td>
<td>Message Center/Lodging Information Booth, Baltimore Convention Center</td>
<td>Charles Street Lobby</td>
</tr>
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</table>

**Note:**
- up-to-date information at www.toxicology.org
### SOT Annual Meeting Events Calendar

**Thursday, March 25, 2004**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 AM to 11:30 AM</td>
<td>Coat Check</td>
<td>Baltimore Convention Center Mezzanine</td>
</tr>
<tr>
<td>7:30 AM to 12:00 NOON</td>
<td>Concession Stands</td>
<td>Baltimore Convention Center Main Terrace (Level 300)</td>
</tr>
<tr>
<td>7:30 AM to 12:00 NOON</td>
<td>Placement Services (Message Center Only)</td>
<td>Baltimore Convention Center 328</td>
</tr>
<tr>
<td>7:30 AM to 12:00 NOON</td>
<td>Program Committee Meeting</td>
<td>Baltimore Convention Center 304</td>
</tr>
<tr>
<td>8:00 AM to 11:30 AM</td>
<td>Message Center/Lodging Information Booth</td>
<td>Baltimore Convention Center Charles Street Lobby</td>
</tr>
<tr>
<td>8:00 AM to 11:30 AM</td>
<td>Registration</td>
<td>Baltimore Convention Center Charles Street Lobby</td>
</tr>
<tr>
<td>8:00 AM to 11:30 AM</td>
<td>SOT Office</td>
<td>Baltimore Convention Center 305</td>
</tr>
<tr>
<td>8:00 AM to 11:30 AM</td>
<td>Poster Sessions</td>
<td>Baltimore Convention Center 307</td>
</tr>
<tr>
<td>8:30 AM to 11:30 AM</td>
<td>Scientific Sessions</td>
<td>Baltimore Convention Center</td>
</tr>
</tbody>
</table>

### SOT 44th Annual Meeting

**New Orleans**

**March 6–10, 2005**

**Deadline for Proposals for SOT 2005 Annual Meeting Sessions is April 30, 2004.**

Visit the SOT Web Site for proposal and meeting information.

[www.toxicology.org](http://www.toxicology.org)

*Photo credits: (top left) www.NewOrleansOnline.com, David Richmond; (top right) www.NewOrleansOnline.com, Michael Terranov; (bottom) New Orleans Metropolitan Convention and Visitors Bureau, Inc., Richard Nowitz*
Baltimore City Restaurants

Afghan Kabab
37 S. Charles Street, Suite C
Phone: (410) 727-5511
(Afghan)

Babalu Grill
32 Market Place
Phone: (410) 234-9898
(Cuban)

Bistro 300
300 Light Street
Phone: (410) 528-1234
(American)

Burke's Cafe & Comedy Factory
36 Light Street
Phone: (410) 752-4189
(Hard Rock Cafe)

Café Bombay
114 E. Lombard Street
Phone: (410) 539-2233
(Indian)

Cafe Promenade
110 S. Eutaw Street
Phone: (410) 962-0202
(American)

California Pizza Kitchen
201 E. Pratt Street
Phone: (410) 783-9339
(American)

Capitol City Brewing Company
301 S. Light Street
Phone: (410) 539-7468
(American)

City Lights Seafood Restaurant
301 Light Street
Phone: (410) 244-8811
(Seafood)

Downtowne Sports Exchange
200 W. Pratt Street
Phone: (410) 659-5844
(American)

Hard Rock Cafe
601 E. Pratt Street
Phone: (410) 347-7625
(American)

J. Paul's Dining Saloon
301 Light Street
Phone: (410) 659-1889
(American)

Kawasaki Japanese Seafood Restaurant
413 N. Charles Street
Phone: (410) 699-7600
(Japanese)

Legal Sea Foods, Inc.
100 E. Pratt Street
Phone: (410) 302-7360
(Seafood)

Marconi's Restaurant
106 W. Saratoga Street
Phone: (410) 727-9522
(Continental)

Max's at Camden Yards
300 W. Pratt Street
Phone: (410) 234-8100
(American)

Morton's of Chicago
300 S. Charles Street
Phone: (410) 547-8255
(American)

Paolo's Ristorante
301 Light Street
Phone: (410) 539-7060
(Italian)

Phillips Harborplace Restaurant
301 Light Street
Phone: (410) 685-6600
(Seafood)

Pier 4 Kitchen & Bar
621 E. Pratt
Phone: (410) 659-1200
(Seafood)

Pisces
300 Light Street
Phone: (410) 605-2835
(Seafood)

Ruth's Chris Steak House
600 Water Street
Phone: (410) 783-0033
(Seafood)

Shogun Restaurant
316 N. Charles Street
Phone: (410) 962-1130
(Japanese)

Sotto Sopra, Inc.
405 N. Charles Street
Phone: (410) 625-0534
(Italian)

Tex Mex Grill
201 E. Pratt Street
Phone: (410) 783-2970
(Mexican)

The Green Room @ Andie Musik
409 N. Charles Street
Phone: (410) 385-2638
(Seafood)

The Woman's Industrial Exchange
333 N. Charles Street
Phone: (410) 685-4388
(American)

Tug's Restaurant
222 St. Paul Place
Phone: (410) 244-7300
(American)

Wharf Rat - Camden Yards
206 W. Pratt Street
Phone: (410) 244-8900
(Seafood)

Windows Restaurant
202 E. Pratt Street
Phone: (410) 547-1200
(Seafood)

For more information about restaurants in Baltimore City visit the Restaurant Reservations Booth or ask the hotel concierge. (All restaurants listed are within 3 blocks of the Baltimore Convention Center.)

up-to-date information at www.toxicology.org
Baltimore Convention Center Map

up-to-date information at www.toxicology.org
Baltimore City Hotel Accommodations

1. Brookshire Suites Hotel
   120 East Lombard Street
   Baltimore, MD 21202
   Toll-Free: (866) 583–4162
   Phone: (410) 625–1300
   Fax: (410) 625–0912
   Distance from Convention Center: 3 Blocks

2. Days Inn Inner Harbor
   100 Hopkins Place
   Baltimore, MD 21201
   Phone: (410) 576–1000
   Fax: (410) 576–9437
   Distance from Convention Center: Across Street

3. Hampton Inn & Suites Inner Harbor
   131 East Redwood Street
   Baltimore, MD 21202
   Phone: (410) 539–7888
   Fax: (410) 539–3345
   Distance from Convention Center: 3.5 Blocks

4. Harbor Court Hotel
   550 Light Street
   Baltimore, MD 21202–6099
   Toll-Free: (800) 824–0076
   Phone: (410) 234–0550
   Fax: (410) 659–5925
   Distance from Convention Center: 2.5 Blocks

5. Holiday Inn Inner Harbor
   301 W. Lombard Street
   Baltimore, MD 21201
   Phone: (410) 685–3500
   Fax: (410) 727–6169
   Distance from Convention Center: 1 Block

6. Hyatt Regency Baltimore*
   300 Light Street
   Baltimore, MD 21202
   Phone: (410) 528–1234
   Fax: (410) 605–2870
   Distance from Convention Center: Across Street

7. Marriott Inner Harbor
   110 South Eutaw Street
   Baltimore, MD 21201
   Phone: (410) 962–0202
   Fax: (410) 625–7892
   Distance from Convention Center: 1.5 Blocks

8. Radisson Plaza Lord Baltimore Hotel
   20 West Baltimore Street
   Baltimore, MD 21201–3203
   Phone: (410) 539–8400
   Fax: (410) 332–4229
   Distance from Convention Center: 3 Blocks

9. Renaissance Harborside Hotel*
   202 East Pratt Street
   Baltimore, MD 21202
   Phone: (410) 547–1200
   Fax: (410) 783–9676
   Distance from Convention Center: 3 Blocks

10. Sheraton Inner Harbor Hotel
    300 South Charles Street
    Baltimore, MD 21201
    Phone: (410) 962–8300
    Fax: (410) 962–8211
    Distance from Convention Center: Adjacent

11. Tremont Plaza Hotel
    222 St. Paul Place
    Baltimore, MD 21202
    Toll-Free: 1–800–Tremont
    Phone: (410) 727–2222
    Fax: (410) 685–4216
    Distance from Convention Center: 5 Blocks

12. Wyndham Baltimore Inner Harbor
    101 West Fayette Street
    Baltimore, MD 21201
    Phone: (410) 752–1100
    Fax: (410) 752–0832
    Distance from Convention Center: 2.5 Blocks

* Indicates an SOT Headquarters Hotel
ToxExpo™ is Open:

Monday, March 22 ....................................... 9:30 AM–4:30 PM
Tuesday, March 23 ....................................... 8:30 AM–4:30 PM
Wednesday, March 24 ................................. 8:30 AM–4:30 PM

Please ask Show Management, Libby Jones, permission before taking pictures in the Exhibit Hall.

up-to-date information at www.toxicology.org
2004 Exhibitors

Alphabetical Listing
(As of January 6, 2004)

Please visit ToxExpo.com or the ToxExpo™ Directory for product/service descriptions, a map of booth locations, and other information.

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<td>U.S. Environmental Protection Agency</td>
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Admittance to the Exhibit Hall is limited to attendees with full registration. Children under the age of 15 years of age are not allowed in the Exhibit Hall.

Please ask Show Management permission before taking pictures in the Exhibit Hall.
ToxExpo™ & Informational Sessions

ToxExpo™/Exhibits

For many of the science professionals who attend, the focus of the SOT Annual Meeting is the three-day ToxExpo Exhibition. Here, state-of-the-art products and services directly relating to the advancement of research within toxicology and associated areas are displayed.

ToxExpo™ is Open:

- Monday, March 22 ................................. 9:30 AM–4:30 PM
- Tuesday, March 23 ................................. 8:30 AM–4:30 PM
- Wednesday, March 24 .............................. 8:30 AM–4:30 PM

At the ToxExpo Exhibition scientists have a first-hand opportunity to talk with the exhibitors, and to examine and learn about the products and services on display by more than 240 companies.

Reminder:

The ToxExpo™ Exhibition is considered to be part of the Annual Meeting scientific sessions. Guests and Children (under 15 years of age) are not allowed in the Exhibit Hall. The Society requires approval of all photographic equipment used in the exhibit hall. For information or approval, contact Libby Jones at (703) 438-3115 ext. 1454 or e-mail: libby@toxicology.org.

Informational Sessions

(All Informational Sessions will be held in Room 301 at the Baltimore Convention Center)

Real Time PCR Applications for Toxicology

*Presented by Applied Biosystems*

Monday, March 22
9:30 AM–10:30 AM

This seminar will illustrate new developments in real time PCR including: low cost instruments, low density real time arrays, and pre-designed TaqMan primer/probe sets for human, mouse, and rat genes. A range of applications will be presented, highlighting the flexibility of this technology including: RNAi validation, microarray hit validation, SNP Genotyping, and gene dosage.

Identification of Apoptosis Markers in Plateable Cryopreserved Human Hepatocytes

*Presented by In Vitro Technologies, Inc.*

Monday, March 22
10:45 AM–11:45 AM

Isolated hepatocytes have been used *in vitro* to study the drug metabolism and toxicity of different drug candidates. However, the unpredictable availability of fresh tissue can make this a challenging model to work with. A solution to this has been the development of methods for the cryopreservation of hepatocytes. Cryopreserved hepatocytes have been successfully used in many of the same studies where fresh hepatocytes were previously used. Recently cryopreserved hepatocytes have been identified, which will form a monolayer when plated on collagen-coated tissue culture plates. These plateable cryopreserved human hepatocytes (PCHH) monolayers can be maintained for 5–7 days in culture, and have been used for induction and long-term (4-day) toxicity studies. PCHH have now been studied for their potential use in evaluating chemically-induced apoptosis. PCHH monolayers were incubated with compounds known to induce apoptotic pathways. Apoptosis was determined by measuring Caspase 3/7 and DNA fragmentation levels in the PCHH model. The results of these studies indicate that PCHH is a useful system for evaluating the ability of unknown compounds to initiate apoptosis in human hepatocytes.
Exhibits & Informational Sessions (Continued)

Potential Genomic Markers for Canine Liver Injury

*Presented by Gene Logic*

*Monday, March 22,
12:00 NOON–1:00 PM*

Gene Logic presents the first of two case study analyses. This study details the use of toxicogenomics in understanding species-specific liver injury by comparing gene expression data obtained from rats and canines treated with a proprietary compound. An overview of the analysis and the potential utility of such an approach will be discussed. A light lunch will be available.

Application of Gene Expression Signatures in Toxicology and Drug Development

*Presented by Althea Technologies, Inc.*

*Monday, March 22
1:15 PM–2:15 PM*

Althea Technologies will discuss the acceleration of drug development by providing a comprehensive portfolio of gene-based services.

P450-Glo™: A Luminescent Approach to the Analysis of CYP450 Activities in Recombinant or Native Fractions and Live Cells

*Presented by Promega*

*Monday, March 22
2:30 PM–3:30 PM*

P450-Glo™ assays overcome many of the limitations of fluorescent and non-optical methods by bringing the advantages of luminescence technology to the study of CYP450s. The assays provide a rapid, sensitive and accurate means of detecting CYP450 enzyme inhibition and gene induction.

Advancing Toxicity Assessment through Microarray Gene Expression Analysis

*Presented by Paradigm Genetics and Agilent Technologies*

*Monday, March 22
3:45 PM–4:45 PM*

Key experts from pharmaceutical, government and academic research laboratories will present case studies in gene expression research.

Anapharm Offers More than Standard Gatioanalytical Method Validations

*Presented by SFBC Anapharm*

*Tuesday, March 23
8:30 AM–9:30 AM*

Bioanalytical services provided by Anapharm and a complete description of our bioanalytical method validation process will be presented during this informational session.

Unique Perspectives in Histopathology

*Presented by Colorado Histo Prep*

*Tuesday, March 23
9:45 AM–10:45 AM*

Colorado Histo-Prep will discuss GLP complaint histology and histopathology services for pharmaceutical and medical device industries viz., trimming blocking, and slide preparation, including serial sectioning.

Comparison of Liver Gene Dysregulation: Toxicant Treated Rats and Diseased Human Tissues

*Presented by Gene Logic*

*Tuesday, March 23
11:00 AM–12:00 NOON*

Gene Logic presents the second in a series of case analyses. This study will correlate gene dysregulation between models of animal toxicity and normal and diseased human tissues. The cross species approach allows insights into mechanisms of toxicity and the pathogenesis of human disease. For example, the genes dysregulated by an agent capable of inducing inflammation in rats can be compared to that in human cirrhotic livers and similarities and differences in the gene expression profiles can be examined. A light lunch will be available.
Affymetrix GeneChip Expression Analysis
Applied To Toxicology

*Presented by Affymetrix*

Tuesday, March 23
12:15 PM–1:15 PM

Affymetrix GeneChip microarray technology is a powerful tool for detecting changes in gene expression due to a toxic or stress-related response. By using GeneChip expression array, it is possible to better understand the molecular mechanism of how known genes interact to produce toxic endpoints.

What’s New in Electronic Lab Animal Identification?

*Presented by Bio Medic Data*

Tuesday, March 23
1:30 PM–2:30 PM

Electronic identification has grown in the past 12 months with the addition of new technology. From wireless transmission to programmable chips, to accurate temperature, there are many exciting products to learn about. Come see how the new technology and new products can make your facilities more productive, more accurate and more compliant!

Getting to the Heart of the Matter

*Presented by CorDynamics*

Tuesday, March 23
2:45 PM–3:45 PM

Are you looking for a way to define cardiovascular safety for your lead compounds — accurately, quickly and affordably? Our own experiences in the pharmaceutical industry left us frustrated with the lack of facilities and expertise to perform this type of toxicological testing. We decided to find a way to provide the services needed to meet these demands.

SOT Informational Booths

Animals in Research Booth—ToxExpo 2222

The Society of Toxicology is committed to research of the highest quality and views the use of laboratory animals as necessary to protect human health and the environment, except where alternative techniques have been validated. Stop by the Animals in Research Committee booth for information supporting that position, including the SOT “Importance of Animals In Research” brochure and SOT position statements. A variety of other materials will be on display.

K–12 Resources Booth—ToxExpo 2131, 2133

Pick up tips for classroom mentors and the SOT career brochure. Investigate other high quality toxicology and environmental health sciences materials for teachers and toxicologists who visit classrooms. Come share with the K–12 Education Subcommittee what YOU are doing in your community.

SOT Membership Booth—ToxExpo TBD

The Society of Toxicology (SOT) is the largest association of professional toxicologists in the world. 5,200 plus members from all parts of the United States and more than 40 other countries enhance their careers through the benefits of SOT membership. SOT provides the premier venues for toxicology discourse, including meetings, the official (and highly cited) SOT journal *Toxicological Sciences*, and ToxExpo™. Visit the booth to learn more about all member benefits and for a guided tour of the excellent and diverse resources available through the SOT Web site. Application for membership is easy at www.toxicology.org.

Toxicology Education Foundation Booth—ToxExpo 2224

The Toxicology Education Foundation exhibit will highlight “Is it Safe,” a campaign in partnership with NIEHS and others to provide audiovisual resources for health professionals to use in public presentations. The goal is to empower the public to make good decisions about risk associated with every day products. Information for projects funded through Toxicology in the Classroom will also be on view. Your contributions to TEF make these programs possible. Learn more at www.tox-edfoundation.org.

Write to Congress (RALA)—ToxExpo 2125

The Society of Toxicology’s Regulatory Affairs and Legislative Assistance (RALA) Committee is the focus for activities that aid and support the scientifically related functions of regulatory agencies and judicial bodies. If the regulation of chemicals and the funding of research in toxicology concern you, visit the Write to Congress booth.
General Information

Scientific Sessions and Special Events will be held at the Baltimore Convention Center unless otherwise listed.

Registration Fees:

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Continuing Education Course Fees: (per AM or PM course)

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Continuing Education Sunrise Mini-Course Fees: (includes continental breakfast)

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The Registration Includes:

- All scientific sessions (see program descriptions beginning on page 45) 9:30 AM Monday, March 22 through 12:00 NOON Thursday, March 25.
- ToxExpo™ Exhibit Hall, 9:30 AM Monday, March 22 through 4:30 PM Wednesday, March 24.

Participants are also encouraged to register for the Continuing Education Courses. These are available during three time intervals on Sunday, March 21: the sunrise mini-course is from 7:00 AM-7:45 AM; morning courses are 8:15 AM–12:00 NOON; and afternoon courses are from 1:15 PM–5:00 PM.

Registration Desk—Charles Street Lobby

- Saturday ......................................................4:00 PM–7:00 PM
- Sunday ........................................................7:00 AM–8:00 PM
- Monday........................................................7:00 AM–5:00 PM
- Tuesday....................................................8:00 AM–4:00 PM
- Wednesday ..................................................8:00 AM–4:00 PM
- Thursday ..................................................8:00 AM–11:30 AM

Registration Materials

When you arrive at the Baltimore Convention Center, please go to the registration area to pick up your registration materials (you do not need to stand in line). Your 2004 Annual Meeting registration badge must be presented to obtain the registration materials (i.e., badge holder, the ToxExpo™ Directory and other supplementary materials).

Receipt of the Program and The Toxicologist

1. SOT Members in the U.S. and Canada will receive the printed Program and The Toxicologist on CD ROM (with Itinerary Planner) prior to the meeting, as will U.S. and Canadian non-members who pre-register by January 25, 2004. There will not be a printed version of The Toxicologist.

2. Non-members in the U.S. who register after January 25 will receive the Program and The Toxicologist on CD ROM (with Itinerary Planner) at the registration area on-site. There will not be a printed version of The Toxicologist.

3. The Annual Meeting Itinerary Planner will be available on the SOT Web site January-March.

4. There will be computer kiosks set up in the Exhibit Hall to search The Toxicologist on CD ROM at the Annual Meeting. NOTE: Please bring your copy of the Program with you to the meeting.

up-to-date information at www.toxicology.org
Airport Transportation

Baltimore is serviced by three major airports: Baltimore-Washington International Airport (BWI) in Maryland, and Washington Dulles International Airport and Ronald Reagan Washington National Airport in Northern Virginia.

BWI is located 10 miles south of the city and is the primary airport for travelers to Baltimore. Nineteen carriers offer over 670 flights in and out of the airport daily. Airport transfers to Baltimore or Washington, DC are available via van, bus, taxi, Light Rail, Amtrak train, or limousine service.

Washington Dulles International Airport is 61 miles from Baltimore and Ronald Reagan Washington National Airport is 42 miles from Baltimore.

SOT has established discounted rates through Southwest and United Airlines for travel originating in the United States, Canada, and Puerto Rico. Be sure to use the following discount reference numbers when making your reservations.

**SouthWest Airlines**
(800) 433-5368
Reference # A0353

Savings of 10% off the lowest fare up to 7 days prior to the meeting.

**United Airlines**
(800) 521-4041
Reference # 524JC

These rates provide savings of 5-10% off the lowest applicable fare or 10-15% off a full coach fare. By staying over a Saturday night, you can take advantage of additional savings with a two-night minimum stay. You can also receive great savings on discounted fares that do not require a Saturday night stay.

To obtain the maximum discounted fares, call NAVIGANT INTERNATIONAL at least 60 days prior to departure. A modified discounted fare is still obtainable up to 14 days in advance. These exceptional offers are available only to SOT attendees and their guests.

A. Complete the travel form and fax to NAVIGANT INTERNATIONAL at (703) 276-2077.

B. Call NAVIGANT INTERNATIONAL toll-free at (800) 525-6061 or direct (703) 276-2030/2040 Monday through Friday, 9:00 AM–5:30 PM (Eastern Standard Time). Before calling NAVIGANT INTERNATIONAL, please gather the following information:

- The desired dates of arrival to and departure from Baltimore
- Your home city or originating airport
- Your approximate time of departure from the originating airport
- The number of persons traveling (adults/children)
- Your method of payment, either credit card or check
- Your airline frequent flyer number(s)
- Identify yourself as a Society of Toxicology attendee. NAVIGANT INTERNATIONAL will find the best fare for you. Watch your mail. You will receive a folio containing your computerized itinerary.

C. Or, call the airline directly using the toll-free numbers listed above. Provide the reservationists with the reference number listed to receive the discounted airfare.

**Air Reservations through NAVIGANT INTERNATIONAL**

NAVIGANT INTERNATIONAL is the official travel management firm for SOT’s 43rd Annual Meeting. To take advantage of their services and savings, simply call toll-free (800) 525-6061 or direct (703) 276-2030 or (703) 276-2040 and select the airfare that is right for your plans. You may use the Travel Form (available on the SOT Web site) and fax your airline request directly to NAVIGANT INTERNATIONAL at (703) 276-2077. If you prefer to e-mail your request, you may do so at niki.markun@ne.navigant.com.

Ground Transportation

Train

Trains arrive and depart from Penn Station, located at 1500 N. Charles Street in downtown Baltimore. Penn Station offers enclosed waiting areas, paid short-term and long-term parking, a restaurant, snack bar, taxi and transit service.

Amtrak trains run 24 hours a day, seven days a week, connecting Baltimore to cities along the Northeast Corridor. Amtrak also runs to BWI. For fares and schedules, call (800) 872-7245. The Penn Station, services the Baltimore area and a taxi fare from the station to downtown is approximately $5.
Bus
The Mass Transit Administration (MTA) operates bus, Metro, Light Rail and MARC train services. The local bus system, which operates seven days a week, covers the downtown neighborhoods and parts of Baltimore’s suburbs.

Metro
The Metro system operates 7 days a week and runs from Owings Mills in Baltimore County to John’s Hopkins Hospital, located downtown.

Light Rail
The Light Rail system also operates seven days a week and runs from Hunt Valley in Baltimore County to the Cromwell Station in Anne Arundel County and also runs from Penn Station to BWI. MARC commuter trains operate weekdays from Baltimore to Washington, DC and depart from Penn Station. For fares and schedules, call (888) 218-2267 or (410) 539-5000.

Shuttle
The newest form of public transportation downtown is the Downtown Area Shuttle (DASH). Shuttle service is provided seven days a week and is a quick and convenient way to get to and from any major downtown attraction or business site. For fares and schedules, call (410)-244-1030.

Taxi
Baltimore’s Penn Station is but a 7-minute taxi cab ride away, welcoming incoming train service from all points north and south into the City of Baltimore. When traveling from BWI Airport, the BWI taxi stand is located just outside of the baggage claim area of the Lower Level of the BWI Airport Terminal. Please note that this service is available from BWI only. An estimated rate to Baltimore Inner Harbor is between $20 and $25.

Car Rental
Avis Rent A Car System is the official car rental company for the 43rd Annual Meeting. SOT discounted rates, including unlimited mileage begin at $43.99 per day. Rates do not include any state and local surcharges, tax, optional coverage or gas fueling charges. Should a lower qualifying rate become available, Avis is pleased to present a 5% discount on that rate OR, if a car size is selected that is not available, Avis will discount the best available rate by 5%. To receive the SOT discount rates, contact Avis at (800) 331-1600 or AVIS on-line. You must provide the Avis Worldwide Discount (AWD) number T534999 in order to receive the SOT discounted rate.

Water Transportation
An enjoyable way to travel around Baltimore’s Inner Harbor as well as Little Italy, Fell’s Point, Canton and Fort McHenry is by water shuttle. This method of transportation is a perfect way to cruise the city.

Harbor Boating and the Water Taxi
(800) 658-8947 or (410) 563-3901

Seaport Taxi
(410) 675-2900

Airport Shuttle Transportation
The BWI SuperShuttle will transport you from BWI Airport to Baltimore’s Inner Harbor Hotel District for approximately $11 one way. Upon arrival head to the lower level and follow signs to the SuperShuttle desk located between baggage claims 6 and 7.

The ticket counter is open between the hours of 6:00 AM and 2:00 AM. During other times please call (888) 826-2700 to arrange service. Between 9:00 AM and 2:00 AM, go to lower level and follow signs to the Ground Transportation desk located between carousels 6 and 7.

Parking
Although the Baltimore Convention Center is unable to provide public parking to attendees, there are several options in the form of public lots and hotel parking garages located in the immediate area. Public parking can range from $6–$16 per day with the average rate being $9. For additional information on available parking visit www.baltimore.org or www.godowntownbaltimore.com/parking.html.

You can also download a parking map, courtesy of Downtown Partnership in Adobe format.

Hotel Accommodations and Reservations
The Baltimore area offers visitors a wide variety of hotels from well known chains to unique boutique accommodations. There are a total of 12 hotels in Downtown Baltimore where SOT has made arrangements for you to receive special convention rates during the SOT 2004 Annual Meeting. SOT has designated two properties as the Headquarters hotel — The Renaissance Harborplace and the Hyatt Regency. Hotel
General Information (Continued)

room rates are commissionable, with all commissions paid directly to SOT for support of long-range planning initiatives. A $3 rebate per room will be used to cover the costs of the Baltimore Convention Center. To learn more about the city of Baltimore visit [www.baltimore.org](http://www.baltimore.org). (Note: Although not stated, triple and quad. occupancy can cost around $20 extra per night.)

Housing reservation deadline: February 16, 2004

Please use one of the following methods to make your reservation:

On-Line:  
[www.toxicology.org](http://www.toxicology.org)

Telephone:  
Toll-Free (USA): (800) 676-5026  
International: (702) 798-6380

Fax:  
USA: (800) 667-6584  
International: (702) 795-8767

Accessibility for Persons with Disabilities

The Baltimore Convention Center and most of the SOT hotels are accessible to persons with special needs. If you require special services, please mark the appropriate box on the Housing Request Form. If you require more information about disabled access, please call SOT Headquarters and ask for Lisa Cebulash: (703) 438-3115 or e-mail: lisa@toxicology.org.

Guest Hospitality Center and Program

The SOT Guest Hospitality Center provides guest participants (non-scientists) with a place to meet and socialize with other guests. Guests must register for the Annual Meeting using the same registration form as the person they are accompanying, to access the Hospitality Center. Guests are welcome to attend the Welcoming Reception, but will not have access to the scientific sessions or Exhibit Hall.

Concierge/Restaurant Reservations

A representative from the Baltimore Convention Center and Visitors Bureau will be located in the registration area to provide restaurant menus, entertainment guides, and arrange restaurant reservations for individuals and groups.

Meeting Requests: Hospitality Suites and Ancillary Meetings

All requests for hospitality suites and ancillary meetings must be approved by SOT Headquarters. To reserve a meeting room, please contact Lisa Cebulash, Meetings Manager. Ancillary functions may only be hosted by SOT Associates, Exhibitors, or organizations affiliated with SOT. Hospitality suites and ancillary meeting space books fast. Send your request now.

No hospitality functions or ancillary meetings may be scheduled during the following SOT events:

- Sunday 5:00 PM–7:30 PM  
  SOT Awards Presentation and Welcoming Reception

- Monday – Thursday 8:30 AM–11:30 AM  
  Morning SOT Scientific Sessions

- Monday – Thursday 1:30 PM–4:30 PM  
  Afternoon SOT Scientific Sessions

- Tuesday 4:30 PM–6:00 PM  
  SOT Annual Business Meeting

Once you submit your request, you will receive an “Approval Statement” with a coded event number from the SOT Headquarters Office. The Approval Statement will enable you to book meeting space at one of the SOT hotels. Please reference below for hotel listings and contact information.

The hotels are not permitted to book meeting space without the authorized approval statement and coded event number. The hotel Convention Service Manager will be able to discuss meeting room rental, food and beverage, and audio visual equipment requests. All coordination for your event should be done between the hotel Convention Service Manager and the Ancillary Function Organizer.

Message Center/Lodging Information Desk

**Baltimore Convention Center, Charles Street Lobby**

The SOT Message Center/Lodging Information Desk will be located in the SOT registration area of the Baltimore Convention Center and open during registration hours, Saturday through Thursday. Please inform your office and family of the Message Center/Lodging Information Desk number: (410) 649-6314. (The Message Center/Lodging Information Desk will not accept facsimiles.)
Annual Meeting Attendee lodging information will be available at the Message Center/Lodging Information Desk. The lodging list will be based on hotel information as of one week prior to the meeting. If you do not wish to have your lodging information made available to others, please visit the Message Center/Lodging Information Desk and have your name removed from the listing.

Convention Center First Aid and Security
If an emergency occurs at the Baltimore Convention Center, proceed to the nearest phone, dial 7055, and ask the operator to connect you to security. State the telephone number and area from which you are calling as well as the nature and location of the incident. The Emergency Medical Team will arrive within minutes. First Aid Offices are located in the back section of Exhibit Hall D.

Should the fire alarm sound in the Baltimore Convention Center, please exit the building in an orderly manner through the clearly marked exits.

About Safety and Security
The possibility of demonstrators is very real for any large meeting such as ours. We recommend the following procedures in the event of demonstrations:

- **Wear your name badge in the Baltimore Convention Center.** When leaving the facility, it is wiser to remove it so as to blend in with other people.

- **If you see a demonstration or protest beginning, please contact any member of the Annual Meeting staff.** They will initiate SOT’s Demonstration Response Plan. If you see actions that appear threatening, contact Hotel Security at once.

- **Demonstrators are usually trying to attract media attention.** Don't help them! It is best not to interact with them at all. Do not engage in debate or physical contact.

- **Do not participate in news interviews or other media responses to the situation.** SOT has designated representatives who are trained and prepared to respond.

- **In the unlikely event that a scientific session or other event is disrupted by outsiders, SOT, in cooperation with security officials, has developed contingency plans.** Please follow directions from the chairperson or moderator and avoid becoming involved in the situation.

Remember, safety first! If you see a situation that makes you uncomfortable, get away from it.

**SOT Headquarters Office**
Baltimore Convention Center, 305

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<tr>
<th>Day</th>
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<tr>
<td>Sunday</td>
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<td>Thursday</td>
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**Business Center at the Baltimore Convention Center**
A Business Center is conveniently located in the Baltimore Convention Center.

- Copies
- Printing
- Internet Access
- Fax Service
- Office Supplies
- Document Creation

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<td>Saturday–Sunday</td>
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Contact Mark Albany at:
Tel: (410) 649-7194; Fax: (410) 649-7196;
E-mail: malbany@abcimaging.com
(On-line ordering is not available.)

**Media Representative Registration/Media Workspace (SOT HQ Office)**
Baltimore Convention Center, 305

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<tbody>
<tr>
<td>Sunday–Thursday,</td>
<td>(listed above)</td>
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<tr>
<td>March 21–25</td>
<td>SOT Office Hours</td>
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</tbody>
</table>

Registration fees are waived for working reporters and public information officers. Proof of credentials includes a recognized press card, business card, letter on official letterhead from an editor of a publication, or a producer of a program, certifying that you are covering the conference for their respective organizations.

There will be working space for the media in the SOT Office.

For more information, contact Lilly Richards, Media Contact, at (703) 438-3115, Ext. 1454, or e-mail: lilly@toxicology.org.
Sponsorship Opportunities

SOT appreciates the generous contributions of the 2004 Annual Meeting Sponsors. There are five levels of sponsorship available: Diamond (over $10,000), Platinum ($5,000–$9,999), Gold ($2,500–$4,999), Silver ($1,000–$2,499), and Contributor ($500–$999).

The Diamond and Platinum sponsor are listed on the inside front cover—the Gold, Silver, and Contributor sponsors are listed on the inside back cover.

Placement Services

Located at the Baltimore Convention Center

Placement Registration .......................................................... 327
Placement Message Center ..................................................... 328
Placement Job Posting Center ................................................ 330
Placement Interview Room .................................................... 331

SOT’s on-line job bank makes it easy for candidates and employers alike to access the Placement Service from the SOT Web site at www.toxicology.org. Registrations are continuously processed and valid for six months. Once registered, candidates may search the listing of available jobs and employers may browse candidate profiles. During the registration period, users can update their listings or search the database as often as they wish. Communication with a desired employer or candidate can even be made via e-mail messages created within the system.

The Placement Center is an important part of the Annual Meeting, providing a coordinated service for information regarding career opportunities and qualified candidates. Please do your job and candidate searches before you arrive at the meeting. Access to the SOT job bank Web site in the Placement Center will be limited to the availability of 3-4 computers at the meeting. Employers and candidates will have access to computers, but computer use will be restricted to short searches for updates or new information.

Although pre-registration is encouraged, registrations will be accepted at the Annual Meeting. All users with current registrations at the time of the Annual Meeting will be permitted to use the service.

Sunday (Registration Only) ...........................................10:00 AM–3:30 PM
Monday (All Services) ....................................................7:30 AM–7:00 PM
Tuesday–Wednesday (All Services) .......................7:30 AM–5:30 PM
Thursday (Message Center Only) ...............7:30 AM–12:00 NOON

The Placement Service Message Center will be open Monday through Thursday. The Placement Service will not arrange interviews; however, interview cubicles will be available. Additional information is available on the SOT Web site or contact Nichelle Sankey at SOT Headquarters at (703) 438-3115, Ext. 1431, or e-mail: nichelle@toxicology.org.

Speaker Ready Room

Baltimore Convention Center, 311

Saturday ..........................................................4:00 PM–7:00 PM
Sunday ..............................................................7:00 AM–5:30 PM
Monday–Wednesday .....................................7:00 AM–5:00 PM
Thursday ......................................................7:00 AM–11:30 AM

Meeting Courtesy Policy

The use of photographic equipment is prohibited in all scientific sessions. Please contact Show Management, Libby Jones, for permission to take pictures in the Exhibit Hall. In addition, please turn off sound on all cellular phones while attending scientific sessions. Note that the entire Baltimore Convention Center is a smoke-free environment.

SOT Memorabilia

Shirts, portfolios and other items customized for SOT are available for ordering on-line for pick-up at the Annual Meeting. Visit the SOT Web site’s 2004 Annual Meeting Section (www.toxicology.org) for full details.
2004 Award Winners

The Society of Toxicology presented the following awards for the year 2004:

**Achievement**

The Awards Committee of the Society of Toxicology is honored to have selected Dr. David Dorman as the recipient of the 2004 Achievement Award for significant contributions to the field of toxicology.

Dr. Dorman received his undergraduate degree in Chemistry from the University of San Diego. He received a DVM from Colorado State University and he completed a residency in Clinical Veterinary Toxicology and a Ph.D. in Toxicology (1990) at the University of Illinois at Urbana-Champaign. He was a postdoctoral fellow at CIIT and then converted to a staff scientist at the Institute in 1992. Dr. Dorman is a Diplomat, by examination, of both the American Board of Veterinary Toxicology and the American Board of Toxicology. He is currently Director of the Biological Sciences Division at CIIT Centers for Health Research.

Dr. Dorman is nationally recognized for his research on the nasal toxicity and pharmacokinetics of inhaled chemicals. Early in his career, Dr. Dorman conducted studies to evaluate the pharmacokinetics of inhaled methanol in normal and folate-deficient monkeys. His research also demonstrated that the neurototoxic effects of methanol in rodents are mediated through methanol and not formate, the metabolite responsible for methanol-induced acidosis and blindness in humans. Dr. Dorman’s laboratory has also been characterizing the pathogenesis of hydrogen sulfide-induced olfactory neuronal loss in rodents. These studies have been used in the risk assessment for these chemicals. More recently, Dr. Dorman has been leading a multi-year effort to evaluate the pharmacokinetics and neurotoxicity of manganese. His research has focused on determining exposure conditions that lead to increased concentrations of the metal within the central nervous system. His laboratory has also developed a novel nasal occlusion model for examining the direct transport of inhaled compounds to the brain via the olfactory.

Dr. Dorman has been active in a number of professional societies making valuable contributions to both veterinary and toxicological societies through chairing committees and holding society offices. He served as President of the Comparative and Veterinary Specialty Section of SOT and co-chaired a SOT continuing education course that examined the use of animal in inhalation toxicology and a symposium examining the olfactory transport of inhaled metals. Dr. Dorman is currently President of the North Carolina Chapter of the SOT. Dr. Dorman has also been quite active in teaching. He received the Teacher of the Year Award (1992-1993) at the North Carolina State University College of Veterinary Medicine despite the fact that he served as an adjunct faculty member. He holds active adjunct faculty appointments with North Carolina State University, University of North Carolina-Chapel Hill and Duke University.

Dr. Dorman has made, and continues to make seminal contributions to the field of toxicology through his research, teaching, and service.

**Arnold J. Lehman**

Dr. Melvin E. Andersen’s career contributions reflect well the spirit of the Arnold J. Lehman Award. He is widely recognized for contributions in strengthening the scientific basis of chemical risk assessment. Over the past 25 years, he has pioneered use of physiologically based pharmacokinetic (PBPK) models in toxicology research and as tools to enhance regulatory decision making. His approaches have contributed to risk assessments for many individual chemicals. In addition, he has been a consistent advocate and role model for using sound scientific principles as the basis for improving dose-response assessments.

Dr. Andersen has published over 200 papers on PBPK modeling and its application to chemical risk assessment. The breadth of his career contribution is evident through involvement with industry, government, consulting, and academia in his 30 year career in toxicology. Dr. Andersen’s influence in risk assessment, however, is best reflected by his activities as a teacher-mentor in expanding the use of PBPK dosimetry models in toxicology research and in chemical risk assessment.
Board of Publications Best Paper Award

**Toxicological Sciences**


The Board of Publications has selected the paper entitled *Inhaled Environmental Combustion Particles Cause Myocardial Injury in the Wistar Kyoto Rat* as the best paper published in *Toxicological Sciences* during the past year. This paper represents comprehensive work that demonstrated cardiac effects due to particulate matter (PM) in rats under experimental conditions relevant to human exposure. The authors, representing a team of scientists with expertise in inhalation toxicology, cardiac pathology and occupational health, worked collaboratively in the characterization of the composition of the particles and identification of zinc as a potentially causative agent that laid the foundation for the hypothesis that might link exposure to PM containing bioavailable zinc to myocardial injury. The paper provides the first clear evidence of the effect of PM on the heart, and provides supportive evidence for epidemiological associations between exposure to ambient PM and cardiovascular morbidity. The paper has also laid the foundation for further mechanistic work, and a letter was submitted to the journal speculating on additional pathways of research to pursue the etiology of the myocardial injury.

The paper is an outstanding example of an inter-disciplinary, hypothesis-driven approach to address an important human health concern, and it represents how integration of innovative basic and applied science can help to enhance human and environmental health.

Contributions to Public Awareness of the Importance of Animals in Toxicology Research

The Contributions to Public Awareness of the Importance of Animals in Toxicology Research Award is presented to two organizations in 2004: North Carolina Association for Biomedical Research (NCABR) and Americans for Medical Progress (AMP).

**NC Association for Biomedical Research (NCABR)**

The NCABR works to promote public understanding of the importance of biomedical research, particularly the role that animals play in the research process. The NCABR was founded in 1989 as a positive counter to the animal rights movement that was gaining momentum regionally and nationally. The NCABR has developed a K–12 teacher workshop program entitled *Rx for Science Literacy: The What, Where, How and Why of Health Science Research* that instructs educators in the benefits of biomedical research and regulations pertaining to the care and use of laboratory animals. Since the program began in 1994, more than 2,000 teachers have participated in this workshop program with 270 of these returning for a second time to attend programs on either toxicology or genetics. The impact of this program is enormous. Teachers have come from 88 of the state’s 100 counties and represent a wide array of backgrounds. By the end of the current school year (2003-2004) a total of 24 toxicology workshops for over 400 middle and high school teachers will have been held. When one considers that each North Carolina middle and high school teacher interacts with 100 or more students each year, this program has the potential of indirectly reaching thousands of impressionable students that are forming opinions about animal use and toxicology.

In addition to the teacher workshops, the NCABR has produced high quality educational publications and information resources for the general public. These materials have also highlighted the use of animals in toxicology research and training and has contributed substantially to the public understanding in this highly political arena. The NCABR has also hosted or co-sponsored symposia and exhibits at state and national conferences and has held public forums to address controversial issues in the biosciences, including symposia for
up-to-date information at www.toxicology.org

2004

journalists that have proven extremely useful in advancing public understanding towards the use of animals in biomedical research.

Americans for Medical Progress (AMP)

Americans for Medical Progress (AMP) is a non-profit organization whose mission is to protect society’s investment in biomedical research. To that end, AMP promotes public understanding of and support for the appropriate role of animals in medical research so that scientists are able to continue their quest for cures and improved methods of treatment for illness, injury and disease. AMP achieves this goal via the following methods:

AMP is involved in timely dissemination of information to the news media, the research community and others concerning animal-based research, activist opposition to such research and developments concerning the use of and replacement of animals in research.

AMP promotes fair and accurate media coverage of the use of animals in biomedical research.

AMP continues to bolster public understanding and support of scientists’ biomedical research with animals.

AMP provides services to individuals and organizations that help manage crisis inflicted by animal rights groups.

AMP plays a partnership role with numerous other institutions and brings together research advocates, institutions and corporations. One good example is, in 2001 AMP co-sponsored a national forum on cancer research with American Association for the Advancement of Science.

In short, there are extensive contributions AMP has provided to the field of toxicology.

2004 Award Winners

Continued

Distinguished Lifetime Toxicology Scholar Award

Dr. Gerald N. Wogan has been selected to receive the 2004 Distinguished Lifetime Toxicology Scholar Award for his substantial and seminal scientific contributions to the discipline of toxicology. Dr. Wogan is Professor of Toxicology and Professor of Chemistry at the Massachusetts Institute of Technology. He received his Ph.D. degree in physiology from the University of Illinois, Urbana, and has spent most of his professional career at MIT where he has held a number of positions, including appointment as the Underwood-Prescott Professor and Director, Division of Toxicology, Whitaker College of Health Sciences and Technology and as the Director of the Environmental Health Sciences Center.

Dr. Wogan has led a concerted, long-term effort to elucidate the fundamentals of chemical carcinogenesis and is truly a pioneer in the field of environmental toxicology. Dr. Wogan’s research interests have long been focused on understanding the chemistry and toxicology of aflatoxins, which are food contaminants that affect the health and well being of millions of people worldwide and are among the most potent liver carcinogens known. Dr. Wogan’s combined synthetic and structure-activity studies of aflatoxins demonstrated the utility of chemical approaches to understand mechanisms of toxicity. In other work, he elucidated the structure of the major DNA-aflatoxin adducts, which provided the basis for investigations on the biological effects of aflatoxin exposure. Dr. Wogan’s studies have had direct relevance to public health, and he has developed methods for risk identification and remediation through his participation in epidemiological studies in Thailand, China, and Africa.

Dr. Wogan has served as a pre- and postdoctoral mentor to over 100 trainees. He was elected to the National Academy of Sciences in 1977 and was one of the first researchers in the environmental health sciences to be elected to the NAS and to the IOM. He is also the recipient of the Founders’ Award of the Chemistry Industry Institute of Toxicology along with a range of other honors and awards. Finally, Dr. Wogan is an individual of great scientific and personal integrity and has provided leadership at MIT and through his participation on many national and international committees. Dr. Wogan is highly deserving of the Distinguished Lifetime Toxicology Scholar Award.
2004 Award Winners

Continued

Education Award

Dr. Jay Gandolfi is a Professor of Anesthesiology, Pharmacology, and Toxicology in the Department of Pharmacology & Toxicology at the College of Pharmacy of the University of Arizona. He has also served in several administrative positions at the University. Throughout his academic career he has maintained a strong focus on education, research, and collaborative programs. For over 25 years, Dr. Gandolfi has taught toxicology to undergraduate, graduate, and professional students. Dr. Gandolfi has been an advisor to over 55 graduate students, served as a committee member for another 70 graduate students, and directed 25 research Fellows. His students have attained important positions in academia, industry, and government. Besides his research publications, Dr. Gandolfi has contributed to educational texts, reviews, and has co-edited the Comprehensive Toxicology series. Dr. Gandolfi has served on numerous SOT national and specialty section committees including being a member of the SOT Education Committee, as well as the Secretary of the Society. Dr. Gandolfi’s letters of support clearly demonstrate that he is held in high regard by his former students and colleagues. One student comments that the first thing that comes to mind when describing Jay’s role in education is … “extraordinary mentorship to graduate and medical students, postdoctoral fellows, and colleagues.” It was also pointed out that “when faced with a delicate or thorny situation, I often ask myself, what would Jay do?” This year’s recipient of the Education Award brings great credit to his University and the SOT.

Merit

Dr. Robert Goyer is the recipient of the 2004 Merit Award. Dr. Goyer, a clinical pathologist, is an internationally recognized expert in health effects of toxic and nutritionally essential metals. He has a special interest in pediatric pathology, toxicology and research in health effects of toxic metals. After serving in the US Navy at the end of World War II, he graduated from the College of the Holy Cross and the St. Louis University School of Medicine, interned at St. Francis Hospital in Hartford Connecticut and completed a residency in pathology at the St. Louis University Hospitals. He held a National Foundation Research Fellowship and was a postdoctoral research fellow in the Medical Unit of University College Hospital Medical School, London, England. Professional appointments included Director of Laboratories at the Cardinal Glennon Hospital for Children in St. Louis, Professor of Pathology at the University of North Carolina at Chapel Hill, and Deputy Director of the National Institute of Environmental Health Sciences at Research Triangle Park, NC. He also served two terms as Professor and Chairman of the Department of Pathology at the University of Western Ontario, London, Canada. Dr. Goyer has published over 170 research papers, reviews and book chapters on toxicity of metals and interactions of toxic metals with nutritionally essential metals. He has co-edited 3 books on toxicology of metals. Dr. Goyer was one of the first to demonstrate the relationship of nutritional deficiencies of iron and calcium and the toxicity of lead. These studies were followed by mechanism of lead toxicity, especially in the kidney and the formation of lead-induced nuclear inclusion bodies. His vision and broad experience permitted him not only to uncover new facts but also to recognize their significance and synthesize them into a better understanding of metal actions. He has made important scientific discoveries in the field of nuclear ultrastructural alterations and the role of specific proteins in metal toxicology. He has served on numerous committees for US and International Health Agencies including the National Institutes of Health, the Environmental Protection Agency, the National Research Council of the National Academy of Sciences and The World Health Organization International Programme for Chemical Safety. Dr. Goyer was recognized at an International Conference on Metal-Binding Proteins in 1998 for his outstanding lifetime contribution to the understanding...
of the actions and effects of metals on living organisms. In 2001 he was designated a lifetime National Associate of the National Academy of Science for extraordinary service to the National Academies as advisor to the nation in matters of science, engineering and health. Dr. Goyer is retired as Professor Emeritus of Pathology University of Western Ontario but continues to contribute to various national and international agencies on matters of health effects of metals. Dr. Goyer is highly respected as a teacher in toxicology and for his worldwide influence in the assessment of health risks from toxic metals.

Public Communications

Dr. Kenneth Olden, Director of the National Institute of Environmental Health Sciences and the National Toxicology Program, is the 2004 recipient of the Public Communications Award. Dr. Olden is a distinguished research investigator, teacher, and outstanding articulator of the role sound science should play in guiding critical public and environmental health decisions. His exemplary leadership of the NIEHS has fostered a strong human disease outcome focus to guide environmental health research and has served as a model for effective integration and focusing of bench research on human and environmental health issues. Dr. Olden’s seminal contributions to cell and cancer biology during his tenure at Howard University as Director of the Cancer Center and Professor and Chairman of the Department of Oncology, and his leadership of the NIEHS resulted in his election to membership in the Institute of Medicine of the National Academy of Sciences in 1994, the City of Medicine Award in 1996, and in 1997 the inaugural award for public policy leadership in protecting health and the environment by the National Association of Physicians for the Environment. Dr. Olden, a Fellow of the Academy of Toxicological Sciences, has championed a strong relationship between the NIEHS and the Society of Toxicology (SOT) through many initiatives that include teacher training workshops, underrepresented minority education programs, and NIEHS sponsored symposia at SOT annual meetings. His ability to reach all audiences and tireless commitment to bettering the health of the public-at-large make him one of our discipline’s most effective advocates and communicators. The Society is pleased and honored to recognize Dr. Olden’s outstanding contributions.

SOT/ACC Early Career Award in Neurotoxicology

The 2004 SOT/ACC Early Career in Neurotoxicology Award is presented to Nikolay Filipov. Dr. Filipov was selected for his proposed research entitled Dopaminergic Toxicity of Chronic Exposure to the Herbicide Atrazine Interfaced with Short-Term Exposure to Maneb.

Dr. Filipov plans to his research on susceptibility of the aged to environmental chemicals, an area very important for risk assessment. In addition, he proposes to work with two chemicals of environmental interest: atrazine and maneb. The endpoints he proposes to explore are also directly relevant to the human condition: indicators of dopaminergic degeneration.

This Early Career Award, sponsored by the Long–Range Research Initiative of the American Chemistry Council (ACC) and administered through the Society of Toxicology—is provided to encourage persons beginning their professional careers to conduct research on topics related to Neurotoxicology.
AstraZeneca Traveling Lectureship

This year’s recipient of the AstraZeneca Traveling Lectureship Award is Dr. Charlene McQueen. Dr. McQueen is a professor in the Department of Pharmacology and Toxicology, College of Pharmacy at the University of Arizona. Dr. McQueen’s research focus is currently on fundamental studies of the role of genetic variation in susceptibility to aromatic amine and hydrazine toxicity. Along with numerous accomplishments, Dr. McQueen most recently received the 2003 SOT Public Communication Award. Dr. McQueen’s Traveling Lectureship is designed to continue and expand her collaborations with European scientists and to initiate several new collaborative ventures. The scientists at the proposed sites are all highly renowned scientists working in fields that complement Dr. McQueen’s current and future research efforts. These include Dr. Edith Sim at the University of Oxford, England, Dr. Ann Daly at the University of Newcastle in England, Dr. Jean-Marie Dupret at the Faculte de Medicine Pitie Salpetriere in Paris, Dr. Urs Meyer at the University of Basel, Switzerland, and Dr. Michael Eichelbaum at the Fischer Bosche Institute of Clinical Pharmacology in Stuttgart Germany. There is no doubt that Dr. McQueen will learn significant and exciting new research modalities and methods from the tour.

Colgate-Palmolive Traveling Lectureship in Alternative Methods in Toxicology

This year’s recipient of the Colgate-Palmolive Traveling Lectureship in Alternative Methods in Toxicology is Dr. Snorri S. Thorgeirsson, Laboratory Chief, of the Laboratory of Experimental Carcinogenesis, National Cancer Institute. For his Traveling Lectureship, Dr. Thorgeirsson will be hosted by Harihara M. Mehendale, and faculty in the Department of Toxicology, School of Pharmacy, College of Health Sciences, The University of Louisiana at Monroe, LA. His visit will be for 4 to 5 days and will encompass daily laboratory demonstrations as well as lectures. Dr. Thorgeirsson, a Member of the Society of Toxicology, is a widely recognized senior scientist with a wealth of experience in the use of in vitro alternative methods. He will demonstrate hepatocyte and stem cell culture including aspects of the role of stem cells in tissue repair. Of particular interest, are the future possibilities of using stem cells as predictive models and tools for use in alternative methods to replace the use or at least minimize the use of animals in research. Dr. Thorgeirsson’s visit and lecture/demonstration series will benefit the graduate students, post-doctoral fellows and members of the faculty engaged in research as well as in research training.

SOT/IUTOX AstraZeneca Travel Award

Recipients: Xianping Ying (China), P. K. Gupta (India), Salmaan Inayat-Hussain (Malaysia), and Christina Bolaton (Phillipines).
**Social Events**

**Awards Presentation**
Sunday, March 21, 5:15 PM–6:30 PM
Baltimore Convention Center
Room 307

Join us as SOT honors our prestigious award winners at the Awards Presentation.

**Welcoming Reception**
Sunday, March 21, 6:30 PM–7:30 PM
Baltimore Convention Center
Ballroom (Level 400)

The Welcoming Reception is a great opportunity to renew old friendships and to make new acquaintances. Please join the Society in this inaugural event of the Annual Meeting.

**Student/Post-Doctoral Fellow Mixer**
Sunday, March 21, 7:30 PM–8:30 PM
Baltimore Convention Center
Room 324

All students and post-docs are invited to attend this fun-filled reception. Refreshments will be provided by SOT and sponsors — a cash bar will also be available. Meeting Badges are required.

**Specialty Section Receptions**
Monday, March 22 through Wednesday, March 24, 6:00 PM–7:30 PM
Baltimore Convention Center
(See Events Calendar on pages 2–6 for more details.)

Each of the 19 SOT Specialty Sections will hold a meeting/reception during the 2004 SOT Annual Meeting. All current and prospective SOT Specialty Section Members are encouraged to attend. Please check the Program’s Event Calendar for a listing of times for all Specialty Section meetings and receptions.

**Regional Chapter Receptions**
Monday, March 22 through Wednesday, March 24, 7:00 PM–11:00 PM
(See Events Calendar on pages 2–6 for more details.)

Many of the SOT Regional Chapters meet during the SOT Annual Meeting. A list of Regional Chapter receptions is listed in the Program’s Event Calendar.

**25-Year (or More) Member Reception**
Sunday, March 21, 7:00 PM–8:00 PM
Baltimore Convention Center
Room 301

Have you been a member of the Society of Toxicology for 25 years (or more)? If so, please join your colleagues in celebration and recognition of the scientists who established the Society.

up-to-date information at www.toxicology.org
2003 FELLOWSHIPS

SOT’s 43rd Annual Meeting

Recipient: Kimberly Miller
Abstract: 358
Title: Metabolic Mechanisms of Methoxychlor Toxicity in Mouse Antral Ovarian Follicles

Graduate Student Fellowships

Novartis Corporation Graduate Fellowship
Recipient: Sachin Devi
Abstract: 1502
Title: Impaired Tissue Repair in Thioacetamide Treated Diabetic Rats: NF-KB as a Ringmaster

Covance Corporation Graduate Fellowship
Recipient: Winnie Jeng
Abstract: 2004
Title: Free Radical Determinants of Amphetamine Neurodegeneration: Prostaglandin H Synthase (PHS)-Catalyzed Free Radical Formation and Reactive Oxygen Species (ROS)-Mediated Oxidative DNA Damage in Neuronal Degeneration and Functional Deficits

Visit the SOT Web site for upcoming Award details and deadlines at...

www.toxicology.org
Scientific Sessions Index

Continuing Education Courses
All courses will be held on Sunday, March 21, 2004, at the Baltimore Convention Center. Please check the signage in the registration area (Charles Street Lobby) for room assignments. Note: Your course materials will be available in the room immediately prior to the course (they will not be available at the registration area). If you have your course ticket, go directly to the assigned course room. If you have not received your course ticket or have not registered, please go to the registration area on Saturday afternoon/evening or on Sunday morning. If you have misplaced your ticket, please go to the Continuing Education Booth, Level 300, at the Baltimore Convention Center on Sunday. The booth will be open from 6:30 AM–5:15 PM. Course descriptions are on pages 39–44.

7:00 AM–7:45 AM, Sunrise Mini-Course:
1. Herbals and Dietary Supplements in Athletic Performance Enhancement: Fact vs. Fiction

8:15 AM–12:00 NOON, Morning Courses:
2. Basic Neurotoxicology
3. Tools for Functional Genomics (Repeats as PM10)
4. Of Mice and Magnets: Metabonomics Technology in Safety Assessment
5. Functional Flow Cytometry: Applications in Toxicology (Repeats as PM12)
6. Understanding Lifespan Changes in Form and Function of the Female Reproductive System to Assess and Interpret Toxicity
7. The Safety Assessment of Proteins Developed through Biotechnology

1:15 PM–5:00 PM, Afternoon Courses:
8. Safety Pharmacology after ICH S7A & S7B
9. Skin Sensitization and Allergic Contact Dermatitis
10. Tools for Functional Genomics (Repeat of AM03)
11. Computational Biology and Dose and Response
12. Functional Flow Cytometry: Applications in Toxicology (Repeat of AM05)
13. Adrenal Gland: Mechanisms of Toxicity and Carcinogenesis

Symposia

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<td>Steroid Inactivation: Alternative Mechanisms of Endocrine Toxicity #26–30</td>
<td>Room 321</td>
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<td>Gene Expression Influences on Metal Immunomodulation #320–325</td>
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<td>Mechanisms of Cardiovascular Toxicity by 2,3,7,8-Tetrachlorodibenzo-P-Dioxin and Related Halogenated Aromatic Hydrocarbons #606–611</td>
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<td>New Developments in Oxidative Phospholipid Signaling in Apoptosis and Phagocytic Regulation of Inflammatory Response #612–617</td>
<td>Room 321</td>
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<td>Toxicogenomic Databases and Their Role in the Toxicology Community #618–622</td>
<td>Room 309</td>
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<td>Modulation of Host Defenses by Ambient and Source Particulate Air Pollutants #927–933</td>
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<td>The Present and Future of Toxicogenomics in Preclinical Drug Development #934–940</td>
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<td>Tissue and Species Differences in Regulation of Cytochrome P450s #941–946</td>
<td>Room 318</td>
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<td>Arsenic Disruption of Cell Cycle: Mechanisms and Effects on Apoptosis, Differentiation and Carcinogenesis #1214–1219</td>
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### Poster Sessions

All posters will be displayed from 9:30 AM–12:30 PM (Monday–Wednesday) and 8:30 AM–11:30 AM (Thursday) or 1:30 PM–4:30 PM. Sessions indicated by an asterisk (*) will be attended from 9:30 AM–11:00 AM or 1:30 PM–3:00 PM (except Thursday morning when they will be displayed from 8:30 AM–11:30 AM and attended from 8:30 AM–10:00 AM). Those without an asterisk will be attended from 11:00 AM–12:30 PM or 3:00 PM–4:30 PM (except Thursday morning when they will be attended 10:00 AM–11:30 AM). See directional signs throughout the ToxExpo™ Exhibit Hall for poster locations.

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Continuing Education Courses

The Continuing Education Program offers a wide range of courses that cover state-of-the-art knowledge in toxicology, as well as new developments in toxicology and related disciplines. Courses can be applied toward certifying and licensing board requirements and may also be used for recertification with the American Board of Toxicology (ABT). Both basic and advanced course topics are offered. The basic course is intended to provide a broad overview of an area or to assist individuals in learning new techniques or approaches. The advanced course is intended to be of interest to individuals with previous knowledge of the subject or already working in the field.

Please Note: Each Continuing Education Course is offered in one of three time blocks: Sunrise (7:00 AM–7:45 AM), AM (8:15 AM–12:00 NOON) or PM (1:15 PM–5:00 PM). Check the signage in the SOT registration area (Charles Street Lobby) for room assignments.

*The Primary Endorser

Sunday Morning, March 21
7:00 AM to 7:45 AM

HERBAL AND DIETARY SUPPLEMENTS IN ATHLETIC PERFORMANCE ENHANCEMENT: FACT VS. FICTION

SUNRISE MINI-COURSE I

Chairperson(s): Alfred F. Fuciarelli, Battelle, Richland, WA.

Herbal products and dietary supplements have been used for years in an attempt to enhance athletic performances. However, this usage has not always been based on scientific data. Recent tragic cases, such as those involving ephedra, androstenedione and androgens, creatine, gamma hydroxybutyrate, dimethylglycine, and others. Their promoted uses, purported mechanism of action, adverse effects/toxicities, and available clinical data will be presented to provide a perspective of what is known and areas in need of additional research. Additionally, the current regulatory status will be discussed and what factors may impact upon changes in this status.

- **Herbals and Dietary Supplements in Athletic Performance Enhancement: Fact vs. Fiction**, Timothy S. Tracy, University of Minnesota, Minneapolis, MN.
TOOLs FOR FUNCTIONAL GENOMICS (REPEATS AS PM10)

AM03 ADVANCED

Chairperson(s): Hollie I. Swanson, University of Kentucky, Lexington, KY.

Endorsed by: Molecular Biology Specialty Section*

The goal of this course is to discuss cutting-edge tools and techniques that may be used in ascribing hierarchical, functional analyses of gene products following DNA microarray experiments. First, we will discuss the advantages and disadvantages of a variety of pharmacological and molecular tools (i.e., antagonists, dominant negative approaches, siRNA). We will also discuss the means by which the molecular tools may be introduced into the cell or animal model, including the use of retro- and adenoviruses. Our second presentation will use data obtained in the laboratory to demonstrate the approaches that are typically used for determining whether the observed changes in mRNA of the gene product of interest occurs at the transcriptional or post-transcriptional levels. The third presentation will focus on use of the chromatin immunoprecipitation (CHIP) assay to demonstrate whether candidate transcription factors are involved in the regulation of the gene product of interest. Finally, our last presentation will introduce a novel approach, chemical genetics, that may be used to either activate or inactivate target gene products in an acellular model.

• Overview, Hollie I. Swanson, University of Kentucky, Lexington, KY.
• Approaches to be Used to Discriminate Between Transcriptional and Post-Transcriptional Gene Regulation, E. David Thompson, University of Kentucky, Lexington, KY.
• Analysis of Gene Regulation Using the Chromatin Immunoprecipitation Assay, Yanan Tian, Texas A&M University, College Station, TX.
• Use of Chemical Genetics in Functional Genomics, Kyung Bo Kim, University of Kentucky, Lexington, KY.

OF MICE AND MAGNETS: METABONOMICS TECHNOLOGY IN SAFETY ASSESSMENT

AM04 BASIC

Chairperson(s): Donald G. Robertson, Pfizer Global Research & Development, Ann Arbor, MI and Lois D. Lehman-McKeeman, Bristol Myers Squibb Company, Princeton, NJ.

Endorsed by: Molecular Biology Specialty Section*

Risk Assessment Specialty Section*

Although metabonomics as a technology has been in the literature for over a decade, it is only in the past 3 to 4 years that the technology has gained widespread attention within the industrial sector. Metabonomics as a topic was introduced to the Society in a well-received sunrise mini-course in 2000. This was followed by a highly attended IAT symposium and poster session on metabonomics at the 2002 meeting. The technology has reached the level of maturity such that a full CE course is called for. The objectives of this basic level course will be to introduce the technology to SOT meeting attendees unfamiliar with it, emphasizing the strengths and weaknesses of the technology in a practical way. The presentations will be from a toxicologist's perspective - communicating essential principles, but will avoid NMR and statistical jargon. The course will be primarily from a pharmaceutical development point of view, but will be broad enough to provide useful information for anyone interested in the technology.

• Metabonics and the Evaluation of Drug Safety, Donald G. Robertson, Pfizer Global Research & Development, Ann Arbor, MI.
• Metabonomic Applications in Mechanistic and Predictive Toxicology, Lois D. Lehman-McKeeman, Bristol Myers Squibb Company, Princeton, NJ.
• Now That I Have a Metabonomics Data—What Does it Mean?, John D. Baker, Pfizer, Inc., Ann Arbor, MI.
• Regulatory Perspective on Incorporation of New Technologies into Safety Assessment, Daniel A. Casciano, National Center for Toxicological Research, Jefferson, AR.

FUNCTIONAL FLOW CYTOMETRY: APPLICATIONS IN TOXICOLOGY (REPEATS AS PM12)

AM05 ADVANCED

Chairperson(s): Leigh Ann Burns Naas, Pfizer Global Research and Development, San Diego, CA and Nancy I. Kerkvliet, Oregon State University, Corvallis, OR.

Endorsed by: Immunotoxicology Specialty Section*

Flow cytometry provides a powerful tool for analyzing multiple characteristics of individual cells in a complex mixture of cell types without having to physically separate the cells. Yet, even though each cell is examined individually, the flow cytometer can process thousands of cells within a few seconds, allowing superior sampling of the population as compared to microscopic counting. The myriad of phenotypic and functional characteristics of cells that can be measured by flow cytometry continues to expand with the development of novel fluorescent probes to a variety of cellular components. The field of immunotoxicology has been greatly influenced by the use of flow cytometry with applications ranging from screening for toxic effects on immune cells to elucidating the mechanisms of toxic action on specific subpopulations of cells. However, other areas of toxicology are beginning to recognize the value of flow cytometry for mechanistic investigations as well. To address this growing interest, the intent of this course is to introduce the audience to novel applications of flow cytometry that have been used to assess tissue injury and mechanisms of toxicity at the whole animal, cellular, and biochemical levels. Although the context of many of the examples will emanate from immunotoxicology studies, each speaker will focus less on the immunology and more on the methods used in their studies that are broadly applicable to other areas of toxicology. Examples of methods to be covered include: apoptosis, oxidative stress, membrane integrity and fluidity, cell cycling using carboxyfluorescein (CFSE), and cell signaling.

• Introduction to Flow Cytometry, Carl D. Bortner, NIEHS, Research Triangle Park, NC.
• Assessment of Macrophage-Induced Tissue Injury in Liver/Lung by Flow Cytometry, Debra Laskin, Rutgers University, Piscataway, NJ.
• In Vivo Assessment of T Cell Activation Using Flow Cytometry, Nancy I. Kerkvliet, Oregon State University, Corvallis, OR.
• Flow Cytometric Approaches to Understanding Mechanisms of Toxicant Action, Scott W. Burchiel, University of New Mexico, Albuquerque, NM.
SOT 43rd Annual Meeting
Continuing Education Courses

Sunday Morning, March 21
8:15 AM to 12:00 PM

UNDERSTANDING LIFESPAN CHANGES IN FORM AND FUNCTION OF THE FEMALE REPRODUCTIVE SYSTEM TO ASSESS AND INTERPRET TOXICITY

AM06 BASIC

Chairperson(s): Barbara J. Davis, NIEHS, Research Triangle Park, NC and Kimberly A. Treinen, Schering Plough Research Institute, Lafayette, NJ.

Endorsed by:
Reproductive and Developmental Toxicology Specialty Section*

This course reviews the basic morphology and endocrinology of the female reproductive system in rodents and primates as a basis for interpreting toxicity. Each of the 4 lectures will emphasize fundamental changes and vulnerabilities of the reproductive tract over the lifespan of the female. Both rodent and nonhuman primates will be discussed with respect to relevance to humans. The first lecture covers embryological development of the female reproductive system and will include key developmental and molecular events with an emphasis on timing of events in rodents and primates and potential periods of susceptibility to toxicity. The second lecture details the morphology and endocrinology of the female reproductive tract in rodents and will relate hormones and histology of the adult rodent reproductive tract from the onset of puberty to reproductive senescence and important sites of toxicity. The third lecture details the morphology and endocrinology of the female reproductive tract in nonhuman primates with emphasis on similarities and differences to rodents. The final lecture will combine the information of the first lectures and analyze issues of study design, endpoints to examine and interpretation of results in assessing female reproductive toxicity data.

- Embryological Development of the Female Reproductive System, Philip M. Iannaccone, Northwestern University Feinberg School of Medicine and Children's Memorial Institute for Education and Research, Chicago, IL.
- Morphology and Endocrinology of the Female Reproductive Tract in Rodents, Pamela E. Blackshear, Integrated Laboratory Systems, Inc., Research Triangle Park, NC.
- Morphology and Endocrinology of the Female Reproductive Tract in Nonhuman Primates, J. Mark Cline, Wake Forest University School of Medicine, Winston-Salem, NC.
- Interpreting Female Reproductive Toxicity Data, Patrick J. Wier, GlaxoSmithKline, King of Prussia, PA.

Sunday Morning, March 21
8:15 AM to 12:00 PM

THE SAFETY ASSESSMENT OF PROTEINS: APPLICATIONS TO AGRICULTURAL BIOTECHNOLOGY

AM07 BASIC

Chairperson(s): Bruce G. Hammond, Monsanto Company, Saint Louis, MO.

Endorsed by:
Food Safety Specialty Section*
Regulatory and Safety Evaluation Specialty Section
Risk Assessment Specialty Section

Biotechnology has made it possible to introduce proteins into food crops to achieve desired biological effects. Introduced proteins can impart important agronomic properties such as tolerance to herbicides to control weeds or protection of food crops against insect pest damage. Enzymes can be introduced into food crops that enhance the existing production of essential nutrients, or introduce nutrients into food crops that have potential health benefits. Proteins are also produced by microorganisms via fermentation such as enzymes used in food processing or pharmaceuticals (i.e. somatotropins) used to enhance the efficiency of milk production in dairy cows. A group of experts in the field of protein safety assessment will share their experience and learn-ings. The subject of protein allergy assessment will not be covered in this course as it has been thoroughly addressed in other courses and workshops held at SOT meetings. Toxicologists who attend this course will have a better understanding of the safety assessment strategies that have been developed for proteins in relationship to food safety. These strategies will differ in some respect from traditional safety testing approaches used for chemical xenobiotics that come in contact with food.

- Safety Assessment of Protein Plant-Incorporated Protectants, John Kough, USEPA, Washington, DC.
- Evaluating the Safety of Enzymes Used in Food Processing, Michael Pariza, University of Wisconsin-Madison, Madison, WI.
- The Safety Assessment of Proteins Introduced into Food/Feed Crops, James D. Astwood, Monsanto Company, Saint Louis, MO.

Sunday Afternoon, March 21
1:15 PM to 5:00 PM

SAFETY PHARMACOLOGY AFTER ICH S7A & S7B

PM08 BASIC

Chairperson(s): Lewis B. Kinter, AstraZeneca Pharmaceuticals, Wilmington, DE and Alan Bass, Schering Plough Research Institute, Kenilworth, NJ.

Endorsed by:
Comparative and Veterinary Specialty Section*
Regulatory and Safety Evaluation Specialty Section

Safety Pharmacology evaluations for human pharmaceuticals are dramatically redefined following implementation of International Conference on Harmonization Guidelines S7A (2000), and finalization of S7B (anticipate in 2003). Those guidelines mandate evaluations for new drugs for unintended effects on cardiovascular, respiratory, and central nervous system functions (S7A core battery), renal and electrophysiological aspects of the cardiac repolarization (S7B) in support of phase I (first in man) programs. This introductory course will familiarize participants with rationale and tactics for modern safety pharmacology evaluations for expeditious development of human pharmaceuticals. An international faculty will present strategies for successful implementation of the core battery evaluations, including critical experimental endpoint, criteria for species selection, study design alternatives, dose selection, data analysis and interpretation, Animal Welfare and Good Laboratory Practice (GLP) issues. The Course will be of broad interest to both academic and industrial SOT meeting attendees engaged in pharmaceutical safety assessment and risk management.

- Safety Pharmacology after ICH S7A & S7B, Alan Bass, Schering Plough Research Institute, Kenilworth, NJ.
- Safety Pharmacology Core Evaluations (1): Cardiovascular/Cardiac Assessment, Peter Siegl, Merck Research Labs, West Point, PA.
- Safety Pharmacology Core Evaluations (2): Pulmonary/Respiratory Assessment, Dennis J. Murphy, GlaxoSmithKline, King of Prussia, PA.
Sunday Afternoon, March 21
1:15 PM to 5:00 PM

SKIN SENSITIZATION AND ALLERGIC CONTACT DERMATITIS

**Chairperson(s):** G. Frank Gerberick, Procter & Gamble Company, Cincinnati, OH and Ian Kimber, Syngenta, Macclesfield, Cheshire, United Kingdom.

**Endorsed by:**
- **Dermal Toxicology Specialty Section**
- **Immunotoxicology Specialty Section**

Skin sensitization resulting in allergic contact dermatitis is a very common occupational and environmental health problem and is without doubt the most common manifestation of an immunotoxic response. As a consequence there is a need to identify and characterize skin sensitization hazards and for accurate risk assessment paradigms. The last decade has witnessed very significant advances in our understanding of the cellular and molecular mechanisms that are associated with, and required for, the induction of skin sensitization and the elicitation of allergic contact dermatitis. In parallel there has been a growing appreciation of the characteristics that confer on chemicals the ability to cause allergic sensitization and the nature of apparent inter-individual differences in susceptibility. Such advances have translated into new opportunities for hazard identification, for assessment of relative skin sensitizing potency and for the development of new approaches to risk assessment. This basic continuing education course will describe for a general audience the immunobiology and chemistry of skin sensitization and clinical aspects of allergic contact dermatitis. This will be followed by a description of the methods available for hazard identification and for the determination of potency, approaches to risk assessment and the current global regulatory environment. This course will be of interest to immunotoxicologists, dermatotoxicologists, those involved in the safety assessment of chemicals and regulatory toxicologists. The course is sponsored jointly by the Dermal Toxicity and Immunotoxicology.

- **The Basic Biology and Immunology of Skin Sensitization and Allergic Contact Dermatitis**, Ian Kimber, Syngenta, Macclesfield, Cheshire, United Kingdom.
- **Relative Potency, Exposure and Risk Assessment**, G. Frank Gerberick, Procter & Gamble Company, Cincinnati, OH.
- **The Global Regulatory Environment**, Denise M. Sailstad, USEPA, Research Triangle Park, NC.

Sunday Afternoon, March 21
1:15 PM to 5:00 PM

TOOLS FOR FUNCTIONAL GENOMICS (AM03 REPEATED)

**Chairperson(s):** Hollie I. Swanson, University of Kentucky, Lexington, KY.

**Endorsed by:**
- **Molecular Biology Specialty Section**

The goal of this course is to discuss cutting-edge tools and techniques that may be used in ascribing hierarchical, functional analyses of gene products following DNA microarray experiments. First, we will discuss the advantages and disadvantages of a variety of pharmacological and molecular tools (i.e., antagonists, dominant negative approaches, siRNA). We will also discuss the means by which the molecular tools may be introduced into the cell or animal model, including the use of retro- and adenoviruses. Our second presentation will use data obtained in the laboratory to demonstrate the approaches that are typically used for determining whether the observed changes in mRNA of the gene product of interest occurs at the transcriptional or post-transcriptional levels. The third presentation will focus on use of the chromatin immunoprecipitation (CHIP) assay to demonstrate whether candidate transcription factors are involved in the regulation of the gene product of interest. Finally, our last presentation will introduce a novel approach, chemical genetics, that may be used to either activate or inactivate target gene products in discord with their function.

- **Overview**, Hollie I. Swanson, University of Kentucky, Lexington, KY.
- **Approaches to be Used to Discriminate Between Transcriptional and Post-Transcriptional Gene Regulation**, E. David Thompson, University of Kentucky, Lexington, KY.
- **Analysis of Gene Regulation Using the Chromatin Immunoprecipitation Assay**, Yanan Tian, Texas A&M University, College Station, TX.
- **Use of Chemical Genetics in Functional Genomics**, Kyung Bo Kim, University of Kentucky, Lexington, KY.

Sunday Afternoon, March 21
1:15 PM to 5:00 PM

COMPUTATIONAL BIOLOGY, DOSE & RESPONSE

**Chairperson(s):** Melvin E. Andersen, CIIT Centers for Health Research, Research Triangle Park, NC and Jeffrey W. Fisher, University of Georgia, Athens, GA.

**Endorsed by:**
- **Biological Modeling Specialty Section**

The past 40 years witnessed increasing emphasis on development of computational simulation models, including physiologically based pharmacokinetic (PBPK) and, on a more limited scale, physiologically based pharmacodynamic (PBPD) models for biological responses. The fidelity of model parameters with actual biological processes has steadily increased in concert with the explosion of basic biological information. Today computational biology and computational toxicology are undergoing rapid evolution to keep pace with the enormous expansion of our biological knowledge base. A variety of new computational tools and new software are available for computation and the breadth of problems accessible to computational analysis in biology has also increased. The insights derived from computational approaches in biology will influence research strategies to develop biologically based dose-response (BBDR) models in toxicology/pharmacology and undoubtedly form the basis of the next generation of mechanistic approaches for risk and safety assessments. This session consists of 4 talks covering (1) recent progress in PBPK modeling of xenobiotic and endogenous compounds, (2) development of new computational tools to examine cellular signaling networks, (3) modeling approaches for examining
relationships between cellular circuitry and cellular function and (4) the possibility that cellular circuits may be regarded as targets for toxic responses. The session is designed to capture the status, current directions and future opportunities of computational biology that are likely to influence toxicological research strategies and risk and safety assessment.

- Physiologically Based Pharmacokinetic Modeling, Jeffrey W. Fisher, University of Georgia, Athens, GA.
- The Computational Biology Tool Box—2004, Mark Craven, University of Wisconsin, Madison, WI.
- Molecular Circuits and Biological Function, David McMillen, University of Toronto at Mississauga, Mississauga, Canada.
- Biological Switches and Molecular Circuits as Molecular Targets for Toxic Response, Melvin E. Andersen, CIIT Centers for Health Research, Research Triangle Park, NC.

Sunday Afternoon, March 21
1:15 PM to 5:00 PM
FUNCTIONAL FLOW CYTOMETRY: APPLICATIONS IN TOXICOLOGY (AM05 REPEATED)

PM12 ADVANCED

Chairperson(s): Leigh Ann Burns Naas, Pfizer Global Research and Development, San Diego, CA and Nancy I. Kerkvliet, Oregon State University, Corvallis, OR.

Endorsed by:
Immunotoxicology Specialty Section*

Flow cytometry provides a powerful tool for analyzing multiple characteristics of individual cells in a complex mixture of cell types without having to physically separate the cells. Yet, even though each cell is examined individually, the flow cytometer can process thousands of cells within a few seconds, allowing superior sampling of the population as compared to microscopic counting. The myriad of phenotypic and functional characteristics of cells that can be measured by flow cytometry continues to expand with the development of novel fluorescent probes to a variety of cellular components. The field of immunotoxicology has been greatly influenced by the use of flow cytometry with applications ranging from screening for toxic effects on immune cells to elucidating the mechanisms of toxic action on specific subpopulations of cells. However, other areas of toxicology are beginning to recognize the value of toxicologists to investigate potential alternative mechanisms of action. For instance, the adrenal gland has a cortex with three defined zones (zona glomerulosa which produces mineralocorticoids; zona fasciculate which produces glucocorticoids; and, zona reticularis which produces sex steroids) and a medulla which contains chromaffin cells which synthesize catecholamines (predominantly epinephrine and norepinephrine). The goal of this continuing education course is to illustrate the various physiological roles of the adrenal gland, to provide several examples of toxicity including carcinogenicity, and to illustrate the tools necessary to investigate mechanisms of adrenal toxicity. The first speaker will review the physiology of the adrenal gland, focusing on the hypothalamic-pituitary-adrenal axis that regulates adrenal cortical function and the sympathetic control of adrenal medullary function. In addition, the comparative anatomy of the adrenal gland will be discussed, focusing on the common species used in toxicology studies (mouse, rat, dog, primate). The second and third speakers will build upon the physiology of the adrenal by describing mechanisms for adrenal cortical and medullary toxicity and carcinogenesis. These speakers will highlight mechanisms of toxicity, illustrate methods to assess adrenal toxicity, and discuss human relevance. The last speaker will provide a case study where the mechanism of adrenal cortical tumors induced by a selective estrogen receptor modulator (SERM) was elucidated and how this information was applied in assessing risk to patients.

- Physiology and Comparative Anatomy of the Adrenal Gland, George L. Foley, Pfizer Global Research & Development, Ann Arbor, MI.
- Mechanisms of Adrenal Cortical Toxicity and Carcinogenesis, Charles S. Capen, Ohio State University, Columbus, OH.
- Mechanisms of Adrenal Medullary Toxicity and Carcinogenesis, Arthur S. Tischler, Tufts New England Medical Center, Boston, MA.
- A Case Study of Adrenal Tumorigenesis in Drug Development: Selective Estrogen Receptor Modulator (SERM), John D. Obourn, Pfizer Global Research & Development, Groton, CT.
- An Overview of Stem Cell Technology and Its Potential Applications, Clive N. Svendsen, University of Wisconsin, Madison, WI.

Endorsed by:
Carcinogenesis Specialty Section*
Regulatory and Safety Evaluation Specialty Section
Toxicologic & Exploratory Pathology Specialty Section

The adrenal gland is a common target organ in safety assessment studies. Many times adrenal changes are attributed to “stress,” because this organ produces glucocorticoids and catecholamines. However, that simplistic interpretation ignores the complexity of this organ, of which a fuller understanding will facilitate the ability of toxicologists to investigate potential alternative mechanisms of action. For instance, the adrenal gland has a cortex with three defined zones (zona glomerulosa which produces mineralocorticoids; zona fasciculate which produces glucocorticoids; and, zona reticularis which produces sex steroids) and a medulla which contains chromaffin cells which synthesize catecholamines (predominantly epinephrine and norepinephrine). The goal of this continuing education course is to illustrate the various physiological roles of the adrenal gland, to provide several examples of toxicity including carcinogenicity, and to illustrate the tools necessary to investigate mechanisms of adrenal toxicity. The first speaker will review the physiology of the adrenal gland, focusing on the hypothalamic-pituitary-adrenal axis that regulates adrenal cortical function and the sympathetic control of adrenal medullary function. In addition, the comparative anatomy of the adrenal gland will be discussed, focusing on the common species used in toxicology studies (mouse, rat, dog, primate). The second and third speakers will build upon the physiology of the adrenal by describing mechanisms for adrenal cortical and medullary toxicity and carcinogenesis. These speakers will highlight mechanisms of toxicity, illustrate methods to assess adrenal toxicity, and discuss human relevance. The last speaker will provide a case study where the mechanism of adrenal cortical tumors induced by a selective estrogen receptor modulator (SERM) was elucidated and how this information was applied in assessing risk to patients.

- Introduction to Flow Cytometry, Carl D. Bortner, NIEHS, Research Triangle Park, NC.
- Assessment of Macrophage-Induced Tissue Injury in Liver/Lung by Flow Cytometry, Debra Laskin, Rutgers University, Piscataway, NJ.
- In Vivo Assessment of T Cell Activation Using Flow Cytometry, Nancy I. Kerkvliet, Oregon State University, Corvallis, OR.
- Flow Cytometric Approaches to Understanding Mechanisms of Toxicant Action, Scott W. Burchiel, University of New Mexico, Albuquerque, NM.
Program Descriptions

*The Primary Endorser*

Saturday

Saturday Afternoon, March 20
2:00 PM to 5:00 PM
Room 301

COMMITTEE CHAIR MEETING

If you will be a Committee Chairperson in 2004–2005, please make plans to attend the Committee Chairperson Meeting scheduled for 2:00 PM–5:00 PM, Saturday, March 20. With new committee assignments taking effect on May 1, 2004, the meeting is intended to provide new (and current, if desired) chairpersons with a basic tutorial on the SOT structure, operation, and strategic direction. For additional information, please contact SOT Headquarters.

Saturday Afternoon, March 20
5:30 PM to 9:00 PM
Room 336–337

UNDERGRADUATE EDUCATION PROGRAM FOR MINORITY STUDENTS

Chairperson(s): Judy Zelikoff, New York University School of Medicine, Tuxedo, NY and Alice Villalobos, University of Rochester, Rochester, NY.

Sponsored by:
Education Committee
Education Subcommittee for Minority Initiatives

The objective of this program is to introduce minority undergraduate students and their advisors to toxicology and to encourage preparation for graduate study and pursuit of careers in the discipline. The opening session will provide an introduction to toxicology and promote interaction of the students with their peers, students who had participated in the program in the past, and SOT toxicologist hosts.

5:30 PM–6:00 PM Orientation for SOT Hosts, Peer Mentors, and Advisors
6:15 PM–7:00 PM Opening Event
7:15 PM Dinner
7:45 PM–8:30 PM Opening Lecture: What is Toxicology?
Craig Marcus, University of New Mexico, Albuquerque, NM
8:30 PM–9:00 PM Dessert and Networking

Saturday Afternoon, March 20
6:00 PM to 8:30 PM
Room 316

WORKSHOP SESSION: LIFE AS A TOXICOLOGIST. A GRADUATE STUDENT AND POSTDOC PRIMER TO CAREERS IN TOXICOLOGY

Chairperson(s): Denise Robinson, Pfizer Global Research & Development, New London, CT and Ronald Gerson, Endo Pharmaceuticals Inc., Chadds Ford, PA.

Endorsed by:
Placement Committee
Regulatory and Safety Evaluation Specialty Section*
Women in Toxicology Specialty Section

The proposed course will familiarize graduate students and post-docs with the day-to-day responsibilities, scientific challenges and activities of practicing Toxicologists in various professional fields of employment. The symposium will include presentations by Toxicologists from the Chemical/Agro Chemical, Pharmaceutical, Contract & Consulting arenas as well as Toxicologists from the EPA and FDA. The purpose of these presentations will be to familiarize aspiring Toxicologists with the specific activities and scientific challenges associated with these careers in Toxicology and provide perspective on career choices in Toxicology. Each presentation will include specific case studies of how Toxicology data are used and integrated within the specific career discipline. This course offering is designed to provide insight to Toxicology graduate students and post-docs as they begin to ponder their careers following their graduate/post-graduate education. A reception will precede the workshop in rooms 314–317. (Admission is free of charge but a ticket is required to attend. Use the SOT Annual Meeting Registration Form to register for this workshop.)

#14 6:00 LIFE AS A TOXICOLOGIST—A GRADUATE STUDENT AND POSTDOC PRIMER TO CAREERS IN TOXICOLOGY, D. Robinson2 and R. J. Gerson1, 1Endo Pharmaceuticals, Chadds Ford, PA and 2Worldwide Safety Sciences, Pfizer Global R&D, New London, CT.

#15 6:05 THE ROLES OF A TOXICOLOGIST IN A PHARMACEUTICAL COMPANY, M. V. Kindt. Safety Assessment, Merck & Co., West Point, PA.

#16 6:35 THE ROLE OF TOXICOLOGY IN THE DEVELOPMENT OF HUMAN THERAPEUTICS—AN FDA PERSPECTIVE, A. Weir. FDA/Center for Drug Evaluation and Research/ODE VI, Rockville, MD.

#17 7:05 ENVIRONMENTAL PROTECTION AGENCY: SCIENTIFIC CHALLENGES, V. Delarco. Office of Pesticide Programs, USEPA, Washington DC, DC.

#18 7:35 LIFE AS A TOXICOLOGIST IN THE CHEMICAL AND AGROCHEMICAL INDUSTRY, M. S. Bogdanffy. DuPont Haskell Laboratory, Newark, DE.

#19 8:05 ON THE SERVICES SIDE: LIFE AS CRO SCIENTIST AND CONSULTANT, D. J. Kornbrust. Consultant, Reno, NV.
SOT 43rd Annual Meeting
Program Description

Saturday Afternoon, March 20
6:00 PM to 8:30 PM
Room 314

WORKSHOP SESSION: TAKING COMMAND OF YOUR CAREER

Chairperson(s): William Toscano, University of Minnesota, Minneapolis, MN and Lisa Kamendulis, Indiana University School of Medicine, Indianapolis, IN.

Endorsed by:
Education Committee
Placement Committee*
Women in Toxicology Specialty Section

An important mission of the Placement committee is to expand the traditional service role to that of a resource for career development issues for mid-career stages. This career development workshop, targeted at mid-career SOT members, addresses issues related to setting and achieving career goals in a dynamic and technical field. Many mechanisms exist for career advancement, however, the tools and skills needed to advance are not always realized. The technical tools and prowess to keep on the cutting edge may often times get lost as increased managerial demands and other responsibilities are placed on individuals. The presentations in this workshop will focus on: How to take charge of your career to assure success, how to challenge oneself intellectually and scientifically in a subject matter for which one has both expertise and interest, how to garner and maintain the tools and skills necessary skills to make career advancements, and anticipating future trends in Toxicology. An interactive panel discussion, directed by questions from the audience will follow the presentations. A reception will precede the workshop in rooms 314–317. (Admission is free of charge but a ticket is required to attend. Use the SOT Annual Meeting Registration Form to register for this workshop.)

#20 6:00  TAKING COMMAND OF YOUR CAREER. L. M. Kamendulis1 and W. A. Toscano2. 1Division of Toxicology, Indiana University School of Medicine, Indianapolis, IN and 2Division of Environmental and Occupational Health, University of Minnesota School of Public Health, Minneapolis, MN.

#21 6:05  KEEPING SKILLS UP TO DATE. J. E. Manautou. School of Pharmacy, University of Connecticut, Storrs, CT.

#22 6:30  SEEKING MID AND LONG TERM CAREER GOALS: PERSPECTIVES OF AN INDUSTRY TOXICOLOGIST. J. Bus. TERC, Dow Chemical Co., Midland, MI.


#24 7:20  MAINTAINING TECHNICAL SKILLS WHILE RISING THROUGH MANAGEMENT. L. D. Lehman-McKeeman. Discovery Toxicology, Bristol-Myers Squibb, Princeton, NJ.

#25 7:45  TRANSDISCIPLINARY RESEARCH: RIDE THE WAVE. J. Barrett, J. S. Wiest and L. Bennett. Center for Cancer Research, National Cancer Institute, National Institutes of Health, Bethesda, MD.

Sunday Morning, March 21
8:00 AM to 5:00 PM
Room 336

UNDERGRADUATE EDUCATIONAL PROGRAM

Sponsored by:
Education Committee
Education Subcommittee for Minority Initiatives

A series of special introductory toxicology lectures will be presented to undergraduate students registered for this program, including the participants in the Undergraduate Minority Education Program for Minority Students. This will be followed by sessions providing information for successful application to graduate school, and the opportunity to meet with directors of academic toxicology programs and internship sponsors. The goal is to encourage undergraduate students to prepare for graduate study and pursuit of careers in toxicology.

8:00 AM  Special Toxicology Lectures
8:15 AM–8:45 AM  The Effects of Alcohol on the Immune System—an Example of Research in Immunotoxicology
    Stephen B. Pruett, LSU Health Sciences Center, Shreveport, LA

8:45 AM–9:15 AM  Public Health/Toxicology: Bridging Basic Science in Community Health
    Mary Ann Smith, University of Texas, Houston, TX

9:15 AM–9:45 AM  Chemical and Biological Terrorism: How Does Toxicology Help?
    Stephen R. Channel, US Air Force, Bel Air, MD

9:45 AM–10:30 AM  Break and Discussion at Poster Boards with First Three Speakers

10:30 AM–11:00 AM  Forensic Toxicology
    TBA

11:00 AM–11:30 PM  Contaminates, Endocrine Disruption, and Wildlife: Lessons from the Swamps
    Lou Gillette, University of Florida, Gainesville, FL

11:30 AM–12:30 PM  Lunch and Discussion at Poster Boards

For Students
12:30 PM–2:45 PM  Break out Sessions, 40-minute concurrent sessions, each repeated three times

A) What is Graduate School and What Can I Expect?
    Marquina King, National Center for Environmental Assessment, Washington, DC

B) An Academic Advisor’s Perspective on How to Get into Graduate School
    Adrian Nanez, University of Louisville, Louisville, KY
Monday Morning, March 22
7:30 AM to 3:00 PM
Room 337

UNDERGRADUATE EDUCATION PROGRAM FOR MINORITY STUDENTS

Chairperson(s): Judy Zelikoff, New York University School of Medicine, Tuxedo, NY and Rosita Proteau, Oregon State University, Corvallis, OR.

Sponsored by:
Education Committee
Education Subcommittee for Minority Initiatives

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<tr>
<th>Time</th>
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<tr>
<td>7:30 AM–8:00 AM</td>
<td>Breakfast for Students, Advisors, Peer Mentors, and SOT Hosts</td>
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<tr>
<td>8:15 AM–9:15 AM</td>
<td>Plenary Lecture: Joe and Terry Graedon, The People's Pharmacy</td>
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<tr>
<td>9:30 AM–11:30 AM</td>
<td>Special Poster Session for Visiting Students</td>
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<td>12:00 NOON–1:00 PM</td>
<td>Closing Session</td>
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<td>1:00 PM–3:00 PM</td>
<td>Evaluation Focus Groups</td>
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Monday Morning, March 22
8:30 AM to 9:15 AM
Ballroom (Level 400)

PLENARY LECTURE: MAKING SENSE OF ADVERSE REACTIONS AND INTERACTIONS: HERBAL REMEDIES, NUTRACEUTICALS, AND DRUGS

Lecturers: Joe and Terry Graedon, The People's Pharmacy, Durham, NC.

What can be learned from pharmaceutical interactions with other compounds such as herbal remedies and nutraceuticals? Patients frequently take multiple prescription medications in addition to over-the-counter drugs, vitamins, minerals, dietary supplements and herbs. Such combinations can be extremely complex, but physicians, pharmacists and nurses are learning how to recognize the markers for toxicity and intervene before serious harm can occur. Genetically-determined polymorphism is increasingly a factor in such strategies. The pharmaceutical industry is beginning to consider the mechanisms behind adverse effects and interactions so that they can be predicted and prevented.
SYMPOSIUM SESSION: STEROID INACTIVATION: ALTERNATIVE MECHANISMS OF ENDOCRINE TOXICITY

Chairperson(s): Gerald LeBlanc, North Carolina State University, Raleigh, NC and Li You, CIIT Centers for Health Research, Research Triangle Park, NC.

Endorsed by:
- Mechanisms Specialty Section
- Molecular Biology Specialty Section
- Reproductive and Developmental Toxicology Specialty Section

Normal reproductive development depends on the action of steroid hormones at specific tissue sites. Agents interfering with this process can elicit malformation or dysfunction in the reproductive tract or other organs that rely on steroids to maintain normal physiology. While effects mediated by the steroid receptors have thus far been most extensively studied as targets for xenobiotic endocrine modulation, the consequences of increased or decreased inactivation of hormone ligands in relation to overall endocrine functions are less known. Many of the enzymes that control steroid biotransformation are responsive to xenobiotic induction. These enzymes include steroid hydroxylases that are members of the cytochrome P450 (CYP) family and the conjugation enzymes of sulfotransferases (ST) and uridine diphosphate-glucuronosyltransferases (UGT). Cloning and characterization of the nuclear receptor CAR and PXR in recent years have greatly improved the understanding of how some key members in the CYP enzyme family are transcriptionally regulated. Exposure to CAR and PXR receptor activators leads to up-regulation of CYP2B and 3A, which utilize the enzyme family are transcriptionally regulated. Exposure to CAR and PXR receptor activators leads to up-regulation of CYP2B and 3A, which utilize enzyme family are transcriptionally regulated. Exposure to CAR and PXR receptor activators leads to up-regulation of CYP2B and 3A, which utilize enzyme family are transcriptionally regulated. Exposure to CAR and PXR receptor activators leads to up-regulation of CYP2B and 3A, which utilize enzyme family are transcriptionally regulated. Exposure to CAR and PXR receptor activators leads to up-regulation of CYP2B and 3A, which utilize.

In the performance of toxicology studies, whether for purposes of product safety testing or identifying mechanisms of toxicant action, it is necessary to incorporate multiple regulatory, scientific, humane, and ethical factors into the use and care of laboratory animals. This Workshop will provide a forum for discussion of these various factors from different vantage points to better inform the audience, particularly with respect to utilization of humane endpoints. These issues are of timely importance because of continually increasing regulatory oversight of animal care and use, and thus this forum will be of broad interest to toxicologists. Consideration of these factors will be addressed from the standpoint of regulatory requirements and the types of data that must be submitted (Schechtman). A veterinary medicine perspective will be presented, highlighting the development of humane endpoints and their use to determine when study interventions are necessary (Stokes). The role of the IACUC will be defined, particularly in the refinement of the project experimental design and optimization of the proposed number of animals (Brown). The conduct of toxicology studies will also be presented from the viewpoint of the investigator, who must balance these factors to produce sound and reliable data (Mattsson). The final presentation will provide a European Union perspective, highlighting the manner in which approaches to these animal care issues are addressed differently in those countries, and indicating trends in regulatory oversight that may soon reach North America (Donovan).

#26 9:30 STEROID INACTIVATION: ALTERNATIVE MECHANISMS OF ENDOCRINE TOXICITY. L. You. CIIT Centers for Health Research, Research Triangle Park, NC.

#27 9:35 XENOBIOTIC INTERFERENCE WITH HORMONE TRANSPORT PROCESSES. G. A. LeBlanc. Environmental & Molecular Toxicology, North Carolina State University, Raleigh, NC.


#29 10:45 MOLECULAR REGULATION OF HEPATIC SULFOTRANSFERASES. M. Runge-Morris. Inst. Environment Health Sciences., Wayne State University, Detroit, MI.


ASSURANCE OF ANIMAL WELFARE IN RESEARCH: COEXISTENCE OF TOXICOLOGY STUDIES WITH HUMANE ENDPOINTS

Chairperson(s): Jeff Everitt, GlaxoSmithKline, Research Triangle Park, NY and Stephen Lasley, University of Illinois College of Med., Peoria, IL.

Endorsed by:
- Animals in Research Committee*
- Neurotoxicology Specialty Section

In the performance of toxicology studies, whether for purposes of product safety testing or identifying mechanisms of toxicant action, it is necessary to incorporate multiple regulatory, scientific, humane, and ethical factors into the use and care of laboratory animals. This Workshop will provide a forum for discussion of these various factors from different vantage points to better inform the audience, particularly with respect to utilization of humane endpoints. These issues are of timely importance because of continually increasing regulatory oversight of animal care and use, and thus this forum will be of broad interest to toxicologists. Consideration of these factors will be addressed from the standpoint of regulatory requirements and the types of data that must be submitted (Schechtman). A veterinary medicine perspective will be presented, highlighting the development of humane endpoints and their use to determine when study interventions are necessary (Stokes). The role of the IACUC will be defined, particularly in the refinement of the project experimental design and optimization of the proposed number of animals (Brown). The conduct of toxicology studies will also be presented from the viewpoint of the investigator, who must balance these factors to produce sound and reliable data (Mattsson). The final presentation will provide a European Union perspective, highlighting the manner in which approaches to these animal care issues are addressed differently in those countries, and indicating trends in regulatory oversight that may soon reach North America (Donovan).

#31 9:30 ASSURANCE OF ANIMAL WELFARE IN RESEARCH: COEXISTENCE OF TOXICOLOGY STUDIES WITH HUMANE ENDPOINTS. S. M. Lasley1 and J. J. Everitt2. 1Department of Biomedical & Therapeutic Sciences, University of Illinois College of Medicine, Peoria, IL and 2Comparative Medicine & Investigator Support, GlaxoSmithKline, Research Triangle Park, NC.


#33 10:05 ASSURANCE OF ANIMAL WELFARE IN RESEARCH: COEXISTENCE OF TOXICOLOGY STUDIES WITH HUMANE ENDPOINTS—ANIMAL WELFARE ISSUES. W. S. Stokes. DHHS/NIH/NIEHS, National Toxicology Program, Research Triangle Park, NC.


#35 11:05 ANIMAL TESTING: THE DICHOTOMY BETWEEN NATURAL TOXICANTS IN FOOD AND SYNTHETIC PESTICIDES POINTS TO A PROBLEM. J. L. Mattsson. Dow AgroSciences LLC, Indianapolis, IN.
Neurons differ in their vulnerabilities to toxic agents, thus techniques that can selectively evaluate functional neuronal systems fill an important role in neurotoxicology. Electrophysiologic recording has long played such a role. Neuroelectrophysiology techniques add important information to studies that have pathology and/or behavior as outcome measures. Electrophysiologic recordings are able to detect toxic effects on the nervous system that may occur without morphologic correlates. In addition, techniques can be applied specifically to a functional neuronal system, allowing study of just that system. Data are quantifiable, reproducible and can be obtained repeatedly from an individual animal. The same techniques can be used in clinical studies, forming a stable bridge in determination of human risk. Furthermore, the extensive history of electrophysiology creates a strong database which can be used to provide perspective for data on new drugs. While these similarities are shared among the various techniques, there are important differences in evaluation of neuronal systems that can influence the interpretation of data, and there are different sensitivities to detection of abnormal results. The speakers in this workshop will discuss the strengths of electrophysiologic recording and factors critical to data interpretation in various functional systems, including the peripheral nervous system, sensory systems, hippocampal function and cortical dysfunction. This integrated examination of neuronal system functions using electrophysiology will provide insight into these data in the evaluation of new chemical entities, and their place in human risk assessment.
INNOVATIONS IN TOXICOLOGICAL SCIENCES SESSION:
LIPOMICS, AN IMPORTANT COMPONENT OF METABOLOMICS, AND POSSIBLE USE IN TOXICOLOGY STUDIES

Chairperson(s): David White, University of Tennessee, Knoxville, TN and Michael Madden, USEPA, Chapel Hill, NC.

Endorsed by:
Inhalation Specialty Section*
Molecular Biology Specialty Section

Metabolites of endogenous biochemical substances can be considered to represent the ultimate organ and cellular responses to toxicants or other changes in an organism’s environment. An important fraction of these endogenously produced metabolites are lipids; the comprehensive study of the production of these lipids is termed lipomics or liponomics. Lipids of various chemical classes have been implicated in mediating human diseases in the lung, cardiovascular, brain, and other organ systems. The emphasis of this session will be to provide an overview of strategies for quantifying lipids and key lipid metabolic steps, and subsequently organizing the resulting data into more usable and understandable formats. A brief overview of the biological relevance of lipids will initiate the session. A presentation on lipid chemistry and analytical chemistry strategies (along with the associated strengths and shortcomings) will follow in order to provide the audience with insights on some of the technologies needed to perform the first step involved in lipomics. Additional presentations will show: comprehensive lipid analyses (>400 lipids) of mice treated with the anti-hyperlipidemic agent rosiglitazone and subsequent data manipulation into a informative database; alterations of lung lipids collected in breath condensate from humans and animals models (mice, pigs) of lung disease; and using lipomics to monitor microbial biomass and composition for use in environmental remediation strategies, microbial ecology studies, and minimizing microbial populations in occupational settings. Use of lipomics, in combination with proteomics and genomics, can provide a more complete view of cellular responses. Monitoring of these responses can be used to assist in optimizing drug therapies, examining effects from toxicant exposures, determining the influence of nutrition on responses, and screening the environment for microbial populations. [This abstract may not represent official EPA policy.]


#53 9:30 DEVELOPMENTAL IMMUNOTOXIC EFFECTS OF PRENATAL ATRAZINE EXPOSURE. A. M. Rowe1, K. M. Brandege1, 2, R. Schafer1 and J. B. Barnett1, 2. 1Microbiology, Immunology and Cell Biology, West Virginia University, Morgantown, WV and 2Mary Babb Randolph Cancer Center, West Virginia University, Morgantown, WV.

#54 9:45 EFFECTS OF PRENATAL EXPOSURE TO CIGARETTE SMOKE ON TUMOR SURVEILLANCE IN THE OFFSPRING. S. P. Ng, S. Prakash Nagarkatti, Virginia Commonwealth, Richmond, VA and Emanuela Corsini, University of Milan, Italy.

#55 10:00 THE EFFECTS OF CANNABINOID EXPOSURE ON TUMOR GROWTH AND THE ANTI-TUMOR IMMUNE RESPONSE. R. McKallip1, S. Mani2, M. Jett2, J. Jackman3 and M. Nagarkatti. 1Department of Microbiology and Immunology, VCU, Richmond, VA and 2Department of Pharmacology and Toxicology, VCU, Richmond, VA.

#56 10:15 MOLECULAR MECHANISM OF ACTION OF THE FUNGICIDE MANCOZEB ON THE INHIBITION OF CYTOKINE PRODUCTION. E. Corsini1, S. Birindelli2, M. Marinovich1, C. Colosio2 and C. L. Galli3. 1Department Pharmacological Sciences, University of Milan, Milan, Italy and 2ICPS, International Centre for Pesticide Safety, Busto Garolfo, Italy.

#57 10:30 IMMUNOTOXICITY OF SILICA: T CELL ACTIVATION AND BAL CELL ANTI-APOPTOTIC PHENOTYPE PRECEDE GRANULOMA FORMATION IN CHRONIC SILICOSIS. R. J. Langley, N. Mishra and M. Sobori. Immunology, LRRI, Albuquerque, NM.

#58 10:45 GENE EXPRESSION PROFILES IN HEXACHLOROBENZENE-INDUCED TOXICITY. J. Ezendam1, 2, F. Stadtlmller3, J. Pennings2, R. Vandeblief. 1, R. Pieters1, J. Harleman3 and J. Yso2. 1Immunotoxicology, IRAS, Utrecht, Netherlands, 2National Institute for Public Health and the Environment, Bilthoven, Netherlands and 3Novartis Pharmacology AG, Basel, Switzerland.

#59 11:00 DENDRITIC CELLS ARE A SENSITIVE TARGET OF THIMEROSAL AND ETHYLMERCURY. S. R. Goth, R. A. Chu and I. N. Pessah. Department of Molecular Biosciences and the Center for Children’s Environmental Health and Disease Prevention, UC Davis, Davis, CA.
**Program Description**

**Monday Morning, March 22**

**9:30 AM to 12:00 PM**

**Room 326**

**PLATFORM SESSION: MECHANISMS OF HEPATOTOXICITY I**

**Chairperson(s):** Lance Pohl, NIH, Bethesda, MD and Harihara Mehendale, University LA at Monroe, Monroe, LA.

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**#60 11:15**

**INORGANIC MERCURY INCREASES SEVERITY AND FREQUENCY OF AUTOIMMUNE MYOCARDITIS IN MICE.** J. F. Nyland1,2, D. Fairweather3, N. R. Rose1,2,3 and E. K. Silberfeld1.

1EHS, JHU Bloomberg School of Public Health, Baltimore, MD, 2MIMI, JHU, BSRP, Baltimore, MD and 3Pathology, JHU School of Medicine, Baltimore, MD.

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**#61 11:30**


1Environmental Health Science, Johns Hopkins University Bloomberg School Public Health, Baltimore, MD, 2JH Medical School, Baltimore, MD, 3Evandro Chagas Institute, Para Belem, Brazil and 4Institute Molecular Cell Biology, Porto, Portugal.

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**#62 9:30**


1Pharmacology and Toxicology, Michigan State University, East Lansing, MI, 2Investigative Toxicology, Pharmacia Corporation, Kalamazoo, MI, 3Global Drug Metabolism, Pharmacia Corporation, Skokie, IL, 4HTS Metabolic Profiling, Pharmacia Corporation, Chesterfield, MO and 5Department of Chemistry, University of Manchester Institute of Science and Technology, Manchester, United Kingdom.

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**#63 9:46**

**CALPASIN EXPRESSION: A NEW LINE OF DEFENSE AGAINST PROGRESSION OF TOXICANT-INDUCED INJURY.** P. Limaye1, P. S. Paikar1, University. M. Apte1, J. C. Latendresse2, S. Yu3, P. Kashirreddy4, J. K. Reddy1,2 and H. M. Mehendale1.

1Department of Toxicology, University of Louisiana at Monroe, Monroe, LA, 2Pathology Associates Intl., NCTR, Jefferson, AR and 3Department of Pathology, Feinberg School of Medicine, Northwestern University, Chicago, IL.

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**#64 10:02**

**MECHANISMS OF DIFFERENTIAL HEPATIC TOXICITY BETWEEN TROGLITAZONE AND ROSIGLITAZONE.** H. M. Rhee1, B. J. Song2 and M. Bae2.


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**#65 10:18**

**GENOMIC AND PROTEOMIC INVESTIGATIONS INTO THE IDENTIFICATION OF SUSCEPTIBILITY FACTORS IN DRUG-INDUCED LIVER DISEASE (DILD).** K. Welch1, T. Reilly2, B. Wilen3, T. Hays1, J. Brady4, C. Maisison5, M. Radonovich1, D. Goodlett6, E. Yi3, H. Lee5, S. Nelson3 and L. Pohl1,2,3MI, NHLB/NHIC/HHS, Bethesda, MD, 2Bristol-Myers Squibb, Syracuse, NY, 3University of Washington, Seattle, WA, 4NCI/NHIC/HHS, Bethesda, MD and 5Institute for Systems Biology, Seattle, WA.

**IN SILICO PREDICTION OF HEPATOTOXICITY OF DRUGS IN HUMANS USING POST-MARKET DATA AND MCASE SOFTWARE.** E. J. Matthews, N. L. Kruhlak, R. D. Benz and J. F. Contrera. USFDA, Rockville, MD.


1Molecular and Cellular Toxicology Section, Laboratory of Molecular Immunology, National Heart Lung & Blood Institute, National Institutes of Health, Department of Health & Human Services, Bethesda, MD and 2Virus Tumor Biology Section, National Cancer Institute, National Institutes of Health, Department of Health & Human Services, Bethesda, MD.

**PATHWAYS OF FIBROSIS CHARACTERIZED IN VITRO WITH ORGAN SLICES FROM RAT AND HUMAN TISSUE.** A. E. Vickers1, M. J. Saulnier1, R. Fisher2, E. Cruz1, K. Rose1 and P. Olinga3.

1Biomarker Development, Novartis Pharmaceuticals Corp, En Hanover, NJ, 2Vitron Inc., Tucson, AZ and 3Department of Pharmacokinetitcs & Drug Delivery, University of Groningen, Groningen, Netherlands.


1Laboratory of Metabolism, NCI/NHIC, Bethesda, MD, 2INSERM U539, Nantes, France, 3Pharmacogenetics Section, Laboratory of Reproductive and Developmental Toxicology, NIEHS/NHIC, Research Triangle Park, MD, 4Veterinary and Tumor Pathology Section, NCI/NHIC, Frederick, MD, 5Molecular Disease Branch, NHLBI/NHIC, Bethesda, MD and 6University of Texas Southwestern Medical Center, Dallas, TX and 7Dalhouse University, Halifax, NS, Canada.

**UROPORPHYRIA CAUSED BY ETHANOL IN HFE(-/-) MICE OF DIFFERENT GENETIC BACKGROUNDs.** P. Sinclair1,2, N. Gorman1,2, H. Trask1,2, W. Bement1, A. Zaharia1,2, J. Szakacs2, G. Elder4, D. Balestra2, J. Sinclair1,2 and G. Gerhard3.

1VA Medical Center, White River Junction, VT, 2Dartmouth Medical School, Hanover, NH, 3Pathology, University of Utah Medical School, Salt Lake City, UT, 4Medical Biochemistry, University of Wales Medical Schl, Heath Park, Wales, United Kingdom and 5Weis Ctr Research, Danville, PA.

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[Link to www.toxicology.org for up-to-date information]
### Program Description

**PLATFORM SESSION: PHARMACEUTICAL SAFETY EVALUATION—CANCER AND BIOLOGICALS**

**Chairperson(s):** Thomas Horn, IIT Research Institute, Chicago, IL and Drew Badger, Allergan, Irvine, CA.

#### #71 9:30
**PREDICTING THE CARCINOGENIC POTENTIAL OF PHARMACEUTICALS AND CHEMICALS USING MOLECULAR SIMILARITY, E-STATE INDICES AND ML-QSAR SOFTWARE.** J. F. Contrera1. 1Office of Pharmaceutical Science, USFDA Center for Drugs, Rockville, MD, 2Office of Pharmaceutical Science, USFDA Center for Drugs, Rockville, MD, and 3Office of Pharmaceutical Science, USFDA Center for Drugs, Rockville, MD.

#### #72 9:46
**A MODEL TO ASSESS THE TUMORIGENIC POTENTIAL OF NATALIZUMAB (NAT), A RECOMBINANT HUMANIZED ANTI-CD4 INTEGRIN ANTIBODY.** J. F. Rutkowski1, D. Lepage1, D. Hutto1, N. Wehner2, Y. Maxuitenko3, J. Heath3, M. Koratich3, C. Tenhoun3 and J. Green3. 1Biogen, Cambridge, MA, 2Elian Pharmaceuticals, San Diego, CA, and 3Medicinal Chemistry, Allergan, Irvine, CA.

#### #73 10:02
**ORAL TOXICITY AND ANGIOSTATIC POTENCY OF ANTI-VEGF DRUGS ZD-6474, ZK 222584, AND SU11248 IN MICE.** D. A. Badger1, J. M. Holland1, T. C. Malone1, S. R. Vanapalli1, J. L. Edelman2 and G. W. DeVries2. 1Safety Evaluation, Allergan, Irvine, CA, 2Biological Sciences, Allergan, Irvine, CA, and 3Medicinal Chemistry, Allergan, Irvine, CA.

#### #74 10:18
**SUBCHRONIC ORAL TOXICITY/ENZYME MODULATION STUDY OF FARNESOL IN RATS.** T. Horn1, L. Long1, M. Cwik1, J. Beyer1, L. Nguyen1, B. Wu1, P. Fielder1, K. Howell1, F. Qureshi1, D. Auyeung1, C. Sachs1, L. Bernier2 and C. Chan3. 1USEPA, Research Triangle Park, NC, 2CRL DDS Sierra Division, Sparks, NV, and 3Southern Research Institute, Birmingham, AL.

#### #75 10:34
**A TOXICITY EVALUATION OF HUMANIZED ANTI-CD20 ANTIBODY PRO70769.** K. P. McKeever1, W. Johnson1, R. Morrissey2, I. Kapetanovic3 and D. McCormick4. 1IT Research Institute, Chicago, IL, 2Pathology Associates, Chicago, IL, 3National Cancer Institute, Bethesda, MD, and 4Biogen, Cambridge, MA.

#### #76 10:50
**EFFECTS OF CHRONIC PERTUZUMAB-MEDIATED HER2 PATHWAY INHIBITION, K. M. Towndrow1, N. Dybdal1, L. Nguyen1, D. Allison1, F. Qureshi1, L. Bernier2 and K. P. McKeever3. 1Genentech, Inc., South San Francisco, CA, and 2Covance, Inc., Vienna, VA.

#### #77 11:06
**PRECLINICAL SAFETY ASSESSMENT OF A HUMAN LYMPHOTOXIN BETA RECEPTOR IMMUNOGLOBULIN FUSION PROTEIN IN CYMONOGALOS MONKEYS FOLLOWING REPEATED INTRAVENOUS AND SUBCUTANEOUS DOSING.** C. Sach1, G. Beattie2, J. Gommerman3, C. Chan4, J. Browning1, W. Meier1, P. L. Martin1 and J. D. Green2. 1Biogen, Cambridge, MA, and 2Charles River DDS Sierra Division, Sparks, NV.

**#78 11:22 SAFETY AND BIODEISTRIBUTION OF A MULTIPLE STRAIN EBOLA GENE DNA PLASMID VACCINE (VRC-EBODNA012-00-VP) IN THE NEW ZEALAND WHITE RABBIT.** T. S. Manetz1, J. Stein2, R. Sheets3, G. Wolfe1, C. Duffy4 and P. Gomez2. 1Gene Logic, Gaithersburg, MD, 2Vaccine Research Center of NIH/NAID, Bethesda, MD, 3Consultant to the Vaccine Research Center, Ann Arbor, MI, and 4Althea Technologies, Inc., San Diego, CA.


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**PLATFORM SESSION: RESPIRATORY TRACT—PM AND THE CARDIOVASCULAR SYSTEM**

**Chairperson(s):** Bob Devlin, USEPA, Chapel Hill, NC and Author Penn, LSU Vet. Med., Baton Rouge, LA.

#### #80 9:30
**EFFECT OF OIL COMBUSTION PARTICLE BIOAVAILABLE CONSTITUENTS ON EX VIVO CARDIOVASCULAR FUNCTION OF AORTAE RECOVERED FROM HEALTHY AND EARLY TYPE 2 DIABETIC RATS.** D. W. Graff1, J. C. Russell2, T. P. Jenkins4, J. M. Holland5 and 4Althea Technologies, Inc., San Diego, CA.

#### #81 9:50
**VANADIUM EXPOSURE ALTERS SPONTANEOUS BEAT RATE AND GENETIC EXPRESSION OF CULTURED CARDIAC MYOCYTES.** D. W. Graff1, R. B. Devlin1, L. A. Dailey1 and W. E. Cascio2. 1VHEERL, USEPA, Research Triangle Park, NC, and 2University of Alberta, Edmonton, AB, Canada.

#### #82 10:10
**SUBCHRONIC HEALTH EFFECTS OF CONCENTRATED AMBIENT PARTICULATE MATTER (CAP).** L. Chen1, J. Hwang1, 2, C. Nadziejko3 and M. Lippmann4. 1Environ Med., NYUSOM, Tuxedo, NY, and 2Statistical Science, Academia Sinica, Taipei, Taiwan.

#### #83 10:30
THE INFLUENCE OF VARIABLE ELIMINATION ASSESSMENT OF TOXICITY OF OIL

M. Fisher, and N. J. Walker

THE EFFECT OF 2, 3, 7, 8-TCDD FROM AGENT ORANGE IS CURRENTLY

MYOCARDIAL AND CARDIOVASCULAR EFFECTS FOLLOWING PULMONARY

EXPOSURE TO ZINC. P. S. Gilmour1, A. Nyska2, M. C. Schladweiler3, A. D. Ledbetter3 and University. P Kodavanti3. 1CEMALB, UNC, Durham, NC, 2NIEHS, Research Triangle Park, NC and 3PTB, USEPA, Durham, NC.


Monday Morning, March 22
9:30 AM to 12:00 PM
Room 324

PLATFORM SESSION: TCDD
Chairperson(s): Claude Emond, N4S, Washington, DC and Nigel Walker, NIEHS, Research Triangle Park, NC.

TCDD FROM AGENT ORANGE IS CURRENTLY AS ELEVATED IN VIETNAM AS DURING SPRAYING 30-40 YEARS AGO: A CASE STUDY ILLUSTRATING THE PERSISTENCE OF POPS. A. Schecter2, H. T. Quynh1, O. Paepke2, R. Malisch4, J. D. Constable4, M. Pavuk2 and K. Tung4. 1Cancer Research Center, Hanoi, Viet Nam, 2Environmental Sciences, University of Texas School of Public Health, Dallas, TX, 3ERGO Research Laboratory, Hamburg, Germany, 4State Laboratory for Chemical & Veterinary Analysis, Freiburg, Germany and 3Massachusetts General Hospital, Harvard Medical School, Boston, MA.

PBPK MODELED CHANGES IN TCDD BASED ON ESTIMATED COMMUNITY EXPOSURES THROUGH SEAFOOD CONSUMPTION: A CASE STUDY IN PUBLIC HEALTH ASSESSMENT. D. B. Moffett1, 2 and H. A. El-Masri1. 1Computational Toxicology Laboratory/Division of Toxicology, CDC/ATSDR, Atlanta, GA and 2United States Public Health Service, Atlanta, GA. Sponsor: B. Fowler.

THE INFLUENCE OF VARIABLE ELIMINATION RATE AND BODY FAT MASS IN A PBPK MODEL FOR TCDD IN PREDICTING THE SERUM TCDD CONCENTRATIONS FROM VETERANS OF OPERATION RANCH HAND. C. Emond2, M. J. DeVito1, L. S. Birnbaum1 and J. E. Michalek3. 1ORD/NHEERL/ETD, USEPA, Research Triangle Park, NC, 2NRC, NAS, Washington, DC and 3HEDB, AFRL, Brooks City-Base, TX.

ASSUMPTION OF TOXICITY OF OIL COMBUSTION EMISSION EXPOSURE IN NORMAL AND HYPERTENSIVE RATS. M. J. Gilmour1, University. Kodavanti1, K. Dreher1, M. Daniels1, M. Schladweiler2, Q. krantz1, W. P. Linak2, C. Miller2 and D. L. Costa1. 1NHEERL, USEPA, Research Triangle Park, NC and 2NRMRL, USEPA, Research Triangle Park, NC.

SERUM 2, 3, 7, 8-TETRACHLORODIBENZO-P-DIOXIN (TCDD) LEVELS AND SLEEP DISORDERS IN US AIR FORCE VETERANS OF THE VIETNAM WAR. Y. Liu2, J. E. Michalek2 and L. T. Frame1. 1Pharmacology and Neuroscience, Texas Tech Health Sciences Center, Lubbock, TX, 2The Institute of Environmental and Human Health, Texas Tech University, Lubbock, TX and 3Air Force Research Laboratory, US Air Force, Brooks City-Base, TX.

LOW DOSE IN VIVO EXPOSURE TO 2, 3, 7, 8-TETRACHLORODIBENZO-P-DIOXIN (TCDD OR DIOXIN) ALTERS EXPRESSION OF THE CLOCK-ASSOCIATED PROTEIN, PERIOD, IN THE SUPRACHIASMATIC NUCLEUS (SCN) AND LIVER OF C57B6 MICE. W. Li, R. L. Dickerson and L. T. Frame. Pharmacology and Neuroscience, Texas Tech Health Sciences Center, Lubbock, TX.

EFFECT OF 2, 3, 7, 8-TETRACHLORODIBENZO-P-DIOXIN (TCDD) ON POSITIVE AND NEGATIVE SELECTION OF T CELLS IN THE THYMIUS. M. Fisher, M. Nagarkatti and P. S. Nagarkatti. Virginia Commonwealth University, Medical College of Virginia Campus, Richmond, VA.

IN VIVO MOLECULAR MECHANISMS OF TCDD-INDUCED CELL DEATH IN THE THYMUS: EVIDENCE FOR AHR-DEPENDENT APOPTOSIS VIA ACTIVATION OF MITOCHONDRIAL AND DEATH-RECEPTOR PATHWAYS. I. A. Camacho1, M. Nagarkatti1 and P. S. Nagarkatti1. 1Department of Microbiology and Immunology, Virginia Commonwealth University, Richmond, VA and 2Department of Pharmacology and Toxicology, Virginia Commonwealth University, Richmond, VA.

CHRONIC TOXICITY AND CARCINOGENICITY OF DIOXIN-LIKE COMPOUNDS IN FEMALE HARLAN SPRAGUE-DAWLEY RATS. N. J. Walker1, A. Nyska1, C. Allen1, A. E. Brix2, L. T. Burke1, J. R. Hailey1, J. K. Haseman1, M. R. Heijmans1, M. P. Jokinen3, D. P. Orzech1, D. Sells1, C. S. Smith1, M. E. Wyde1 and J. R. Bucher1. 1NIEHS, Research Triangle Park, NC, 2Experimental Pathology Laboratories, Research Triangle Park, NC, 3Pathology Associates -A Charles River Company, Durham, NC and 4Battelle Columbus, Columbus, OH.

HEPATIC GENE EXPRESSION PROFILING OF HAHS AND THE IDENTIFICATION OF NOVEL DIOXIN-RESPONSIVE GENES. B. J. Ovando1, R. J. Foxenberg1, C. M. Vezina2 and J. R. Olson1. 1Pharmacology and Toxicology, University at Buffalo, Buffalo, NY and 2Pharmacy, University of Wisconsin, Madison, WI.
MONDAY

9:30 AM to 12:30 PM
Exhibit Hall

POSTER SESSION: DISPOSITION/PHARMACOKINETICS

Chairperson(s): Mary Treien-Moslen, University of Texas Medical Branch, TX and Kelly Dix, Lovelace Respiratory Research Institute, Albuquerque, NM.

Displayed: 9:30 AM–12:30 PM

Attendees: 9:30 AM–11:00 AM

#96 MOLECULAR STRUCTURE-BASED PREDICTION OF THE STEADY-STATE BLOOD CONCENTRATIONS OF INHALED ORGANICS IN RATS. M. Beliveau and K. Krishnan. Occupational and Environmental Health, Universite de Montreal, Montreal, QC, Canada.

#97 TISSUE DISTRIBUTION OF NUCLEOSIDE TRANSPORTERS IN MALE AND FEMALE RATS AND MICE. H. Lu, C. Chen and C. Klaassen. University of Kansas Medical Center, Kansas City, KS.

#98 METABOLISM AND DISPOSITION OF [2-14C]-2-METHYL-1, 3-PROPANEDIOL (MPDIOL® GLYCOL) IN SPRAGUE-DAWLEY RATS FOLLOWING ORAL GAVAGE ADMINISTRATION. R. J. Boatman1, H. B. Lantum1, J. C. English1, M. Thomas2, W. D. Faber4 and M. I. Banton3. 1Health and Environment Laboratories, Eastman Kodak Company, Rochester, NY, 2Lyondell Chemical Company, Maidenhead, United Kingdom, 3Lyondell Chemical Company, Houston, TX and 4WFTC, LLC, Victor, NY.

#99 RAT MULTIDRUG RESISTANCE PROTEIN 4: MOLECULAR CLONING AND CHARACTERIZATION OF REGULATION. C. Chen, A. L. Slitt, M. Z. Dieter and C. D. Klaassen. University of Kansas Medical Center, Kansas City, KS.

#100 DISPOSITION AND METABOLISM OF 1-BROMOPROPANE IN RATS. C. Garner, J. Davis, J. Burgess, Y. Yeoh, A. Jeffcoat, J. Fennel and J. Mathews. Drug Metabolism/Pharmacokinetics, RTI, Research Triangle Park, NC.


#102 EFFECT OF NASAL ADMINISTRATION OF NICOTINE ON THE BRAIN DELIVERY THROUGH THE OLFACTORY BULBS IN RATS. H. J. Kim1, S. H. Chang2 and H. S. Kim1. 1Preventive Medicine, Daegu Haany University, Daegu, South Korea and 2Preventive Medicine, Keunkook University, Chungju, South Korea.

#103 PRELIMINARY TOXICOKINETIC STUDY AND BIOLOGICAL SAMPLE ANALYSIS METHOD DEVELOPMENT/VALIDATION FOR DICHLOROACETIC ACID. J. D. Johnson1, S. W. Graves1, D. Emmerling1, B. Burback1, J. Merrill1 and C. Smith2. 1Toxicology, Battelle, Columbus, OH and 2NIEHS, NIH, Research Triangle Park, NC.

#104 EFFECT OF DIFFERENT DOSE PARADIGMS ON THE BODY BURDEN OF CHLORPYRIFOS (CPF) IN NEONATAL SPRAGUE-DAWLEY RATS. J. Y. Domoradzki1, M. S. Marty1, S. C. Hansen1, C. Timchalk2 and J. L. Mattsson2. 1The Dow Chemical Co., Midland, MI, 2Battelle, Richland, WA and 3Dow AgroSciences, LLC, Indianapolis, IN.

#105 MORE RENAL AND LESS INTESTINAL ADDUCTION BY THE NSAID DICLOFENAC IN MRP2-DEFICIENT RATS. M. Treien-Moslen1, L. Kaphalia1, L. Lemley1, B. A. Rampy3, C. R. Atchison2 and M. F. Kanz4. 1Pathology, University of Texas Medical Branch, Galveston, TX and 2HQ’s USAMRMC, Fort Detrick, MD.

#106 COMPARISON OF PARTITION COEFFICIENTS FOR A MIXTURE OF VOLATILE ORGANIC COMPOUNDS IN RATS AND HUMANS AT DIFFERENT LIFE STAGES. D. A. Mahle1, C. C. Grigsby2, R. J. Godfrey1, J. M. Gearhart1, H. A. Barton1, J. C. Lipscomb3 and R. S. Cook2. 1ManTech Environmental Technology, Inc., Wright-Patterson AFB, OH, 2AFRL/HEST, Wright-Patterson AFB, OH, 3USEPA/ORD/NHEERL, Research Triangle Park, NC and 4USEPA/ORD/NCEA, Cincinnati, OH.

#107 ETHANOL PHARMACOKINETICS ARE ALTERED BY PREGNANCY AND CALORIC INTAKE IN FEMALE RATS. M. Hidestrand1, L. K. Shankar1, L. Humphrey2, R. Haley2, M. Zipperman2, T. M. Badger3, 2 and W. D. McGuinn4. 1Pharmacology & Toxicology, University of Arkansas for Med. Sciences, Little Rock, AR, 2Arkansas Children’s Nutrition Center, Arkansas Children’s Hospital, Little Rock, AR, 3Physiology, University of Arkansas for Med. Sciences, Little Rock, AR and 4NA, Columbia, MD.

#108 DOSE-DEPENDENCY OF ASPRIN-TRICHLOROETHYLENYL INTERACTION. K. Kim, S. Muralidhara, S. Lee and J. Bruckner. Department of Pharmaceutical and Biomedical Sciences, The University of Georgia, Athens, GA.

#109 BIO-DISTRIBUTION OF BISPHENOL A IN THE NEUROENDOCRINE ORGANS OF FEMALE RATS. H. M. Luu2, W. Johnson1, J. C. Hutter2, C. S. Kim1, I. A. Ross1 and P. P. Sapienza1. 1Toxicology, US Food and Drug Administration, Laurel, MD and 2Radiological Health, USFDA, Rockville, MD.

#110 PRELIMINARY TOXICOKINETIC STUDY AND BIOLOGICAL SAMPLE ANALYSIS METHOD DEVELOPMENT/VALIDATION FOR 2-METHYL TETRAHYDROFURAN, B. L. Burback1, L. Fomby1, B. Harritos1, G. W. Steven1 and S. S. Cynthia2, 3. 1Battelle Memorial Institute, Columbus, OH, 2NIH, Research Triangle Park, NC and 3NIEHS, Research Triangle Park, NC.

#111 DISPOSITION OF DODECAMETHYLCYCLOHEXASILOXANE (D6) IN FISCHER 344 RATS FOLLOWING A SINGLE ORAL DOSE. K. P. Plotzke, J. Durham, M. L. Jovanovic and J. M. Regan. Dow Corning Corporation, Midland, MI.
PHARMACOKINETIC INTERACTION BETWEEN BUPRENORPHINE AND DESMETHYLFLUNITRAZEPAM IN RATS. S. Pirnay1,2, B. Megarbane2, S. Bouchonnet3, C. Monier2, P. Risede2, I. Ricorde1 and F. J. Baud3. 1Laboratoire de Toxicologie de la Prefecture de Police, Paris, France, 2INSERM U26, Hospital Fernand Wadal, Paris, France and 3DCMR, Ecole Polytechnique, Palaiseau, France.

DISTRIBUTION AND QUANTITATION OF ANTHRAQUINONE URINARY METABOLITES. S. Graves1, S. Runyon1 and C. S. Smith2. 1Toxicology Columbus, Battelle, Columbus, OH and 2NIHES, NIH, Research Triangle Park, NC. Sponsor: M. Hejtmancik.

IN VIVO PERCUTANEOUS ABSORPTION OF DECAMETHYLCYCLOPENTASILOXANE (D5) IN FISCHER 344 RATS. M. L. Jovanovic, J. McMahon and K. P. Plotzke. Dow Corning Corporation, Midland, MI.

DISPOSITION OF DERMALLY ADMINISTERED 5-AMINO-O-CRESOL (AOC) IN FEMALE F344 RATS. K. J. Dix and B. M. Hedtke-Weber. Lovelace Respiratory Research Institute, Albuquerque, NM.

MOGCHOAECK REDUCES ETHANOL CONCENTRATION ELEVATED BY ALCOHOL INGESTION IN RATS. T. W. Jeon2 and T. W. Jeon. 1School of Medicine, Chungbuk National University and 2Toxicology, N.C. State University, Raleigh, NC.


A PHARMACOKINETIC STUDY OF CJC-1131, A NOVEL GLP-1 ANALOGUE, IN RATS USING DUAL ISOTOPE LABELING DEMONSTRATES A LONG ELIMINATION HALF-LIFE. B. Lawrence1, S. Wen1, S. Wilson2, V. Iordanova1 and J. Castaigne1. 1ConjuChem, Montreal, QC, Canada and 2Milestone Biomedical Associates, Frederick, MD.

EFFECT OF DOSE AND ROUTE OF EXPOSURE ON THE TOXIKONETICS OF 1, 1-DICHLOROETHYLENE (DCE) IN RATS. C. Hines, C. White, S. Murulidhara, C. Dallas and J. Bruckner. University of Georgia, Athens, GA.

BIOAVAILABILITY OF PHENANTHRENE FROM SOIL: CORRELATION BETWEEN A RAT MODEL AND A PHYSIOLOGICALLY BASED EXTRACTION TEST. X. Pu1, G. P. Carlson1, R. Galinsky3 and L. Lec2. 1School of Health Sciences, Purdue University, West Lafayette, IN and 2Department of Agronomy, Purdue University, West Lafayette, IN and 3Department of Industrial and Physical Pharmacy, Purdue University, West Lafayette, IN.

TISSUE DISTRIBUTION OF 2, 2′, 4, 4′-TETRABROMODIPHENYL ETHER FOLLOWING SINGLE AND MULTIPLE DOSES TO MALE F344 RATS. J. M. Sanders1,2, M. L. Cunningham1 and L. T. Burk1. 1LPC, NIEHS, Research Triangle Park, NC and 2Toxicology, N.C. State University, Raleigh, NC.
#129 UTILIZATION OF SAR FILTERS, CHEMICAL SIMILARITY AND HT SAFETY SCREENS TO ENHANCE COMPOUND SELECTION FROM COMBINATORIAL LIBRARIES. N. Greene1, J. Aubrecht1, J. J. Osowski1 and D. L. Grossman2. 1Safety Sciences - Groton, Pfizer Global Research and Development, Groton, CT and 2Department of Biology, Cedar Crest College, Allentown, PA.


#132 FINDING THE OPTIMUM APPROACH FOR GENETIC TOXICOLOGY SCREENING. J. Kitching1 and G. Barker2. 1Experimental Biology, Huntingdon Life Sciences, Huntingdon, United Kingdom and 2Gentronix, Manchester, United Kingdom. Sponsor: C. Atterwill.

#133 THE UTILITY OF THE DEL ASSAY IN SACCHAROMYCES CEREVISIAE FOR DETECTION OF CHROMOSOME ABERRATIONS IN VITRO. Z. Kirpnick1, 2, 3, N. Howlett4, M. Repnevskaya1, 2, 3, M. Homisiki5, E. Rubitski2, J. Aubrecht5 and R. H. Schiestl1, 2, 3. 1Pathology, David Geffen School of Medicine at UCLA, Los Angeles, CA, 2Radiation Oncology, David Geffen School of Medicine at UCLA, Los Angeles, CA, 3Environmental Health Sciences, UCLA School of Public Health, Los Angeles, CA, 4Pediatric Oncology, Dana-Farber Cancer Institute, Boston, MA and 5Pfizer Inc., Groton, CT.

#134 THREE-COLOR LABELING SCHEME FOR FLOW CYTOMETRY-BASED SCORING OF RODENT AND HUMAN PERIPHERAL BLOOD MICRONUCLEATED RETICULOCYTES. S. D. Dertinger1, D. Torous1, M. Bishop2, Y. Chen2, R. K. Miller4, C. Tometsko1 and J. T. MacGregor5. 1Litron Laboratories, Rochester, NY, 2FDA-NCTR, Jefferson, AR, 3Radiation Oncology, University of Rochester Medical Center, Rochester, NY, 4Obstetrics and Gynecology, University of Rochester Medical Center, Rochester, NY and 5FDA-NCTR, Rockville, MD.


#136 INCREASED FREQUENCIES OF MICRONUCLEATED RETICULOCYTES AND 8-OHGD LEVELS IN ALDH2 KNOCKOUT MICE. N. Kunugita1, T. Issc2, T. Oyama3, K. Kitagawa1, M. Ogawa2, T. Yamaguchi2, R. Suzuki2, T. Kinaga2, A. Yoshida3, Y. Uchymama4 and T. Kawamoto3. 1School of Health Sciences, University of Occupational and Environmental Health, Kitakyushu, Japan, 2Department of Environm Health, University of Occupational and Environmental Health, Kitakyushu, Japan, 3First Department of Biochemistry, Hamamatsu Medical University, Hamamatsu, Japan, 4Beckman Research Institute of the City of Hope, Duarte, CA and 5Graduate School of Engineering, Kyoto University, Kyoto, Japan.

#137 QUANTITATIVE LONG PCR ANALYSIS OF DNA DAMAGE INDUCED BY PROSTAGLANDIN H2 SYNTHASE FORM-2: NORMALIZATION OF REPLICATION BY AN INTERNAL CONTROL. H. Kimi1, 2, D. J. Kaplan1, Y. Yuan1, D. A. Putt1 and B. Zhang1. 1Detroit R&D, Inc., Detroit, MI and 2Institute of Environmental Health Sciences, Wayne State University, Detroit, MI.

#138 TIME COURSE OF CII GENE MUTANT FREQUENCIES AND MUTATION SPECTRA IN THE BONE MARROW OF N-ETHYL-N-NITROSOUREA-TREATED TRANSGENIC MICE. J. Wang1, 2, N. Mei1, X. Liu1, M. M. Moore1, 2 and T. Chen1. 1DGR, NCTR, Jefferson, AR and 2Pharmacology and Toxicology, University of Arkansas for Medical Sciences, Little Rock, AR.

#139 AGE-DEPENDENT SENSITIVITY OF BIG BLUE TRANSGENIC MICE TO THE MUTAGENICITY OF ETHYLNITROSOUREA (ENU) IN LIVER. N. Mei, J. Wang, R. H. Heflich, M. M. Moore and T. Chen. Division of Genetic and Reproductive Toxicology, NCTR/FDA, Jefferson, AR.

#140 EFFECT OF OVARIETOMY ON MUTATIONS INDUCED BY 7,12-DIMETHYLBENZ(A)ANTHRACENE (DMBA) IN THE LIVER CII GENE OF BIG BLUE TRANSGENIC RATS. T. Chen1, R. C. Huut3, N. Mei1, M. E. Bishop1, S. Shelton1, M. G. Manjanath1 and A. Aido1. 1Division of Genetic and Reproductive Toxicology, NCTR/FDA, Jefferson, AR and 2Center for Toxicology and Environmental Health, Little Rock, AR.

#141 IDENTIFICATION OF IN VIVO MUTATION FOR THE ΦX174 TRANSGENIC MUTATION ASSAY USING THE FORWARD MUTATION ASSAY OF GENE A. C. R. Valentine1, J. L. Raney1 and R. R. Delongchamp2. 1Division of Genetic and Reproductive Toxicology, NCTR, USFDA, Jefferson, AR and 2Division of Biometry, NCTR, USFDA, Jefferson, AR. Sponsor: J. Valentine.

INHIBITION OF DNA REPAIR AS A MECHANISM OF ARSENIC CARCINOGENESIS. S. Liu, E. Kopras, M. Medvedovic, G. G. Oakley and K. Dixon. Environmental Health, University of Cincinnati, Cincinnati, OH.

DISCOVERY AND FUNCTIONAL ANALYSIS OF XPA POLYMORPHISMS. P. C. Porter1, J. Mellon2 and J. States3. 1Pharmacology & Toxicology, University of Louisville, Louisville, KY and 2Pathology, University of Kentucky, Lexington, KY.

DIFFERENCES IN DNA REPAIR ACTIVITY AND INHIBITION OF REPAIR BY AFLATOXIN B1 CORRELATES WITH SUSCEPTIBILITY TO CARCINOGENESIS IN MOUSE. L. Bedard1, M. Alessi2, S. K. Davey3 and T. E. Massey1. 1Pharmacology and Toxicology, Queen’s University, Kingston, ON, Canada, 2Chemistry, Queen’s University, Kingston, ON, Canada and 3Cancer Research Laboratories, Queen’s University, Kingston, ON, Canada.

CHARACTERIZATION OF DNA REPAIR MECHANISMS FOLLOWING AFLATOXIN B1 TREATMENT IN YEAST EXPRESSING HUMAN CYTOCHROME P450 1A2. Y. Guo1, H. Zarb1, L. L. Breden2, B. D. Preston2 and D. L. Eaton1,3. 1Enviont Occup Hist Sciences, University Washington, Seattle, WA, 2Pathology, University Washington, Seattle, WA and 3Fred Hutchinson Cancer Research Cntr, Seattle, WA.

MUCOCHLORIC ACID INDUCES SINGLE STRAND BREAKS IN XRCC1 DEFICIENT CELLS. E. Bodes, J. Nakamura, A. Molinelli, Y. Li, B. Pachkowski and J. A. Swenberg. University of North Carolina, Chapel Hill, NC.

METHYL NITROSUREA INDUCES LEUKEMOGENESIS WITH PRACTICAL THRESHOLD IN WILD TYPE MICE WHEREAS NONTHRESHOLD IN P53 DEFICIENT MICE. Y. Hirabayashi1, K. Yoshida2, Y. Kodama3, J. Kanno1, Y. Kurokawa3, I. Yoshimura4 and T. Inoue1. 1Environ Sci & Hlth Sciences, Cancer Research, NIHS, Tokyo, Japan and 2Division of Biology and Oncology, NIRS, Chiba, Japan, 3Sasaki Research Institute, Tokyo, Japan, 4Faculty of Engineering, Tokyo University of Science, Tokyo, Japan and 5Center for Biological Safety & Healthcare, University of Southern California, Los Angeles, CA.

SEASONAL UV DOSE AND DNA REPAIR CAPACITY PREDICT NON-MELANOMA SKIN CANCER RISK. J. L. Matta1, A. Ruiz1, R. A. Armstrong2, Y. Detres2 and J. M. Ramos1. 1Pharmacology and Toxicology, Ponce School of Medicine, Ponce, Puerto Rico and 2Marine Sciences, University of Puerto Rico, Mayaguez, Puerto Rico.

ALTERATION OF CHEMOTHERAPEUTIC-INDUCED DNA DAMAGE BY A COMMON HEALTH FOOD SUPPLEMENT. W. Trinachartvanit1, B. M. Francis2 and A. Rayburn3. 1Animal Biology, University of Illinois, Urbana, IL, 2Entomology, University of Illinois, Urbana, IL and 3Crop Sciences, University of Illinois, Urbana, IL.

MODE OF ACTION FOR THE IN VITRO MUTAGENICITY OF BIOBAN CS-1246 AND IMPLICATIONS FOR ITS IN VIVO MUTAGENIC POTENTIAL. B. B. Gollapudi1, G. Charles3, M. R. Schisler1, M. Cifone2, R. A. Budinsky1 and P. J. Spencer1, 1The Dow Chemical Company, Midland, MI and 2Covance Labs, Vienna, VA.

GENOTOXICITY EVALUATION OF THIOBUTYRYLCYCLIN, G. Reddy, M. A. Major and G. J. Leach. Directorate of Toxicology, US Army Center for Health Promotion and Preventive Medicine, Aberdeen Proving Ground, MD.

DNA DAMAGE IN HUMAN LEUKOCYTES INDUCED IN VITRO BY 1- OR 2-BROMOPROPANE. M. Toraison1, N. P. Singh2 and D. W. Lynch1. 1NIOSH, Cincinnati, OH and 2University of Washington, Seattle, WA.


INDUCTION OF DNA DAMAGE (COMET ASSAY) BY BISPHENOL A IN CHINESE HAMSTER OVARY (CHO) CELLS. K. Rao. Toxicology, MicaGenix, Greenfield, IN.


FUNCTIONAL ASSESSMENT OF A PUTATIVE PHOSPHORYLATION SITE IN A VARIANT ISOFORM OF HUMAN CAR, S. S. Auerbach, M. A. Stoner and C. J. Omiecinski. The Pennsylvania State University, University Park, PA.


CONSTITUTIVE ANDROSTANE RECEPTOR (CAR) AND PPARγ FUNCTIONAL ASSESSMENT OF A PUTATIVE CONJUGATED LINOLEIC ACID BINDS TO PPARγ. A. M. Ryman-Rasmussen.


MECHANISTIC EXAMINATION OF GSK3 REGULATION BY PEROXISOME PROLIFERATORS AND ITS ROLE IN HEPATOCARCINOGENESIS. K. A. Burns and J. P. Vanden Heuvel.


EFFECTS OF DOPAMINE D1 FULL AGONISTS ON RECEPTOR CYCLING. J. P. Ryman-Rasmussen and R. B. Mailman. Curriculum in Toxicology, UNC Chapel Hill, Chapel Hill, NC.


CITED2 IS A COACTIVATOR OF PEROXISOME PROLIFERATOR-ACTIVATED RECEPTOR-α AND -γTRANSCRIPTIONAL ACTIVITY. E. Tien and J. P. Vanden Heuvel. Center for Molecular Toxicology and Carcinogenesis, Pennsylvania State University, University Park, PA.

MODULATION OF PKCα/MAPK SIGNALING PATHWAY BY PEROXISOME PROLIFERATOR-ACTIVATED RECEPTOR ALPH (PPARα) EXPRESSION LEADS TO MUTUAL REPRESSION OF THEIR TRANSCRIPTIONAL ACTIVITY. T. Murosky and G. Perdew. The Pennsylvania State University, State College, PA.

CONJUGATED LINOEIC ACID BINDS TO PPAR AND CAUSES DIFFERENTIATION OF 3T3-L1 CELLS. B. J. Belda, J. T. Thompson and J. P. Vanden Heuvel.


CELL CONTEXT-DEPENDENT DIFFERENCES IN HORMONAL REGULATION OF EZF-1 IN HUMAN BREAST CANCER CELLS. S. Ngwenya and S. Safe.

GENISTEIN REGULATES THE STEROID COACTIVATOR GRIP-1 IN THE RAT MAMMARY GLAND. T. G. Whitsett and C. A. Lamartiniere. University of Alabama at Birmingham, Birmingham, AL.

DURING CHOLESTASIS LOSS OF RXRα IS HEPATOPROTECTIVE AND INCREASES EXPRESSION OF GENES FOR METABOLISM AND TRANSPORT IN LIVER. A. L. Slitt, N. J. Cherrington, C. Chen, J. M. Maher, Y. Wan and C. D. Klaassen. University of Kansas Medical Center, Kansas City, KS and University of Arizona, Tucson, AZ.
A COMPARISON OF EFFECTS ON REPRODUCTION AND NEONATAL DEVELOPMENT IN CYNOMOLGUS MONKEYS GIVEN HUMAN SOLUBLE IL-4R AND MICE GIVEN MURINE SOLUBLE IL-4R. L. L. Carlock1, L. A. Cowan1, S. Oneda2, A. M. Hoberman1 and J. L. Busiarei3. 1Toxicology, Amgen Inc., Thousand Oaks, CA, 2SNBL USA Ltd., Everett, WA and 3Argus Research Laboratories, Horsham, PA.

DEVELOPMENTAL TOXICITY OF BETA-THUJAPLICIN (TP) IN RATS. M. EMA, A. HARAZONO, S. FUJII and K. KAWASHIMA. Risk Assessment, National Institute of Health Sciences, Tokyo, Japan.

INHALATION DEVELOPMENTAL TOXICITY STUDIES IN RATS WITH ANTIMONY TRIOXIDE (SB2O3). P. E. Newton1, R. E. Schroeder1, L. Zwick1 and T. Serc2. 1MPI Research, Inc., Mattawan, MI and 2Great Lakes Chemical Company, West Lafayette, IN.

EFFECTS ON RAT EMBRYONIC DEVELOPMENT INVITRO OF DI-(2-ETHYLHEXYL) PHTHALATE (DEHP) AND ITS METABOLITES. J. REGNIER1, C. Bowden2 and J. Lhuiguenot3. Toxicology and Environment, ATOFINA, Paris-la-defense, France, 2Huntingdon Life Science, Eye, United Kingdom and 3ENSIBANA, Dijon, France.

TERATOGIC RESPONSES ARE MODULATED IN MICE LACKING EXPRESSION OF EPIDERMAL GROWTH FACTOR (EGF) AND TRANSFORMING GROWTH FACTOR-ALPHA (TGF). B. D. Abbott, D. S. Best and M. G. Narotsky. Repro Toxicology Division, USEPA, Research Triangle Park, NC.

COMPARATIVE STUDY OF ALCOHOL TERATOGIC EFFECT IN C57BL/6 AND DBA/2 MOUSE EMBRYOS USING EMBRYO CULTURE. M. Kuwagata1, T. Ogawa2-1 and F. C. Zhou1. 1Anatomy and Cell Biology, Indiana University School of Medicine, Indianapolis, IN and 2Anatomy, Showa University School of Medicine, Tokyo, Japan.

COMPARATIVE ASSESSMENT OF TWO EMBRYO CULTURE METHODS IN EVALUATING EMBRYOTOXICITY. H. Huusknomen and H. Komulainen. Department of Environmental Health, National Public Health Institute, Kuopio, Finland. Sponsor: M. Vilukkala.

TWO ZEBRAFISH ALCOHOL DEHYDROGENASES SHARING COMMON ANCESTRY AND FUNCTIONAL CHARACTERISTICS WITH MAMMALIAN CLASS I AND III GENES. M. Reimers1, M. E. Hahn2 and R. L. Tanguay3. 1Department of Pharmaceutical Sciences, University of Colorado Health Sciences Center, Denver, CO, 2Biology Department, Woods Hole Oceanographic Institute, Woods Hole, MA and 3Department of Environmental and Molecular Toxicology, Oregon State University, Corvallis, OR.

DEVELOPMENTAL TOXICITY OF METAMIN SODIUM IN ZEBRAFISH. M. A. Haendel1,3, F. Tilton1,2, R. L. Tanguay1,2 and G. S. Bailey1,2,3. 1Linus Pauling Institute, Oregon State University, Corvallis, OR, 2Environmental and Molecular Toxicology, OSU, Cor., OR and 3EHSC and MFBSC, OSU, Cor., OR.
THE TERATOGENIC EFFECTS OF ETHANOL EXPOSURE IN ZEBRAFISH, E. J. Loucks1,2, B. A. Wimpee1,2 and M. J. Carvan1,2. 1University of Wisconsin-Madison, Madison, WI and 2University of Wisconsin-Milwaukee, Milwaukee, WI.

DEVELOPMENTAL TOXICITY OF CARBARYL IN ZEBRAFISH. H. Cheng, A. Lin and E. Chan. Biology and Chemistry, City University of Hong Kong, Hong Kong, N/A, Hong Kong.

ETHANOL PERTURBS CARDIOVASCULAR DEVELOPMENT IN JAPANESE MEDAKA, ORYZIAS LATIPES. A. K. Dasmahapatra1 and M. L. Haush1,2. 1Environmental Toxicology Research Program, Research Institute of Pharmaceutical Sciences, University of Missouri, Columbia, MO and 2Department of Pharmacology, University of Missouri, University, MS.

EXENATIDE (SYNTHETIC EXENDIN-4) DEVELOPMENTAL TOXICITY IN RABBITS: COMPARISON TO PAIR-FED CONTROLS. R. Hiles1, T. Carpenter1, A. Hoberman and R. Byrd3. 1Amylin Pharmaceuticals, Inc., San Diego, CA, 2Argus Research, Horsham, PA and 3Eli Lilly & Co., Greenfield, IN.

COMPARISON OF GESTATIONAL DOSE (MG/DAY) IN GAVAGE VS. CONTINUOUS EXPOSURE STUDIES IN RATS. S. S. Parker1, C. B. Myers3, R. W. Ty1, J. P. Van Miller2 and R. L. Joiner1. 1Life Sciences and Toxicology, RTI International, Research Triangle Pk, NC, 2TRC, Charlottesville, VA and 3GE, Pittsfield, MA.

MATERNAL FUMONISIN EXPOSURE AND NEURAL TUBE DEFECTS: MECHANISMS IN AN IN VIVO MOUSE MODEL. J. B. Gelineau-van Waes, T. M. Leazer1, T. Carpenter1, C. B. Myers3 and R. L. Joiner1. 1Haskell Laboratory, 2Life Sciences and Toxicology, RTI International, Research Triangle Pk, NC, 3TRC, Charlottesville, VA.


IMMUNE PROTECTION AGAINST MNU-INDUCED DIGITAL DEFECTS. M. R. Prater2, 1, S. D. Holladay1 and E. D. Strahl1. 1Vetinary Medicine, Virginia Tech, Blacksburg, VA and 2Biomedical Sciences, Edward Via Virginia College of Osteopathic Medicine, Blacksburg, VA.

ORGANIC ANION TRANSPORTING POLYPEPTIDES (OATP) 9 AND 12 MNRA EXPRESSION: TISSUE DISTRIBUTION DURING PREGNANCY COMPARED WITH MALE AND NON-PREGNANT FEMALE SPRAGUE DAWLEY RATS. T. M. Leazer and C. D. Klaassen. University of Kansas Medical Center, Kansas City, KS.


Monday Morning, March 22
9:30 AM to 12:30 PM
Exhibit Hall

POSTER SESSION: HYPERSENSITIVITY/ALLERGY

Chairperson(s): Jean Regal, University of Minnesota, Duluth, MN and Barbara Jean Meade, NIOSH, Health Effects Laboratory Division, Morgantown, WV.

Displayed: 9:30 AM–12:30 PM

Attended: 9:30 AM–11:00 AM


MIXED ANTIBODY AND T-CELL RESPONSES TO PEANUT AND THE PEANUT ALLERGENS ARA H1, ARA H2, ARA H3 AND ARA H6 IN A MURINE ORAL SENSITIZATION MODEL. E. van Wijk1,2, S. Koppelmann3, R. Pieters4 and L. Knippsel5. 1Immuno toxicology, IRAS, Utrecht, Netherlands, 2Experimental Immunology, TNO Nutrition and Food Research, Zeist, Netherlands and 3Protein Technology, TNO Nutrition and Food Research, Zeist, Netherlands.

THE LOCAL LYMPH NODE ASSAY: CURRENT REGULATORY STATUS. D. A. Basketter, R. J. Dearman2, C. A. Ryan3, F. G. Gerberick3, R. J. Fielder4 and I. Kimber5. 1SEAC, Unilever, Sharnbrook, United Kingdom, 2Syngenta CTL, Macelesfield, United Kingdom, 3Procter & Gamble, Cincinnati, OH and 4Department of Health, London, United Kingdom.

VALIDATION OF A MINIMAL TRANSCRIPT BIOMARKER SET TO DIFFERENTIATE BETWEEN SENSITIZERS AND IRRITANTS IN THE LOCAL LYMPH NODE ASSAY. W. R. Foster2, G. S. Ladics3 and C. M. Glatt1. 1Haskel Laboratory, DuPont, Newark, DE and 2Bristol-Myers Squibb, Wilmington, DE.


ROUND II OF AN INTER-LABORATORY VALIDATION OF ALTERNATIVE ENDPOINTS OF THE MURINE LLNA. J. Huesl1, P. Ulrich1, H. Vohr2, G. Ehling2, M. Hecht3, A. Heusener10, A. Gas1, H. van Loveren11, L. Ullmann12, T. Maurer13 and K. Riecke1, 1 Preclinical Safety, Novartis Pharmacology AG, Muttenz, Switzerland, 2 Bayer AG, Wuppertal, Germany, 3 Aventis Pharmacology AG, Frankfurt, Germany, 4 TIT Fraunhofer Institute, Hannover, Germany, 5 BASF AG, Ludwigshafen, Germany, 6 RVRM, Biltoven, Netherlands, 7 University of Bern, Bern, Switzerland, 8 RCC, Itingen, Switzerland, 9 Swiss Agency for Therapeutic Products, Bern, Switzerland, 10 Merck, Darmstadt, Germany and 11 Schering AG, Berlin, Germany.

USE OF LOCAL LYMPH NODE ASSAY POTENCY DETERMINATIONS IN EXPOSURE-BASED RISK ASSESSMENT FOR SKIN SENSITIZATION. C. Ryan1, P. McNamee2 and F. Gerberick3, 1 Procter & Gamble Company, Cincinnati, OH and 2 Procter & Gamble Company, Egham, Surry, United Kingdom.

CATEGORIZATION OF HUMAN SENSITISATION POTENCY USING LOCAL LYMPH NODE ASSAY EC3 VALUES. N. J. Gilmore1, D. A. Basketter1, G. Y. Patlewicz2, P. S. Kern2, C. A. Ryan2, F. G. Gerberick2, R. J. Dearman3 and I. Kimber3, 1 SEA, Unilever, Sharnbrook, United Kingdom, 2 Procter & Gamble, Cincinnati, OH and 3 Syngenta CTL, Macclesfield, United Kingdom.


APPLICATION OF A MODIFIED LLNA TO PETROLEUM-BASED PRODUCTS: DERMAL SENSITIZATION POTENTIAL OF CALCIUM LONG-CHAIN ALKYLBENZENE SULFONATES. S. A. Signs1 and G. L. DeGeorge2, 1 MDS Pharmacology, Toronto, Canada and 2 INTRAM, Rockville, MD.


EVALUATION OF THE SENSITIZATION POTENTIAL OF Pfiesteria toxIN IN BALB/C MICE. R. M. Patterson1, E. Noga2 and D. Geim2, 1 NIEHS, Research Triangle Park, NC and 2 NC State University, Raleigh, NC.

EVALUATION OF THE CONTACT HYPERSENSITIVITY-INDUCING POTENTIAL OF A COMMERCIAL WEAPON CLEANING AND MAINTENANCE COMPOUND, S. Azadi1, D. P. Arftsten2 and B. J. Meade2, 1 NIOSH, Morgantown, WV and 2 Naval Health Research Center Toxicology Detachment, Wright-Patterson AFB, OH.


INVOLVEMENT OF PERTUSSIS TOXIN SENSITIZATION WITH LOCAL CHEMOTAXIS IN MICE. Y. Yoshida1, T. Ashikaga2, H. Sakaguchi2, M. Miyazawa1, M. Hirota2, M. Ogo2, H. Itagaki2 and H. Suzuki1, 1 Kao Corporation, Haga, Tochigi, Japan and 2 Shiseido Corporation, Yokohama, Kanagawa, Japan. Sponsor: J. Avalos.

DEVELOPMENT OF AN ORAL EXPOSURE ANIMAL MODEL WITH REPORTER ANTIGENS TO ASSESS IMMUNE-MEDIATED DRUG-HYPERSENSITIVITY REACTIONS. S. Nierkens, M. Aalbers, M. Bol and R. Pieters. IRAS-Immunotoxicology, Utrecht University, Utrecht, Netherlands.


CYTOKINE RELEASE AS AN ENDPOINT TO IMPROVE THE SENSITIVITY AND SPECIFICITY OF THE POPLITEAL LYMPH NODE ASSAY (PLNA). J. Descotes1, G. Ravel1, 2, M. Christ1, N. Eltschinger1 and J. Guichard1, 1 MDS Pharmacology Services, L’Arbresle, France and 2 Poison Center & INSERM U505, Lyon, France.

INTER-ANIMAL VARIATION IN CYTOKINE FINGERPRINTING OF CHEMICAL ALLERGENS. H. Caddick, R. J. Dearman and I. Kimber. Syngenta CTL, Macclesfield, United Kingdom.

SENSITIZATION WITH DINITROTHIOCYANOBENZENE (DNTB): COMPARISONS WITH DINITROCHLOROBENZENE (DNCB). P. S. Friedmann1, C. Pickard3, M. Cumberbatch1, 2 R. J. Dearman2 and I. Kimber2, 1 Southampton University, Southampton, United Kingdom and 2 Syngenta CTL, Macclesfield, United Kingdom.

MOLECULAR SCREENING FOR SKIN SENSITISATION HAZARD IN VITRO USING PROTEOMIC TECHNIQUES. M. Dikovic2, D. A. Basketter3, C. K. Pease1, A. Dell1 and H. R. Morris2, 1 SEA, Unilever, Sharnbrook, United Kingdom and 2 Biological Sciences, Imperial College, London, United Kingdom.

AN INTER-LABORATORY STUDY FOR THE DEVELOPMENT OF AN IN VITRO SKIN SENSITIZATION TEST USING HUMAN CELL LINES. Y. Yoshida1, T. Ashikaga2, H. Sakaguchi2, M. Miyazawa1, M. Hirota2, M. Ogo2, H. Itagaki2 and H. Suzuki1, 1 Kao Corporation, Haga, Tochigi, Japan and 2 Shiseido Corporation, Yokohama, Kanagawa, Japan. Sponsor: J. Avalos.

MECHANISMS OF CCR7 UP-REGULATION BY NISO4 ON HUMAN DENDRITIC CELLS. F. Boislevé and M. Pallardy. Faculty of Pharmacy, INSERM U461, Chatenay-Malabry, France.

STUDIES ON THE RESPIRATORY IMMUNE RESPONSE TO A PROTEASE AND IMPLICATIONS FOR THE SAFETY ASSESSMENT OF ENZYME-CONTAINING PERSONAL CARE PRODUCTS. E. S. Finn1, S. P. Chapoval2, A. Xue2, V. Chowdhary2, L. C. Limardi1, A. C. Pursifull1, E. V. Marietta2, T. A. Gaffey2, B. Kirchner1, K. Sarlo3, C. S. David4 and D. N. Rubingh1. 1Procter & Gamble Co., Cincinnati, OH, 2Mayo Clinic, Rochester, MN and 3Yale University, New Haven, CT.

ASSESSMENT OF IMMUNE RESPONSES TO PENICILLIUM CHRYSOGENUM AND CHARACTERIZATION OF ITS ALLERGENS. Y. Chung1, M. E. Viana2, L. B. Copeland3, M. K. Seelig4 and M. D. Ward5. 1ESE, UNC/USEPA, Chapel Hill, NC, 2CVM, NCSU, Raleigh, NC and 3USEPA, Research Triangle Park, NC.

THE IDENTIFICATION AND CHARACTERIZATION OF AN IGE-INDUCING PROTEIN IN METARHIZIUM ANISOSPILAE EXTRACT. M. Ward1, L. B. Copeland1, M. J. Donohue3 and J. A. Shoemaker2. 1NHEERL, USEPA, Cincinnati, OH, 2Mayo Clinic, Rochester, MN and 3Yale University, New Haven, CT.

TOPOICAL SENSITIZATION AND INTRANASAL CHALLENGE TO TRIMELLITIC ANHYDRIDE INDUCES AN ALLERGIC RHINITIS SIMILAR TO THAT INDUCED BY INTRANASAL SENSITIZATION AND CHALLENGE IN A/J MICE. A. K. Farraj1, -2, J. R. Harkema2 and N. E. Kaminski3. 1Pharmacology and Toxicology, Michigan State University, East Lansing, MI and 2Pathology and Diagnostic Investigation, Michigan State University, East Lansing, MI.

PERSISTENT SPECIFIC AIRWAY RESPONSIVENESS IN RATS SENSITIZED TO AND CHALLENGED WITH TRIMELLITIC ANHYDRIDE (TMA). P. D. Siegel, X. Zhang and D. M. Lewis. HELD/ASB, NIOSH/CDC, Morgantown, WV.

CROSS-REACTIVITY OF ACID ANHYDRIDES ASSESSED BY AIRWAY CHALLENGE IN RATS SENSITIZED WITH TRIMELLITIC ANHYDRIDE (TMA). X. Zhang, J. S. Fedan, D. M. Lewis and P. D. Siegel. HELD, NIOSH/CDC, Morgantown, WV.

INHALATION EXPOSURE OF TRIMELLITIC ANHYDRIDE (TMA) AEROSOL IN A BROWN NORWAY RAT MODEL. D. M. Lewis, X. Zhang and P. D. Siegel. HELD, NIOSH/CDC, Morgantown, WV.


PHASE I AND II RESULTS OF A VALIDATION STUDY TO EVALUATE IN VITRO CYTOTOXICITY ASSAYS FOR ESTIMATING RODENT AND HUMAN ACUTE SYSTEMIC TOXICITY. M. Paris1, 2, J. Strickland1, 2, W. Stokes1, S. Casati3, R. Tice1, 2, H. Raabe4, C. Cao5, R. Clothier6, J. Harbell4, G. Mun4, A. Sizemore4, G. Moyer4, J. Madren-Whalley5, C. Krilina5, M. Owen6, N. Bourne6, J. Haseman7, P. Crockett8, M. Wenzl9, M. Vallant7 and A. Worth7. 1NICEATM, NIEHS, Research Triangle Park, NC, 2ILS, Inc., Research Triangle Park, NC, 3ECVAM, Ispra, Italy, 4IVS, Gaithersburg, MD, 5US Army, Aberdeen Proving Ground, MD, 6University of Nottingham, Nottingham, United Kingdom, 7NIEHS, Research Triangle Park, NC, 8ASI, Research Triangle Park, NC and 9BioReliance, Rockville, MD.

DATA COLLECTION AND ANALYSIS SYSTEMS FOR AN IN VITRO CYTOTOXICITY VALIDATION STUDY. J. Strickland1, 2, M. Paris1, 2, H. Raabe3, J. Haseman4, S. Casati5, R. Clothier6, C. Cao7, P. Crockett8, R. Tice1, 2 and R. Stokes3. 1ILS, Inc., Research Triangle Park, NC, 2NICEATM, NIEHS, Research Triangle Park, NC, 3IVS, Gaithersburg, MD, 4NIEHS, Research Triangle Park, NC, 5ECVAM, Ispra, Italy, 6University of Nottingham, Nottingham, United Kingdom, 7US Army, Aberdeen Proving Ground, MD and 8ACI, Research Triangle Park, NC.

MANAGING TOXIC SYNERGISM IN HYPOCHLORITE-CONTAINING CLEANERS USING THE BOVINE CORNEAL AND PERMEABILITY (BCOP) ASSAY. PART II. J. E. Swanson1, W. M. Rees2, D. S. Hilgers3, J. C. Merrill2 and J. W. Harbell2. 1SRC Johnson & Son, Inc., Racine, WI and 2Institute for In Vitro Sciences, Inc., Gaithersburg, MD.

IN VITRO CYTOTOXICITY TESTING WITH CULTURED IMMORTAL HUMAN COLON CELLS. R. Konsoula and F. A. Barile. Department of Pharmaceutical Sciences, St. John's University College of Pharmacy, Jamaica, NY.
#244 INDUCTION OF FIBROSIS BY BLEOMYCIN AND CARMUSTINE IN RAT LUNG SLICES. H. P. Behrsing, K. Amin, C. Ip and C. A. Tyson. Toxicology Laboratory, SRI International, Menlo Park, CA.


#248 CHANGES INARGININE UPTAKE, GLUTATHIONE LEVELS, UREA AND NITRIC OXIDE SYNTHESSES IN RAT LIVER SPHEROIDS AFTER EXPOSURE TO PROPRANOLOL. M. Ma, J. Xu and W. Purcell. Faculty of Applied Sciences, University of the West of England, Bristol, United Kingdom. Sponsor: C. Atterwill.

#249 A TWO-STEP PROTOCOL TO DETERMINE LIVER SPHEROID CELL SPREADING INHIBITION CONCENTRATION (SCSC) OF TOXICANTS. J. Xu and W. M. Purcell. Faculty of Applied Sciences, University of the West of England, Bristol, United Kingdom. Sponsor: C. Atterwill.

#250 EVALUATION OF LIVER SPECIFIC FUNCTIONS AS HEPATOCYTOTOXIC ENDPOINTS USING A LIVER SPHEROID MODEL. W. M. Purcell and J. Xu. Faculty of Applied Sciences, University of the West of England, Bristol, United Kingdom. Sponsor: C. Atterwill.


#252 ALLERGEN-INDUCED CHANGES IN CYTOKINE EXPRESSION BY CULTURED DENDRITIC CELLS: RELATIONSHIP WITH CYTOTOXICITY. C. J. Betts1, M. Cumberbatch1, B. Huette2, G. Gerberick2, C. A. Ryan2, R. J. Dearman2 and J. Kimber1. 1Syngenta CTL, Macclesfield, Cheshire, United Kingdom. 2Procter & Gamble, Cincinnati, OH.

#253 HEAT SHOCK PROTEIN RESPONSES IN TETRAFLUOROETHYLCYSTEINE-INDUCED CYTOTOXICITY. H. Hol, Y. Jia1, Z. Hu3, D. M. Hockenbery4, N. Fausto2, S. D. Nelson1 and S. A. Bruschi1. 1Medicinal Chemistry, University of Washington, Seattle, WA. 2Pathology, University of Washington, Seattle, WA. 3Amgen Inc., Seattle, WA. 4Fred Hutchinson Cancer Research Center, Seattle, WA.


#255 RELATIONSHIP BETWEEN CD86 EXPRESSION, CYTOTOXICITY AND EXPOSURE OF DENDRITIC CELLS TO CHEMICAL ALLERGEN. B. Huette1, C. Ryan2, L. Gildea1, J. Kimber2, R. Dearman2 and F. Gerberick1. 1Procter & Gamble, Cincinnati, OH and 2Syngenta Central Toxicology Laboratory, Macclesfield, Cheshire, United Kingdom.

#256 COMPARATIVE TOXICITY OF DIFFERENT EMISSION PARTICLES IN MURINE PULMONARY EPITHELIAL CELLS AND MACROPHAGES. T. Stevens1, P. Singh2, M. Daniels2 and M. Gilmore2. 1Toxicology, UNC, Chapel Hill, NC and 2NHEERL, USEPA, Research Triangle Park, NC.

#257 PRESENCE OF TIGHT AND ADHERENS JUNCTION PROTEINS IN AN IMMORTALIZED Z310 CHOROID PLEXUS CELL LINE. W. Zheng1, L. Shi1, J. Li1, J. Szmydnynger-Chodobska2 and A. Chodobski2. 1School of Health Sciences, Purdue University, West Lafayette, IN and 2Clinical Neurosciences, Brown University, Providence, RI.

#258 DETERMINATION OF ENERGY AND REDOX STATES IN CELL CULTURE FOLLOWING CADMIUM EXPOSURE. L. Yu1, R. C. Gupta2 and M. S. Yang1. 1Biology, Hong Kong Baptist University, Hong Kong, China and 2Toxicology Department, Murray State University, Breathitt Veterinary Center, Hopkinsville, KY.

#259 BASAL GENE EXPRESSION PROFILES AND EFFECTS OF HEPATOCARCINOGENS ON GENE EXPRESSION IN PRIMARY HUMAN HEPATOCYTES AND HEPG2 CELLS. A. J. Harris1, S. L. Dial1 and D. A. Casciano2. 1Center for Hepatotoxicity, NCTR, Jefferson, AR and 2Office of the Director, NCTR, Jefferson, AR.

Monday Morning, March 22
9:30 AM to 12:30 PM
Exhibit Hall

POSTER SESSION: METAL GENOTOXICITY AND INDUCTION OF GENE EXPRESSION

Chairperson(s): Frederik De Wolff, Leiden University Medical Center, Netherlands and Maryka Bhattacharyya, Argonne National Laboratory, Argonne, IL.

Displayed: 9:30 AM–12:30 PM

Attended: 9:30 AM–11:00 AM

#260 GENE EXPRESSION MICROARRAY-BASED HYPOTHESIS FOR CADMIUM-INDUCED BONE LOSS. M. H. Bhattacharyya1, A. Regunathan1, D. A. Glese1 and A. K. Wilson1. 1Argonne National Laboratory, Argonne, IL and 2Benedictine University, Lisle, IL.

up-to-date information at www.toxicology.org
#261 BISMUTH-INDUCED RESISTANCE AGAINST CISPLATIN NEPHROTOXICITY AND GENE EXPRESSION PROFILE IN CULTURED TUBULAR EPITHELIUM. F. A. de Wolff1, B. T. Leusink1, J. J. Baelder2, T. M. Broekhuizen-van den Berg2, E. de Heer2, A. Sikkerveer3, G. B. van der Voel1 and J.A. Brujin2. 1Toxicology Laboratory, Leiden University Med. Ctr, Leiden, Netherlands, 2Department of Pathology, Leiden University Med. Ctr, Leiden, Netherlands and 3Research Laboratories, Yamanouchi Europe BV, Leiderdorp, Netherlands.

#262 TOXICOGENOMIC ANALYSIS OF ABBRENT GENE EXPRESSION IN NEWBORN MOUSE LIVER INDUCED BY TRANSPLACENTAL EXPOSURE TO CARCINOGENIC DOSES OF INORGANIC ARSENIC. Y. Xie1, J. Liu1, B. A. Diwan2, J. M. Ward3, D. L. Logsdon1 and M. P. Waalkes1. 1Inorganic Carcinogenesis Section, LCC, NCI at NIEHS, Research Triangle Park, NC, 2SAIC, NCI at Frederick, Frederick, MD and 3Office of Laboratory Animal Science, NCI at Frederick, Frederick, MD.

#263 FURTHER STUDIES ON GENE EXPRESSION CHANGES ASSOCIATED WITH TRANSPLACENTAL ARSENIC CARCINOGENESIS. J. Liu1, Y. Xie1, B. A. Diwan2, J. M. Ward3, D. L. Logsdon2 and M. P. Waalkes1. 1Inorganic Carcinogenesis, LCC, NCI at NIEHS, Research Triangle Park, NC, 2SAIC, NCI at Frederick, Frederick, MD and 3Office of Laboratory Animal Science, NCI at Frederick, Frederick, MD.


#265 DIFFERENTIAL EFFECTS OF HEAVY METALS ON ARYL HYDROCARON RECEPTOR-REGULATED GENES. H. M. Korashy and A. O. El-Kadi. Faculty of Pharmacy & Pharmaceutical Sciences, University of Alberta, Edmonton, AB, Canada.

#266 ARSENITE INITIATES AH RECEPTOR-INDEPENDENT REPRESSOR OF CYPIA1 INDUCTION BY TCDD. J. A. Bonzo1, A. Galijatovic1, S. Chen1 and R. H. Tukey1, 2. 1Pharmacology, University of California San Diego, La Jolla, CA and 2Chemistry & Biochemistry, University of California San Diego, La Jolla, CA.

#267 ARSENIC-TRANSFORMED HUMAN PROSTATE EPITHELIAL CELLS SHOW CHANGES IN ANDROGEN METABOLISM AND ESTROGEN RECEPTOR EXPRESSION. L. Benbrahim-Tallaa1, M. M. Webber2 and M. P. Waalkes1. 1Inorganic Carcinogenesis Section, NCI at NIEHS, Research Triangle Park, NC and 2Michigan State University, East Lansing, MI.


#269 EUKARYOTIC TRANSLATION INITIATION FACTOR 4E (EIF4E) IS A CELLULAR TARGET FOR CADMIUM TOXICITY. S. Othumpangat and P. Joseph. Health Effects Laboratory Division, NIOSH, Morgantown, WV.

#270 LEAD IS MITOGENIC TO WTHBF-6 CELLS, BUT LEAD CHROMATE (LC) INDUCES CELL CYCLE ARREST. J. Moreland1, S. Teufack1, 2, S. Sandwick1, J. Dufour1, 3, S. Wise1, A. Holmes1, M. Ketterer2, W. Hartsock2, E. Fomenchenko1, 3, S. Katsifis3 and J. P. Wise1. 1Wise Laboratory of Environmental and Genetic Toxicology, Center for Integrated and Applied Environmental Toxicology, University of Southern Maine, Portland, ME, 2Department of Chemistry, Northern Arizona University, Flagstaff, AZ and 3Department of Biology, University of Bridgeport, Bridgeport, CT.

#271 MERCURY MODULATES CELL CYCLE PROGRESSION IN HUMAN LIVER CARCINOMA CELLS THOUGH INDUCTION OF C-FOS, CYCLIN-A, AND CYCLIN-D EXPRESSION, AND REPRESSION OF GADD153. P. B. Tchounwou and D. J. Sutton. Center for Environmental Health, Jackson State University, Jackson, MS.

#272 URANIUM IS CYTOTOXIC AND GENOTOXIC TO HUMAN LUNG CELLS. W. Diaz, S. Wise and J. P. Wise. Wise Laboratory of Environmental and Genetic Toxicology, Center for Integrated and Applied Environmental Toxicology, University of Southern Maine, Portland, ME.

#273 INTERFERON-α INDUCTION OF METALLOTHIONEIN IN RAT LIVER IS NOT LINKED TO INTERLEUKIN-1, -6 OR TUMOR NECROSIS FACTOR-α. E. Brambila1, A. Leon1, J. Guevara1, O. Castellanos1, M. P. Waalkes2 and W. E. Achnazar2. 1University of Puebla, Puebla, Mexico and 2Inorganic Carcinogenesis Section, NCI at NIEHS, Research Triangle Park, NC.

#274 PROLYL HYDROXYLASES AS TARGETS FOR CARCINOGENIC NICKEL. K. Sahlkov1, A. Zhitkovich1, S. P. Donald1, J. Phang1 and K. Kaspzak1. 1National Cancer Institute, Frederick, MD and 2Brown University, Providence, RI.


#276 IN VIVO ACTIVATION OF METALLOTHIONEIN ISOFORM 3 EXPRESSION IN HUMAN CANCER CELLS. D. A. Sens1, V. Gurel2, S. H. Garrett2, S. Somji1 and M. Sens2. 1Surgery, University of North Dakota, Grand Forks, ND and 2Pathology, University of North Dakota, Grand Forks, ND.

#277 EXPRESSION OF METALLOTHIONEIN 3 PROTEIN IS RESTRICTED IN THE NORMAL BREAST EPITHELIAL CELL LINE, MCF-10A. M. Sens1, V. Gurel1, S. H. Garrett1, S. Somji1 and D. A. Sens2. 1Pathology, University of North Dakota, Grand Forks, ND and 2Surgery, University of North Dakota, Grand Forks, ND.

#278 EFFECT OF CADMIUM ON THE EXPRESSION OF METALLOTHIONEIN 1 AND 2 PROTEIN IN THE NORMAL BREAST TISSUE AND THE CELL LINE MCF-10A. V. Gurel1, D. A. Sens2, S. Somji3, S. H. Garrett1 and M. Sens1. 1Pathology, University of North Dakota, Grand Forks, ND and 2Surgery, University of North Dakota, Grand Forks, ND.
CARCINOGENIC HEAVY METALS, AS3+ AND TOXICOGENOMICS OF DRINKING WATER: THE TWO ISOFORMS OF RAT CADMIUM AND HYDRAZINE TOXICITY IN BRL METALLOTHIONEIN AND GLUTAMYL-V. H. Coryell and D. M. Stearns

ACUTE CADMIUM EXPOSURE ENHANCES AP-1 DNA BINDING AND INDUCES CYTOKINES EXPRESSION AND HEAT SHOCK PROTEIN 70 IN HEPG2 CELLS. V. Souza, C. Escobar, L. Gómez-Quiroz, L. Bucio, E. Hernandez, E. Chavez Cossio and C. Gutierrez-Ruiz. 1 Cs de la Salud, UAM-I, Mexico, DF, Mexico and 2 Bioquimica, Instituto Nacional Cardiologia Ignacio Chavez, Mexico, DF, Mexico.

PARTICULATE HEXAVALENT CHROMIUM-INDUCED CLASTOGENESIS IS MEDIATED BY EXTRACELLULAR DISSOLUTION THAT DOES NOT REQUIRE PARTICLE-CELL CONTACT. H. Xie, A. Holmes, S. Wise, N. Gordon and J. P. Wise. 1 Wise Laboratory of Environmental and Genetic Toxicology, Center for Integrated and Applied Environmental Toxicology, University of Southern Maine, Portland, ME and 2 Department of Chemistry, University of Southern Maine, Portland, ME.

CHARACTERIZATION OF DNA DAMAGE INDUCED BY DEPLETED URANIUM. M. Yazzie, C. Salanga, A. M. Hays, R. Ahmad, E. R. Civitello, R. C. Lantz and D. M. Stearns. 1 Chemistry and Biochemistry, Northern Arizona University, Flagstaff, AZ and 2 Cell Biology and Anatomy, University of Arizona, Tucson, AZ.

HPRT MUTATIONS INDUCED BY URANYL ACETATE IN CHINESE HAMSTER OVARY AA8 AND E9M CELLS: EFFECT OF DNA REPAIR INHIBITION. D. M. Stearns, V. H. Coryell, A. Bradley, A. M. Hays, N. Denipah and R. C. Lantz. 1 Chemistry and Biochemistry, Northern Arizona University, Flagstaff, AZ and 2 Cell Biology and Anatomy, University of Arizona, Tucson, AZ.

MOLECULAR ANALYSIS OF HPRT MUTATIONS INDUCED BY CHROMIUM PICOLINATE IN CHO AA8 CELLS. V. H. Coryell and D. M. Stearns. Chemistry and Biochemistry, Northern Arizona University, Flagstaff, AZ.


CHROMOSOMAL INSTABILITY AS CONSEQUENCES OF MICROTUBULE INJURY BY CADMIUM. I. Chou, Y. Zhao and W. Li. 1 Microbiology, Boston University School of Medicine, Boston, MA and 2 Biochemistry, Boston university School of Medicine, Boston, MA.

ARSENITE MEDIATES GENE EXPRESSION IN HUMAN BLADDER EPITHELIAL. X. Zheng, T. G. Brefeldt, G. S. Watts, S. E. Vaughn, A. G. May and A. Gandolfi. 1 Pharmacology/Toxicology, University of Arizona, Tucson, AZ and 2 Arizona Cancer Center, University of Arizona, Tucson, AZ.

CADMIUM AND HYDRAZINE TOXICITY IN BRL 3A CELLS AND PRIMARY RAT HEPATOCYTES BASED ON BIOCHEMICAL AND GENE EXPRESSION ANALYSIS. S. Hussain, K. Getts, J. Schlager, V. Chan and J. Frazier. 1 Air Force Research Laboratory, ManTech Environment, Dayton, OH and 2 AFB, Dayton, OH.

CHROMIUM INHIBITS TRANSCRIPTION FROM PAH-INDUCIBLE PROMOTERS BY BLOCKING THE RELEASE OF HDAC AND PREVENTING THE BINDING OF P300 TO CHROMATIN. Y. Wei, M. Huang, M. Sartor, K. Tepperman and A. Pugl. 1 Center for Environmental Genetics and Department of Environmental Health, University of Cincinnati, Cincinnati, OH, 2 Department of Biological Sciences, University of Cincinnati, Cincinnati, OH and 3 MPH Program, Fort Valley State University, Fort Valley, GA.

THE TWO ISOFORMS OF RAT METALLOTHIONEINS ARE COORDINATELY REGULATED IN VIVO. D. M. Todd, N. DelRaso, J. Gearhart, R. Ahmad, D. Mahle and J. M. Frazier. 1 Wright State University, Dayton, OH, 2 AFRL/HEST, Wright-Patterson AFB, Dayton, OH and 3 ManTech Environmental Technology, Inc., Dayton, OH.

TOXICOGENOMICS OF DRINKING WATER ARSENIC IN VIVO: EFFECTS OF REPLICATES ON MICROARRAY ANALYSIS. J. C. Davey, A. S. Andrew, A. Barcowsky, N. V. Soucy, D. D. Mayka, R. Lantz, A. Hays and J. W. Hamilton. 1 Pharmacology & Toxicology, Dartmouth Medical School, Hanover, NH, 2 Environmental & Occupational Health, University of Pittsburgh, Pittsburgh, PA and 3 Cell Biology & Anatomy, University of Arizona, Tucson, AZ.

DOSE-DEPENDENT ALTERATION OF OXIDATIVE STRESS AND DNA REPAIR GENE EXPRESSION BY DIMETHYLARSONIC ACID [DMA(V)] IN TRANSITIONAL EPITHELIUM OF URINARY BLADDER FROM FEMALE F344 RATS. B. Shen, A. Wang, S. D. Hester, J. L. Robertson and D. C. Wolf. 1 Environmental Carcinogenesis Division, USEPA, Research Triangle Park, NC, 2 NRC, Research Triangle Park, NC and 3 VA-MD College of Veterinary Medicine, Blacksburg, VA.
SOT 43rd Annual Meeting
Program Description

Monday Morning, March 22
9:30 AM to 12:30 PM
Exhibit Hall

POSTER SESSION: NEUROTOXICITY, GENERAL I

Chairperson(s): Virginia Moser, USEPA, Research Triangle Park, NC and
Deborah Cory-Slechta, EOHSI, University of Medicine, Piscataway, NJ.

Displayed: 9:30 AM–12:30 PM

#294
Neurotoxicology Division, USEPA, Durham, NC. Sponsor: S. Padilla.

#295
THE ROLE OFHEME-OXYGENASE (HO-1) AND THIOREDOKXIN IN RAT HIPPOCAMPAL
ASTROCYTES PRETREATED WITH EBSELEN.
D. Hardej and L. D. Trombetta. Pharmaceutical Sciences, St. John’s University, New York.

#296
ACUTE AND REPEATED INHALATION OF TOLUENE BY RATS PERFORMING A SIGNAL
deTECTION TASK LEADS TO BEHAVIORAL TOLERANCE ON SOME PERFORMANCE
MEASURES. W. M. Oshiro and P. J. Bushnell.
Neurotoxicology Division, USEPA, Research Triangle Park, NC.

#297
CARBONYL SULFIDE INHALATION PRODUCES BRAIN LESIONS IN F344 RATS. D. Morgan,
PB Little, VC Moser, DW Herr, and RC Sills. NIEHS, Research Triangle Park, NC;
PATHOLOGY ASSOCIATES, INC., Research Triangle Park, NC; ORD/NHEERL, USEPA,
Research Triangle Park, NC, 2Pathology Associates, Inc., Research Triangle Park, NC and
ORD/NHEERL, USEPA, Research Triangle Park, NC.

#298
INDUCTION OF C-FOS GENE EXPRESSION IN DIFFERENT RAT BRAIN LOCATIONS, AS AN
EARLY RESPONSE OF NEURONAL ACTIVATION, AFTER TREATMENT WITH NMDA
ANTAGONISTS. B. P. de Wergifosse1, B. Vanrossomme1, W. Dewe1, T. Murray2, M. J. O’Neill2
and K. Kramer1. 1Toxicology / Drug Disposition, Eli Lilly and Company, Mont-Saint-Guibert, Belgium and
2Neurosciences Division, Lilly Research Centre, Windelsham, United Kingdom. Sponsor: C. Thomas.

#299
DEVELOPMENT OF A RELIABLE MOUSE MODEL OF VINCristINE-INDUCE
NEUROPATHY. F. A. Winingter, S. A. Steinberg and C. Massicotte. Small Animal Clinical Sciences, University
of Pennsylvania, Philadelphia, PA.

#300
ACRYLAMIDE-INDUCED REDUCTIONS OF AXONAL SODIUM AND POTASSIUM
CHANNELS IN PROXIMAL AND DISTAL CNS AXONS: COMPARISON WITH PNS AXONS. D. W.
Seckles, J. Porter, T. Angela and D. Kumiski. Cellular Biology and Anatomy, Medical College of Georgia,
Augusta, GA.

#301
DEXTROMETHORPHAN DOES NOT CAUSE NEURONAI VACUOLATION OR DEGENERATION IN THE POSTERIOR
CINGULATE/RETROSPLENIAL CORTEX OF RATS. D. L. Shuey1, T. P. O’Neill2, R. Carliss3 and R. J.
Gerson. 1Endo Pharmaceuticals Inc., Chadds Ford, PA and 3WIL Research Laboratories, Ashland, OH.

#302
THROMBIN PRECONDITIONING PROTECTS AGAINST 6-HYDROXYDOPAMINE, WHILE
LARGE DOSES RESULT IN BEHAVIORAL DEFICITS. J. Cannon, G. Xi, Y. Hua, T. Schallert and
R. Keep. Neurosurgery, University of Michigan, Ann Arbor, MI.

#303
LONG-TERM SURVIVAL, MIGRATION AND PHENOTYPIC EXPRESSION OF MARRROW
STROMAL CELLS TRANSPLANTED INTO THE ADULT RAT BRAIN. T. M. Coyne1, 2, D. Woodbury2
and I. Black2. 1Joint Graduate Program in Toxicology, Rutgers University, Piscataway, NJ and 2Department

#304
NEUROBEHAVIORAL EVALUATION AND KINETICS OF PEAK AND CONSTANT
INHALATORY EXPOSURE TO TOLUENE IN HUMAN VOLUNTEERS. J. H. Lammers, W. Meuling,
L. van der Horst-Groeneveld, R. Pels Rijcken, D. de Groot and V. Feron. TNO Nutrition and Food Research,
Zeist, Netherlands.

#305
NEUROPROTECTION AGAINST ENDODGENOUS OXIDATIVE STRESS IN AGING
PROSTAGLANDIN H SYNTHASE-1 (PHS-1) KNOCKOUT MICE. P. G. Wells1, 2, A. Ramkisson1 and
W. Jeng1. 1Pharmacy, University of Toronto, Toronto, ON, Canada and 2Pharmacology, University of
Toronto, Toronto, ON, Canada.

#306
EVIDENCE FOR POSSIBLE STRAIN DIFFERENCES IN RESPONSE TO CLONIDINE IN
THE ACCELERATING ROTAROD TEST OF MOTOR CO-ORDINATION IN SPRAGUE-
DAWLEY AND HAN WISTAR RATS. I. Strang1, S. Palethorpe1, K. Pitts2, W. S. Redfern1, J. Valentin1 and
T. G. Hammond2. 1Safety Pharmacology SAUK, AstraZeneca, Alderley Park, Cheshire, United Kingdom and
2Drug Discovery DMPK, AstraZeneca, Alderley Park, Cheshire, United Kingdom.

#307
REAL-TIME RT-PCR MONITORED SELECTIVE ALTERATIONS OF GENE EXPRESSION IN MICE
Division of Neurotoxicology, NCTR, Jefferson, AR.

#308
PROTEIN/DNA ARRAYS INDICATE SELECTIVE ALTERATIONS OF TRANSCRIPTION FACTORS IN MPP+
INDUCED NEUROTOXICITY IN PC12 CELLS. S. F. Ali, Z. A. Xu, K. McCastlasin and W.
Slikker. Neurochemistry Lab., Division of Neurotoxicology, NCTR, Jefferson, AR.

#309
THE INJECTED NEURON PHAGOCYTIC MICROGLIA RATIO “R” REVEALS THE
PROGRESSION AND SEQUENCE OF NEURODEGENERATION. R. I. Jakub and J. E.
Bowyer. Neurotoxicology, NCTR/FDA, Jefferson, AR.
#310  
**DERMAL EXPOSURE TO JP8 JET FUEL: DISRUPTION OF AUDITORY FUNCTION, AND INDUCTION OF DERMATITIS IN RATS.** L. D. Fechter¹ and R. Gallucci². ¹Research (151), Loma Linda VA Medical Center, Loma Linda, CA and ²Pharmaceutical Sciences, University Oklahoma Hlth Sciences Ctr, Oklahoma City, OK.

#311  
**TETRALIN AND METABOLITES: PROTEIN REACTIVITY, CHROMOGENICITY AND NEUROTOXICITY.** V. S. Palmer², D. Tshala-Katumbay¹, S. B. Hashemi¹, M. I. Sabri¹, ² and P. Spencer¹. ¹Center for Research on Occupational and Environmental Toxicology, Oregon Health & Science University, Portland, OR and ²Department of Neurology, School of Medicine, Oregon Health & Science University, Portland, OR.

#312  
**COMPARATIVE ANALYSIS OF NEUROPSYCHOLOGICAL TOXICITY OF BIOLOGICAL, CHEMICAL, AND PHARMACEUTICAL AGENTS.** M. Peterson and R. C. Pleus. Intertox, Inc., Seattle, WA.

#313  
**DECREASED NEUROLOGICAL SIDE EFFECTS WITH ARIPIPRAZOLE: A RESULT OF FUNCTIONALLY SELECTIVE ACTIVATION OF DOPAMINE D2 RECEPTORS.** J. D. Urban¹, E. A. Gay² and R. B. Mailman². ¹Curriculum in Toxicology, University of North Carolina, Chapel Hill, NC and ²Department of Psychiatry, University of North Carolina, Chapel Hill, NC.

#314  
**IS THERE A LINK BETWEEN FREE RADICAL FORMATION AND CELL DEATH.** E. Fonnum¹, T. Reistad¹, A. Dreiem¹ and E. Mariussen². ¹Protection, Forsvarets Forskningsinstitutt, Kjeller, Norway and ²Norwegian Institute of Air Research, Kjeller, Norway.

#315  
**COMPARISON OF RAT HIPPOCAMPAL GENE EXPRESSION UTILIZING LASER CAPTURE MICROTOMOGRAPHY (LCM), RNA AMPLIFICATION AND Oligonucleotide MICROARRAYS.** S. A. Ferguson¹, P. M. Douglass² and T. A. Patterson¹. ¹Neurotoxicology, NCTR/FDA, Jefferson, AR and ²Agilent Technologies, Germantown, MD.

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**Monday Morning, March 22**  
9:30 AM to 10:30 AM  
Room 301

**INFORMATIONAL SESSION: REAL TIME PCR APPLICATIONS FOR TOXICOLOGY**

This seminar will illustrate new developments in real time PCR including: low cost instruments, low density real time arrays, and pre-designed TaqMan primer/probe sets for human, mouse, and rat genes. A range of applications will be presented, highlighting the flexibility of this technology including; RNAi validation, microarray hit validation, SNP Genotyping, and gene dosage.

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**Monday Morning, March 22**  
10:45 AM to 11:45 AM  
Room 301

**INFORMATION SESSION: IDENTIFICATION OF APOPTOSIS MARKERS IN PLATEABLE CRYOPRESERVED HUMAN HEPATOCYTES**

Isolated hepatocytes have been used in vitro to study the drug metabolism and toxicity of different drug candidates. However, the unpredictable availability of fresh tissue can make this a challenging model to work with. A solution to this has been the development of methods for the cryopreservation of hepatocytes. Cryopreserved hepatocytes have been successfully used in many of the same studies where fresh hepatocytes were previously used. Recently cryopreserved hepatocytes have been identified which will form a monolayer when plated on collagen-coated tissue culture plates. These plateable cryopreserved human hepatocytes (PCHH) monolayers have been successfully used for induction and long-term (4-day) toxicity studies. PCHH have now been studied for their potential use in evaluating chemically-induced apoptosis. PCHH monolayers were incubated with compounds known to induce apoptotic pathways. Apoptosis was determined by measuring Caspase 3/7 and DNA fragmentation levels in the PCHH model. The results of these studies indicate that PCHH is a useful system for evaluating the ability of unknown compounds to initiate apoptosis in human hepatocytes.
Monday Afternoon

Monday Afternoon, March 22
12:00 NOON to 1:00 PM
Room 301

INFORMATIONAL SESSION: POTENTIAL GENOMIC MARKERS FOR CANINE LIVER INJURY

Gene Logic presents the first of two case study analyses. This study details the use of toxicogenomics in understanding species-specific liver injury by comparing gene expression data obtained from rats and canines treated with a proprietary compound. An overview of the analysis and the potential utility of such an approach will be discussed. A light lunch will be available.

Monday Afternoon, March 22
12:15 PM to 1:15 PM
Room 307

MEDICAL RESEARCH COUNCIL (MRC) LECTURE: GATEWAY TO APOPTOSIS

Lecturer: Stanley Korsmeyer, Dana Farber Cancer Institute/Harvard Medical School, Boston, MA.

The Bcl-2 protein family is involved in the control of death and survival as well as the subtle regulation of organelle physiology. Dr. Stanley Korsmeyer's research has been central to understand the pathophysiological functions of the member of the Bcl-2 protein family. The initial findings that Bcl-2 and its pro-apoptotic counterparts could regulate several steps of the death program has opened a new research field and fostered the more recent discovery of the role of these proteins in the regulation of inter-organelle calcium fluxes and cellular metabolism. The significance of Dr. Korsmeyer's research is high and its implications span from fundamental advances in understanding cell physiology to treatment of human disease.

Monday Afternoon, March 22
12:15 PM to 1:15 PM
Room 318

ROUNDTABLE SESSION: STUDENT SYMPOSIUM ON EFFECTIVE PRESENTATIONS

Chairperson(s): Robert Mitkus, University of Maryland Baltimore, Baltimore, MD and Amy (Hui-Shan) Wang, VA MD Regional College of Veterinary Medicine, Blacksburg, VA.

Endorsed by:
Education Committee
National Capital Area Chapter*
Placement Committee
Student Advisory Committee
Women in Toxicology Specialty Section

The ability to present information to an audience in a clear, concise manner is a critical academic and career skill. An effective presentation conveys important knowledge, generally as a summarization of a larger body of data or ideas, often within a specified format or time frame, and provides a forum for a productive exchange of ideas. Typical formats include posters and oral presentations. These can be used in academic settings (e.g., an oral classroom presentation, a proposal defense, or a thesis/dissertation defense), at professional/scientific conferences (e.g., a poster presentation or a platform talk), or even in job interviews. This roundtable will address some of the skills needed to deliver an effective presentation. Students will find the topics to be particularly useful and informative. The speakers will cover general concepts of communication, provide practical hints for organizing and conveying information in posters and oral presentations, and discuss the skills needed to effectively answer questions and comments from the audience.

#316 12:15
STUDENT ROUNDTABLE ON EFFECTIVE PRESENTATIONS, A. Wang. Biomedical Sciences and Pathobiology, Virginia Tech, Blacksburg, VA.

#317 12:17
PRESENTING AN EFFECTIVE POSTER, S. C. Fitzpatrick. Office of the Commissioner, USDA, Rockville, MD.

#318 12:34

#319 12:51
THINKING ON YOUR FEET, B. A. Schwetz. Office for Human Research Protections, Department of Health & Human Services, Rockville, MD.

Monday Afternoon, March 22
1:30 PM to 4:30 PM
Room 321

SYMPOSIUM SESSION: GENE EXPRESSION INFLUENCES ON METAL IMMUNOMODULATION

Chairperson(s): David Lawrence, Wadsworth Center, Albany, NY and Michael Lynes, University of Connecticut, Storrs, CT.

Endorsed by:
Immunotoxicology Specialty Section*
Mechanisms Specialty Section
Metals Specialty Section

Metals can stimulate or modify immune responses by multiple modulatory mechanisms. The five topics in this symposium cover a wide range of different molecular means by which metals may directly or indirectly alter immunity, but all topics address differences that exist or can be better evaluated as a consequence of genetic differences or manipulations. The first presentation demonstrates how changes in the expression of metallothionein, whose exposure is modulated by certain metals, can alter immune responses, and the second talk discusses how genetic differences in one of the major histocompatibility complex antigens can affect T cell stimulation by beryllium. The third talk demonstrates how altered gene expression of select immune products such as cytokines can influence how lead modulates immunity. The fourth presentation will delve into the intracellular signaling networks to discuss genetic expressions associated with mercury-induced apoptosis of lymphocytes. The final talk will focus on the involvement of select genes in mercury exacerbation of autoimmune disease with emphasis on the various stages or check-points at which the development of autoimmune reactivities can be modified. In all, the presentations indicate that the metals can affect immune reactivities based on the genetics of the exposed cells as well as the influences of other environmental agents on altered gene expression.

#320 1:30
GENE EXPRESSION INFLUENCES ON METAL IMMUNOMODULATION, D. A. Lawrence1. 1Wadsworth Center, Albany, NY and 2Wadsworth Center, Albany, NY.

MHC GENETICS AND SENSITIVITY TO BERYLLIUM. A. P. Fontenot. University of Colorado Health Sciences Center, Denver, CO. Sponsor: D. Lawrence.

CYTOKINE GENE EXPRESSION MODIFIED BY LEAD. D. A. Lawrence, Y. Heo, J. Kasten-Jolly and T. Mondal. Wadsworth Center, Albany, NY.

MODULATION OF PROTEIN INTERACTIONS BY MERCURY: MOLECULAR ANALYSIS OF SIGNALLING PATHWAYS TO UNCOVER MECHANISMS OF Hg IMMUNOTOXICITY. A. J. Rosenspire. Biological Sciences, Wayne State University, Detroit, MI.

GENETIC CHECK POINTS IN HEAVY METAL INDUCED SYSTEMIC AUTOIMMUNITY. K. M. Pollard. Molecular & Experimental Medicine, Scripps Research Institute, La Jolla, CA.

SYMMETRY SESSION: SYSTEMS BIOLOGY: A NEW VENUE FOR EXPLORING MECHANISMS OF DEVELOPMENTAL TOXICITY

Chairperson(s): Thomas Knudsen, Jefferson Medical College, Thomas Jefferson University, Philadelphia, PA and William Slikker, National Center for Toxicological Research, Jefferson, AR.

Endorsed by:
Reproductive and Developmental Toxicology Specialty Section*

Genomics and proteomics enable investigators to move from studies focused on single molecules, pathways and cells toward integrative function of the intact tissue and organism; however, new advances in bioinformatics and computational biology are needed to integrate these data and explain how processes work from a whole system perspective. This symposium will explore basic and applied concepts in systems biology as an emerging tool for computational methodologies, functional genomics, and molecular embryology to predict when, and understand how, molecular perturbations induced by drugs and chemicals might culminate in developmental toxicity. Basic concepts include the formal representation of cell signaling and gene regulatory networks in complex systems, how the flow of information within and between cells suggests a parody with similar phenomena in engineered systems, what efforts are needed to incorporate this kind of information into quantitative dose response models, and how to weave theoretical and empirical data into robust computational models that project to higher order functions in developmental processes and pathologies.

OVERVIEW. T. B. Knudsen and W. Slikker.


CHALLENGES AND OPPORTUNITIES IN UTILIZING SYSTEMS BIOLOGY APPROACHES FOR INFORMING DEVELOPMENTAL TOXICOLOGY. E. M. Faustman. Center for Child Environmental Health Risks, University of Washington, Seattle, WA.

COMPUTATIONAL MODELING OF CELL SIGNALING PATHWAYS: A STEP ON THE ROAD TO IMPROVED CHARACTERIZATION OF DOSE- AND TIME-RESPONSE FOR THE ADVERSE EFFECTS OF TOXICANTS. R. Conolly, Q. Zhang and M. Andersen. Center for Computational Biology & Extrapolation Modeling, CIIT, Research Triangle Park, NC.

Monday Afternoon, March 22
1:30 PM to 4:30 PM
Room 309

WORKSHOP SESSION: CURRENT STATUS AND FUTURE CONSIDERATIONS FOR THE DEVELOPMENT OF SKIN TOXICOLOGY ALTERNATIVE METHODS

Chairperson(s): Ian Kimber, Syngenta, Macclesfield, Cheshire, United Kingdom and G. Frank Gerberick, Procter & Gamble Company, Cincinnati, OH.

Endorsed by:
Dermal Toxicology Specialty Section*
Regulatory and Safety Evaluation Specialty Section

The need for alternative approaches and in vitro test methods has never been greater than it is today. The continued development of such approaches and use of validated alternatives test methods is an integral part of toxicology in the 21st century. Collaboration of researchers and external scientific validation organizations such as ICVAAM and ECVAM that were established to provide a mechanism for alternatives test methods validation test methods spearheaded the way forward. Such efforts have led to significant progress in the replacement of animals, reduction in the number used and refinement of in vivo studies. In addition to scientific considerations, significant regulatory challenges lie ahead with the implementation of the 7th Amendment to the European Union Cosmetics Directive, The European Union Chemicals Policy and the United States program on High Production Volume Chemicals. This workshop will focus on the development of alternative approaches and in vitro methods for the evaluation of cutaneous toxicology. It will include detailed discussion on the use of in vitro/in silico and other alternatives methods/approaches used today for the evaluation of skin irritation skin sensitization and skin penetration. The workshop will be introduced by an overview on the use of alternatives in toxicology today and challenges for the future and will close with placing into context the scientific and regulatory challenges relative to societal expectations.
Monday Afternoon, March 22
1:30 PM to 4:30 PM
Room 318

WORKSHOP SESSION: DIESEL EMISSIONS: NEW HORIZONS IN THE CHEMISTRY, HEALTH EFFECTS AND REGULATIONS

Chairperson(s): Joe Mauderly, Lovelace Respiratory Research Institute, Albuquerque, NM and Ian Gilmour, USEPA, Research Triangle Park, ND.

Endorsed by:
Inhalation Specialty Section*
Regulatory and Safety Evaluation Specialty Section

Diesel exhaust is a complex aerosol comprised of carbonaceous particles and a mix of hydrocarbons, aldehydes and gases. The physical and chemical composition of the emission can vary dramatically depending upon the age and type of engine, fuel composition, load characteristics, presence and efficiency of control devices and climatic conditions. In 2002 the USEPA completed a health assessment of diesel exhaust, which concluded, that “long-term (i.e., chronic) inhalation exposure is likely to pose a lung cancer hazard to humans, as well as damage the lung in other ways depending on exposure.” The assessment also indicated, that “evidence from numerous studies have shown that exposure to diesel exhaust increases lung cancer risk, and there is recent evidence to show that diesel may also promote the incidence and severity of allergic asthma.” As these health data have emerged, regulations have also evolved to limit exposure through the promotion of new “cleaner” engines, and the development of control technologies which limit diesel emissions in terms of particle mass, CO and NOX output. While these changes in diesel exhaust have led to a general decrease of PM mass output per engine, the number of units has increased in the US and Europe. In addition, newer engines have significantly different emission profiles compared to older engines and there is virtually no comparative health data between diesel exhaust from light and heavy-duty engines of different ages. This symposium will contrast the historical understanding of diesel exposures data between diesel exhaust from light and heavy-duty engines of different ages.

Monday Afternoon, March 22
1:30 PM to 4:30 PM
Room 307

WORKSHOP SESSION: NUTRACEUTICALS AS DOUBLE-EDGED SWORDS: WEIGHING BENEFITS AND RISKS OF DIETARY CHEMICALS TO HUMAN HEALTH

Chairperson(s): Roger Coulombe, Utah State University, Logan, UT and James Pestka, Michigan State University, East Lansing, MI.

Endorsed by:
Carcinogenesis Specialty Section
Mechanisms Specialty Section

Ehrlich introduced the concept of therapeutic index (TI) almost a century ago which is identified as the ratio of dose of a chemical required to produce a toxic effect and the dose needed for desired therapeutic effect. Bioactive dietary chemicals that are used as nutraceuticals are extraordinarily diverse with respect to chemical structures and biological activities. When used as foods or in supplements, these chemicals have the potential for prevention or retardation of chronic diseases. Paradoxically, some of these chemicals can also induce subtle toxic effects that exacerbate disease. Given the current regulatory environment created by the Dietary Health and Education Act of 1994 (DSHEA), providers of nutraceuticals are not subject to the degree of safety evaluation required for drugs and food additives. Thus, clear definitions of potential negative effects of nutraceuticals are not subject to the degree of safety evaluation required for drugs and food additives. This workshop focuses on the challenge of this double-edged sword by examining, from a mechanism-based perspective, examples of dietary chemicals that are being used or considered for disease prophylaxis relative to potential safety concerns and disease exacerbation.
Monday Afternoon, March 22
1:30 PM to 4:30 PM
Room 315

PLATFORM SESSION: CYTOCHROME P450: EXPRESSION AND FUNCTION

Chairperson(s): Brian Day, UCHSC, Denver, CO and William Baldwin, University of Texas at El Paso, El Paso, TX.

#347 1:30 EFFECTS OF NATURAL AND SYNTHETIC FLAVONOIDS ON AROMATASE (CYP19) IN H295R HUMAN ADRENOCORTICAL CARCINOMA CELLS. T. Sanderson1, M. S. Denison2, M. Springsteen3, J. Hordijk1, M. H. Nantz3 and M. van den Berg1. Institute for Risk Assessment Sciences, University of Utrecht, Utrecht, Netherlands, 2Department of Environmental Toxicology, Toxicology University of California, Davis, CA and 3Department of Chemistry, University of California, Davis, CA.

#348 1:50 EXPRESSION, CHARACTERIZATION AND MUTATION OF RAT CYTOCHROME P450C24A1 (CYP24A1). A. J. Annalora1, 2, K. Bobrovnikova-Marjon2, A. Pastuszyn2, M. Chiù1, C. Marcus4 and J. L. Omdahl2. 1College of Pharmacy, University of New Mexico, Albuquerque, NM, 2Department of Biochemistry and Molecular Biology, University of New Mexico, Albuquerque, NM and 3Department of Structural Biology, Abbott Laboratories, Abbott Park, IL.


#350 2:30 CYPIA2 PROTECTS AGAINST REACTIVE OXYGEN PRODUCTION IN MOUSE LIVER MICROSOMES. H. G. Shertzer, C. D. Clay, M. Genter, S. S. Schnei der, D. W. Nebert and T. P. Dalton. Department of Environmental Health and Center for Environmental Genetics, University of Cincinnati Medical Center, Cincinnati, OH.

#351 2:50 QUANTIFICATION AND LOCALIZATION OF ROS PRODUCTION BY POLYCHLORINATED BIPHENYLS AND BY 2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN. J. Goldstone and J. J. Stegeman. Biology, Woods Hole Oceanographic Institution, Woods Hole, MA.

Monday Afternoon, March 22
1:30 PM to 4:30 PM
Room 316

PLATFORM SESSION: MECHANISMS OF OVARIAN AND UTERINE TOXICITY

Chairperson(s): Wendy Jefferson, NIEHS, Research Triangle Park, NC.

#352 3:10 COAL DUST INCREASES BAX EXPRESSION, INCREASES APOPTOSIS, AND SUPPRESSES CYPIA1 INDUCTION IN A RAT MODEL OF MIXED EXPOSURE TO POLYCYCLIC AROMATIC HYDROCARBONS AND RESPIRABLE PARTICLES. M. Ghanem1, 2, L. Battelini1, 2, R. R. Mercer1, 2, M. L. Kashon1, J. F. Scabilloni1, 2, V. Castranova1, 2, J. Nath2, V. Vallyathan1, 2 and A. F. Hubbs1, 2. 1NIOSH, CDC, Morgantown, WV and 2West Virginia University, Morgantown, WV.

#353 3:30 COMPARISON OF ACUTE AND CHRONIC EXPOSURE TO NONYLPHENOL REVEALS THAT CHRONIC EXPOSURE ATTENUATES P450 INDUCTION AND RXR LEVELS. W. Baldwin, R. Acevedo, L. M. Chapman and H. Villanueva. Biological Sciences, University of Texas at El Paso, El Paso, TX.

#354 3:50 A NOVEL CLASS OF CYTOCHROME P450 REDUCTASE REDOX CYCLERS: CATIONIC MANGANOPORPHYRINS. C. T. Kariya1 and B. J. Day1, 2. 1Pharmaceutical Sciences, UCHSC, denver, CO and 2Department of Medicine, National Jewish Medical Research Center, Denver, CO.

#355 4:10 SF-1 FUNCTIONS SYNERGISTICALLY WITH CREB TO MEDIATE CAMP STIMULATION OF CYPIB1 VIA A FAR UPSTREAM ENHANCER (FUER). W. Zheng and C. R. Jeffcoat. Pharmacology, University of Wisconsin-Madison, Madison, WI.

#356 1:30 METHOXYCHLOR-INDUCED ATRESIA WORKS THROUGH THE BCL-2 PATHWAY. C. Borgeest1, K. P. Miller1, C. Greenfeld2 and J. A. Flaws1. 1Program in Toxicology, University of Maryland, Baltimore, MD and 2Department of Physiology, University of Maryland, Baltimore, MD.

#357 1:50 IN VITRO FOLLCLE ASSAY ALLOWS GONADAL RISK ASSESSMENT FOR BENZODIAZEPINES. R. Cortvriend1, 2, K. Van Wemmel2. University, Eichenlaub-ritter1, 2 and J. Smitz2. 1EggCentris nv, Zellick, Belgium, 2Follicle Biology Laboratory, Free University of Brussels, Brussels, Belgium and 3Microbiology and Genetotechnology, University of Bielefeld, Bielefeld, Germany. Sponsor: M. Martens.

#358 2:10 METABOLIC MECHANISMS OF METHOXYCHLOR TOXICITY IN MOUSE ANTRAL OVARIAN FOLLICLES. K. P. Miller, C. Borgeest and J. A. Flaws. Program in Toxicology, University of Maryland, Baltimore, MD.

#359 2:30 ESSENTIAL ROLE OF NRF2 IN PROTECTION AGAINST OVARIAN FOLLICLE LOSS INDUCED BY 4-VINYLCYCLOHEXENE AND 4-VINYL CYCLOHEXENE DIOXIDE IN MICE. X. Hu1, Y. Kan2 and Q. Mo1. 1HELD/CDC, TMBB/NIOSH, Morgantown, WV and 2Laboratory Medicine, Howard Hughes Medical Institute, University of California, San Francisco, CA.
#360 2:50 NEONATAL EXPOSURE TO GENISTEIN ALTERS OVARIAN DIFFERENTIATION RESULTING IN THE FORMATION OF MULTI-OOCYTE FOLLICLES. W. Jefferson1, 2, M. Pepling3, E. Padilla-Banks1 and R. Newbold1. 1Laboratory of Molecular Toxicology, NIEHS, Research Triangle Park, NC, 2Department of Environmental and Molecular Toxicology, North Carolina State University, Raleigh, NC and 3Syracuse University, Syracuse, NY.

#361 3:10 QUANTIFICATION OF TOXICANTS IN COMMERCIAL BRAND CIGARETTES AND CHARACTERIZATION OF THEIR EFFECTS ON OVARIAN FUNCTIONING. K. Riveles1, R. Roza1, D. Kwan1, V. Tran1, J. Arey2 and P. Talbot1. 1Department of Cell Biology & Neuroscience, UC Riverside, Riverside, CA and 2Environmental Sciences, UC Riverside, Riverside, CA.

#362 3:30 GESTATION-AGE RELATED INCREASES AND ACTIVATION OF PHOSPHOLIPASE A2 ENZYMES MEDIATE PCB 50 INDUCED STIMULATION OF RAT UTERINE FUNCTION. K. A. Brant and R. Loch Caruso. Environmental Health Sciences, University of Michigan, Ann Arbor, MI.

#363 3:50 STIMULATORY EFFECTS OF A MICROBIALLY DECHLORINATED POLYCHLORINATED BIPHENYL (PCB) MIXTURE ON RAT UTERINE CONTRACTION IN VITRO. R. Loch-Caruso1, T. Tsuneta1, M. Hanna1, C. Grindatti1, J. F. Quensen2, 3 and S. A. Boyd2, 3. 1Environmental Health Sciences, University of Michigan, Ann Arbor, MI, 2Crop and Soil Sciences, Michigan State University, East Lansing, MI and 3Institute for Environmental Toxicology, Michigan State University, East Lansing, MI.

#364 4:10 DEVELOPMENTAL EFFECTS OF IN UTERO EXPOSURE TO BISPHENOL A ON THE UTERUS OF RAT OFFSPRING. G. Schoenfelder1, 2, K. Friedrich1, X. Wu1, 2, M. Paul1 and I. Chahoud1. 1Department of Toxicology, Campus Benjamin Franklin, Berlin, Germany and 2Department of Medicine, Thomas Jefferson University, Division of Endocrinology, Diabetes and Metabolic Diseases, Philadelphia, PA. Sponsor: R. Stahlmann.

#365 1:30 METABONOMIC PROFILING OF URINE IN ANTIBIOTIC-INDUCED NEPHROTOXICITY IN FEMALE CYNOMOLGUS MONKEYS. J. W. Davis1, A. Buevich2, F. M. Goodsad1, R. J. Smith1, L. A. Obert3, T. Chan2 and I. Y. Rosenblum1. 1Molecular Toxicology, Schering-Plough, Lafayette, NJ, 2Structural Chemistry, Schering-Plough, Kenilworth, NJ and 3Pathology, Schering-Plough, Lafayette, NJ.

#366 1:50 NMR-BASED METABONOMICS STUDY OF ETHANOL-FED RATS. R. D. Beger1, L. K. Schoenbacher1, Y. P. Dragunov1, M. J. Romis1 and T. M. Badger2, 3. 1Chemistry, National Center for Toxicological Research, Jefferson, AR, 2Center for Hepatotoxicity, NCTR, Jefferson, AR and 3Arkansas Children’s Hospital and University of Arkansas for Medical Sciences, Little Rock, AR.

#367 2:10 URINARY METABOLITE PROFILING OF RENAL INJURY USING NMR OR GC-MS. C. E. Thomas1, J. Colet2, J. Eckstein1, R. Julian1, J. Selbst1, J. Koers1, M. Bollard3 and B. Ackermann1. 1Toxicology & Drug Disp., Eli Lilly & Co., Indianapolis, IN, 2Toxicology, Eli Lilly & Co., Mont-Saint-Guibert, Belgium and 3Biol. Chem., Imperial College, London, United Kingdom.

#368 2:30 EVALUATION OF URINE METABONOMIC CHANGES IN ZDF RAT DURING THE DEVELOPMENT OF DIABETES AND TREATMENT WITH VANADYL ACETYLCETONATE. J. A. Colet, A. Cauvin, K. Kramer and I. Smyej. Toxicology, Eli Lilly and company, Mont-Saint-Guibert, Brabant, Belgium. Sponsor: C. Thomas.

#369 2:50 FOOTPRINT OF INFAMMAGEN EXPOSURE IN THE RAT LIVER NUCLEAR PROTEOME AFTER LIPOPOLYSACCHARIDE TREATMENT. M. E. Bruno1, J. E. Madenspacher1, J. R. Dubin2, J. F. Foley1, K. B. Tomer2 and B. A. Merrick3. 1Ntl Ctr Toxicogenomics, NIEHS, Research Triangle Pk, NC and 2Ciphergen Biosystems Inc., Fremont, CA.

#370 3:10 BIOMARKERS OF INFLAMMATION FROM RETENTATE CHROMATOGRAPHY MASS SPECTROMETRY ANALYSIS OF RAT SERUM AFTER ACUTE LIPOPOLYSACCHARIDE TREATMENT. J. H. Madenspacher1, L. Li1, J. W. Davis1, T. Tian1, L. Chen1, Y. Badal1, D. Ackley2, K. Wehmeyer3, J. Troutman3, C. Virgo1, S. Moore1, V. Xiao1, X. Jin1 and S. Singh1. 1Aclaras, Mt View, CA, 2SRI Int., Menlo Park, CA and 3P&G, Mason, OH.

#371 3:30 NOVEL IN VITRO SKIN IRRITATION MARKERS IDENTIFIED USING MICROARRAY TECHNOLOGY. S. Fletcher, C. Duggan and D. Baskette. SEAC - Safety and Environmental Assurance Center, Unilever, Sharnbrook, Bedfordshire, United Kingdom.

#372 3:50 THE ETAG MULTIPLEX ASSAY SYSTEM, A NOVEL ASSAY PLATFORM FOR ANALYZING GENOMIC AND PROTEOMIC ENDPOINTS DURING COMPOUND SAFETY AND TOXICITY ASSESSMENTS. K. Steinmetz1, M. J. Ronis1, M. Duchesne2, T. Tian1, L. Chen1, Y. Badal1, D. Ackley1, K. Wehmeyer2, J. Troutman1, C. Virgo1, S. Moore1, V. Xiao1, X. Jin1 and S. Singh1. 1Toxicology, Eli Lilly and company, Mont-Saint-Guibert, Brabant, Belgium and 2LSB, NIEHS, Research Triangle Pk, NC.

Monday Afternoon, March 22
1:30 PM to 4:30 PM
Exhibit Hall

POSTER SESSION: METAL EXPOSURE AND METABOLISM

Chairperson(s): Gregory Kedderis, Independent Consultant, Chapel Hill, NC and Michael Hughes, USEPA, Research Triangle Park, NC.

Displayed: 1:30 PM–4:30 PM
MONDAY

#374

LEAD BINDING TO HUMAN SEMINAL PROTEINS AND ZINC EQUILIBRIUM, C. Sarmiento-Mariscal, I. Hernandez-Ochoa and B. Quintanilla-Vega. Toxicology Section, CINVESTAV-IPN, Mexico City, D.F., Mexico.

#375

METALS IN INNER CITY AND SUBURBAN COMMUNITIES OF DETROIT AND NEW ORLEANS, H. W. Mielke, C. Gonzalez, A. Shah and E. Powell. College of Pharmacy, Xavier University, New Orleans, LA.

#376

MERCURY CONTAMINATION IN THE RED MEAT OF WHALES AND DOLPHINS MARKETED FOR HUMAN CONSUMPTION IN JAPAN, T. Endo1, K. Haraguchi2, H. Yohes1 and M. Sakata1. 1Clinical Toxicology and Metabolism, Health Sciences University of Hokkaido, Ishikari-Tobetsu, Hokkaido, Japan and 2Health Science and Chemistry, Daiichi College of Pharmaceutical Sciences, Fukushima, Japan.

#377

RENAL DYSFUNCTION IN CADMIUM EXPOSED HUMANS—RELATIONSHIP TO CHANGES IN BONE DENSITY AND METALLOTHIONEIN GENE EXPRESSION, G. F. Nordberg1 and M. Nordberg2. 1Environmental Medicine, Umea University, Umea, Sweden and 2Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden.

#378

ANALYSIS OF THE FACTORS THAT INFLUENCE THE CHRONIC HEALTH EFFECTS IN RESIDENTS EXPOSED TO ARSENIC VIA THE DRINKING WATER IN INNER MONGOLIA, CHINA, T. Yoshida1, T. It1, Y. Nakaji1, H. Yamauchi2, H. Aikawa1, J. Pi3 and G. Sun3. 1Health Science, Asahikawa Medical College, Asahikawa, Hokkaido, Japan, 2St. Marianna Medical College, Kawasaki, Japan, 3Tokai University Sch. of Med., Isehara, Japan and 4China Medical College, Shengyang, China.

#379

EFFECT OF SEAFOOD CONSUMPTION ON URINARY ARSENIC SPECIATION, J. D. Park1, B. S. Choi1, E. S. Park2, K. S. Park3, S. T. Kim3 and Y. P. Hong1. 1Preventive Medicine, Chung-Ang University, Seoul, South Korea, 2Pathology, Chung-Ang University, Seoul, South Korea and 3Advanced Analysis Center, Korea Institute of Science and Technology, Seoul, South Korea.

#380


#381

EFFECT OF DOSE ON THE EXCRETION AND METABOLISM OF MONOMETHYLARSONIC ACID IN THE MOUSE, M. F. Hughes1, V. Devesa2, B. C. Edwards1, C. T. Mitchell1, E. M. Kenyon1 and D. J. Thomas1. 1ORD/NHEERL, USEPA, Research Triangle Park, NC and 2CEMALB, UNC-CH, Chapel Hill, NC.

#382

COMPREHENSIVE ANALYSIS OF BIOLOGICALLY RELEVANT ARSENICALS BY PH-SELECTIVE HYDRIDE GENERATION-ATOMIC ABSORPTION SPECTROMETRY, V. Devesa1, L. Del Razo4, S. Waters2, Z. Drobn1,3, M. Hughes5, M. Styblo1, 3 and D. Thomas5. 1CEMALB, University of North Carolina at Chapel Hill, Chapel Hill, NC, 2Curriculum in Toxicology, University of North Carolina, Chapel Hill, NC, 3Department of Pediatrics, University of North Carolina, Chapel Hill, NC, 4CINESTAV-IPN, Mexico City, Mexico and 5NHEERL, USEPA, Research Triangle Park, NC.

#383

INTERINDIVIDUAL VARIATION IN THE METABOLISM OF ARSENIC IN HUMAN HEPATOCYTES, M. Styblo1, F. F. Walton1, Z. Drobn1,3, S. B. Waters3, E. L. LeCluyse6 and D. J. Thomas5. 1Department of Pediatrics, UNC, Chapel Hill, NC, 2Department of Pediatrics, UNC, Chapel Hill, NC, 3Curriculum in Toxicology, UNC, Chapel Hill, NC, 4Department Pediatrics, UNC, Chapel Hill, NC, 5NHEERL, ORD, USEPA, Research Triangle Park, NC and 6Division of Drug Delivery and Dispos., UNC, Chapel Hill, NC.

#384

 ARSENIC TRANSPORT BY THE HUMAN MULTIDRUG RESISTANCE PROTEIN 1 (MRP1/ABCC1): EVIDENCE THAT A TRIGLUTATHIONE CONJUGATE IS REQUIRED, E. M. Leslie1, S. P. Cole2 and M. P. Waalkes1. 1Inorganic Carcinogenesis Section, LCC, NCI at NIEHS, Research Triangle Park, NC and 2Cancer Research Laboratories, Queen’s University, Kingston, ON, Canada.

#385


#386

RECOMBINANT RAT CYT19, AN ARSENIC METHYLTRANSFERASE, EFFICIENTLY GENERATES TRIMETHYLARSENINE OXIDE IN THE ABSENCE OF GLUTATHIONE, S. B. Waters1, V. Devesa2, Z. Drobn3, M. Styblo1, 3 and D. Thomas4. 1Curriculum in Toxicology, UNC-Chapel Hill, Chapel Hill, NC, 2CEMALB, UNC-Chapel Hill, Chapel Hill, NC, 3Department of Pediatrics, UNC-Chapel Hill, Chapel Hill, NC and 4NHEERL, USEPA, Research Triangle Park, NC.

up-to-date information at www.toxicology.org
CHARACTERIZATION OF UROTS A/RCYT19, A CLONAL HUMAN URINARY BLADDER CELL LINE EXPRESSING RAT AS3-MT1, METHYLMANGANESE TRANSFERASE. Z. Droba1, S. B. Waters2, F. S. Walton1, V. Devesa1, D. J. Thomas3 and M. Styblo1, 2, 3. 1Pediatrics, UNC, Chapel Hill, NC, 2Curriculum in Toxicology, UNC, Chapel Hill, NC, 3Comparative medicine, Johns Hopkins University, Baltimore, MD.

EFFECTS OF ARSENITE AND MONOMETHYL ARSONOUS ACID ON UROTS A CELLS: LOW-LEVEL EXPOSURE CAUSES ACCUMULATION OF UBIQUITINATED PROTEINS WHICH IS ENHANCED BY REDUCTION IN CELLULAR GLUTATHIONE LEVELS. T. G. Bredfeldt1, M. J. Kopplin1, E. A. Mash2 and A. Gandolfi1. 1Pharmacology and Toxicology, University of Arizona, Tucson, AZ and 2Chemistry, University of Arizona, Tucson, AZ.

INHIBITION OF LUMINAL CYSTINE TRANSPORT BY THE MERCURIC CONJUGATE CY-S-HG-S-CYS IN ISOLATED-PERFUSED S2 SEGMENTS OF THE RABBITrenal PROXIMAL TUBULE. D. W. Barfuss1 and R. K. Zalups2. 1Bi ology, Georgia State University, Atlanta, GA and 2Mercer University School of Medicine, Macon, GA.

COPROPORPHYRINEN GEN OXIDASE (CP OX) POLYMORPHISM ALTERS THE EFFECT OF MERCURY (Hg) ON PORPHYRIN EXCRETION IN HUMANS. J. S. Woods1, 2, D. Echeverria2-3, N. J. Heyer1, A. C. Bittner2 and F. M. Farin1. 1Environmental Health, University of Washington, Seattle, WA and 2Battelle Centers for Public Health Research and Evaluation, Seattle, WA.

UPTAKE OF BIOLOGICALLY RELEVANT FORM(S) OF INORGANIC MERCURY BY HUMAN ORGANIC ANION TRANSPORTER 1 (hOAT1). S. Ahmad and R. K. Zalups. School of Medicine, Basic Science, Mercer University, Macon, GA.

ALUMINUM TRANSPORT AND UPTAKE IN CACO-2 CELLS. Y. Zhou1 and R. A. Yokel2, 1. 1Graduate Center for Toxicology, University of Kentucky Medical Center, Lexington, KY and 2Department of Pharmacology, University of Kentucky Medical Center, Lexington, KY.

MANGANESE CONCENTRATIONS IN THE AIR OF THE MONTREAL (CANADA) SUBWAY IN RELATION TO SURFACE AUTOMOBILE TRAFFIC DENSITY. N. Boudia1, R. Halley2, G. Kennedy3, L. Gareau1 and J. Zayed1. 1Environmental and occupational Health, University of Montreal, Montreal, QC, Canada, 2Transport Montreal Society, Montreal, QC, Canada and 3Department of Engineering Physics, Ecole Polytechnique de Montreal, Montreal, QC, Canada.

POTENTIAL NEUROTOLOGICAL EFFECTS OF MANGANESE EXPOSURE DURING WELDING: A “STATE-OF-THE-SCIENCE” REVIEW. A. Santamaria1, A. Li2, F. Mowat1, C. Cushing3 and B. Finley5. 1Exponent, Houston, TX, 2Exponent, Oakland, CA, 3Exponent, San Francisco, CA, 4Exponent, Boulder, CO and 5Exponent, Santa Rosa, CA.

PHARMACOKINETIC ANALYSES OF THE EFFICIENCY OF UPTAKE OF INHALED MANGANESE FROM THE OLFATORY MUCOSA INTO THE CENTRAL NERVOUS SYSTEM IN RATS. D. B. Rao, D. C. Dorman and M. E. Anderson. CIIT Centers for Health Research, Research Triangle Park, NC.

DOPAMINE TRANSPORTER LEVELS ARE TRANSIENTLY INCREASED IN THE NON-HUMAN PRIMATE STRIATUM FOLLOWING ACUTE MANGANESE EXPOSURE: PRELIMINARY FINDINGS USING IN VIVO BRAIN IMAGING. M. K. Chen1, 2, J. S. Woods1, T. R. Guilarte3, J. L. McGlothlin4, R. J. Adams3, M. Alexander2, D. F. Wong2 and T. R. Giallouris1. 1Environmental Health Sciences, Johns Hopkins University, Baltimore, MD, 2Radiology, Johns Hopkins University, Baltimore, MD and 3Comparative medicine, Johns Hopkins University, Baltimore, MD.

BRAIN REGIONAL DIFFERENCE IN IRON TRANSPORT AND THE EFFECT OF MANGANESE EXPOSURE. R. Deane1 and W. Zheng2. 1Center for Aging Research, University of Rochester, Rochester, NY and 2School of Health Sciences, Purdue University, West Lafayette, IN.

COMPARATIVE NEUROTOXIC EFFECTS OF MN(II) VERSUS MN(III) IN A RODENT MODEL. S. H. Reaney1, 2, G. Bench3 and D. R. Smith2. 1Chemistry and Biochemistry Department, UCSC, Santa Cruz, CA, 2Department of Environment Toxicology, UCSC, Santa Cruz, CA and 3LLNL, Livermore, CA.

MORPHOLOGICAL EVIDENCE OF DIFFERENTIAL CYTOTOXICITY OF MN(II) AND MN(III) IN HUMAN DOPAMINERGIC SH-SYSY CELLS IN VITRO. C. Zhang1, J. Li2-3, C. Zhou1 and W. Zheng. 1Xinjiang University of Medical Sciences, Urumqi, China, 2Capital University of Medical Sciences, Beijing, China and 3School of Health Sciences, Purdue University, West Lafayette, IN.

MOTOR AND NEUROCHEMICAL EFFECTS OF SUB-CHRONIC LOW MANGANESE EXPOSURES IN A RODENT MODEL. R. Gwiazda, C. Kern and D. Smith. Environmental Toxicology, University of California, Santa Cruz, Santa Cruz, CA.
#401  
**LOCOMOTOR ACTIVITY IN UBQUITIN MUTANT MICE AFTER NOSE-ONLY INHALATION OF MANGANESE.** J. Karlsson¹, R. H. Gwiazda², O. Myers³, W. Barrington¹, G. A. Douglas⁵, E. Barr², S. R. Donald⁴, G. Bench² and J. Lewis³.  
¹Community Environmental Health Program, University of New Mexico, Albuquerque, NM. ²Lovelace Respiratory Research Institute, Albuquerque, NM. ³Lawrence Livermore National Laboratory, Livermore, CA. ⁴Environmental Toxicology, University of California, Santa Cruz, CA and ⁵Centre for Cancer Therapeutics, Ottawa Regional Cancer Centre, Ottawa, ON, Canada.

#402  
**MANGANESE EXPOSURE ARRESTS CELL PROLIFERATION AND ALTERS SIGNAL TRANSDUCTION ON MAPK’S CASCADES IN PC12 CELLS.** J. Chen¹, W. Xu¹, W. Luo¹ and W. Zheng². ¹Occupational & Environmental Health Sciences, Fourth Military Medical University, Xian, Shanxi, China and ²School of Health Sciences, Purdue University, West Lafayette, IN.

#403  
**PROTEOLYTIC ACTIVATION OF PROAPOPTOTIC KINASE PKCζ CONTRIBUTES TO MANGANESE-INDUCED APOPTOTIC CELL DEATH IN DOPAMINERGIC NEURONAL CELLS.** C. Latchoumycandane, M. Kitazawa, V. Anantharam and A. Kanthasamy. Department of Biomedical Sciences, Iowa State University, Ames, IA.

#404  
**ASTROGLIAL-MEDIATED NEURONAL APOPTOSIS FOLLOWING EXPOSURE TO MANGANESE AND CYTOKINES REQUIRES NF-KAPPA B-DEPENDENT PRODUCTION OF NO. X. Liu, R. Mouneime and R. Tjalkens.** Toxicology Program, Department of Integrative Biosciences, Texas A&M University, College Station, TX.

#405  
**MANGANESE NEUROTOXICITY CORRELATES WITH INCREASES IN OXIDATIVE DAMAGE TO DNA IN THE NIGROSTRIATAL PATHWAY BUT NOT WITH CHANGES IN ANTIOXIDANTS.** D. Cox, C. Bolin and F. Cardozo-Pelaez. Biomedical and Pharmaceutical Sciences, University of Montana, Missoula, MT. Sponsor: A. Holian.

#406  
**OXIDATIVE STRESS AND GLOBAL RAT GENE EXPRESSION PROFILES IN PC12 CELLS AFTER MANGANESE TREATMENT.** R. R. Reams¹ and E. Taka¹. ¹College of Pharmacy, Florida A & M University, Tallahassee, FL and ²College of Pharmacy, Florida A & M University, Tallahassee, FL.

#407  
**ACTIVATION OF NITRAX OXIDE SYNTHASE DURING MODULATION WITH MANGANESE TOXICITY INVOLVES EARLY SIGNALING TRANSCRIPTION FACTOR, NF-KB: IMPLICATION FOR CELL DEATH.** P. G. Gunasekar¹, K. Prabhakaram² and D. Ghosh¹. ¹Biological Sciences, Texas Southern University, Houston, TX and ²Medicinal Chemistry and Mole. Pharmacology, Purdue University, West Lafayette, IN.

#408  
**MANGANESE POTENTIATES LIPOPOLYSACCHARIDE-INDUCED EXPRESSION OF NOS2 IN CG GLIOMA CELLS THROUGH MITOCHONDRIAL-DEPENDENT ACTIVATION OF NUCLEAR FACTOR KAPPA B.** R. Moumenne, J. Faske, X. Liu and R. Tjalkens. Toxicology Program, Department of Integrative Biosciences, Texas A&M University, College Station, TX.

#409  
**COMPARISON OF DIFFERENTIATED AND NON-DIFFERENTIATED PC CELLS RESPONSE TO MNC12, MPP+, AND ROTENONE.** L. Russell IV. University of Maryland, Baltimore, MD. Sponsor: K. Squibb.

#410  
**MANGANESE AND LEAD DISPLAY DIFFERENT PATTERNS OF NEUROTOXICITY IN HUMAN SYSY NEUROBLASTOMA CELLS.** Y. Qian, Y. Zheng and E. Tiffany-Castiglioni. Texas A&M University, College Station, TX.

**Monday Afternoon, March 22**

1:30 PM to 4:30 PM

**Exhibit Hall**

**POSTER SESSION: NEUROTOXICITY, GENERAL II**

**Chairperson(s):** Damani Parran, Virginia Tech, Blacksburg, VA and Bill Atchison, Michigan State University, East Lansing, MI.

**Displayed:** 1:30 PM–4:30 PM

**Attended:** 1:30 PM–3:00 PM

#411  
**HISTOPATHOLOGY, IMMUNOHISTOCHEMISTRY AND ELECTRON MICROSCOPY OF SPONTANEOUS UVEAL MELANOMA IN TWO HAN WISTAR RATS.** C. Barton and A. Moran. Covance Laboratories Ltd., Harrogate, United Kingdom. Sponsor: D. Everett.

#412  
**BACKGROUND CHANGES FOLLOWING DAILY INTRAVITREAL INJECTION FOR THREE CONSECUTIVE DAYS IN BEAGLE DOGS AND DUTCH-BELTED RABBITS.** M. Vezina, A. Patel and C. Copeman. CTBR, Senneville, QC, Canada.

#413  
**A 14-DAY SYSTEMIC AND OCULAR TOXICITY STUDY IN THE DOG OF INTRAVENOUSLY ADMINISTERED HEAT SENSITIVE LIPOSOMES CONTAINING CARBOXYFLUORESCIN.** R. E. Rush¹, S. A. D’Anna² and R. C. Zeimer². ¹Charles River Laboratories- Ohio Division, Spencerville, OH and ²The Wilmer Ophthalmological Institute, Johns Hopkins University, Baltimore, MD.

#414  
**PHOTOBIOMODULATION ATTENUATES METHANOL-INDUCED RETINAL TOXICITY.** J. T. Eelly¹, ², M. M. Henry², P. Summerfeldt², M. T. Wong-Riley², E. V. Buchmann³, K. Kane³ and H. T. Whelan³. ¹Health Sciences, University of Wisconsin-Milwaukee, Milwaukee, WI, ²Cell Biology, Neurobiology and Anatomy, Medical College of Wisconsin, Milwaukee, WI and ³Neurology, Medical College of Wisconsin, Milwaukee, WI.

#415  
**GENE REGULATION BY THE \( \alpha \)-SECRETASE CLEAVED AMYLOID PRECURSOR PROTEIN.** J. A. Johnson¹, ², ³ and T. D. Stein¹. ¹Neuroscience Training Program, University of Wisconsin, Madison, WI, ²Environmental Toxicology Center, University of Wisconsin, Madison, WI and ³School of Pharmacy, University of Wisconsin, Madison, WI and ⁴Waisman, University of Wisconsin, Madison, WI.
SOT 43rd Annual Meeting

SOT's 43rd Annual Meeting
Program Description

#416
BREVETOXIN-INDUCED COINCIDENT ACTIVATION OF SRC KINASE AND VOLTAGE-GATED SODIUM CHANNELS ENHANCES NMDA RECEPTOR SIGNALING IN NEOCORTICAL NEURONS. T. F. Murray1, D. G. Baden2 and S. M. Dravid1. 1Physiology and Pharmacology, University of Georgia, Athens, GA and 2Center for Marine Science Research, University of North Carolina at Wilmington, Wilmington, NC.

#417
CYCLOOXYGENASE-2-CATALYZED OXIDATION OF 6-HYDROXYDOPAMINE IN PC12 PHEOCHROMOCYTOMA CELLS. IMPLICATION FOR PARKINSON’S DISEASE. A. A. Kapralov1, Y. Y. Tjurina1, G. G. Borisenko1, N. F. Schor2, S. H. Graham3 and V. E. Kagan1,2,5, 1EOH, University of Pittsburgh, Pittsburgh, PA, 2Pharmacology, University of Pittsburgh, Pittsburgh, PA, 3Neurology, University of Pittsburgh, Pittsburgh, PA, 4Pediatrics, University of Pittsburgh, Pittsburgh, PA, 5Cancer Institute, University of Pittsburgh, Pittsburgh, PA and 6PCN, CHP University of Pittsburgh, Pittsburgh, PA.

#418
STRESS AND COMBINED EXPOSURE TO LOW DOSES OF PYRIDOSTIGMINE BROMIDE, DEET, AND PERMETHRIN PRODUCE NEUROCHEMICAL AND NEUROPATHOLOGICAL ALTERATIONS IN CEREBRAL CORTEX, HIPPOCAMPUS, AND CEREBELLUM. E. M. El-Masry, A. Abdel-Rahman, S. M. Abou-Donia, A. K. Shetty and M. B. Abou-Donia. Pharmacology and Cancer Biology, Duke University Medical Center, Durham, NC.

#419
NEURONAL DEGENERATION AND NEUROBEHAVIORAL DEFICITS FOLLOWING DERMAL EXPOSURE WITH MALATHION, DEET, AND PERMETHRIN, ALONE AND IN COMBINATION IN RATS. A. Abdel-Rahman, A. M. Dechkovskaia, L. B. Goldstein, S. L. Bullman, W. A. Khan, E. M. El-Masry and M. B. Abou-Donia. Pharmacology and Cancer Biology, Duke University Medical Center, Durham, NC.

#420
LOCOMOTOR PERFORMANCE DEFICITS AND DIFFERENTIAL EFFECTS ON BRAIN REGIONAL ACETYLCHOLINESTERASE ACTIVITY FOLLOWING CO-EXPOSURE TO VARIOUS DOSES OF PYRIDOSTIGMINE BROMIDE WITH DEET, AND PERMETHRIN IN RATS. A. M. Dechkovskaia, L. B. Goldstein, S. L. Bullman, A. Abdel-Rahman, S. L. Bullman, W. A. Khan and M. B. Abou-Donia. Pharmacology and Cancer Biology, Duke University Medical Center, Durham, NC.

#421
DISTINCT GENE REGULATION EVENTS ACCOMPANY ENHANCED VULNERABILITY IN HIPPOCAMPUS AFTER REPEATED EXPOSURES TO LOW-LEVEL SOMAN. E. Caba, S. F. Caskurlu, D. M. Boschetto and B. A. Bahr. Pharmacology Sciences./Center of Drug Discovery, University of Connecticut, Storrs, CT.

#422
SIGNALLING PATHWAYS ASSOCIATED WITH GLIOSIS CAN BE STUDIED USING A BRAIN SLICE PREPARATION. C. L. Damiani and J. P. O’Callaghan. NIOSH, Morgantown, WV.

#423
HEXANE-DIONE (HD)-INDUCED CHANGES IN THE POLYMERIC AND MONOMERIC STATE OF RAT SPINAL CORD CYTOSKELETAL PROTEINS. M. L. Reid and R. M. LoPachin. Anesthesiology, Albert Einstein College of Medicine, Bronx, NY.

#424
SUPRAPHYSIOLOGICAL LEVELS OF THE STRESS HORMONE CORTICOSTERONE ATTENUATE BLOOD-BRAIN BARRIER DISRUPTION AND MICROGLIAL ACTIVATION IN HIPPOCAMPUS OF C57BL/6J MICE TREATED WITH KAINIC ACID. S. A. Benkovic, J. P. O’Callaghan and D. B. Miller. TMBB, CDC-NIOSH, Morgantown, WV.

#425
USE OF MAGNETIC RESONANCE IMAGING (MRI) TO EXAMINE MORPHINE-INDUCED INTRATHecal GRANULOMAS. T. L. Yaksh1, J. W. Allen1, R. F. Mattrey2, J. Corbeil2, K. Horais1 and N. Tozier1. 1Anesthesiology, University CA-San Diego, La Jolla, CA and 2Radiology, University CA-San Diego, La Jolla, CA.

#426
MOLECULAR ACTIONS OF ACRYLAMIDE (ACR) AT THE NERVE TERMINAL. R. M. LoPachin1 and D. S. Barber2. 1Anesthesiology, Albert Einstein College of Medicine, Bronx, NY and 2CEHT, University of Florida, Gainesville, FL.

#427
DEGRANULATION OF DURAL MAST CELLS BY IN VIVO AND EX VIVO OPIATE EXPOSURE. J. W. Allen, W. Zielinska, D. Cizkova and T. L. Yaksh. Anesthesiology, University CA-San Diego, La Jolla, CA.

#428

#429
OVEREXPRESSION OF BCL-XL ALTERS THE SUSCEPTIBILITY OF PRIMARY RAT ASTROCYTES TO 1, 3-DINITROBENZENE. A. D. Phelka, M. M. Sadoff, B. P. Martin and M. A. Philbert. Environmental Health Sciences, University of Michigan, Ann Arbor, MI.

#430
1, 3-DINITROBENZENE INHIBITS THE PYRUVATE DEHYDOGENASE COMPLEX. J. A. Miller and M. A. Philbert. Environmental Health Sciences, University of Michigan, Ann Arbor, MI.

#431
N, N-DIETHYLIDITHIOCARBAMATE PRODUCES COPPER ACCUMULATION, LIPID PEROXIDATION AND DEMYELINATION IN PERIPHERAL NERVE. W. Valentine1, E. G. Tonkin1, H. L. Valentine1, D. M. Milatovic2, K. Amarnath1 and V. Amarnath1, 1Pathology and Center in Molecular Toxicology, Vanderbilt University Medical Center, Nashville, TN and 2Pathology, University of Washington, Seattle, WA.

#432
MONDAY

SOT 43rd Annual Meeting
Program Description

Monday Afternoon, March 22
1:30 PM to 4:30 PM
Exhibit Hall

POSTER SESSION: KIDNEY

Chairperson(s): Alice Villalobos, University of Rochester, Rochester, NY and Monica Valentovic, Marshall University, Huntington, WV.

Displayed: 1:30 PM–4:30 PM

Attended: 3:00 PM–4:30 PM

#433
COMPARISON OF INTERACTIVE CYTOTOXIC EFFECTS OF SELECTED MYCOTOXINS ON RENAL CELLS. A. H. Heusser, E. O’Brien, J. Haehnlein, M. A. Biester and D. R. Dietrich. Environmental Toxicology, University of Konstanz, Konstanz, Germany.

#434

#435

#436
TRANSPORT OF MERCURIC CONJUGATES OF HOMOCYSTEINE BY THE AMINO ACID TRANSPORTER, SYSTEM B0,+ C. C. Bridges and R. K. Zalups. Basic Medical Sciences, Mercer University School of Medicine, Macon, GA.

#437

#438

#439

#440
ESTROGEN THROUGH ESTROGEN-RECEPTOR INDEPENDENT PATHWAY INDUCES PROLIFERATION OF HUMAN KIDNEY EPITHELIAL CELLS. K. P. Singh and D. Roy. Environmental Health Sciences, University of Alabama at Birmingham, Birmingham, AL.

#441
MODULATION OF RENAL GLOMERULAR MESANGIAL AND PODOCYTE CELL NUMBERS CORRELATES WITH FIBRONECTIN ACCUMULATION IN BENZO(A)PYRENE-TREATED SPRAGUE-DAWLEY RATS. A. Nanez, K. S. Ramos. Center for Genetics and Molecular Medicine, University of Louisville, Louisville, KY and Biochemistry and Molecular Biology, University of Louisville, Louisville, KY.

#442
PYRUVATE ATTENUATION OF P-AMINOPHENOL (PAP) TOXICITY IN RENAL SLICES FROM FISCHER 344 (F344) RATS. M. Valentovic and R. Harmon. Pharmacology, Marshall University School of Medicine, Huntington, WV.

#443
PENTAMIDINE-INDUCED INJURY IN LLC-PK1 CELLS IS NOT MEDIATED BY NMDA RECEPTOR ANTAGONISM. A. L. Piskac and M. A. Smith. Environmental Sciences / Toxicology, University of Texas School of Public Health, Houston, TX.

#444
ASSESSMENT OF THE MODULATION OF RENAL ANTIOXIDANT DEFENSE MECHANISMS AND CYCLOOXYGENASES BY COMMON RODENT DIETS IN MALE SPRAGUE-DAWLEY RATS. S. Cooper, B. Blaydes, F. Xin and B. Delcos. NCTR, Jefferson, AR.

#445

#446
FORMIC ACID EXCRETION IN RATS EXPOSED TO BROMODICHLOROMETHANE: POSSIBLE LINK TO RENAL TUBULE CELL PROLIFERATION IN LONG-TERM STUDIES. E. A. Lock, L. Cottrell, M. Jacobsen, T. Soames and R. Williams. Central Toxicology Laboratory, Syngenta, Macclesfield, United Kingdom.

#447
RENA L GLUTATH IONE PEROXIDASE AND GLUTATHIONE REDUCTASE ACTIVITY ARE ALTERED BY 3, 4-DICHLOROANILINE (3, 4-DCA) AND 2-AMINO-4, 5-DICHLOROPHENOL (2A45CP). G. O. Rankin, M. A. Valentovic, N. Noureddine and B. Dunlap. Pharmacology, Marshall University School of Medicine, Huntington, WV.

#448
A NOVEL MITOCHONDRIAL MATRIX CALPAIN IN MITOCONDRIAL INJURY. D. D. Arrington, T. R. Van Vleet and R. G. Schnellmann. Pharmaceutical Sciences, Medical University of South Carolina, Charleston, SC.

#449
EFFECT OF CALCIUM OXALATE ON KIDNEY MITOCONDRIAL FUNCTION. K. McMartin, C. Guo and K. Wallace. Department of Pharmacology, LSU Health Sciences Center-Shreveport, Shreveport, LA and Biochemistry and Molecular Biology, University of Minnesota-Duluth, Duluth, MN.

#450
MODULATION OF MITOCHONDRIAL GLUTATHIONE (GSH) TRANSPORT IN NRK-52E CELLS ALTERS SUSCEPTIBILITY TO CHEMICALLY INDUCED APOPTOSIS. L. H. Lash, D. A. Putt, F. Xu, J. Wang, C. S. Wood, J. Hartman and L. H. Matherly. Pharmacology, Wayne State University, Detroit, MI and Karmanos Cancer Institute, Wayne State University, Detroit, MI.

up-to-date information at www.toxicology.org
CELLULAR TOXICITY OF CALCIUM OXALATE: IS IT RELATED TO DISRUPTION OF MEMBRANE INTEGRITY. C. Guo, T. Dugas and K. McMartin. Department of Pharmacology, LSU Health Sciences Center-Shreveport, Shreveport, LA.

EVIDENCE FOR THE DIRECT INACTIVATION OF ENDOPLASMIC RETICULUM BOUND CA\(^{2+}\)-INDEPENDENT PHOSPHOLIPASE A\(_2\) IN RENAL CELLS DURING OXIDATIVE STRESS. B. S. Cummings\(^1,2\), G. R. Kinsey\(^1\), A. K. Gelasco\(^2\), J. Mchowat\(^3\) and R. G. Schnellmann\(^3\). Pharmacology and Biomed. Sciences., University of Georgia, Athens, GA, \(^2\)Nephrology, Med. University of South Carolina, Charleston, SC, \(^3\)Pharmacology Sciences., Med. University of South Carolina, Charleston, SC and \(^4\)Pathology, St. Louis University, St. Louis, MO.

DIABETES PROTECTS FROM LETHAL NEPHROTOXICITY OF S-1, 2-DICHLOROVINYL-L-CYSTEINE (DCVC). A. V. Dnyanmote\(^1\), S. P. Sawant\(^1\), E. A. Lock\(^2\), J. R. Latendresse\(^3\) and H. M. Mehendale\(^1\). Toxicology, ULM, Monroe, LA, \(^2\)MUSC, Charleston, SC and \(^3\)Pathology Assoc. Intl., NCTR, Jefferson, AR.

NF-\(\kappa B\) MEDIATED TRANSCRIPTATIONAL MECHANISMS OF GI-TO-S CELL CYCLE PROGRESSION IN AUTOPROTECTION AGAINST S-1, 2-DICHLOROVINYL-L-CYSTEINE INDUCED ACUTE RENAL FAILURE. M. C. Korrapati\(^1\), E. A. Lock\(^2\) and H. M. Mehendale\(^1\). School of Pharmacy, ULM, Monroe, LA and \(^2\)Medical University of South Carolina, Charleston, SC.

EFFECT OF MT-3 EXPRESSION ON APOPTOSIS IN THE HUMAN PROXIMAL TUBULE CELL LINE, HK-2. S. H. Garrett\(^1\), S. Sonji\(^1\), M. Sens\(^1\) and D. A. Sens\(^2\). Pathology, University of North Dakota, Grand Forks, ND and \(^2\)Surgery, University of North Dakota, Grand Forks, ND.

STATINS INHIBIT ALBUMIN UPTAKE IN OPOSSUM KIDNEY PROXIMAL TUBULE CELLS VIA REDUCED PRENYLATION OF SIGNALLING PROTEINS. J. Sidway\(^1\), R. G. Davidson\(^2\), F. McTaggart\(^2\), T. C. Orton\(^1\), R. C. Scott\(^1\), G. J. Smith\(^2\) and N. J. Brunskill\(^3\). Safety Assessment, AstraZeneca, Macclesfield, Cheshire, United Kingdom, \(^2\)Cardiovascular and Gastrointestinal Discovery, AstraZeneca, Macclesfield, Cheshire, United Kingdom and \(^3\)Department of Nephrology, Leicester General Hospital, Leicester, Leicestershire, United Kingdom.

MONDAY AFTERNOON, MARCH 22
1:30 PM TO 4:30 PM
Exhibit Hall

POSTER SESSION: CHEMICAL-INDUCED IMMUNOMODULATION
Chairperson(s): John Barnett, West Virginia University, Morgantown, WV and B. Paige Lawrence, Washington State University, Pullman, WA.

Displayed: 1:30 PM–4:30 PM

Attended: 1:30 PM–3:00 PM

#457

ESTROGEN RECEPTOR \(\alpha\) BUT NOT \(\beta\) IS A MAJOR MEDIATOR FOR ESTRADIOL INDUCED THYMIC ATROPHY. Z. Lai\(^3\), N. C. Fiore\(^1\), S. C. Hewitt\(^2\), K. S. Korach\(^2\) and A. E. Silverstone\(^1\). Department of Microbiology and Immunology, SUNY Upstate Medical University, Syracuse, NY and \(^2\)Lab. Reprod Develop Toxicology, NIEHS/NIH, Research Triangle Park, NC.

#458

EVALUATION OF THE POTENTIAL IMMUNOTOXICITY OF 3-MONOCHLORO-1, 2-PROPANE DiOL IN BALB/C MICE. J. Lee\(^1\), J. Byun\(^1\), S. Park\(^1\), H. Kim\(^1\), J. Park\(^1\), J. Eom\(^1\), M. Ryu\(^1\), Y. Heo\(^2\) and H. Oh\(^1\). Division of Immunotoxicology, National Institute of Toxicological Research, KFDA, Seoul, South Korea and \(^2\)Daegu Catholic University, Daegu, South Korea.

#459


#460

EXPOSURE TO SODIUM DICROMATE FROM DRINKING WATER DOES NOT ALTER IMMUNE FUNCTION IN B6C3F1 MICE OR SPRAGUE DAWLEY RATS. R. D. Brown\(^1\), K. L. White\(^1\), D. R. Germolec\(^2\), C. S. Smith\(^2\), L. X. Zhang\(^1\) and T. L. Guo\(^1\). Pharmacology and Toxicology, Virginia Commonwealth University, Richmond, VA and \(^2\)NIEHS, Research Triangle Park, NC.

#461

COMPARISON BETWEEN INTRAPERITONEAL AND ASPIRATION ROUTES OF EXPOSURE TO EVALUATE THE IMMUNOTOXIC EFFECTS OF A MIXTURE OF HERBICIDES. K. Salazar\(^1\), M. Chrousiss\(^1\), J. B. Barnett\(^1\) and R. Schafer\(^1\). Microbiology, Immunology, & Cell Biology, West Virginia University, Morgantown, WV and \(^2\)Alderson-Broaddus College, Phillipi, WV.

#462

INDUCTION OF IFN-\(\gamma\) DRINKING WATER IMMUNOTOXICITY BY CHLORPYRIFOS, CHLORPYRIFOS-OXON, AND ENDO TOXIN IN VITRO. P. Duramad and N. Holland. UC Berkeley, Berkeley, CA.

#463

ROLE OF CYTOKINE NETWORKS IN DETERMINING SUSCEPTIBILITY TO DRUG-INDUCED LIVER DISEASE. M. Board\(^1\), D. Eiras\(^1\), M. Hohl\(^1\), T. Reilly\(^2\), K. Welch\(^1\), H. Amoscadz\(^h\) and L. Pohl\(^1\). Molecular and Cellular Toxicology, Section/LMI/NHLBI, NIH/DHHS, Bethesda, MD and \(^2\)Immunotoxicology, Drug Safety Evaluation, Bristol-Myers Squibb, Syracuse, NY.
SOT 43rd Annual Meeting
Program Description

LIPOPOLYSACCHARIDE PRE-EXPOSURE SENSITIZES THE MOUSE TO DEOXYVINALENOL -INDUCED PROINFLAMMATORY CYTOKINE EXPRESSION AND LYMPHOCYTE APOPTOSIS. Z. Islam1 and J. J. Pestka1-2. 1Food Science and Human Nutrition, Michigan State University, East Lansing, MI and 2Institute of Environmental Toxicology, Michigan State University, East Lansing, MI.

INFLAMMATION AND TRAUMATIC SKELETAL MUSCLE INJURY. M. Summan, T. Hulderman, J. M. Matheson and P. P. Simeonova. Toxicology and Molecular Biology, DHHS/CDC/NIOSH, Morgantown, WV.


IMMUNOTOXICITY OF A COPLANAR AND NONCOPLANAR POLYCHLORINATED BIPHENYL (PCB) CONGENER IN A FISH MODEL. J. Duffy, Y. Li and J. Zelikoff. Department of Environmental Medicine, New York University School of Medicine, Tuxedo, NY.


DEVELOPMENTAL EXPOSURE TO A THYROID DISRUPTING CHEMICAL STIMULATES PHAGOCYTOSIS IN JUVENILE SPRAGUE-DAWLEY RATS. A. A. Rooney1, R. Matulka2 and R. W. Luebke3. 1CVM Department of Anatomy, Physiological Sciences and Radiology, NCSU/USEPA, Raleigh, NC, 2Department of Toxicology, UNC, Chapel Hill, NC and 3USEPA/NHEERL, Research Triangle Park, NC.

BOTH ADULT AND DEVELOPMENTAL EXPOSURES TO NEVIRAPINE INCREASED NK CELL ACTIVITY BUT DECREASED SLEPN ANTIBODY-FORMING CELL (AFC) RESPONSE TO T-DEPENDENT ANTIGEN SHEEP ERYTHROCYTES (SRBC) IN FEMALE B6C3F1 MICE. T. L. Guo1, D. R. Germolec2, D. L. Musgrove1, R. P. Chi1 and K. L. White1, 1Virginia Commonwealth University, Richmond, VA and 2NIOSH, Research Triangle Park, NC.

THE EFFECTS OF EARLY EXPOSURE OF ENDOSULFAN, PIPERONYL BUTOXIDE AND PERMETHRIN ON IMMUNE FUNCTION OF ADULT MICE. G. E. Pimentel-Smith1 and H. P. Misra2. 1Vet. Med., Virginia Tech, Blacksburg, VA and 2Division of Biomedical Sciences, Edward Via College of Osteopathic Medicine, Blacksburg, VA.

PRENATAL MERCURIC CHLORIDE [HgLCl2] EXPOSURE IN BALB/C MICE: GENDER-SPECIFIC EFFECTS ON THE ONTOGENY OF THE IMMUNE SYSTEM. I. A. Silva1,2, M. El Nabawi2, D. Hoover2 and E. Silbergeld3. 1Institute Molecular Cell Biology, Porto, Portugal, 2University Maryland Medical School, Baltimore, MD and 3Environmental Health Sciences, Johns Hopkins University Bloomberg School Public Health, Baltimore, MD.

POSTNATAL EXPOSURE TO THIMEROSAL ALTERS IMMUNOLOGICAL FUNCTION IN ADULT MICE. M. M. Peden-Adams1, J. E. EuDaly1, H. Laurent1, J. Smythe2 and D. E. Keil1-2. 1Medical University of South Carolina, Charleston, SC and 2NIOSH, Morgantown, WV.

DERMAL EXPOSURE TO JP-8 JET FUEL DURING PREGNANCY ALTERS IMMUNOLOGICAL FUNCTION IN F1 MICE. D. E. Keil1, L. Butterworth1, S. Azadi1 and M. Peden-Adams2. 1NIOSH, Morgantown, WV and 2Medical University of South Carolina, Charleston, SC.

PHENOTYPICALLY ALTERED MURINE BONE MARROW SUBSETS EXPRESS AND ACTIVATE THE AHR IN RESPONSE TO TCDD. A. Wyman and T. A. Gasiotwicz. Environmental Medicine, University of Rochester, Rochester, NY.

REDUCTION IN THE NUMBER OF SUPERANTIGEN-SPECIFIC T CELL DIVISIONS INDUCED BY 2, 3, 7, 8- TETRACHLORODIBENZO-P-DIOXIN RESULTS FROM INCREASED APOPTOSIS. L. S. Faulconer1, I. A. Camacho1, P. S. Nagarkatti1 and M. Nagarkatti2. 1Department Pharmacology and Toxicology, Virginia Commonwealth University, Richmond, VA and 2Department of Microbiology and Immunology, Virginia Commonwealth University, Richmond, VA.

EVIDENCE FOR INDUCTION OF APOPTOSIS IN T CELLS FROM MURINE FETAL THYMUS FOLLOWING PERINATAL EXPOSURE TO 2, 3, 7, 8-TETRACHLORODIBENZO-P-DIOXIN (TCDD). P. S. Nagarkatti1, I. A. Camacho2 and M. Nagarkatti2. 1Department of Pharmacology and Toxicology, Virginia Commonwealth University, Richmond, VA and 2Department of Microbiology and Immunology, Virginia Commonwealth University, Richmond, VA.

CONSEQUENCES OF TCDD EXPOSURE ON THE MIGRATION, PROLIFERATION, AND SURVIVAL OF ANTIGEN-SPECIFIC T CELLS. C. Funatake1, L. Stepan1, E. Spanjaard2, A. Marshak-Rothstein2 and N. Kerkvliet1. 1Oregon State University, Corvallis, OR and 2Boston University School of Medicine, Boston, MA.

EXAMINING POSSIBLE MECHANISMS UNDERLYING PULMONARY NEUTROPHILIA IN VIRUS-INFECTED MICE TREATED WITH TCDD. S. Teske1. 1L. Harrison1, J. Neumiller2 and B. Lawrence1. 1Pharmaceutical Sciences, Washington State University, Pullman, WA and 2Pharmacology/Toxicology Graduate Program, Washington State University, Pullman, WA.

up-to-date information at www.toxicology.org
#481 EFFECTS OF SILICA ON IN VITRO-GENERATED MACROPHAGE SUBSETS. C. T. Migliaccio and A. Holian. Department of Biomedical & Pharmaceutical Sciences, Center for Environmental Health Sciences, University of Montana, Missoula, MT.

#482 SILICA STIMULATES PHOSPHORYLATION AND ACTIVATION OF AKT IN MURINE ALVEOLAR MACROPHAGES. C. A. Wischcamper and A. Holian. Pharmaceutical and Biomedical Sciences, University of Montana, Missoula, MT.

#483 REPEATED EXPOSURE TO DIESEL EXHAUST PARTICLES CAUSES SUPPRESSION OF CELL-MEDIATED IMMUNE RESPONSES TO LISTERIA INFECTION IN BROWN NORWAY RATS. X. J. Yin1, C. C. Dong1, J. Y. Ma2, J. M. Antonini2, J. R. Roberts2 and J. K. Ma1. 1School of Pharmacy, West Virginia University, Morgantown, WV and 2HELD, NIOSH, Morgantown, WV.

#484 PARTICULATE MATTER IMMUNOMODULATORY EFFECT ON THE PROGRESSION OF AUTOIMMUNE DISEASE IN NEW ZEALAND MIXED MICE. M. Hassani, J. M. Brown and A. Holian. Center for Environmental Health Sciences, The University of Montana, Missoula, MT.

#485 TRICHLOROETHYLENE DOES NOT ACCELERATE AUTOIMMUNE DIABETES IN NOD MICE. G. Ravel1, 2, M. Christ1, F. Condevaux1 and J. Descotes2. 1MDS Pharmacology Services, L’Arbresle, France and 2Poison Center & INSERM University 503, Lyon, France.

#486 ANALYSIS OF TARGET ANTIGENS FOR ASBESTOS EXPOSURE. I. Leal, A. Holian and J. Pfau. Biomedical and Pharmaceutical Sciences, University of Montana, Missoula, MT.

Monday Afternoon, March 22
1:30 PM to 4:30 PM
Exhibit Hall

POSTER SESSION: MECHANISMS OF HEPATOTOXICITY II

Chairperson(s): Charles Barton, IOWA Department of Public Health, Des Moines, IA and Robert Roth, Michigan State University, East Lansing, MI.

Displayed: 1:30 PM–4:30 PM

Attendees: 3:00 PM–4:30 PM

#487 DIFFERENCES IN HEPATOTOXICOLOGICAL PROFILE OF ET-743 BETWEEN SPRAGUE-DAWLEY RATS AND CYC诺MONOLGUS MONKEYS. R. De Coster1, J. Verbeek1, A. Vyhnckier1, A. Loosova1, K. Anciaux1, L. Lammens1, N. Bode1, W. Coassens1 and P. Aviles2. 1Global Preclinical Development, Johnson&Johnson Pharmaceutical Research&Development, Beerse, Belgium and 2PharmaMar, Colmenar Viejo, Spain.

#488 PROTECTION OF FUMONISIN B1 HEPATOTOXICITY BY SYLMARIN AND MYRIOCIN IN FEMALE BALB/C MICE. Q. He, J. Kim and R. P. Sharma. Department of Physiology & Pharmacology, The University of Georgia, Athens, GA.

#489 COCAINE HEPATOTOXICITY AND ITS POTENTIATION BY LIPOPOLYSACCHARIDE: TREATMENT AND GENDER EFFECT. T. Visalli1, R. Turkail2 and M. S. Abdel-Rahman1. 1Pharmacology/Physiology, UMDNJ, Newark, NJ and 2Clinical Laboratory Sciences, UMDNJ, Newark, NJ.

#490 TNBS-INDUCED COLITIS IN THE RAT AS A MODEL FOR INFLAMMATORY BOWEL DISEASE. S. Groom1, K. Beard1, E. Jacquent1 and N. Hamelin1. 1CTBR, Senneville, QC, Canada and 2IPN, CTBR, Senneville, QC, Canada. Sponsor: M. Vězina.

#491 HYPOXIA IN RAT LIVER AFTER MONOCROTALINE EXPOSURE. B. L. Copple, P. E. Ganey and R. A. Roth. Department of Pharmacology and Toxicology, Institute for Environmental Toxicology, and National Food Safety and Toxicology Center, Michigan State University, East Lansing, MI.

#492 MODES OF CELL DEATH IN RAT LIVER AFTER MONOCROTALINE EXPOSURE. R. A. Roth1, B. L. Copple1, C. M. Rondelli1, J. F. Maddox1, N. S. Hoglen2 and P. E. Ganey3. 1Pharmacology and Toxicology, Michigan State University, East Lansing, MI and 2IDUN Pharmaceuticals, San Diego, CA.

#493 ALtered GENE expression AS A CONTRIBUTING FACTOR TO LIVER INJURY IN RATS COTREATED WITH RANITIDINE AND LIPOPOLYSACCHARIDE. J. P. Luyendyk, A. Holian and J. F. Maddox. Pharmacology, Marshall University School of Medicine, Huntington, WV.

#494 COMPARISON OF THE HEPATOCellular TOXICITY OF THE ANTI-ANDROGEN FLUTAMIDE TO CYANO ANALOGS. K. J. Coe1, H. K. Ho1, H. M. Holmes1, Y. Jia1, N. Fausto2, S. A. Bruschi1 and S. D. Nelson3. 1Medicinal Chemistry, University of Washington, Seattle, WA and 2Pathology, University of Washington, Seattle, WA.


#496 S-ADENOSYL-L-METHIONINE (SAME) REDUCES ACETAMINOPHEN HEPATOTOXICITY. M. Teneus and M. Valenton. Pharmacology, Marshall University School of Medicine, Huntington, WV.

#497 HEPATO-PROTECTIVE EFFECTS OF HC AGAINST ETHANOL-CARBON TETRACHLORIDE-INDUCED LIVER DAMAGE IN RATS. O. S. El-Tawil1, A. M. Mohamadin2 and A. B. Abdel-Naim3. 1Department of Toxicology and Forensic Medicine, Faculty of Veterinary Medicine, Cairo University, Cairo, Egypt, 2Tumor Marker Oncology Research Unit, Department of Biochemistry, Faculty of Pharmacy, Al-Azhar University, Cairo, Egypt and 3Department of Pharmacology and Toxicology, Faculty of Pharmacy, Ain Shams University, Cairo, Egypt.
ONSET OF 3-(3, 5-DICHLOROPHENYL)-2, 4-THIAZOLIDINEDIONE (DCPT)-INDUCED HEPATOTOXICITY IN RATS. N. N. Patel, C. M. Crincoli and P. Harvison. Department of Pharmaceutical Sciences, University of the Sciences in Philadelphia, Philadelphia, PA.

POTENTIAL ROLE OF CYTOCHROMES P450 IN 3-(3, 5-DICHLOROPHENYL)-2, 4-THIAZOLIDINEDIONE (DCPT)-INDUCED HEPATOTOXICITY IN RATS. C. M. Crincoli, N. N. Patel and P. Harvison. Department of Pharmaceutical Sciences, University of the Sciences in Philadelphia, Philadelphia, PA.

UNDERLYING AGE-RELATED LIVER PATHOLOGY INCREASES AZOXYMETHANE TOXICITY IN FEMALE F344 RATS IN AN AGING STUDY ON COLON CANCER CHEMOPREVENTION. S. Francke-Carroll1, K. Daly2, T. Wang3 and B. Magnuson2. 1OSAS, USFDA, College Park, MD, 2Department of Nutrition and Food Science, UMD, College Park, MD and 3Agricultural Research Service, USDA, Beltsville, MD.

IMMUNOHISTOCHEMICAL ANALYSIS OF HEPATIC HEME OXYGENASE-1 EXPRESSION FOLLOWING ADMINISTRATION OF ETHINYL ESTRADIOL TO RATS. L. A. Morio1, J. L. Wagoner1,4, E. X. Barton1, D. F. Klein2, T. T. Newton2,4, T. Wang3 and J. C. Daly2. 1Department of Public Health, Des Moines, IA, 2Department of Nutrition and Food Science, UMD, College Park, MD and 3Agricultural Research Service, USDA, Beltsville, MD.

INDUCTION OF PEROXISOME PROLIFERATION IN RAT HEPATOCYTES BY A SERIES OF HALOGENATED ACETILS. J. McMillian, J. E. Walsh and D. J. Jollow. 1Department of Public Health, Des Moines, IA and 2Department of Environmental Health Sciences, University of Massachusetts, Amherst, MA and 3Department of Environmental Health Sciences, University of the Sciences in Philadelphia, Philadelphia, PA.

ENDOTOXIN POTENTIATES AFLATOXIN B1-HEPATOCELLULAR INJURY BY A MECHANISM WHICH IS DEPENDENT UPON KUPFFER CELLS. J. L. Wagoner1,4, E. X. Barton1, D. F. Klein2, T. T. Newton2,3, R. A. Roth3, L. H. Mortensen3 and C. Barton4. 1OSAS, USFDA, College Park, MD, 2Department of Nutrition and Food Science, UMD, College Park, MD and 3Molecular Immunology, NHLBI, NIH, DHHS, Bethesda, MD.

BLESSINGS OF OLD AGE: PROTECTION FROM CHLOROCEONE-POTENTIATED CCL4 HEPATOTOXICITY. B. Murali, M. C. Korrapati and H. M. Mehendale. Toxicology, University of Louisiana at Monroe, Monroe, LA.

DEPLETION OF MITOCHONDRIAL COA BY PERFLUOROSULFONIC AND PERFLUOROCARBOXYLIC ACIDS IN VITRO. T. M. O’Brien and K. B. Wallace. Biochemistry and Molecular Biology, University of Minnesota, Duluth, MN.

EVALUATION OF THE SUBCHRONIC TOXIC POTENTIAL OF CHLOROFORM VIA AQUEOUS GAVAGE. S. S. Anand, P. S. Palkar, M. M. Mumtaz and H. M. Mehendale. 1Department of Toxicology, University of Louisiana, Monroe, Monroe, LA and 2ATSDR, Atlanta, GA.

PEROXISOME PROLIFERATOR CLOFIBRATE AFFECTS N-6/N-3 POLYUNSATURATED FATTY ACID (PUFA) COMPOSITION DIFFERENTIALLY IN RAT LIVER AND HEART. J. T. Akoka3, Q. Tian1, F. A. Grezemska1 and S. Panagiotopoulos2. 1Key Centre for Applied and Nutritional Toxicology, RMIT University, Melbourne, VIC, Australia and 2Austin & Repatriation Medical Centre, University of Melbourne, Melbourne, VIC, Australia.

THE SIGNIFICANCE OF ELEVATED SERUM AMINOTRANSFERASE LEVELS IN THE ABSENCE OF HEPATIC NECROSIS: PRECLINICAL PREDICTIVE VALUE AND RELEVANCE TO HUMAN RISK. D. D. Wiant1,2,1. In Vivo Pharmacology, Adolor Corporation, Exton, PA and 2Department of Health, West Chester University, West Chester, PA.

IMPORTANCE OF MITOGEN-ACTIVATED PROTEIN KINASES (MAPK) IN ACETAMINOPHEN HEPATOTOXICITY IN MICE AND MURINE HEPATOCYTES. M. Bajt and H. J. Jaeschke. Liver Research Institute, University of Arizona, Tucson, AZ.

INTERLEUKIN-13 PROTECTS AGAINST ACETAMINOPHEN-INDUCED LIVER INJURY. S. B. Yee, M. Boardi, M. P. Holt and L. R. Pohl. Molecular and Cellular Toxicology Section, Laboratory of Molecular Immunology, NHLBI, NIH, DHHS, Bethesda, MD.

ROLE OF TOLL-LIKE RECEPTOR-4 (TLR-4) IN ACETAMINOPHEN (AA)-INDUCED HEPATOTOXICITY. C. R. Gardner1, L. Chen1, J. D. Laskin2 and D. L. Laskin1. 1Rutgers University, Piscataway, NJ and 2UMDNJ-Robert Wood Johnson Medical School, Piscataway, NJ.

IMPAIRED SIGNAL TRAFFICKING UNDERLIES FAILED ON-DEMAND LIVER TISSUE REPAIR UPON HEPATOTOXIC CHALLENGE IN TYPE 2 DIABETES. S. P. Sarswat1, A. V. Dnyanmothe2, J. R. Latendresse3 and H. M. Mehendale1. 1Department of Toxicology, School of Pharmacy, The University of Louisiana at Monroe, Monroe, LA and 2NCTR, Jefferson, AR.

PROTECTION AGAINST MECHANISTICALLY DISTINCT HEPATOTOXICANTS IS ASSOCIATED WITH ACUTE PHASE RESPONSE. K. A. Ewald and E. J. Calabrese. 1KERA Environmental, LLC, Worthington, MA and 2Department of Environmental Health Sciences, University of Massachusetts, Amherst, MA.

MECHANISMS REGULATING TREM-1 EXPRESSION IN LIVER MACROPHAGES AND ENDOTHELIAL CELLS DURING ACUTE ENDOTOXEMIA. L. C. Chen, M. A. Gordon, J. D. Laskin and D. L. Laskin. Joint Graduate Program in Toxicology, Rutgers University and UMDNJ-Robert Wood Johnson Medical School, Piscataway, NJ.

up-to-date information at www.toxicology.org
THE ASSOCIATION BETWEEN MEDICATION USE AND TAMOXIFEN (TAM) AND TAM METABOLITE CONCENTRATIONS IN WOMEN WITH BREAST CANCER. L. Gallicchio1, K. Tkaczuk2, L. Lewis1 and J.A. Flaws1, 2. 1Department of Epidemiology and Preventive Medicine, University of Maryland School of Medicine, Baltimore, MD and 2The Greenebaum Cancer Center, University of Maryland School of Medicine, Baltimore, MD.

BRAIN DERIVED NEUROTYPIC FACTOR (BDNF) POLYMORPHISM ASSOCIATED WITH INCREASED SYMPTOM REPORTING AMONG DENTAL PERSONNEL. N. J. Heyer1, D. Echeverria1, 2, J. S. Woods1, 2, A. C. Bittner1, 2 and F. M. Farin2, 1Battelle CPHRE, Seattle, WA and 2Department of Environmental Health, University of Washington, Seattle, WA.

Brain derived neurotrophic factor (BDNF) polymorphism is associated with increased symptom reporting among dental personnel.

Monday Afternoon, March 22
1:30 PM to 4:30 PM
Poster Hall

POSTER SESSION: CARCINOGENESIS I

Chairperson(s): Mark Miller, Wake Forest University, Winston-Salem, NC and Vernon Walker, Lovelace Respiratory Research Institute, Albuquerque, NM.

Displayed: 1:30 PM–4:30 PM
Attended: 3:00 PM–4:30 PM

EFFECT OF TWO COMPLEX ENVIRONMENTAL MIXTURES CONTAINING POLYCYCLIC AROMATIC HYDROCARBONS (PAHs), DIESEL EXHAUST AND URBAN DUST, ON THE METABOLIC ACTIVATION OF CYTOCHROME P450 1A1 IN MOUSE EPIDERMIS. L. A. Courter, T. Musafia and W. M. Baird. Environmental and Molecular Toxicology, Oregon State University, Corvallis, OR.

FORMATION OF cis-BPDE-ADDUCTS AND BASE-STACKED trans-BPDE-ADDUCTS IS INCREASED ON SUPERCOILED DNA. G. Jiang1, R. Jankowiak2, N. Grubor2, M. Banasiewicz2, G. Small1, M. Skorvaga3, B. Van Houten3 and J. States4. 1 University of Louisville, Louisville, KY, 2Iowa State University, Ames, IA and 3NIEHS, Research Triangle Park, NC.

DNA ADDUCT FORMATION BY DIBENZO(C, P)CHRYSENE IN HUMAN CELL CULTURE. J. Atkin1, H. Garcia1, B. Mahadevan1, T. Musafia1, A. Sharma2, S. Amin2 and W. Baird1. 1Oregon State University, Corvallis, OR and 2Institute for Cancer Prevention, Valhalla, NY.

LUNG DNA ADDUCT FORMATION IN MICE EXPOSED TO DIBENZO(A, L)PYRENE: A DOSE-RESPONSE STUDY. B. Mahadevan1, J. Atkin2, C. Bravo3, A. Luchi, L. Steppan3, N. Kerkvliet4 and W. M. Baird5. 1Environmental&Molecular Toxicology, Oregon State University, Corvallis, OR.

ACCELERATED DNA ADDUCT FORMATION IN LUNG, NASAL MUCOSA, AND LIVER OF RATS EXPOSED TO URBAN AIR IN KAWASAKI, JAPAN. H. Sato1, 2, K. T. Suzuki2, H. Sone1, Y. Yamano3, J. Kagawa3 and Y. Aoki1. 1Research Center for Environmental Risk, National Institute for Environmental Studies, Tsukuba, Ibaraki, Japan, 2Graduate School of Pharmaceutical Sciences, Chiba University, Chiba, Japan and 3Department of Public Health, Tokyo Women’s Medical University, Tokyo, Japan.

KINETICS OF REACTION OF EPOXIDE METABOLITES OF POLYCYCLIC AROMATIC HYDROCARBONS WITH HUMAN AND MOUSE HEMOGLOBIN. S. R. Myers, C. Cunningham, T. Wright and H. E. Hurst. Pharmacology and Toxicology, University of Louisville, Louisville, KY.

B[AL]P AND B[AL]P-7, 8-DIOL INDUCED CELL CYCLE ARREST AND APOPTOSIS IN LNCAP CELLS. O. F. Nwagbara1, S. Reed1 and R. Gragg1. 1Environmental Sciences Institute, Florida A&M University, Tallahassee, FL, 2Environmental Sciences Institute, Florida A&M University, Tallahassee, FL and 3Environmental Sciences Institute, Florida A&M University, Tallahassee, FL. Sponsor: R. Thomas.

THE PROLIFERATIVE EFFECT OF SELENIUM DIOXIDE AGAINST BENZO(A)PYRENE TOXICITY. M. R. Smith1, J. Ochieng2 and A. M. Nyanda3. 1Pharmacology, Meharry Medical College, Nashville, TN and 2Biochemistry, Meharry Medical College, Nashville, TN.

BENZO(A)PYRENE METABOLITES ACTIVATE EGFR PATHWAYS IN HUMAN MAMMARY EPITHELIAL CELLS: A POTENTIAL MECHANISM FOR TUMOR PROMOTION. A. D. Burdick, K. Liu, L. G. Hudson, H. Shi and S. W. Burchiel. College of Pharmacy, University of New Mexico, Albuquerque, NM.

MALIGNANT TRANSFORMATION INDUCED BY BENZO(A)PYRENE AND DISTILLATE MARINE DIESEL FUEL IN HUMAN KERATINOCYTES. O. Lothinay, J. Campain and R. Yang. Quantitative and Computational Toxicology Group, Center for Environmental Toxicology and Technology, Department of Environmental and Radiological Health Sciences, Colorado State University, Fort Collins, CO.

up-to-date information at www.toxicology.org
**SOT 43rd Annual Meeting**

**Program Description**

**#543**

**TRANSFORMATION-ASSOCIATED CHARACTERISTICS IN CELL GROWTH AND DNA CONTENT IN HUMAN KERATINOCYTES, RHEK-1. J. Campain, O. Lohitnavy and R. Yang.**

Quantitative and Computational Toxicology Group, Center for Environmental Toxicology and Technology, Department of Environmental and Radiological Health Sciences, Colorado State University, Fort Collins, CO.

**#544**


Crop Protection R&D, Crompton Corporation, Bethany, CT and Department of Toxicology, MPI Research, Mattawan, MI.

**#545**

**TOXICOLOGY AND CARCINOGENESIS STUDIES OF TRIETHANOLAMINE IN F344/N RATS AND B6C3F1 MICE. F. A. Suarez, G. Pearse, M. R. Hejtmancik, J. R. Bucher and N. D. Kock.**

1NIHES, Research Triangle Park, NC and 2Batelle, Columbus, OH.

**#546**


1Integrated Laboratory Systems, Research Triangle Park, NC and 2NIHES, Research Triangle Park, NC.

**#547**


**#548**


1Lovelace Respiratory Research Institute, Albuquerque, NM, 2Experimental Pathology Laboratories, Inc., Research Triangle Park, NC and 3FAR Consulting, L.L.C., Manchester, MO.

**#549**

**PHENOTYPIC BASELINE DATA ON TRANSGENIC MOUSE MODELS FOR TOXICOLOGY. E. Arlund and S. Swing.**

Taconic Farms Inc., Germantown, NY.

**#550**

**COMPARISON OF THE K6/ODC AND SKH-1 HAIRLESS MICE IN RESPONSE TO PHOTOCARCINOGENICITY OF LOMEFLOXACIN. J. Bastien, T. O’Brien and Y. Chen.**

ODC Mouse Group, Inc., Drexel Hill, PA.

**#551**


R.J Reynolds Tobacco Company, Winston-Salem, NC.

**#552**


Regulatory Toxicology, RJ Reynolds Tobacco Company, Winston-Salem, NC.

**#553**

**MICROSCOPIC EXAMINATION OF LUNG TUMORS ENHANCES EVALUATION OF TOBACCO SMOKE-INDUCED TUMORIGENICITY IN A/J MICE. G. M. Curtis, M. A. Higuchi, P. H. Ayres, J. E. Swauger and A. T. Mosberg.**

Regulatory Toxicology, RJ Reynolds Tobacco Company, Winston-Salem, NC.

**#554**

**NONYLPHENOL INDUCES MAMMARY CANCER IN MMTVNEU MICE. H. Villanueva, R. Acvedo, P. Parnell, S. L. Gray, T. Gimenez and W. Baldwin.**

1Biological Sciences, University of Texas at El Paso, El Paso, TX, 2Clemson Veterinary Diagnostics Center, Clemson University, Columbia, SC and 3Animal and Veterinary Sciences, Clemson University, Clemson, SC.

**#555**


1NTP, NIHES, Research Triangle Park, NC and 2Batelle Toxicology Northwest, Richland, WA.

**#556**


1Wake Forest University, Winston-Salem, NC and 2USEPA, Research Triangle Park, NC.

**#557**

**INITIATION-PROMOTION STUDIES OF 1,3-DICHLOROPROPENE (1, 3-D) IN MALE F344 RAT LIVER AND STRAIN A MOUSE LUNG. S. Reel, L. M. Kamendulis, P. J. Klein and J. E. Klunig.**

Division of Toxicology, Indiana University School of Medicine, Indianapolis, IN.

**#558**


**#559**

**RELIABILITY AND PRACTICABILITY OF MEDIUM-TERM LIVER CARCINOGENESIS BIOASSAYS. S. Tamano, A. Hagiwara, M. Kawabe, H. Yoshino, T. Ichihara, K. Imada, T. Shirai and N. Ito.**

1Daiyu-kai Institute of Medical Science, Ichinomiya, Japan, 2Department Onco-Pathology, Kagawa Medical University, Kagawa, Japan, 3Department Exp. Pathol. And Tumor Biol., Nagoya City University, Nagoya, Japan and 4Nagoya City University, Nagoya, Japan.

**#560**

**THE MOST APPROPRIATE STRAIN FOR RAT CARCINOGENICITY BIOASSAYS. L. D. Britton, N. Downes, P. Mullins and D. Mitchell.**

Toxicology, Sequani Limited, Ledbury, United Kingdom.
CHARACTERIZATION OF SUBCUTANEOUS TUMOR GROWTH FOR A549, PC3 AND CACO2 HUMAN CANCER XENOGRAPHS IN THE NUDE MOUSE. A. Adamou, S. Groom and M. Vezina. CTBR, Seneville, QC, Canada.


TIME TO FATAL TUMORS IN P53 +/-, +/- H2AX +/-, +/- KNOCKOUT MICE. A. Chiu2, M. D. Shibutani, K. Lee1, 2 and A. NON-ANIMAL ALTERNATIVE. Edward Carney, The Dow Chemical Company, Midland, MI.

REGION-SPECIFIC GLOBAL GENE CARBOFURAN-INDUCED ENDOCRINE DISRUPTION IN MALE RATS. R. T. Goad1, R. C. Gupta1. 1Toxicology, Murry State University, Hopkinsville, KY and 2Occup. Safety & Hlth, Murry State University, Murray, KY.

IN VITRO/IN VIVO EVALUATION OF THE (ANTI)-ANDROGENIC ACTIVITY OF THE ANTI-ANDROGENIC CARCINOGENIC RESPONSE OF K6/ODC MICE TO MELPHALAN. D. R. Cerven1, J. Kavlock1. 1MB Research Laboratories, Spinnerstown, PA and 2Pathology, New York Medical College, Valhalla, NY.


RAT SPERMATID AND OVARIAN PRIMARY FOLLICLE COUNTS FOLLOWING IN UTERO EXPOSURE TO LOW DOSE BISPHENOL A. C. Eldridge1, D. Wynn2, C. Breckenridge2 and J. Stevens1. 1Physiology-Pharmacology, Wake Forest University School of Medicine, Winston-Salem, NC and 2Toxicology, Syngenta Crop Protection, Greensboro, NC.


EFFECT OF DDT ON TESTOSTERONE AND AROMATASE ACTIVITY VIA ESTROGEN RECEPTOR IN LEYDIG CELL. K. Lee1, 2 and H. Jeong1, 2. 1Pharmacy, Chosun University, Kwangju, South Korea and 2Research Center for Proteinaceous Materials, Chosun University, Kwangju, South Korea.

up-to-date information at www.toxicology.org
CATECHOL ESTROGEN-INDUCED DNA DAMAGE IN MCF-7 CELLS. M. B. van Duersen, T. Sanderson and M. van den Berg. Institute for Risk Assessment Sciences (IRAS), Utrecht University, Utrecht, Netherlands.

ACTIVATION OF HUMAN ESTROGEN RECEPTORS IN HEPG2 CELLS BY GENISTEIN AND ITS CONJUGATED METABOLITES. S. Borghoff, H. D. Parkinson, S. M. Ross, K. Guido and M. Soschaski. CIIT Centers for Health Research, Research Triangle Park, NC.

INTERACTION ANALYSIS OF SYNTHETIC CHEMICALS AND PHYTOESTROGENS IN VITRO. E. W. Carney, G. D. Charles, C. Gennings, B. B. Gollapudi and T. R. Zacharewski. 1The Dow Chemical Company, Midland, MI, 2Biostatistics, Virginia Commonwealth University, Richmond, VA and 3Biochemistry & National Food Safety & Toxicology Center, Michigan State University, East Lansing, MI.

COMPARATIVE ACTIVATION OF ESTROGEN RECEPTOR α (ERα) AND ERα/β1 IN BREAST CANCER CELLS BY XENOESTROGENS. F. Wu and S. Safe. 1Biochemistry & Biophysics, Texas A&M University, College Station, TX and 2Veterinary Physiology & Pharmacology, Texas A&M University, College Station, TX.

LACK OF SYNERGISTIC OR ANTAGONISTIC EFFECTS OF A MIXTURE OF PHYTOESTROGENS ON CELL PROLIFERATION OF MCF-7 HUMAN BREAST CANCER CELLS (E-SCREEN). J. van Meeuwen, A. Piersma, M. van den Berg and J. Sanderson. 1IRAS, University Utrecht, Utrecht, Netherlands and 2RIVM, Bilthoven, Netherlands.

CELLULAR UPTAKE OF DAIDZIN AND GENISTIN BY MCF-7-ERE CELLS VIA GLUCOSE TRANSPORTER. I. Kim, Y. Sheen and H. Kwon. 1Department of Food and Nutrition, college of Human Ecology, Seoul National University, Seoul, South Korea and 2College of Pharmacy, Ewha Womans University, Seoul, South Korea. Sponsor: Y. Cha.


IN VIVO INTERACTIONS OF THE ENDOCRINE DISRUPTOR ETHINYL ESTRADIOL WITH THYROID HORMONE ACTION. A. Tindaill, I. D. Morris, H. Isaacs, B. Pownall, D. Pickford, T. Hutchinson, R. Schultz and L. Tattersfield. 1Biological Sciences, Manchester University, Manchester, United Kingdom, 2Hull York Medical School, York, United Kingdom, 3Biology, York University, York, United Kingdom, 4Environmental laboratory, AstraZeneca, Brixham, United Kingdom and 5Ecological Sciences, Syngenta, Bracknell, United Kingdom. Sponsor: I. kimber.
MONDAY

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SOT 43rd Annual Meeting
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#593  TCDD-MEDIATED ACTIVATION OF THE AROMATIC HYDROCARBON RECEPTOR DISPLACES p300 FROM E2F-DEPENDENT PROMOTERS. J. L. Marlowe and A. Puga. Department of Environmental Health, University of Cincinnati, Cincinnati, OH.

#594  ALTERED CELL CYCLE REGULATION IN AH RECEPTOR-NULL MOUSE EMBRYO FIBROBLASTS. X. Chang and A. Puga. Environmental Health, University of Cincinnati, Cincinnati, OH.

#595  COMPARATIVE STUDY OF MOUSE AND HUMAN AH RECEPTORS. P. Ramadoss, J. R. Petrulis and G. H. Perdew. Center for Molecular Toxicology and Carcinogenesis, Department of Veterinary Science, The Pennsylvania State University, University Park, PA.

#596  EPIREGULIN: A POTENTIAL TARGET GENE REGULATED BY AHR. R. D. Patel and G. H. Perdew. Center for Molecular Toxicology and Carcinogenesis, Pennsylvania State University, University Park, PA.

#597  MODULATION OF ARYL HYDROCARBON RECEPTOR FUNCTION BY XAP2 AND P23. B. D. Hollingshead1 and G. H. Perdew2. 1Graduate Program in Biochemistry, Microbiology, and Molecular Biology, Penn State University, University Park, PA and 2Department of Veterinary Science and Center for Molecular Toxicology and Carcinogenesis, Penn State University, University Park, PA.

#598  MODULATION OF ARYL HYDROCARBON RECEPTOR NUCLEAR TRANSLATOR ACTIVITY & PHOSPHORYLATION STATUS BY PKCε. I. A. Murray1, M. S. Denton2 and G. H. Perdew3. 1Vet. Science, Pennsylvania State University, University Park, PA and 2Environmental Toxicology, University of California, Davis, CA.

#599  A POSSIBLE ROLE FOR THE MAP KINASES IN DIOXIN-INDUCED ARYL HYDROCARBON RECEPTOR PHOSPHORYLATION. Z. Tan, A. Puga and Y. Xia. Department of Environmental Health, University of Cincinnati, Cincinnati, OH.

#600  ACTIVATION OF THE AH RECEPTOR CAN PROMOTE BENZO(A)PYRENE-7, 8-DIHYDRODIOL INDUCED APOPTOSIS IN THE ABSENCE OF MAP KINASE ERK1/2 ACTIVITY. S. Chen, T. Opera, J. Bonzo, N. Nguyen and R. H. Tukey. Pharmacology, University of California, San Diego, La Jolla, CA.

#601  A NOVEL MECHANISM FOR REGULATION OF CHOLESTEROL BIOSYNTHESIS. Q. Tan1, S. Ke1, M. A. Gallo2 and Y. Tian3. 1Vet. Physiology and Pharmacology, Texas A&M University, College Station, TX and 2Environmental & Community Medicine, UMDNJ-Robert Wood Johnson Medical School, Piscataway, NJ.

#602  MODULATION OF ARYL HYDROCARBON RECEPTOR-REGULATED GENES BY TUMOR NECROSIS FACTOR-α AND LIPOPOLYSACCHARIDES BY AHR-DEPENDENT MECHANISMS. N. Gharavi and A. O. El-Kadi. Faculty of Pharmacy, University of Alberta, Edmonton, AB, Canada.

#603  AFFYMETRIX MICROARRAY AND REAL-TIME PCR ANALYSIS OF BENZO(A)PYRENE INDUCE CHANGES IN GENE EXPRESSION IN RAT LIVER. A. University. N’jai, A. Jelaso, C. Ide and J. Means. Chemistry/Environmental Institute, Western Michigan University, Kalamazoo, MI.

#604  COMPARATIVE ANALYSIS OF DIOXIN REGULATORY ELEMENTS IN HUMAN, MOUSE AND RAT GENOMIC SEQUENCES. Y. Sun1, D. R. Boverhoff2, M. R. Fielden3 and T. R. Zacharewski4. 1Biochemistry & Molecular Biology, National Food Safety & Toxicology Center, Institute for Environmental Toxicology, Michigan State University, East Lansing, MI and 2Iconix Pharmaceuticals, Mountain View, CA.

#605  TRANSCRIPTIONAL PROFILES FOLLOWING LIGAND-ACTIVATED AHR SIGNALING IN THE DEVELOPING KIDNEY: A ROLE FOR WT1 AND IGF SIGNALING. M. Falahatpisheh1, C. D. Johnson1, 2 and K. S. Ramaswamy1, 2. 1Biochemistry and Molecular Biology, University of Louisville, Louisville, KY and 2Center for Genetics and Molecular Medicine, University of Louisville, Louisville, KY.

Monday Afternoon, March 22
2:30 PM to 3:30 PM
Room 301

INFORMATIONAL SESSION: P450-GLO™: A LUMINESCENT APPROACH TO THE ANALYSIS OF CYP450 ACTIVITIES IN RECOMBINANT OR NATIVE FRACTIONS AND LIVE CELLS

P450-Glo™ Assays overcome many of the limitations of fluorescent and non-optical methods by bringing the advantages of luminescence technology to the study of CYP450s. The assays provide a rapid, sensitive and accurate means of detecting CYP450 enzyme inhibition and gene induction.

Monday Afternoon, March 22
3:45 PM to 4:45 PM
Room 301

INFORMATIONAL SESSION: ADVANCING TOXICITY ASSESSMENT THROUGH MICROARRAY GENE EXPRESSION ANALYSIS

Key experts from pharmaceutical, government and academic research laboratories will present case studies in gene expression research.
Monday Afternoon, March 22
4:30 PM to 6:00 PM
Ballroom (Level 400)

PLACEMENT-CAREER DEVELOPMENT SEMINAR: JOB SEARCH SKILL WORKSHOP

Sponsored by:
The Placement Committee

This workshop is targeted for all job seekers with special emphasis on first time searchers. This workshop is designed to encourage interaction between job seekers, recruiters, and employers in academia, government, and industry. The workshop will be divided into a question and answer session and a breakout group session. The first session will provide attendees with practical information on topics such as the current job market, what skills employers are looking for, interviewing, and negotiating skills. Audience participation is highly encouraged. In the second, participants will receive advice and counsel from career placement professionals and other knowledgeable participants. This informal session is geared to assist attendees with the job search processes. The breakout groups will provide a venue for participants to have resumes critiqued, job search process concerns addressed, interviews skills polished, and career path possibilities explored. Additionally, this session will provide an excellent opportunity to develop and expand career networks.

Monday Afternoon, March 22
4:30 PM to 6:00 PM
Room 306

SPECIALTY SECTION PRESIDENTS AND OFFICERS MEETING

Monday Afternoon, March 22
4:30 PM to 5:30 PM
Room 304

UNDERGRADUATE TOXICOLOGY TEACHING FORUM

Chairperson(s): Thomas Simmons, Indiana University of Pennsylvania, Indiana, PA.

Sponsored by:
Education Committee
Allegheny-Erie Regional Chapter

All those interested in undergraduate education are invited to attend this session. The goals of the Baltimore Forum are to complete a mission statement for the undergraduate toxicology teaching group, finalize a proposal for an SOT 2005 session on undergraduate education, and develop a formal structure for continuing the group. Other future activities will be discussed as time permits.

Monday Evening
6:00 PM to 7:30 PM
See Events Calendar on Pages 2–6 for Room Listings

SPECIALTY SECTION MEETINGS:
BIOLOGICAL MODELING, CARCINOGENESIS, INHALATION, METALS, NEUROTOXICOLOGY, REGULATORY AND SAFETY EVALUATION

Monday Evening, March 22
6:00 PM to 11:00 PM
See Events Calendar on Pages 2–6 for Room Listings

REGIONAL CHAPTER MEETINGS/RECEPTIONS

Many of the Regional Chapters meet during the SOT Annual Meeting. Details for these Regional Chapter receptions and meetings are listed in Program’s Events Calendar.
Tuesday Morning

Tuesday Morning, March 23
7:00 AM to 8:30 AM
Room 306

REGIONAL CHAPTER PRESIDENTS AND OFFICERS MEETING

Tuesday Morning, March 23
7:30 AM to 8:15 AM
Room 314

SPECIAL SESSION: REGULATORY OVERSIGHT OF RESEARCH INVOLVING HUMANS

Lecturer: B. A. Schwetz, DHHS Office for Human Research Protections, Rockville, MD.

Federal regulatory oversight by the Department of Health and Human Services (DHHS) over research involving human subjects comes primarily through the Office for Human Research Protections (OHRP) and the US Food and Drug Administration (FDA). While the FDA is responsible for studies involved in product review submissions, OHRP is responsible for implementing regulations and policies for protecting the rights, safety and welfare of people who participate in all research that is conducted or supported by agencies of DHHS. This includes toxicological research involving humans. Institutions involved in such research must agree to abide by the human subject regulations found in the Code of Federal Regulations at 45 CFR Part 46. Trust of the public is essential for success of the clinical research enterprise. That trust depends on the ethical conduct of research of high scientific quality that meets regulatory requirements.

Tuesday Morning, March 23
8:00 AM to 5:00 PM
Room 336

PARACELSUS GOES TO SCHOOL TEACHER WORKSHOP

Chairperson(s): Joanne Zurlo, NAS Institute of Laboratory Animal Science, Washington, DC and Darlene Dixon, NIEHS, Research Triangle Park, NC.

Sponsored by:
The Education Committee
The Education Subcommittee for K–12 Education

This special program will be offered for local educators teaching grades K–12 and for interested SOT members. The main goal of the program is to enhance science education by stimulating ideas for incorporating multidisciplinary toxicology and environmental health science concepts and teaching materials into classrooms. Lectures and interactive workshops will be tailored to the needs of different grade levels. Baltimore area toxicologists will serve as Science Partners to continue the effort in local classrooms.

7:15 AM–7:45 AM Registration
8:00 AM–8:15 AM Opening and Welcome
Joanne Zurlo, NAS Institute of Laboratory Animal Science, Washington, DC
Marion Ehrich, SOT President, VA-MD Regional College of Veterinary Medicine, Blacksburg, VA
8:15 AM–8:35 AM The Diversity that is Toxicology
Michael Trush, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD

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8:35 AM–9:05 AM Overview of Local Toxicological Issues in Maryland
Katherine Squibb, University of Maryland, Baltimore, MD
Ellen Silbergeld, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD

9:05 AM–9:15 AM Issues Surrounding the Use of Animals in Toxicological Research
Joanne Zurlo, NAS Institute of Laboratory Animal Science, Washington, DC

9:15 AM–11:45 AM Workshops Session I
K–5—My Health My World
Nancy Moreno, Baylor College of Medicine, Houston, TX
6–8—EnviroHealth Connections, Thinkport Resources
Cynde Mutryn, Maryland Public TV, Owings Mill, MD
9–12—Risk Assessment
Suzanne Fitzpatrick, USFDA, Rockville, MD

11:45 AM–1:15 PM Lunch for Teachers and Toxicology Science Partners
Poster Viewing

1:15 PM–2:45 PM Workshop Session II
2:45 PM–3:15 PM Paracelsus in Practice—Teacher Panel
3:15 PM–3:30 PM Program Conclusion and Evaluation
3:30 PM–4:30 PM Visit ToxExpo

Tuesday Morning, March 23
8:30 AM to 9:30 AM
Room 301

INFORMATIONAL SESSION: ANAPHARM OFFERS MORE THAN STANDARD BIOANALYTICAL METHOD VALIDATIONS

Bioanalytical services provided by Anapharm and a complete description of our bioanalytical method validation process will be presented during this info session.

up-to-date information at www.toxicology.org
SYMPOSIUM SESSION: MECHANISMS OF CARDIOVASCULAR TOXICITY BY 2, 3, 7, 8-TETRACHLORODIBENZO-P-DIOXIN AND RELATED HALOGENATED AROMATIC HYDROCARBONS

Chairperson(s): Nigel Walker, NIEHS, Research Triangle Park, NC and Mary Walker, University of New Mexico, Albuquerque, NM.

Endorsed by:
Mechanisms Specialty Section*
Reproductive and Developmental Toxicology Specialty Section

Previously, the cardiovascular system has not been considered to be a primary target of toxicity induced by 2, 3, 7, 8-tetrachlorodibenzo-p-dioxin (TCDD) and other structurally related polychlorinated aromatic hydrocarbons (PHAHs), particularly in mammalian species. However, considerable research in the past 5-10 years has demonstrated that TCDD and related PHAHs exhibit significant impacts on both the developing and adult cardiovascular system and these effects are apparent across vertebrate classes, including piscine, avian, and mammalian species. Furthermore, occupational exposure of humans to TCDD and related PHAHs has been linked to an increased risk of mortality from ischemic heart disease, demonstrating that humans are not impervious to the cardiovascular risk posed by TCDD/PHAH exposure. This symposium will cover the recent advances in understanding the mechanisms underlying TCDD/PHAH-induced cardiovascular toxicity. The speakers will present data on the effects of TCDD/PHAHs on both cardiac and vascular development and function, providing unique comparisons across vertebrate classes.

#606 8:30 MECHANISMS OF CARDIOVASCULAR TOXICITY BY 2, 3, 7, 8-TETRACHLORODIBENZO-P-DIOXIN AND RELATED POLYHALOGENATED AROMATIC HYDROCARBONS. M. K. Walker. College of Pharmacy, University of New Mexico, Albuquerque, NM.

#607 8:35 TCDD CARDIOTOXICITY IN DEVELOPING ZEBRAFISH. W. Heideman, D. K. Sieprawska and R. E. Peterson. Molecular and Environmental Toxicology and School of Pharmacy, University of Wisconsin, Madison, WI.

#608 9:05 FETAL DIOXIN EXPOSURE INHIBITS CORONARY VASCULogenesis. A POTENTIAL RISK FACTOR FOR ISCHEMIC HEART DISEASE. M. K. Walker. College of Pharmacy, University of New Mexico, Albuquerque, NM.

#609 9:35 PROINFLAMMATORY MECHANISMS OF PCB TOXICITY IN THE VASCULAR ENDOTHELIUM. B. Hennig1, M. Toborek2 and L. W. Robertson2. 1University of Kentucky, Lexington, KY and 2University of Iowa, Iowa City, IA.

#610 10:05 EXPRESSION PROFILES OF CULTURED VASCULAR SMOOTH MUSCLE CELLS AND AORTA ARE WIDELY DIFFERENT, BUT SHOW COMMON RESPONSES TO DIOXIN EXPOSURE. A. Puga, M. Sartor, M. Huang, J. Kerzee, Y. Wei, C. R. Tomlinson and M. Medvedovic. Department of Environmental Health, University of Cincinnati, Cincinnati, OH.

#611 10:35 CARDIOVASCULAR CHANGES FOLLOWING CHRONIC RODENT EXPOSURE TO DIOXIN-LIKE COMPOUNDS. M. P. Jokinen4, N. J. Walker2, D. M. Sells5, A. E. Brix2 and A. Nyska2. 1ETP, NIEHS, Research Triangle Park, NC, 2NIEHS, Research Triangle Park, NC, 3EPL, Research Triangle Park, NC, 4Pathology Associates - A Charles River Company, Durham, NC and 5Battelle Columbus, Columbus, OH.

SYMPOSIUM SESSION: NEW DEVELOPMENTS IN OXIDATIVE PHOSPHOLIPID SIGNALING IN APOPTOSIS AND PHAGOCYTIC REGULATION OF INFLAMMATORY RESPONSE

Chairperson(s): Valerian Kagan, University of Pittsburgh, Pittsburgh, PA and Dean Jones, Emory University, Atlanta, GA.

Endorsed by:
Mechanisms Specialty Section*

Apoptosis eliminates unwanted or irreparably damaged cells by orderly phagocytosis in the absence of inflammatory responses. Oxidative stress is one of the most common factors that induce apoptosis. In addition, apoptosis itself is often accompanied by the generation of reactive oxygen species (ROS) and oxidative stress, resulting from departure of cytochrome c (cyt c) from mitochondria and attendant disruption of electron transport with enhanced production of one-electron reduced oxygen intermediates. Until recently, it was not known whether this apoptosis-associated oxidative stress is a meaningless but unavoidable side effect or an important component of the final common pathway for apoptosis. Findings from several laboratories implicated ROS production and oxidative stress in the execution of apoptotic program via activation of two essential mechanisms: mitochondrial permeability transition pore and caspases. The latest discoveries indicate that oxidative modifications of two types of phospholipids are critically involved in the execution of apoptotic program. In mitochondria, oxidation of cardiolipin loosens its association with cyt c and facilitates release of the latter into the cytosol, the central event in intrinsic apoptosis. In the cytosol, cyt c plays a redox-dependent catalytic role in selective oxidation of phosphatidylinerse (PS) a signaling molecule of the pathway culminating in recognition of apoptotic cells by phagocytes. PS-dependent signaling involves externalization of PS on the outer leaflet of plasma membrane, its interactions with specialized adapter molecules, and tethering to specific receptor(s) on the surface of phagocytes. Cyt c-catalyzed PS oxidation in the cytosolic leaflet of plasma membrane is essential for both its externalization and recognition by macrophages. These exciting new developments in oxidative control of apoptosis, clearance of apoptotic cells, and regulation of inflammatory response will be discussed by leading researchers of the field.

#612 8:30 NEW DEVELOPMENTS IN OXIDATIVE PHOSPHOLIPID SIGNALING IN APOPTOSIS AND PHAGOCYTIC REGULATION OF INFLAMMATORY RESPONSE. V. Kagan3 and D. Jones4. 1Department of Biochemistry, Emory University, Atlanta, GA and 2Environment and Occupational Health, University of Pittsburgh, Pittsburgh, PA.

#613 8:35 REACTIVE OXYGEN SPECIES IN ACTIVATION AND EXECUTION OF APOPTOSIS. D. Jones. Department of Biochemistry, Emory University, Atlanta, GA.

#614 9:10 LIPOCALINS AND APOPTOSIS. J. P. Kehrer. Pharmacology and Toxicology, The University of Texas at Austin, Austin, TX.
PHOSPHATIDYLSERINE OXIDATION DURING INTRINSIC AND EXTRINSIC APOPTOSIS: CATALYTIC AND SIGNALING MECHANISMS. 
V. E. Kagan. Environmental and occupational Health, University of Pittsburgh, Pittsburgh, PA.

BRIDGING PROTEINS IN LIPID DIRECTED PHAGOCYTOSIS. A. Schroit and K. Balasubramanian. Cancer Biology, The University of Texas, M. D. Anderson Cancer Center, Houston, TX. Sponsor: V. Kagan.

PROGRAMMED CELL CLEARANCE: STUDIES ON THE MECHANISM AND IMPORTANCE OF PHOSPHATIDYLSERINE EXPOSURE AND PLASMA MEMBRANE BLEBBING DURING FAS-TRIGGERED APOPTOSIS. B. Fadeel. Institute of Environmental Medicine, Division of Toxicology, Karolinska Institutet, Stockholm, Sweden. Sponsor: V. Kagan.

Tuesday Morning, March 23
8:30 AM to 11:30 AM
Room 309

SYMPOSIUM SESSION: TOXICOGENOMIC DATABASES AND THEIR ROLE IN THE TOXICOLOGY COMMUNITY

Chairperson(s): William Mattes, GeneLogic, Gaithersburg, MD and Syril Pettit, International Life Sciences Institute (HESI), Washington, DC.

Endorsed by:
Carcinogenesis Specialty Section
Molecular Biology Specialty Section*

Over the last several years, the volume of microarray data generated in studies of toxicology has been steadily increasing. Likewise, the expectations of the toxicology community with respect to the information buried in this volume of data has also been increasing, and with those expectations, an appreciation for more sophisticated approaches to data housing, sharing, and analysis. Thus, public microarray databases are now considering the need to include appropriate biological context (i.e., linked toxicology data) in conjunction with array data. However, the ultimate scientific value and utility of public toxicogenomic databases, such as those developed by HESI-EBI and NIEHS-NCT will depend upon a clear assessment of how the community (both public and private sector) hopes to utilize these resources. This workshop will include presentations about the status of, challenges in, and expectations for current public toxicogenomic database development efforts by leading developers. Discussions will cover issues around whether these databases are or will meet the needs and interests of the toxicology community.

PUBLIC TOXICOGENOMIC DATABASE RESOURCES AND THEIR ROLE IN THE TOXICOLOGY COMMUNITY. W. B. Mattes* and S. D. pettit*.
Pfizer, Kalamazoo, MI and *Health and Environmental Sciences Institute, ILSI, Washington, DC.


WORKSHOP SESSION: THE ROLE OF METHYLATION IN ARSENIC TOXICITY AND RISK: THE ENIGMA CONTINUES

Chairperson(s): Michael Waalkes, NIEHS, Research Triangle Park, NC and Barbara Beck, Gradient Corporation, Cambridge, MA.

Endorsed by:
Carcinogenesis Specialty Section
Metals Specialty Section*

Methylation of inorganic arsenic was originally considered to be solely a detoxification pathway. Recent studies have demonstrated that, in vitro, the trivalent mono- and di-methylated species of inorganic arsenic are both highly cytotoxic and genotoxic. However, the relationship of these findings to in vivo responses and risk assessment remains an area of ongoing investigation and debate. This workshop will address toxicological differences among different states of arsenic as a function of methylation status and valence, and will consider how the role of methylation in toxicity may vary according to endpoint, tissue type, and genotoxic. However, the relationship of these findings to in vivo responses and risk assessment remains an area of ongoing investigation and debate. This workshop will address toxicological differences among different states of arsenic as a function of methylation status and valence, and will consider how the role of methylation in toxicity may vary according to endpoint, tissue type, exposure duration, and animal species. Recent investigations into the enzymology of arsenic methylation including the role of co-factors will be described. The importance of reactive oxygen species in cytotoxicity and genotoxicity of inorganic versus methylated arsenic, both in vivo and in vitro, will be addressed. The use of human biomonitoring data, specifically arsenic species in urine, to elucidate the role of methylation in toxicity and to inform the role of methylation differences in susceptibility to arsenic will be discussed. Pharmacokinetic and toxicological differences between methylated species of arsenic as generated in the body via metabolism versus the same species when ingested will be discussed. Finally, the significance of these recent developments will be considered in the context of risk assessment for arsenic; the implications for the shape of dose-response curve as well as inter and intra-species variability will be discussed.

THE ROLE OF METHYLATION IN ARSENIC TOXICITY & RISK: THE ENIGMA CONTINUES.
M. Waalkes*, B. D. Beck*, D. Thomas, M. Kadiiska* and M. Del Razo*.
1. Gradient Corporation, Cambridge, MA, 2NIEHS, Research Triangle Park, NC, 3USEPA, Research Triangle Park, NC and 1Instituto Politecnico Nacional, Mexico City, Mexico.

ENZYMOLGY OF ARSENIC METHYLATION.
D. J. Thomas. USEPA, Res. Tri. Phk., NC.
SOT’s 43rd Annual Meeting
Program Description

Tuesday Morning, March 23
8:30 AM to 11:30 AM
Room 314

ROUNDTABLE SESSION: CONTRIBUTION OF
NEUROBEHAVIORAL ASSESSMENT OF OFFSPRING TO HAZARD
IDENTIFICATION AND CHARACTERIZATION

Chairperson(s): Dana L. Shuey, Endo Pharmaceuticals Inc., Chadds Ford, PA.

Endorsed by:
Neurotoxicology Specialty Section
Reproductive and Developmental Toxicology Specialty Section*

Neurobehavioral assessment of offspring following maternal exposures during gestation and lactation have long been a routine part of preclinical safety assessment during pharmaceutical development (Peri/Postnatal Development Study). Similar studies have recently become more common for agricultural and industrial chemicals (USEPA Developmental Neurotoxicity Study). Recently, the Health and Environmental Sciences Institute of ILSI collected data from 174 studies to retrospectively evaluate the contribution of these assessments to hazard identification (i.e., definition of a NOEL) and characterization. A similar retrospective analysis of developmental neurotoxicity studies submitted for EPA review has also recently been updated. In June 2003, a workshop was held to review and evaluate current behavioral test methods. The outcomes of these activities will be presented to provide a basis for discussion of the overall contribution of these assessments to hazard identification and characterization, as well as study design and methodologic considerations for consistent and effective conduct and interpretation of these studies.

#625 9:25 ARSENIC METHYLATION AND OXIDANT INJURY BY ESR IN VIVO AND IN VITRO. M. B. Kadishkaya1, S. Nesnow2, J. Liu3, M. Waalkes3 and R. Mason1. 1NIEHS/NIH, Research Triangle Park, NC, 2USEPA, Research Triangle Park, NC and 3NCI at NIEHS, Research Triangle Park, NC.

#626 10:05 USE OF HUMAN BIOMONITORING TO ASSESS ARSENIC METHYLATION. L. M. Del Razo1, O. L. Valenzuela1, G. G. Garcia-Vargas2 and E. S. Caldenor-Aranda3. 1Toxicology, Cimexav-JPN, Mexico City, Mexico and 2UJED, Medical School, Gomez Palacio, Durango, Mexico.

#627 10:45 ARSENIC METHYLATION: CONSIDERATIONS FOR RISK ASSESSMENT. B. D. Beck and A. Schoen. Gradient Corporation, Cambridge, MA.

Tuesday Morning, March 23
8:30 AM to 11:30 AM
Room 315

PLATFORM SESSION: BWF/SOT NEW INVESTIGATOR-
REPROGRAMING GENE EXPRESSION IN RESPONSE TO INSULT

Chairperson(s): Kim Boekelheide, Brown University, Providence, RI and Debra Laskin, Rutgers University, Piscataway, NJ.

#628 8:30 CONTRIBUTION OF NEUROBEHAVIORAL ASSESSMENT OF OFFSPRING TO HAZARD IDENTIFICATION AND CHARACTERIZATION. D. L. Shuey1 and L. D. Middaugh2. 1Preclinical Safety Assessment, Endo Pharmaceuticals Inc., Chadds Ford, PA and 2Department of Psychiatry and Behavioral Sciences, Medical University of South Carolina, Charleston, SC.

#629 8:35 NEUROBEHAVIORAL ASSESSMENT: A SURVEY OF USE AND VALUE IN SAFETY ASSESSMENT STUDIES. L. D. Middaugh. Psychiatry and Behavioral Sciences/ CDAP, Medical University of South Carolina, Charleston, SC. Sponsor: D. Shuey.

#630 8:50 A RETROSPECTIVE ANALYSIS OF DEVELOPMENTAL NEUROTOXICITY STUDIES SUBMITTED TO THE USEPA. S. L. Makris. OPPTS/OPP/HED (7509C), USEPA, Washington, DC.

#631 9:05 BEHAVIORAL TEST METHODS WORKSHOP. W. Slikker. Division of Neurotoxicology, NCTR/FDA, Jefferson, AR.

#632 8:30 INTERPLAY OF P53 AND P63 IN TRANSCRIPTIONAL RESPONSE AFTER CELL STRESS. J. A. Pietenpol. Biochemistry, Vanderbilt University, Nashville, TN. Sponsor: J. Kramarik.

#633 9:00 MAPPING THE REGULATORY SURFACES OF MEDIATOR WITH ARTIFICIAL TRANSCRIPTION FACTORS. A. Mapp. University of Michigan, Ann Arbor, MI. Sponsor: J. Kramarik.

#634 9:30 INHIBITION OF SMAD TRANSCRIPTION ACTIVITY AND ANTIPROLIFERATIVE FUNCTION BY CDK PHOSPHORYLATION. F. Liu. CABM and LCR, Rutgers University, Piscataway, NJ. Sponsor: J. Kramarik.

#635 10:00 REGULATION OF HUMAN DNA REPAIR GENE EXPRESSION AND ACTIVITY. J. M. Ford, S. Adimoolam and M. Fitch. Medicine & Genetics, Stanford University School of Medicine, Stanford, CA. Sponsor: J. Kramarik.

#636 10:30 USING DNA MICROARRAYS TO DEFINE TRANSCRIPTIONAL PATTERNS ASSOCIATED WITH AGING AND OXIDATIVE STRESS IN THE MOUSE HEART. T. Prolla. University of Wisconsin, Madison, WI. Sponsor: J. Kramarik.

#637 11:00 REPROGRAMMING GENE EXPRESSION WITH OXIDATIVE STRESS AND STRESS HORMONES: A PARADOX OF ANTIOXIDANT RESPONSES. Q. M. Chen. Department of Pharmacology, University of Arizona, Tucson, AZ.

Tuesday Morning, March 23
8:30 AM to 11:30 AM
Room 316

PLATFORM SESSION: CARCINOGENESIS MODELS AND MECHANISMS

Chairperson(s): Lori White, Rutgers University, New Brunswick, NJ and Scott Burchiel, University of New Mexico, Albuquerque, NM.

#638 8:30 EFFECTS OF TRANSSPECIES CARCINOGENS IN AVIAN EMBRYOS. H. G. Enzmann1, C. Goetze1, K. Spicher1 and H. Korr2. 1Preclinical Pharmacology and Toxicology, Federal Institute for Drugs and Medical Devices, Bonn, Germany and 2Department of Anatomy and Cell Biology, RWTH University of Aachen, Aachen, Germany.

#639 8:50 MODEL SYSTEMS FOR COMPARING THE ROLES OF AKR1A1 AND CPY1A1 IN THE METABOLIC ACTIVATION OF THE PROXIMATE CARCINOGEN BENZO(a)PYRENE-7, 8-DIOL. H. Jiang, Y. Shen, A. Quinn, S. Gopishetty and T. M. Penning. Department of Pharmacology, University of Pennsylvania School of Medicine, Philadelphia, PA. Sponsor: S. Burchiel.
#640 9:10 ASSESSMENT OF THE ROLE OF CYP2E1-MEDIATED METABOLISM OF URETHANE ON THE EXPRESSION OF P53, PCNA, AND Ki-67 USING CYP2E1-NULL AND WILD-TYPE MICE. University. Hoffler1, 2, D. Dixon2 and B. I. Ghanayem1, 2. 1Meharry Medical College, Nashville, TN and 2NIEHS/NIH, Research Triangle Park, NC.

#641 9:30 INCREASED DNA METHYLATION IN THE HOX A5 PROMOTER REGION CORRELATES WITH DECREASED EXPRESSION OF THE GENE DURING TUMOR PROMOTION. R. E. Watson1, G. M. Curtin2, G. M. Hellmann2, D. J. Doollittle2 and J. I. Goodman1. 1Department of Pharmacology and Toxicology, Michigan State University, East Lansing, MI and 2Regulatory Toxicology, R. J. Reynolds Tobacco Co., Winston-Salem, NC.

#642 9:50 IDENTIFICATION OF MOLECULAR PATHWAYS THAT MAY PROMOTE CELL GROWTH AND PROLIFERATION IN RESPONSE TO NONGENOTOXIC CARCINOGENS. V. Bombail1, R. Curren1, J. Oliver1, A. Morsi2, I. Kimber1, K. Chipman2 and G. Orphanides1. 1Syngenta Central Toxicology Laboratory, Alderley Park, Cheshire, United Kingdom and 2School of Biosciences, University of Birmingham, Birmingham, United Kingdom.

#643 10:10 AHR REGULATION OF C-MYC IN HUMAN BREAST CANCERS. X. Yang, T. J. Murray, D. Liu and D. H. Sherr. Environmental Health, Boston University School of Public Health, Boston, MA.

#644 10:30 2, 3, 7, 8-TETRAChOLODIVENZO-P-DIOXIN (TCDD) INDUCES MMP EXPRESSION AND INVASION IN A2058 MELANOMA CELLS. L. A. White1, K. Murphy1, A. Akintobi1 and C. Villano2. 1Biochemistry and Microbiology, Rutgers University, New Brunswick, NJ and 2Joint Graduate Program in Toxicology, Rutgers University, New Brunswick, NJ.

#645 10:50 HEPATOMA MITOCHONDRIA RESIST THE MITOCHONDRIAL PERMEABILITY TRANSITION: POSSIBLE INVOLVEMENT OF HEAT SHOCK PROTEIN-25 (HSP25). E. Bustamante, L. He and J. J. Lemasters. Cell and Developmental Biology, University of North Carolina School of Medicine, Chapel Hill, NC.

#646 11:10 POSSIBLE ROLE FOR CHEMOTHERAPY IN THE UPREGULATION OF MITOCHONDRIAL BIOGENESIS IN CHRONIC LYMPHOCYTIC LEUKEMIA PATIENTS. J. S. Carew, Y. Zhou, M. J. Keating and P. Huang. UT M.D. Anderson Cancer Center, Houston, TX. Sponsor: D. McConkey.

Tuesday Morning, March 23
8:30 AM to 11:30 AM
Room 317

PLATFORM SESSION: GENE EXPRESSION: LIVER

Chairperson(s): Kyle Kolaja, Iconix Pharmaceuticals, Mountain View, CA and William Mattes, GeneLogic, Gaithersburg, MD.


#650 9:30 EVALUATION OF THE BIOLOGICAL VARIATION IN GENE EXPRESSION PROFILES IN CULTURED PRIMARY RAT HEPATOCYTES. C. Wang1, S. M. Hussain2, V. Chan2 and J. M. Frazier3. 1Microarray Core, Cedars-Sinai Medical Center, UCLA, Los Angeles, CA, 2ManTech Environ Technology, Inc., Dayton, OH and 3AFRL/Wright-Patterson AFB, Dayton, OH.


#652 10:10 CROSS-SPECIES ANALYSIS OF PHENOBARBITAL-INDUCED GENE EXPRESSION CHANGES IN DOG AND RAT. W. B. Mattes, M. S. Orr and D. L. Mendrick. Toxicogenomics, Gene Logic Inc., Gaithersburg, MD.


#655 11:10 IDENTIFICATION OF MOLECULAR TARGETS OF CURCUMIN IN RAT LIVER BY OLIGONUCLEOTIDE MICROARRAY. V. Misra1, R. Thimmulappa1, K. Mai1, L. L. Adams-Campbell2 and S. Biswal3. 1Johns Hopkins University, Baltimore, MD and 2Howard University, Washington DC, WA.
SOT 43rd Annual Meeting

Platform Session: HyperSensitivity I

Chairperson(s): Rebecca Dearman, Syngenta CTL, United Kingdom and Marc Pallardy, INSERM University, Faculté de Pharmacie Paris XI, Paris, France.


#657 8:50 DOSE RESPONSE ANALYSIS OF ALLERGEN-INDUCED GENE EXPRESSION CHANGES IN DENDRITIC CELLS. L. A. Gildea1, C. A. Ryan1, B. C. Hulette1, R. J. Dearman2, I. Kimber2 and F. Gerberick1. 1Procter & Gamble, Cincinnati, OH and 2Syngenta CTL, Macclesfield, United Kingdom.

#658 9:10 COMPARISON OF THE RESPONSE OF DENDRITIC CELLS DERIVED FROM CORD BLOOD CD34+ AND FROM CD14+ MONOCYTES TO THE CONTACT SENSITIZER NICKEL. F. Boislevé1, N. Aubert2, J. Bernard2, M. Pallardy3 and S. Roemer1. 1Immunotoxicology, Inserm U461, Chatenay-Malabry, France and 2Laboratoire de thérapie cellulaire, Institut Jean Godinot, Reims, France.

#659 9:30 INTRACELLULAR CYTOKINE STAINING PATTERNS OF ALLERGEN ACTIVATED LYMPH NODE CELLS (LN). N. Humphreys, R. Skinner, R. J. Dearman and I. Kimber. Syngenta CTL, Macclesfield, United Kingdom.

#660 9:50 THE SENSITIZING POTENTIAL OF PEANUT PROTEINS IN FOUR DIFFERENT MICE STRAINS. L. M. Knippels1, A. H. Penninks1 and G. A. Bannan2. 1Experimental Immunology, TNO Nutrition and Food Research, Zeist, Netherlands and 2Product Characterisation Center, Monsanto, St. Louis, MO.

#661 10:10 EVALUATION OF PROTEIN ALLERGENIC POTENTIAL: STUDIES IN MICE. S. Stone, H. Caddick, R. J. Dearman and I. Kimber. Syngenta CTL, Macclesfield, United Kingdom.

#662 10:30 PROGRESS IN THE EVALUATION OF AN INBRED RAT STRAIN (“ASTHMATIC RAT”) FOR PREDICTING THE ALLERGIC POTENTIAL OF FOOD AND OTHER PROTEINS. D. M. Hinton, M. Lorenzo, S. B. Harper and S. Francke-Carroll. CFSAF, USFDA, Laurel, MD.

#663 10:50 INFLUENCE OF ENDOTOXIN ON IGE RESPONSES TO PROTEIN ALLERGENS. R. J. Dearman and I. Kimber. Syngenta CTL, Macclesfield, United Kingdom.

Platform Session: Mechanisms of Phase I and Phase II Biotransformation I

Chairperson(s): Mary Haasch, University, MS, University, MS and Melissa Runge-Morris, Wayne State University, Detroit, MI.


#665 8:50 MOLECULAR MECHANISMS OF SUBCELLULAR LOCALIZATION OF HUMAN GLUTATHIONE REDUCTASE. L. K. Rogers, T. Tamura, B. J. Rogers, T. N. Hansen, S. E. Welty and C. V. Smith. Columbus Children’s Research Institute, Columbus, OH.

#666 9:10 CHARACTERIZATION OF FOUR MERCAPTURIC ACID URINARY METABOLITES OF 3-BUTENE-1,2-DIOL. S. L. Christopher, S. H. E. Evans2, L. H. Couch1, 3, M. I. Churchwell1, D. R. Doerge1 and P. C. Howard1, 3. 1RIPS, University of Wisconsin-Madison, Madison, WI, 2Pharmacology, The University of Mississippi, University, MS and 3Environmental and Molecular Toxicology, Oregon State University, Corvallis, OR.

#667 9:30 MECHANISTIC INVESTIGATION ON CYTOTOXICITY OF STYRENE. J. Zheng, J. Chung and W. Yuan. Pharmaceutical Sciences, Northeastern University, Boston, MA.

#668 9:50 METHOTREXATE (MTX) INDUCTION OF SULFOTRANSFERASES. G. Chen. Physiological Sciences, Oklahoma State University, Stillwater, OK.

#669 10:10 BIOCHEMICAL COMPARISON OF ZEBRAFISH AND HUMAN ALDH2: USE OF ZEBRAFISH AS A MODEL FOR HUMAN ACETALDEHYDE METABOLISM AND TOXICITY. N. Lassen1, T. Estey1, 2, V. Vasiliou1, 2, R. Tanguay1 and A. Pappa1. 1Pharmaceutical Sciences, UCHSC, Denver, CO, 2Pharmaceutical Biotechnology, UCHSC, Denver, CO and 3Environmental and Molecular Toxicology, Oregon State University, Corvallis, OR.

#670 10:30 REGIO-SPECIFIC (α TO ω-6) LAURIC ACID HYDOXYLATION IN HUMAN RECOMBINANT AND PEROXISOMAL PROLIFERATOR-TREATED JUVENILE CATFISH MICROSOMES. M. L. Haasch1, 2, A. W. Ford3 and J. C. Allgood1. 1RIPS, ECHIR, Environmental Toxicology Research Program, The University of Mississippi, University, MS and 2Division of Chemistry, NCTR, USFDA, Jefferson, AR, 3Division of Chemistry, NCTR, USFDA, Jefferson, AR and 3NTP Center for Phototoxicology, NCTR, USFDA, Jefferson, AR.
REGULATION OF GLUCOCORTICOID-INDUCIBLE RAT HYDROXYSTEROID SULFOTRANSFERASE GENE EXPRESSION BY LIVER-ENRICHED TRANSCRIPTION FACTORS.
M. Alipour, J. R. Smigelski, A. Weckle and M. Rung-Morris. Inst. Environment Health Sciences., Wayne State University, Detroit, MI.

TUESDAY, March 23
9:30 AM to 12:30 PM
Exhibit Hall

POSTER SESSION: PHARMACEUTICAL SAFETY
Chairperson(s): William Johnson, ITT Research Institute, Chicago, IL and Matthew Cooper, Biogen, Cambridge, MA.

Displayed: 9:30 AM to 12:30 PM

Attended: 9:30 AM to 11:00 AM


#674 SAFETY EVALUATION OF STEALTH® LIPOSOMAL CKD–602. B. E. Stewart, C. M. Engbers, N. B. Modi and A. P. Mould. ALZA Corporation, Mt View, CA and Covance Laboratories, Madison, WI.


#676 PIFITHRIN-γ IS A POTENT ARYL HYDROCARBON RECEPTOR AGONIST. M. S. Hoagland, E. M. Hoagland, G. M. Ziegler and H. I. Swanson. Molecular and Biomedical Pharmacology, University of Kentucky, Lexington, KY.

#677 PULMONARY FUNCTION EFFECTS OF A THREE-HOUR TOXICITY STUDY OF AMINOFLAVONE PRODRUG (NSC-710464) IN DOGS. I. M. Grossi, M. Lynch, J. Merrill, J. Tomaszewski and J. O. Peggins. 1Toxicology, Battelle, Columbus, OH and 2NCI, NIH, Bethesda, MD.

#678 EFFECT OF HUMAN APOB-100 ANTISENSE OLIGONUCLEOTIDE (ISIS 301012) ON THE EXPRESSION OF APOB-100 MRNA IN MONKEY. T. Kim, T. Zanardi, M. Graham, R. Crooke, A. Levin and S. Henry. 1Toxicology/PKM, ISIS Pharmaceuticals, Carlsbad, CA and 2Charles River Laboratories (SBI Division), Sparks, NV.

#679 CJC-1295, A LONG-ACTING GROWTH HORMONE RELEASE FACTOR ANALOGUE, IS WELL TOLERATED IN RATS UP TO 14 DAYS. V. Iordanova, B. Lawrence, S. Morseth and J. Castaigne. 1ConjuChem, Montreal, QC, Canada and 2Milestone Biomedical Associates, Frederick, MD.

#680 CJC-1131, A LONG-ACTING GLP-1 ANALOGUE, EXHIBITS SAFETY AND TOLERABILITY IN RATS AND DOGS UP TO 91 DAYS. S. Wen, B. Lawrence, S. Wilson and J. Castaigne. 1ConjuChem, Montreal, QC, Canada and 2Milestone Biomedical Associates, Frederick, MD.

#681 FOUR-WEEK COMBINATION TOXICITY STUDY OF ANTI-IVL-4 ANTIBODY ADMINISTERED IV AND IN THE RHESUS MONKEY. M. Cooper, V. Palmer, G. Beattie, J. Green, P. Martin and N. G. Wehner. 1Biomarker Development, Biogen, Cambridge, MA, 2Preclinical and Clinical Development Sciences, Biogen, Cambridge, MA, 3Safety Evaluation, Elan, South San Francisco, CA and 4Sierra Biomedical, Sparks, NV.

#682 RISING-DOSE TOLERABILITY STUDY OF A LYMPHOTOXIN BETA RECEPTOR AGONIST IN CHIMPANZEES. M. Cooper, V. Palmer, T. J. Rowell and J. Green. 1Biomarker Development, Biogen, Cambridge, MA, 2Preclinical and Clinical Development Sciences, Biogen, Cambridge, MA and 3New Iberia Research Center, New Iberia, LA.


#684 SINGE AND 28-DAY REPEATED INTRAMUSCULAR DOSE TOXICITY STUDIES OF BOTULINUM TOXIN TYPE A IN RATS. W. S. Koh, M. K. Chung, Y. B. Kim, C. S. Ha, G. H. Yang, H. H. Chung and T. C. Jeong. 1Korea Institute of Toxicology, Daejeon, South Korea, 2Medic-Toxicology, Asan, South Korea and 3College of Pharmacy, Yeungnam University, Kyungsan, South Korea.


#687 DOSE RANGE-FINDING STUDY OF HALOFUGINONE (NSC-713205) IN RODENTS. D. Kobs, P. J. Tosca, L. Bollinger, I. M. Grossi, J. Tomaszewski and J. O. Peggins. 1Toxicology, Battelle, Columbus, OH and 2NCI, NIH, Bethesda, MD.
#28 DAY ORAL (Gavage) Toxicity Study of Se-Methylselenocysteine in Dogs. W. Johnson1, J. Lopez1, R. Morrissey2, C. Ip1, I. Kapetanovic4 and D. McCornick1.1 IIT Research Institute, Chicago, IL; 2Pathology Associates, Chicago, IL; 3Roswell Park Memorial Institute, Buffalo, NY and 4National Cancer Institute, Bethesda, MD.

#289 Acute and Sub-Acute Oral Toxicity of Vagapyzyme in Mice and Rats. S. N. Shah1, A. University, Burhan1, S. L. Buddhankar1, S. P. Rusbud2 and S. Kurundkar3.1 Pharmacology, Bharati Vidyapeeth Deemed University, Pune, Maharashtra, India, 2Advanced Biochemicals Ltd., Thane, Maharashtra, India and 3Raj Biotech (India) Pvt. Ltd., Satara, Maharashtra, India. Sponsor: H. Mehendale.


Tuesday Morning, March 23
9:30 AM to 12:30 PM
Exhibit Hall

POSTER SESSION: RESPIRATORY TRACT I

Chairperson(s): Paul Reinhart, Naval Health Research Center, Wright-Patterson AFB, OH and Matthew Reed, Lovelace Respiratory Research Institute, Albuquerque, NM.

Displayed: 9:30 AM–12:30 PM

Attended: 11:00 AM–12:30 PM

#688 28-Day Oral (Gavage) Toxicity Study of Se-Methylselenocysteine in Dogs. W. Johnson1, J. Lopez1, R. Morrissey2, C. Ip1, I. Kapetanovic4 and D. McCornick1.1 IIT Research Institute, Chicago, IL; 2Pathology Associates, Chicago, IL; 3Roswell Park Memorial Institute, Buffalo, NY and 4National Cancer Institute, Bethesda, MD.

#689 Acute and Sub-Acute Oral Toxicity of Vagapyzyme in Mice and Rats. S. N. Shah1, A. University, Burhan1, S. L. Buddhankar1, S. P. Rusbud2 and S. Kurundkar3.1 Pharmacology, Bharati Vidyapeeth Deemed University, Pune, Maharashtra, India, 2Advanced Biochemicals Ltd., Thane, Maharashtra, India and 3Raj Biotech (India) Pvt. Ltd., Satara, Maharashtra, India. Sponsor: H. Mehendale.


#692 Apoptosis Induced by Interactions Between Moldy House Microbes, P. Penttinen1,2, J. Pelkonen2,3, K. Huttunen1 and M. Hirvonen1.1 Department of Environmental Health, National Public Health Institute, Kuopio, Finland, 2University of Kuopio, Kuopio, Finland and 3Kuopio University Hospital, Kuopio, Finland. Sponsor: M. Viluksela.


#695 Inhaled Ozone Induces DNA-DNA Cross-Linking in Exposed Rat Lung. D. H. Bowser1, M. Sisco1, K. Baker1, K. Salihnikov2, R. B. Schlesinger3, M. D. Cohen1 and J. T. Zelikoff1.1 Environmental Medicine, New York University School of Medicine, Tuxedo, NY, 2NCI, Frederick, MD and 3Biology, Pace University, Pleasantville, NY.

#696 Role of Inducible Nitric Oxide-Derived Nitric Oxide in Silica-Induced Pulmonary Inflammation and Injury. P. C. Zeidler1, 2, A. F. Hubbs1, 2 and V. Castranova1, 2.1 PPRB, NIOSH, Morgantown, WV and 2West Virginia University, Morgantown, WV.

#697 Role of Nitric Oxide in Mediating Alveolar Macrophage Responses to Diesel Exhaust Particles. J. Y. Ma1, H. Zhao1, M. W. Barger1, J. K. Ma2 and V. Castranova1.1 HELD, NIOSH, Morgantown, WV and 2School of Pharmacy, WVU, Morgantown, WV.

#698 In Vitro Inflammatory and Cytotoxic Responses to Ambient Air Particulate Samples Collected During Long-Range Transport (LRT) of Forest Fire Smoke to Helsinki, Finland. P. Jalava1, 2, R. O. Salonen1, A. T. Halinen1, M. Sillanpaa2, S. Saarikoski2, R. Hillamo2 and M. Hirvonen1.1 Department of Environmental Health, National Public Health Institute (KTL), Kuopio, Finland, 2Air Quality Research, Finnish Meteorological Institute, Helsinki, Finland and 3University of Kuopio, Kuopio, Finland. Sponsor: M. Viluksela.

#699 NRF2 Plays a Critical Role in Conferring Protection Against Inflammation in a Mouse Model of Asthma. T. Rangasamy1, J. Guo3, S. Srivasa, S. N. Georasa, T. W. Kensler1, W. A. Mitzner1 and S. Biswal1.1 Environmental Health Sciences, Bloomberg School of Public Health, Johns Hopkins University, Baltimore, MD and 2Department of Medicine, Johns Hopkins University, Baltimore, MD.


#701 Role of Toll Like Receptor-4 in Ozone-Induced Production of Inflammatory Mediators and Toxicity. A. J. Connor, J. D. Laskin and D. L. Laskin. Joint Graduate Program In Toxicology, Rutgers University and UMDNJ/Robert Wood Johnson Medical School, Piscataway, NJ.

TRANSCRIPTONAL REGULATION IN RESPONSE TO CARBON NANOTUBES IN HUMAN BRONCHIAL EPITHELIAL CELLS AS DETECTED BY MICROARRAY ANALYSIS. N. Keshava1, A. R. Murray2, O. Gorelik3, S. Arepalli4, V. Z. Gandelsman5, V. Castranova6,7 and A. A. Shvedova4,5.

1TMBB, NIOSH, Morgantown, WV, 2Physiology & Pharmacology, WVU, Morgantown, WV, 3Materials & Processes Branch, Lockheed Martin Corporation, Engineering Directorate, Houston, TX and 4Nanotube Team, GBTech, Inc., NASA-JSC, Houston, TX.


1Pharmacology & Toxicology, Dartmouth Medical School, Hanover, NH, 2Environmental & Occupational Health, University of Pittsburgh, Pittsburgh, PA and 3Cell Biology & Anatomy, University of Arizona, Tucson, AZ.


1VM:APC, UC Davis, Davis, CA and 2VM:Molecular Biosciences, UC Davis, Davis, CA.


Center for Comparative Respiratory Biology and Medicine, University of California, Davis, CA.

THE EFFECT ON PUP VIABILITY AND GROWTH DURING NOSE-ONLY INHALATION EXPOSURE OF WISTAR-HAN RATS FOR PRE AND POST NATAL STUDIES. M. Stoute1, S. Maquiere2, K. Robinson1, A. Viau1 and C. Banks3.

1CTBR, Seminville, QC, Canada and 2GlaxoSmithKline, Ware, United Kingdom.


1API, 211b Research Group, Washington, DC, 2International Truck and Engine Corporation, Chicago, IL and 3BioReliance, Rockville, MD.


A SIMPLE METHOD FOR COMPARING THE TOXICOLOGIC POTENTIAL OF EMISSIONS FROM VEHICLES USING DIFFERENT FUELS. C. A. Lapin1, W. B. Bunn2 and T. W. Hesterberg3.

1Lapin & Associates, Glendale, CA and 2International Truck and Engine Corporation, Chicago, IL.


1Lovelace Respiratory Research Institute, Albuquerque, NM and 2API 211(b) Research Group, Washington, DC.


1Huntingdon Life Sciences Inc., East Millstone, NJ and 2API 211(b) Research Group, Washington, DC.


1API 211(b) Research Group, Washington, DC, 2Huntingdon Life Sciences Inc., East Millstone, NJ and 3BioReliance, Rockville, MD.


1ImmunoFox, Inc., Richmond, VA and 2API 211(b) Research Group, Washington, DC.

BIOCHEMICAL CHANGES IN RESPIRATORY TISSUES OF RATS EXPOSED TO ETHYL TERT-BUTYL ETHER. K. M. Broadwell and R. Schatz.

Northeastern University, Boston, MA.

up-to-date information at www.toxicology.org
SOT’s 43rd Annual Meeting

Program Description

Tuesday Morning, March 23
9:30 AM to 12:30 PM
Exhibit Hall

POSTER SESSION: RISK ASSESSMENT I


Displayed: 9:30 AM–12:30 PM

Attendees: 11:00 AM–12:30 PM

#725
INTERIM ACUTE EXPOSURE GUIDELINE LEVELS (AEGLs) FOR ETHYLENE OXIDE. K. A. Davidson1 and K. Blackman2. 1Life Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN and 2FEMA, Washington, DC.

#726

#727
UPDATING USEPA’S AMBIENT WATER QUALITY CRITERIA FOR ARSENIC (AS): TOXICITY AND BIOACCUMULATION. T. R. Henry1, T. Linton2, W. Clement3, D. McIntyre2 and C. Abernathy1. 1Office of Water, USEPA, Washington, DC and 2Great Lakes Environmental Center, Columbus, OH.

#728

#729
ESTIMATING A RELATIVE SOURCE CONTRIBUTION FOR DRINKING WATER IN ARSENIC (AS) RISK ASSESSMENTS. I. S. Dooley1, C. O. Abernathy1, M. Devitt2 and A. Kotros2. 1Environmental Protection Agency, Washington, DC and 2ToxServices, Washington, DC.

#730

#731
INTERACTION PROFILE FOR CHEMICALS IN RURAL WELL WATER. J. Colman1 and H. Pohl2. 1Syracuse Research Corp., Syracuse, NY and 2ATSDR, Atlanta, GA. Sponsor: P. McGinnis.

#732
REGULATORY DETERMINATION FOR HEXACHLOROBUTADIENE IN DRINKING WATER. D. Wong and J. Du. USEPA, Washington, DC.

#733
DERIVATION OF A DRINKING WATER ACTION LEVEL FOR 2-MERCAPTOBENZOTHIAZOLE. A. Gebhardt1, M. H. Whittaker2 and F. Hammer1. 1Water Program, Underwriters Laboratories, Northbrook, IL and 2ToxServices, Washington, DC.

#734

#735

#718

#719
ACUTE EXPOSURE GUIDELINE LEVELS (AEGLs) FOR THREE ALIPHATIC AMINES: ALLYLAMINE (AA), CYCLOHEXYLAMINE (CYC), AND ETHYLENEDIAMINE (EDA). S. Milanez1, L. Koller2, M. McClanahan3, D. Krewski4 and K. Bakshi5. 1Oak Ridge National Laboratory, Oak Ridge, TN, 2Honeywell, Morristown, NJ, 3University of Ottawa, Ottawa, ON, Canada and 4National Research Council, Washington, DC.

#720
ACUTE EXPOSURE GUIDELINE LEVELS (AEGLs) FOR URANIUM HEXAFLUORIDE. C. Bast1, G. Rusch2, D. Krewski3 and K. Bakshi4. 1Oak Ridge National Laboratory, Oak Ridge, TN, 2Honeywell, Morristown, NJ, 3University of Ottawa, Ottawa, ON, Canada and 4National Research Council, Washington, DC.

#721
ACUTE EXPOSURE GUIDELINE LEVELS (AEGLs) FOR HYDROGEN CHLORIDE. R. Young1, C. Bast1, J. Hinz2, D. Krewski3 and K. Bakshi4. 1Oak Ridge National Laboratory, Oak Ridge, TN, 2USAF, Brooks AFB, TX, 3University of Ottawa, Ottawa, ON, Canada and 4National Research Council, Washington, DC,.

#722
ACUTE EXPOSURE GUIDELINE LEVELS (AEGLs) FOR HYDROGEN FLUORIDE. S. Talmage1, L. Gephart2, D. Krewski3 and K. Bakshi4. 1Oak Ridge National Laboratory, Oak Ridge, TN, 2Exxonmobil Biomedical Sciences, Inc., Annandale, NJ, 3University of Ottawa, Ottawa, ON, Canada and 4National Research Council, Washington, DC.

#723
ACUTE EXPOSURE GUIDELINE LEVELS (AEGLs) FOR TOLUENE DIISOCYANATE. C. S. Wood1, S. J. Barbee2, D. Krewski3 and K. Bakshi4. 1Oak Ridge Nat. Lab., Oak Ridge, TN, 2Arch Chemicals Inc., Norwalk, CT, 3University of Ottawa, Ottawa, ON, Canada and 4National Research Council, Washington, DC.

#724
ACUTE EXPOSURE GUIDELINE LEVELS (AEGLs) FOR ETHYLENIMINE (E1) AND PROPYLENIMINE (P1). J. H. Moyer1, K. A. Davidson1, M. A. McClanahan2, D. Krewski3 and K. S. Bakshi4. 1Oak Ridge National Laboratory, Oak Ridge, TN, 2CDC (retired), Atlanta, GA, 3University of Ottawa, Ottawa, ON, Canada and 4National Res. Council, Washington, DC.
SOT 43rd Annual Meeting
Program Description

Tuesday Morning, March 23
9:30 AM to 12:30 PM
Exhibit Hall

POSTER SESSION: TOXICITY OF METALS
Chairperson(s): Robert Rice, University of California, Davis, Davis, CA and Teresa Fortoul, Universidad Nacional autonoma de Mexico, Mexico.

Displayed: 9:30 AM - 12:30 PM

Attended: 9:30 AM - 11:00 AM

MALIGNANT TRANSFORMATION OF HUMAN UROTHELIAL CELLS BY ARSENITE AND CADMIUM. S. Somji, V. Gurel, S. Park, M. Sens, S. H. Garrett and D. A. Sens. Pathology, University of North Dakota, Grand Forks, ND and 2Surgery, University of North Dakota, Grand Forks, ND.

ARSENIC TOXICITY IN HUMAN KERATINOCYTES. M. A. Ngo, T. J. Patterson and R. H. Rice. Environmental Toxicology, University of California, Davis, CA.

CYTOTOXICITY OF METALS ON CULTURED MORTAL AND IMMORTAL HUMAN MAMMARY CELLS. C. M. Schmidt, M. B. Anderson and F. A. Barile. Pharmaceutical Sciences, St. John's University College of Pharmacy, Jamaica, NY.

SOUDIUM CHROMATE AND CADMIUM CHLORIDE TOXICITY IN STELLER SEA LION CELLS. C. Goertz, S. Wise, L. Dunn, F. Gulland, A. Morin, N. Jayasundara, M. Bozza, S. Atkinson and J. P. Wise. Wise Laboratory of Environmental and Genetic Toxicology, Center for Integrated and Applied Environmental Toxicology, University of Southern Maine, Portland, ME, 2Alaska Sea Life Center, Seward, AK, 3Mystic Aquarium, Mystic, CT and 4The Marine Mammal Center, Sausalito, CA.

METAL TOXICITY OF SODIUM CHROMATE IN STELLER SEA LION BRONCHUS AND DERMIS COMPARED TO HUMANS. A. Morin, C. Goertz, S. Wise, L. Dunn, F. Gulland, N. Jayasundara, M. Bozza, S. Atkinson and J. P. Wise. Wise Laboratory of Environmental and Genetic Toxicology, Center for Integrated and Applied Environmental Toxicology, University of Southern Maine, Portland, ME, 2Alaska Sea Life Center, Seward, AK, 3Mystic Aquarium, Mystic, CT and 4The Marine Mammal Center, Sausalito, CA.


COMPARATIVE CHROMIUM TOXICITY IN CULTURED BOWHEAD WHALE AND HUMAN LUNG CELLS. S. S. Wise, A. Holmes, M. Thompson, B. Smith, T. O'Hara and J. P. Wise. Wise Laboratory of Environmental and Genetic Toxicology, University of Southern Maine, Portland, ME and 2North Slope Borough Department of Wildlife Management, Barrow, AK.

LEAD CHROMATE-INDUCED CYTOTOXICITY IN HUMAN BRONCHIAL CELLS IS MEDIATED BY EXTRACELLULAR CHROMIUM. A. Holmes, N. Gordon and J. P. Wise. Wise Laboratory of Environmental and Genetic Toxicology, Center for Integrated and Applied Environmental Toxicology, University of Southern Maine, Portland, ME and 2Department of Chemistry, University of Southern Maine, Portland, ME.

BRONCHIOLAR EPITHELIUM CHANGES AFTER PB, CD OR ITS MIXTURE INHALATION. T. I. FORTOUL, L. Saldivar, G. Espejel, L. Colín-Barenque, A. Zepeda, F. Pasos and M. Avila-Costa. 1Biologia Celular Y Tuslar, Universidad Nacional Autonoma De Mexico, Mexico City, Mexico, 2Facultad de Medicina, Universidad Nacional Autonoma De Mexico, Mexico City, Mexico, 3Fes Iztacala, Universidad Nacional Autonoma De Mexico, Tlalnepantla, Mexico and 4Facultad De Quimica, Universidad Nacional Autonoma De Mexico, Mexico, Mexico.

THROMBOCYTOSIS INDUCED IN MICE AFTER ACUTE AND SUBACUTE V205 INHALATION. A. Gonzalez-Villalva, I. Lopez, I. Sanchez, L. Colín-Barenque, S. Acevedo-Nava, P. Bizarro, G. Nino-Caberra, E. Tovar-Sanchez, P. Mussali-Galante, M. Avila-Costa and T. I. Fortoul. 1Biologica Celulary Tuslar, Universidad Nacional Autonoma de Mexico, Mexico City, Mexico, 2Facultad de Medicina, Universidad Nacional Autonoma de Mexico, Mexico City, Mexico, 3Fes Iztacala, Universidad Nacional Autonoma de Mexico, Tlalnepantla, Mexico and 4Instituto de Ecologia, Universidad Nacional Autonoma de Mexico, Morelia Mich, Mexico.

UPREGULATION OF CELLULAR THIOLS BUT DOWNREGULATION OF LYSYL OXIDASE IN LONG TERM CADMIUM (CD) EXPOSED LUNG FIBROBLASTS. Y. Zhao, J. Choi, P. Toselli, P. Stone, H. Kagan and W. Li. 1Microbiology, Boston University School of Medicine, Boston, MA and 2Biochemistry, Boston University School of Medicine, Boston, MA.


A JUVENILE SWINE MODEL FOR COPPER OVERLOAD. T. J. Evans, S. W. Casteel and K. V. Katti. 1Veterinary Medical Diagnostic Laboratory, University of Missouri, Columbia, MO and 2Radiopharmaceutical Sciences Institute, University of Missouri, Columbia, MO.
POSTER SESSION: SAFETY EVALUATION I

Chairperson(s): Daniel Ness, Eli Lilly & Company, Greenfield, IN and Eugenia Theophilus, R. J. Reynolds Tobacco Company, Winston Salem, NC.

Displayed: 9:30 AM–12:30 PM


TOXICITY EVALUATION OF A FLUORINATED NORBORNENE COMPOUND. M. DeLorme1, G. S. Ladics1, M. Donner1, V. O. Wagner2, C. Finlay1 and S. E. Loveless1. DuPont Haskell Laboratory, Newark, DE and BioReliance, Rockville, MD.

SAFETY OF TINOSORB® S, A NEW ORGANIC SUNSCREEN FOR BROAD SPECTRUM UV PROTECTION. J. R. Plautz2. Product Safety and Regulatory, Ciba Specialty Chemicals Corporation, High Point, NC and PSR, Ciba Specialty Chemicals, Basel, Switzerland.


TOXICOLOGICAL EVALUATION OF LEACHABLES AND EXTRACTABLES IN INHALATION DRUG PRODUCTS: RISK ASSESSMENT OF DI(2-ETHYLHEXYL)PHTHALATE (DEHP). L. A. Haigton1, K. L. Bibeau1, N. N. Kim2 and J. M. Daniels1. CANTOX HEALTH SCIENCES INTERNATIONAL, Mississauga, ON, ON, Canada and Sepracor Inc., Marlborough, MA.

DIETARY INCLUSION OF NOVASIL: SUBCHRONIC TOXICITY EVALUATION IN SPRAGUE-DAWLEY RATS. E. Afriyie-Gyawu1, J. Mackie1, B. Dash1, M. Wiles1, H. J. Huebner1, K. E. Lee1 and T. D. Phillips1. Faculty of Toxicology (VAPH), Texas A&M University (TAMU), College Station, TX, Veterinary Pathobiology, TAMU, College Station, TX and Statistics, TAMU, College Station, TX.

QUANTITATIVE CELL CYCLE INFORMATION COMPARED TO CYTOCHALASIN B BLOCKAGE IN CELL LINE MICRONUCLEUS ASSAYS. E. Luther and M. Lee. Strategic Research Development, CompuCyte Corp., Cambridge, MA. Sponsor: S. Zhao.

SAFETY OF GLYCOLIC ACID IN CLEANING PRODUCTS. A. W. Hayes1 and J. C. Stadler2.
1Department of Environmental Health, Harvard School of Public Health, Boston, MA and 2DuPont Haskell Laboratory, Newark, DE.

REPEATED DOSE ORAL TOXICITY OF 8-2 TELEMER B ALCOHOL RANGE-FINDING STUDY IN RATS. G. L. Kennedy1, G. S. Ladics1, J. O’Connor1, S. Gannon1, R. Jung2, H. Iwai3 and S. Shin-yan4. DuPont Haskell Laboratory, Newark, DE, Clarient, GmbH, Sulzbach, Germany, Daikin Industries, Ltd., Osaka, Japan and Asahi Glass Co., Ltd., Tokyo, Japan.

A SUBCHRONIC TOXICITY STUDY IN RATS AND GENOTOXICITY TESTS WITH SURELEASE® AQUEOUS ETHYLCELLULOSE DISPERSION. C. C. DeMerlis1, D. R. Schoneker1, G. L. Kennedy1, P. Hoffman. Eli Lilly and Company, Greenfield, IN.

THE ROLE OF LEACHABLES AND EXTRACTABLES IN THE MEASUREMENT OF INHIBITION OF SUGAR DISPERSER. J. E. Swauger1 and E. H. Theophilus2. 1National Institute of Standards and Technology, Gaithersburg, MD and 2Eli Lilly and Company, Greenfield, IN.


POSTER SESSION: NATURAL PRODUCTS

Chairperson(s): David Shepherd, CEHS, Missoula, MT and Supratim Choudhuri, USFDA, College Park, MD.

Displayed: 9:30 AM–12:30 PM

DOSE RANGE-FINDING STUDY OF HALOFUGINONE (NSC-713205) IN BEAGLE DOGS. K. Veley1, B. Sparrow1, J. W. Merrill1, I. M. Gross1, J. Tomaszewski2 and J. O. Peggins2. 1Toxicology, Battelle, Columbus, OH and 2NCI, NIH, Bethesda, MD.

up-to-date information at www.toxicology.org
#783 NOGATOXIN ISOLATED FROM NON-AXenic CULTURES OF PFIESTERIA. D. Baden1, E. Noga3, K. Rein2, J. Benson2, W. Abraham4, R. Belas6 and C. Tomas1. 1UNCW, Wilmington, NC, 2FIU, Miami, FL, 3NCSU, Raleigh, NC, 4Mt Sinai Medical Center, Miami, FL, 5Lovelace Respiratory Research Institute, Albuquerque, NM and 6UMd, Baltimore, MD.

#784 UP-REGULATION OF CYCLOOXYGENASE-2 EXPRESSION BY GELATIN IN MURINE MACROPHAGES. J. Kim1, 2 and H. Jeong1, 2. 1Pharmacy, Chosun University, Kwangju, South Korea and 2Research Center for Proteinaceous Materials, Chosun University, Kwangju, South Korea.

#785 INDUCTION OF INDUCIBLE NITRIC OXIDE SYNTHASE AND TUMOR NECROSIS FACTOR-A EXPRESSION BY GELATIN VIA NUCLEAR FACTOR-KB TRANSACTIVATION IN MACROPHAGES. D. Oh1, 2, J. Kim1, 2 and H. Jeong1, 2. 1Pharmacy, Chosun University, Kwangju, South Korea and 2Research Center for Proteinaceous Materials, Chosun University, Kwangju, South Korea.

#786 GROWTH INHIBITION AND INDUCTION OF APOPTOSIS BY DIHYDRO-N-CAFFEEOYLTYRAMINE ON HUMAN LEUKEMIA CELLS. E. Woo3, 1, C. Choi1 and H. Jeong1, 2. 1Food Science, Jinju International University, Jinju, South Korea, 2Pharmacy, Chosun University, Kwangju, South Korea and 3Research Center for Proteinaceous Materials, Chosun University, Kwangju, South Korea.

#787 PLATYCODON GRANDIFLORUM SUPPRESSED PDGF-DRIVEN PROLIFERATION AND COLLAGEN SYNTHESIS IN HEPATIC STELLATE CELLS. K. Jung1, 2, K. Lee1, 2 and Y. Chung3. 1Pharmacy, Chosun University, Kwangju, South Korea, 2Research Center for Proteinaceous Materials, Chosun University, Kwangju, South Korea, 3Food Science, Chiju International University, Jinju, South Korea and 4R&D, Jangseng Doraji Co., Ltd., Jinju, South Korea.

#788 MATRIX METALLOPROTEINASE GENE EXPRESSION IN RAT MICROGLIA EXPOSED TO THE MARINE TOXIN DOMOIC ACID. A. M. Mayer1, M. J. Fay1 and A. M. Romanic2. 1Pharmacology, Midwestern University, Downers Grove, IL and 2Cardiovascular Pharmacology, Glaxo SmithKline, King of Prussia, PA. Sponsor: W. Proziadek.

#789 14-DAY AND 90-DAY MELATONIN TOXICITY STUDIES IN FISCHER 344(F344) AND LONG-EVANS(LE) RATS. D. Gerken1, M. Ryan1, M. Hejtmanck1, A. Wiechmann2, G. Boorman2, M. Vallant2, J. Roberts4 and R. Chhabra2. 1Battelle Science and Technology, Inc., Columbus, OH, 2NIEHS, Research Triangle Park, NC, 3University of Oklahoma Health Sciences Center, Oklahoma City, OK and 4Fordham University, New York.

#790 CYTOTOXIC AND APOPTOSIS-INDUCING PROPERTIES OF GUALICUM SANCTUM L. (ZYGOPHYLLACEAE) ON BREAST CANCER CELL LINES. K. J. Chavez1, I. Delgado3, M. T. Laux2, J. A. Flanders2 and E. Rodriguez3. 1Institute for Comparative and Environmental Toxicology, Cornell University, Ithaca, NY, 2Department of Clinical Sciences and Molecular Medicine, Cornell University, Ithaca, NY and 3Department of Plant Biology, Cornell University, Ithaca, NY.

#791 THE USE OF ELISA IN DIFFERENTIAL DIAGNOSIS OF THE GENUS TRIMERESURUS SNAKE BITES IN TAIWAN. D. Hung1 and M. Liao2. 1Toxicology Center, Taichung Veterans General Hospital, Taichung City, Taiwan and 2Department of Biotechnology, Foyolin University, Kaohsiung Hsien, Taiwan. Sponsor: S. Lin-Shiau.

#792 TOXICITY EVALUATION OF KAIVA KAiva EXTRACT IN FISHER 344 RATS AND B6C3F1 MICE FOLLOWING REPEAT DOSING BY ORAL Gavage. B. Sparrow1, M. Hejtmanck1, M. Ryan1, A. Skowronek1, P. Chan2 and D. Orzech2. 1Battelle, Columbus, OH and 2NIAMS, Research Triangle Park, NC.

#793 USE OF THE AFRICAN GREEN MONKEY (CHLOROCEBUS AETHIOPS) MODEL TO DETERMINE PATHOPHYSIOLOGICAL RESPONSES TO INHALED RICIN TOXIN AND EFFICACY OF RICIN VACCINES. R. W. Wannemacher, R. Dinterman, J. Hewetson, M. Pitt, R. Tamamariello, R. Rietcheck, C. Klages and C. Millard. USAMRIID, Frederick, MD.

#794 DOWN-REGULATION OF CYCLOOXYGENASE-2 EXPRESSION BY CAFFEEOYL-4-DIHYDROCAFFEOYL QUINIC ACID IN MACROPHAGES. Y. Chung1, C. Choi1 and H. Jeong2, 3. 1Food Science, Jinju International University, Jinju, South Korea, 2Pharmacy, Chosun University, Kwangju, South Korea and 3Research Center for Proteinaceous Materials, Chosun University, Kwangju, South Korea.

#795 SUPPRESSION OF LIPOPOLYSACCHARIDE-ACTIVATED CYCLOOXYGENASE-2 EXPRESSION BY DIHYDRO-N-CAFFEEOYLTYRAMINE IN MURINE MACROPHAGE RAW 264.7 CELLS. H. Kim1, 3, J. Kim1, 3, C. Choi2, K. Jung2, 3, E. Woo1, 3, S. Han1, 3 and H. Jeong1, 3, 3. 1Pharmacy, Chosun University, Kwangju, South Korea, 2Food Science, Jinju International University, Jinju, South Korea, 3Pharmacy, Chosun University, Kwangju, South Korea and 3Research Center for Proteinaceous Materials, Chosun University, Kwangju, South Korea.

#796 AN AQUEOUS EXTRACT ISOLATED FROM PLATYCODON GRANDIFLORUM SUPPRESSED IN B16F10 MELANOMA CELL METASTASIS. K. Lee1, 2 and H. Jeong1, 2. 1Pharmacy, Chosun University, Kwangju, South Korea and 2Research Center for Proteinaceous Materials, Chosun University, Kwangju, South Korea.

#797 PLATYCODON GRANDIFLORUM SUPPRESSED INVASION AND ANGIGENESIS. D. Shin1, 2, K. Lee1, 2 and H. Jeong1, 2. 1Pharmacy, Chosun University, Kwangju, South Korea and 2Research Center for Proteinaceous Materials, Chosun University, Kwangju, South Korea.

#798 PROTECTIVE EFFECT OF PLATYCODON GRANDIFLORUM ON THE ACETALDEHYDE-INDUCED ACTIVATION OF HEPATIC STELLATE CELLS. H. Jeong1, 2 and K. Lee1, 2. 1Pharmacy, Chosun University, Kwangju, South Korea and 2Research Center for Proteinaceous Materials, Chosun University, Kwangju, South Korea.
DOSE AND TIME RESPONSE OF ALCOHOL-INDUCED HYPERTENSION AND CARDIOVASCULAR INJURIES IN RATS. K. Hasain. Pharmacology and Toxicology, Ponce School of Medicine, Ponce, Puerto Rico.

CHEMICAL INDUCTION OF ENDOGENOUS ANTIoxidants AFFORDS PROTECTION AGAINST OXIDATIVE AND ELECTROPHILIC INJURY IN CARDIOVASCULAR CELLS. Z. Cao, M. Tsang and Y. Li. Pharmaceutical Sciences, St. John's University, Jamaica, NY.

CHEMICAL INDUCTION OF ENDOGENOUS ANTIoxidants IN MOUSE CARDIAC TISSUE: IMPLICATIONS FOR CARDIOPROTECTION. Y. Li and Z. Cao. Pharmaceutical Sciences, St. John, Jamaica, NY.

INCREASED FORMATION OF MITOCHONDRIAL REACTIVE OXYGEN SPECIES CAUSES MITOCHONDRIA PERMEABILITY TRANSITION-DEPENDENT KILLING OF CULTURED ADULT RAT MYOCYTES AFTER ISCHEMIA/REPERFUSION. J. Kim, Y. Jin and J. J. Lemasters. UNC-Chapel Hill, Chapel Hill, NC.

OPENING OF MITOCHONDRIAL PERMEABILITY TRANSITION PORES PRIOR TO REPERFUSION DURING PROLONGED ISCHEMIA TO CARDIAC MYOCYTES. J. R. Blatter and J. J. Lemasters. Curriculum in Toxicology and Department of Cell and Developmental Biology, University of North Carolina at Chapel Hill, Chapel Hill, NC.

INDUCTION OF P21WAF1/CIP1/SDHI BY DOXORUBICIN IN CARDIOMYOCYTES: FUNCTIONAL IMPLICATIONS OF P21 WAF1/CIP1/SDHI IN POSTMITOTIC CELLS. J. Terrand1, S. K. Williams2 and Q. M. Chen1. 1Pharmacology, University of Arizona, Tucson, AZ and 2Biomedical Engineering, University of Arizona, Tucson, AZ.

BOTH SPHINGANINE AND SPHINGOSINE ARE CYTOTOXIC TO H9C2[2-1] CARDIOMYOCYTES AND HEPG2 HEPATOCYTES. S. V. Hsiao1, P. D. Constable2, M. Tumbleson2 and W. M. Haschek1. 1Veterinary Pathobiology, University of Illinois at Urbana-Champaign, Urbana, IL, 2Veterinary Clinical Medicine, University of Illinois at Urbana-Champaign, Urbana, IL and 3Veterinary Biosciences, University of Illinois at Urbana-Champaign, Urbana, IL.

MITOCHONDRIAL AND CARDIOVASCULAR PATHOLOGY IN MICE EXPOSED TRANSPLECTALLY TO ZIDOVUDINE (AZT) ALONE OR WITH LAMUVIDINE (3TC). V. E. Walker1, D. M. Walker1, M. J. Campen1, R. L. Divi2, O. A. Olivero2 and M. C. Pointe2. 1Lovelace Respiratory Research Institute, Albuquerque, NM and 2NCI, NIH, Bethesda, MD.

ALLYLAMINE-INDUCED VASOSPASM IN VITRO: ROLE OF ACROLEIN, HYDROGEN PEROXIDE, SEMICARBAZIDE-SENSITIVE AMINE OXIDASE ACTIVITY, AND EXTRACELLULAR Ca+++. D. J. Conklin1, H. R. Cowley2, N. Xiong2, G. H. Johnson3, R. J. Wiedman3, L. M. Sayre4, M. B. Trent5 and P. J. Boss6. 1Department of Medicine, Division of Cardiology, University of Louisville, Louisville, KY, 2Department of Biology, University of Wisconsin-Eau Claire, Eau Claire, WI, 3Department of Cardiographic Surgery, Luther Hospital/Midelfort Clinic, Eau Claire, WI, 4Department of Chemistry, Case Western Reserve University, Cleveland, OH and 5Department of Pathology, University of Texas Medical Branch, Galveston, TX.

IN VITRO CHARACTERIZATION OF THE MECHANISMS INVOLVED IN CARDIOVASCULAR TOXICITY OF ULTRAFINE PARTICULATE. M. Marinovich1, E. Corsini1, C. L. Galli2, R. Pieters3, S. Bellosta2, K. Remedios2 and A. Corsini2. 1Department Pharmacological Sciences, University of Milan, Milan, Italy, 2Laboratory of Cellular Pharmacology of Atherosclerosis, University of Milan, Milano, Italy and 3IRAS, University of Utrecht, Utrecht, Netherlands.


CARDIOVASCULAR EFFECTS OF CHRONIC FUMONISIN B1 INGESTION IN SINCLAIR MINIPIGS. G. W. Smith1, P. Constable2, R. L. Fredrickson1, M. E. Tumbleson3, R. M. Eppley4 and W. M. Haschek1. 1Veterinary Pathobiology, University of Illinois, Urbana, IL, 2Veterinary Clinical Medicine, University of Illinois, Urbana, IL, 3Veterinary Biosciences, University of Illinois, Urbana, IL and 4Center for Food Safety and Applied Nutrition, USFDA, Laurel, MD.

CHRONIC ARSENIC EXPOSURE ENHANCES FGF-2-STIMULATED ANGIOGENESIS IN VIVO AND TISSUE EXPRESSION OF ANGIogenic GENES. A. Barchowsky1, L. R. Klei1, D. D. Mayka2, J. C. Davey2, J. W. Hamilton3 and N. V. Soucy2. 1Environmental and Occupational Health, University of Pittsburgh, Pittsburgh, PA and 2Pharmacology and Toxicology, Dartmouth Medical School, Hanover, NH.

EXPRESSION OF PROCOAGULANT ACTIVITY BY LYPSOHOPHTIDIC ACID IN HUMAN ERYTHROCYTES. S. Chung, M. Lee, O. Bae and J. Chung. College of Pharmacy, Seoul National University, Seoul, South Korea.

ELEVATED MEAN ARTERIAL BLOOD PRESSURE IN ARYL HYDROCARBON RECEPTOR (AhR) NULL MICE IS ASSOCIATED WITH ENDOTHELIN-1. A. Lund1, J. L. Born1 and M. K. Walker1,2. 1College of Pharmacy, University of New Mexico, Albuquerque, NM and 2Cell Biology and Physiology, University of New Mexico, Albuquerque, NM.
POSTER SESSION: BIOMARKERS/BIOMONITORING

Chairperson(s): Robert Tardif, Université de Montréal, Montreal, QC, Canada and Timothy Fennell, RTI International, Research Triangle Park, NC.

Displayed: 9:30 AM–12:30 PM

Tuesday Morning, March 23
Exhibit Hall

#832 EFFECTS OF CHLORODIBROMOMETHANE ON THE DEVELOPING HEART OF Medaka. S. Palit1, W. R. Hartley1, L. K. Teuschler2, C. Gennings3, O. Conery1 and A. Thiyagaran1, 1Environmental Health Sciences, Tulane University Health Sciences Center, New Orleans, LA, 2NCI, USEPA/ORD, Cincinnati, OH, 3MCV, VCU, Richmond, VA and 4Office of Water, USEPA, Washington, DC.

#833 SAFETY EVALUATION OF ES564, A TOLL-LIKE RECEPTOR 4 (TLR4) ANTAGONIST, ON CARDIOPULMONARY BYPASS (CPB) SURGERY IN DOGS BY INTRAVENOUS INFUSION. A. Suganuma1, H. Mendenhall2, J. P. Sites3, K. Kaneko1, M. Nedelman2 and W. D. Kerns4, 1Drug Safety and Disposition, Eisai Co., Ltd., Tsukuba, Japan, 2Discovery and Development Services, Charles River Laboratories, Worcester, MA, 3Cardiovascular and Extracorporeal Technologies, Plymouth, MN and 4Pharmacology Consulting Inc., Harvard, MA.


#835 ALPHA GLUTATHIONE S-TRANSFERASE AS A NOVEL BIOMARKER FOR MONITORING CHRONIC METHOTREXATE HEPATOTOXICITY. M. C. Shaw1, P. R. Maxwell2 and D. Burden3, 1Biotrin International, Dublin, Ireland, 2Biochemistry, Stobhill Hospital, Glasgow, United Kingdom and 3Dermatology, Western Infirmary, Glasgow, United Kingdom. Sponsor: R. Chandra Gupta.

#836 BIOSENSOR DETECTION OF BLOOD NITE INHIBITION. V. V. Malgin1, G. F. Makhavea1, N. N. Strakhova1, L. V. Sigolaeva2, L. G. Sokolovskaya2, A. V. Eremenko2, I. N. Kurochkin2 and R. J. Richardson3, 1Institute of Physiologically Active Compounds, RAS, Chernogolovka, Russian Federation, 2Faculty of Chemistry, M.V. Lomonosov Moscow State University, Moscow, Russian Federation and 3Toxicology Program, University of Michigan, Ann Arbor, MI.


#838 ENVIRONMENTAL TOBACCO SMOKE INDUCED REACTIVE OXYGEN SPECIES GENERATION IN MICE BRAIN REGIONS. K. C. Wise1, T. Rangasamy2, S. Biswal3 and R. Govindarajan1, 1Department of Biology, Texas Southern University, Houston, TX and 2Department of Environmental Health Sciences, Johns Hopkins University, Baltimore, MD.

#839 IDENTIFICATION OF BIOMARKERS FOR OXICHLORIDE-EXPOSURE IN RODENT LIVER USING MICROARRAYS. I. Curran, A. Hierlihy, K. Smith, J. Green and G. Bondy, Toxicology Research Division, Health Canada, Ottawa, ON, Canada.

MEETING GUIDELINES FOR CHOLINERESTERASE MONITORING BY CLINICAL LABORATORIES IN CALIFORNIA. B. W. Wilson1, J. D. Henderson1, D. E. Arrieta2 and M. A. O’Malley2, 3Environmental Toxicology, University of California, Davis, CA, 2Employee Health, University of California, Davis, CA and 3Department of Pesticide Regulation, California Environmental Protection Agency, Sacramento, CA.

BIОLOGICAL MONITORING OF BISPHENOL A IN CHILDREN. S. Park1, C. Shin2, S. Kim3 and Robert Tardif, Université de Montréal, Montreal, QC, Canada and Timothy Fennell, RTI International, Research Triangle Park, NC.


GENE EXPRESSION PROFILING IN A RAT CARDIAC ISCHEMIA MODEL. P. H. Koza-Taylor1, B. Lu1, M. Wenfang3, S. Eustis2, X. Li2 and M. Lawton1, 1Molecular and Investigative Toxicology, Pfizer, Groton, CT, 2Pathology, Pfizer, Groton, CT and 3Preventive Medicine, Eulji University School of Medicine, Taejon, South Korea.

METABOLISM AND HEMOGLOBIN ADDUCTS OF [1, 2, 3-13C3] ACRYLAMIDE IN HUMANS. T. Fennell1, R. Snyder1, J. P. Burgess1 and M. A. Friedman2, 1RTI International, Research Triangle Park, NC and 2UMDNJ, Newark, NJ.

ANALYSIS OF HEMOGLOBIN N-VALINE ADDUCTS FROM (1-CHLOROETHENYL)OXIRANE, A METABOLITE OF CHLOROPRENE, H. Hurst and M. Y. Ali. Pharmacology and Toxicology, University of Louisville, Louisville, KY.

A SIMULTANEOUS DETERMINATION OF THE THREE EPOXYMETABOLITE-HEMOGLOBIN ADDUCTS OF 1, 3-BUTADIENE. K. Pettonen1 and T. Antinen-Klemetti2, 1EELA, Helsinki, Finland and 2FIOH, Helsinki, Finland. Sponsor: S. Kai.

up-to-date information at www.toxicology.org

THE CONTRIBUTION OF AGE AND GENOTYPE TO SENSITIVITY TO ENVIRONMENTAL GENOTOXINS. F. M. Williams, E. L. Davis, A. E. Daly and D. Morgan. Toxicology Unit, The Medical School, University of Newcastle, Newcastle upon Tyne, United Kingdom.

NEURO-SPECIFIC PROTEINS IN REPRODUCTIVE ORGANS AS POSSIBLE BIOMARKERS FOR ASSESSING ADVERSE EFFECTS OF 1-BROMOPROPANE. H. Wang1, H. Ito2, K. Kato2, W. Li3, Y. Takeuchi1, T. Nakajima1 and G. Ichihara1. 1Occupational and Environmental Health, Nagoya University Graduate School of Medicine, Nagoya, Aichi, Japan and 2Biochemistry, Institute for Developmental Research, Aichi Prefectural Colony, Kasugai, Aichi, Japan.


ANALYSIS OF MOLECULAR INTERACTIONS FOR PROTEIN-LIGAND COMPLEXES: INVERSE DOCKING AND TARGET IDENTIFICATION. J. Wang and R. Richardson. Environmental Health Sciences, University of Michigan, Ann Arbor, MI.

EFFECT OF PHYSICAL EXERTION ON THE BIOLOGICAL EXPOSURE INDICES OF TOluene FOLLOWING EXPOSURE BY INHALATION IN HUMAN VOLUNTEERS. V. Nadeau1, G. Truchon2, M. Brochu3 and R. Tardif1. 1Occupational and Environmental Health, University of Montreal, Montreal, QC, Canada, 2Occupational Health, IRSST, Montreal, QC, Canada and 3Kinesiology, University of Montreal, Montreal, QC, Canada.

THE USE OF METABONOMICS TO DIFFERENTIATE THE TOXICITY OF TWO MAPK KINASE INHIBITORS IN MICE. A. P. Brown1, L. Robosky2, C. V. Okerberg1, R. Merriman2, C. Howard2, H. Tickle3 and M. Reilly3. 1Safety Sciences, Pfizer Global Research and Development, Ann Arbor, MI, 2Cancer Pharmacology, Pfizer Global Research and Development, Ann Arbor, MI, 3Discovery Technologies, Pfizer Global Research and Development, Ann Arbor, MI and 4Chemistry, Pfizer Global Research and Development, Ann Arbor, MI.

ASSSESSMENT OF GLOBIN S-PROPILCYSTEINE ADDUCTS AND URINARY N-ACETYL S-PROPILCYSTEINE AS INTERNAL EXPOSURE MARKERS OF 1-BROMOPROPANE. G. Ichihara1, K. Amarnath2, V. Amarnath3, H. I. Valentine4, W. Li5, H. Wang1 and W. M. Valentine2. 1Occupational and Environmental Health, Nagoya University Graduate School of Medicine, Nagoya, Aichi, Japan and 2Pathology, Vanderbilt University Medical Center, Nashville, TN.

DETERMINATION OF BIOLOGICAL REFERENCE VALUES FOR CHLORPYRIFOS METABOLITES IN HUMAN URINE USING A TOXICOKINETIC APPROACH. M. Bouchard1, G. Carrier1, R. C. Brunet1, N. H. Gosselin1 and Y. Bonvalot1. 1Environmental & Occupational Health, University of Montreal, Montreal, QC, Canada and 2Mathematics & Statistics, University of Montreal, Montreal, QC, Canada.

DNA ADDUCT FORMATION AND TOXICITY OF TRANS-2-HEXENAL IN MALE F344 RATS. M. D. Stot1, E. Bode1, Y. Li2, P. B. Upton2, R. Schoonhoven2, J. Nakamura2, Y. Jeong2, R. Sangaiah2 and J. A. Swenberg1, 2, 3. 1Curriculum in Toxicology, University of North Carolina, Chapel Hill, NC and 2Environmental Sciences and Engineering, University of North Carolina, Chapel Hill, NC.

ORAL TREATMENT WITH 13-CIS-RETINOIC ACID (13-CIS-RA) OR ALL-TRANS-RETINOIC ACID (ALL-TRANS-RA) ALTERS SERUM LEVELS OF ALBUMIN (ALB), TRIGLYCERIDES (TRIG), TOTAL PROTEIN AND GLUCOSE OF HEPATOTOXICITY: MALATE DEHYDROGENASE, PARAOXONASE, AND ACETYLChE. S. A. Ferguson1, R. A. Swenberg1, R. C. Brunet2, N. H. Gosselin3 and Y. Bonvalot1. 1Division of Neurotoxicology, NCTR/FDA, Jefferson, AR and 2Charles River Laboratories, Jefferson, AR.


HEMOglobIN ADDUCTS OF 3, 4-EPOXY-1, 2-BUTANEDIOL IN RODENTS EXPOSED TO 3-BUTENE-1, 2-DIOL. M. W. Powley1, P. B. Upton1, K. E. Walker2 and J. A. Swenberg1. 1Environmental Sciences and Engineering, University of North Carolina, Chapel Hill, NC and 2Lovelace Respiratory Research Institute, Albuquerque, NM.

ACB-PCR MEASUREMENT OF p53 MUTATION: A POTENTIAL BIOMARKER OF SKIN CANCER DEVELOPMENT. T. L. Verkler1, L. H. Couch2, B. J. Miller2, P. C. Howard2 and B. L. Parsons1. 1Division of Genetic and Reproductive Toxicology, NCTR, USFDA, Jefferson, AR and 2Division of Biochemical Toxicology, NCTR, USFDA, Jefferson, AR.

CYCLIC N-TERMINAL HEMOGLOBIN ADDUCT IN HUMANS, RATS AND MICE EXPOSED TO BUTADIENE. N. I. Georgievaa, G. Boysen, Y. Li and J. A. Swenberg, Environmental Sciences and Engineering, UNC, Chapel Hill, NC.
DETERMINING A REFERENCE VALUE FOR BLOOD CHOLESTERASE USING US DEFENSE DEPARTMENT PERSONNEL. S. A. McCurdy1, J. D. Henderson2, D. E. Arrieta3, L. J. Lefkowitz4, R. E. Reitstetter4 and B. W. Huebner and T. D. Phillips. Faculty of Toxicology (VAPH), Texas A&M University, College Station, TX.

IDENTIFICATION OF INTER-INDIVIDUAL VARIATION IN A FLATOXIN METABOLIZING ENZYMES USING HUMAN URINARY DNA. B. Dash, E. Afriyie-Gyawu, W. Porter, H. J. Huebner and T. D. Phillips. Faculty of Toxicology (VAPH), Texas A&M University, College Station, TX.

NEW APPROACH FOR MONITORING EXPOSURE TO ENVIRONMENTAL TOXIC AGENTS. T. Berman-Shlomovich and University: Weiser. Institute of Life Sciences, Jerusalem, Israel.

EVALUATION OF TWO COMMERCIALLY AVAILABLE CARDIAC TROPIN IMMUNOASSAYS FOR THE DETECTION OF DRUG-INDUCED CARDIOTOXICITY IN RATS. C. Bozynski1, A. Lambert2, J. Lugo2, J. D. VanNess2, C. LaBare2, J. R. Sibley2 and D. B. Walker2. 1Faculty of Veterinary Medicine, University of Montreal, Saint Hyacinthe, QC, Canada and 2Drug Safety, Wyeth Research, Chazy, NY. Sponsor: E. Kirchner.

COMPARISON OF UNCHANGED n-HEXANE IN ALVEOLAR AIR AND 2, 5-HEXANEDIONE IN URINE FOR THE BIOLOGICAL MONITORING OF n-HEXANE EXPOSURE IN HUMAN VOLUNTEERS. G. Hamelin1, G. Truchon2 and R. Tardif3. 1Occupational and Environmental Health, University of Montreal, Montreal, QC, Canada and 2IRSST, Montreal, QC, Canada.

URINARY 3-BROMOPROPIONIC ACID: AN EFFECTIVE GAS CHROMATOGRAPHIC TEST METHOD FOR QUANTIFICATION. C. B’Hymer1 and K. L. Cheever2. 1BHB, NIOSH, Cincinnati, OH and 2BHB, NIOSH, Cincinnati, OH.

CREATININE-ADJUSTED URINARY EXCRETION OF 3, 5, 6-TRICHLOROPYRIDINOL (TCP) BY CHILDREN AGED 4 TO 12 AND THEIR PARENTS. R. I. Krieger1, 2, M. R. Oliver3, R. L. Williams2, 3 and X. Zhang2, 3, 1Department of Entomology, University of California, Riverside, Riverside, CA, 2Environmental Toxicology Graduate Program, University of California, Riverside, Riverside, CA and 3Personal Chemical Exposure Program, University of California, Riverside, Riverside, CA.

DETERMINATION OF ETHYL GLUCURONIDE IN BIOLOGICAL MATRICES USING REVERSED-PHASE HIGH PERFORMANCE LIQUID CHROMATOGRAPHY COUPLED WITH ELECTROCHEMICAL DETECTION. R. Kaushik1, 2, W. R. LaCourse3, B. Levine3, 1 and K. Squibb1. 1Toxicology, University of Maryland, Baltimore, Columbia, MD, 2Chemistry, University of Maryland, Baltimore County, Baltimore, MD and 3Office of the Chief Medical Examiner, Baltimore, MD.

2′-MOE ANTISENSE OLIGONUCLEOTIDES STIMULATE A PROINFLAMMATORY RESPONSE BY A TLR9-INDEPENDENT MECHANISM. J. J. Senn, S. Burel, R. Kadri, T. Pham and S. Henry. Toxicology, ISIS Pharmaceuticals, Carlsbad, CA.


PRE-ACTIVATION OF TOLL-LIKE RECEPTORS SENSITIZE MACROPHAGES TO INDUCTION OF PROINFLAMMATORY CYTOKINE GENE EXPRESSION BY DEOXYVINALENOL AND OTHER MICROBIAL TOXINS. J. J. Pestka1, 2 and H. Zhou1. 1Food Science and Human Nutrition, Michigan State University, East Lansing, MI and 2Microbiology and Molecular Genetics, Michigan State University, East Lansing, MI.

GALLIUM ARSENIDE EXPOSURE UPRREGULATES INFLAMMATORY CYTOKINE EXPRESSION. K. McCoy, S. Becker, T. Harrison and C. Hartmann. Microbiology & Immunology, MCV Campus/Virginia Commonwealth University, Richmond, VA.


METALLOTHIONEIN CAN FUNCTION AS A CHEMOTACTIC FACTOR. X. Yin, D. A. Knecht and M. A. Lynes. Molecular and Cell Biology, University of Connecticut, Storrs, CT.

ENHANCED PROINFLAMMATORY CYTOKINE PRODUCTION BY ACTIVATED MACROGLIAL AND MACROPHAGE CELL LINES EXPOSED TO MANGANESE IN VITRO. P. L. Crittenden and N. M. Filipov. CEHS, Basic Sciences, Mississippi State University, Mississippi State, MS.

THE EFFECTS OF INDIRUBIN ON GENE EXPRESSION PROFILES IN U937 HUMAN MONOCYTE/MACROPHAGES. A. E. Becker and C. D. Rice. Biological Sciences, Clemson University, Clemson, SC.

TUESDAY

9:30 AM to 12:30 PM

Tuesday Morning, March 23

Exhibit Hall

POSTER SESSION: IMMUNOTOXICITY: IN VITRO/Mechanisms

Chairpersons: Susan Mckarns, NIAID/NIH, Bethesda, MD and Michael Lynes, University of Connecticut, Storrs, CT.

Displayed: 9:30 AM–12:30 PM

Attended: 11:00 AM–12:30 PM

Program Description

1. 1Occupational and Environmental Health, University of California, Riverside, Riverside, CA, 2Environmental Toxicology Graduate Program, University of California, Riverside, Riverside, CA, and 3Personal Chemical Exposure Program, University of California, Riverside, Riverside, CA.

2. 1BHAB, NIOSH, Cincinnati, OH

3. 1Food Science and Human Nutrition, Michigan State University, East Lansing, MI and 2Microbiology and Molecular Genetics, Michigan State University, East Lansing, MI.

4. 1Epidemiology and Preventative Medicine, University of California, Davis, CA, 2Environmental Toxicology, University of California, Davis, CA, 3US Army Center for Health Promotion and Preventive Medicine, Aberdeen Proving Ground, MD and 4Clinical Investigation, Brooke Army Medical Center, San Antonio, TX.

up-to-date information at www.toxicology.org
#879 EFFECTS OF SELECT PARTICULATE MATTER (PM)-ASSOCIATED METALS ON MACROPHAGE (Mφ) IRON HOMEOSTASIS. S. P. Doherty1, C. Prophete1, J. Zelikoff3, P. Maciejczyk1, K. Sabinov1, T. Gould1, T. Larson1, P. Jaques4, J. Koenig3, C. Sioutas5, M. Lipman1 and M. Cohen1. 1Env Med., NYU, Tuxedo, NY, 2NCI, Bethesda, MD, 3University of Washington, Seattle, WA, 4UCLA, Los Angeles, CA and 5USC, Los Angeles, CA.

#880 EFFECTS OF PROPANOL (DCPA) ON THE NF-κB ACTIVATION PATHWAY IN MURINE MACROPHAGES. I. Ustyugova1, K. M. Brundage1, 2, R. Schafer3, C. L. Walton1 and J. B. Barnett1, 2. 1Microbiology, Immunology and Cell Biology, West Virginia University, Morgantown, WV and 2Mary Babb Randolph Cancer Center, West Virginia University, Morgantown, WV.

#881 SMAD3 MEDIATES SUPPRESSION OF T CELL RECEPTOR-INDUCED BUT NOT IL-2-INDUCED T CELL PROLIFERATION BY TGF-β1. S. C. MCKARN1, N. E. Kaminski2 and R. H. Schwartz1. 1Laboratory of Cellular and Molecular Immunology, NIAID/NIH, Bethesda, MD and 2Department of Pharmacology and Toxicology, Michigan State University, East Lansing, MI.

#882 INHIBITION OF INTERLEUKIN-2 (IL-2) SECRETION BY ANAMIDANE IS MEDIATED BY A CYCLOOXYGENASE (COX) METABOLITE. C. E. Rockwell and N. E. Kaminski. Pharmacology & Toxicology, Michigan State University, East Lansing, MI.

#883 ROLE OF EXTRACELLULAR SIGNAL-REGULATED PROTEIN KINASE 1/2 (ERK1/2) IN THE INHIBITION OF T-CELL FUNCTION BY ALKENYLBENZENES. S. Ye1, 2, H. Jeong1, C. Kim1, Y. Park1, S. Lee2, J. Shin2 and C. Yun3. 1Department of Biochemistry, Inje University, Pusan, South Korea and 2Department of Genetic Engineering, Pai-Chai University, Taejon, South Korea. Sponsor: H. Kim.

#884 SODIUM ARSENITE INHIBITS ERK1/2 PHOSPHORYLATION IN MICE LYMPHOCYTES STIMULATED WITH PHYTOHEMAGGLUTININ. P. Conde-Moo1, L. C. Acosta-Saavedra1, M. E. Cebrian1 and E. S. Calderon-Aranda1, 2. 3Secion Externa de Toxicologia, Cinvestav, Mexico, DF, Mexico and 2Department of Environmental Health Sciences, Bloomberg School of Public Health, Johns Hopkins University, Baltimore, MD.

#885 PRETREATMENT WITH CIGARETTE SMOKE EXTRACT DECREASES CELL DEATH IN PMA-TREATED NEUTROPHILS. H. C. O’Neill2 and K. A. Stringer1, 2. 1Department of Pharmaceutical Practice, UCHSC, Denver, CO and 2Department of Pharmaceutical Sciences, UCHSC, Denver, CO.

#886 GW7845, A PPARγAGONIST, INDUCES MAP KINASE-DEPENDENT APOPTOSIS IN PRO/PRE-B CELLS. D. Liu1, J. Emberley2, D. H. Sherr3 and J. J. Schlezinger1. 1Environmental Health, Boston University School of Public Health, Boston, MA and 2Microbiology, Boston University, Boston, MA.

#887 AN ENVIRONMENTAL PPARγAGONIST, MONO-(2-ETHYHEXYL) PHITHALATE, INDUCES PRO/PRE-B CELL TOXICITY: INTERACTIONS WITH 9-CIS-RETINOIC ACID AND 15-DEOXY-D12, 14-PROSTAGLANDIN J2. J. J. Schlezinger1, G. Howard1, C. H. Hurst2, T. Webster1, D. J. Waxman2 and D. H. Sherr1. 1Environmental Health, Boston University School of Public Health, Boston, MA and 2Biology, Boston University, Boston, MA.

#888 INDUCTION OF COMPETING PRO-APOTPTIC AND PRO-SURVIVAL SIGNALING PATHWAYS IN THE MACROPHAGE BY THE TRICOTHECENE DEOXYVINALENO. H. Zhou1 and J. J. Pestka1, 2, 3. 1Food Science and Human Nutrition, Michigan State University, East Lansing, MI, 2Department of Microbiology and Molecular Genetics, Michigan state University, East Lansing, MI and 3Institute for Environmental Toxicology, Michigan state University, East Lansing, MI.

#889 AHR LIGANDS INHIBIT PROLIFERATION OF ACTIVATED HUMAN B CELLS. L. L. Allan1, H. Ryu2, J. K. Emberley1, J. J. Schlezinger2 and D. H. Sherr2. 1Microbiology, Boston University School of Medicine, Boston, MA and 2Environmental Health, Boston University School of Medicine, Boston, MA.

#890 HEMATOXIC EFFECTS OF HEPTACHLOR ON B LYMPHOPOIESIS. S. V. Dodson, D. A. Piktel, J. B. Barnett and K. S. Landreth. Microbiology, Immunology, and Cell Biology, West Virginia University, Morgantown, WV.

#891 2, 3, 7, 8-TETRACHLOROBENZO-P-DIOXIN ALTERS THE REGULATION OF PAIRED BOX GENE 5 (PAX5) IN B CELLS. D. Snaider1, 2, B. S. Yoo3, 1, D. R. Boverhof2, 3, R. B. Crawford1, T. R. Zacharewski1, 2, 4 and N. E. Kaminski1, 2, 4. 1Pharmacology & Toxicology, Michigan State University, East Lansing, MI, 2Biochemistry and Molecular Biology, Michigan State University, East Lansing, MI, 3Institute of Environmental Toxicology, Michigan State University, East Lansing, MI, 4National Food Safety & Toxicology Center, Michigan State University, East Lansing, MI and 5Biology, Kyonggi University, Paldal-gu, Suwon-Si, South Korea.

#892 TCD-INDUCED MODULATION OF THE 3′γ ENHANCER. C. Sulentic1, W. Zhang2, Y. Na3 and N. Kaminski2. 1Pharmacology & Toxicology, Wright State University, Dayton, OH, 2Pharmacology & Toxicology, Michigan State University, East Lansing, MI and 3Korea Advanced Institute of Science and Technology, Daejon, South Korea.
THE EFFECTS OF TRIBUTYL Tin (TBT) ON CAMKII ACTIVITY, PROTEIN and GENE
N. Benitez, J. Li1, 2, R. Geng1, J. Chu1 and J. Smythe, J. EuDaly, W. C. Griffin, W. C. Griffin, S. A. Bakheet and E. Weil1, 2, J. H. Freedman3, J. Skene3 and G. Harry4, 1Psychiatry, Duke University Med. Ctr, Durham, NC, 2Nicholas School of Earth and Environmental Sciences, Duke University, Durham, NC, 3Neurobiology, Duke University Med. Ctr, Durham, NC and 4NIEHS, Research Triangle Park, NC.

THE INFLUENCE OF LEAD ON THE NEUROGENESIS IN THE RAT DENTATE GYRUS

EFFECTS OF EARLY POSTNATAL DEVELOPMENTAL LEAD EXPOSURE IMPACTS D. A. Cory-Slechta

ENVIRONMENTAL MERCURY EXPOSURE AND COGNITIVE FUNCTION IN OLDER ADULTS. M. E. Weil1, J. Bressler1, T. Glass1, P. Parsons2, J. Hidalgo3 and B. Schwartz1, 1Johns Hopkins University, Baltimore, MD, 2New York State Department of Health, Albany, NY and 3Autonomous University of Barcelona, Bellaterra, Spain.

ASSSESSMENT OF POSTNATAL EXPOSURE TO THIMEROSAL AND METHYL MERCURY USING A MORRIS WATER MAZE PROCEDURE IN B6C3F1 MICE. J. Smythe, J. EuDaly, W. C. Griffin, D. E. Keil and M. Peden-Adams. Medical University of South Carolina, Charleston, SC.


THE INFLUENCE OF LEAD ON THE EXPRESSION OF OCT-2 AND THE REGULATION OF ITS TARGET GENES. S. A. Bakheet and N. H. Zawia. Biomedical Sciences, University of Rhode Island, Kingston, RI.

DEVELOPMENTAL EXPOSURE TO LEAD AND RESPONSES IN THE APP GENE IN THE SENESCENT BRAIN. N. Benitez, N. H. Zawia and M. Basha. Biomedical Sciences, University of Rhode Island, Kingston, RI.

INTERACTIVE EFFECTS OF CHRONIC POSTWEANING PB EXPOSURE AND ENVIRONMENTAL STRESS. D. A. Cory-Slechta1, M. B. Virgolini1 and D. Weston2, 1Env Comm. Med., EOHSI, Piscataway, NJ and 2University of Rochester, Rochester, NY.

LONG-LASTING BEHAVIORAL AND NEUROCHEMICAL CONSEQUENCES OF MATERNAL LEAD (PB) EXPOSURE AND STRESS IN FEMALE OFFSPRING. M. B. Virgolini and D. A. Cory-Slechta. EOHSI, UMDNJ and Rutgers University, Piscataway, NJ.

EFFECTS OF EARLY LEAD EXPOSURE ON DOPAMINERGIC AND GLUTAMATERGIC NEURAL MARKERS IN THE AGING RAT BRAIN. J. L. McGlothan, T. Verina, C. D. Toscano and T. R. Giularte. Environmental Health Sciences, Johns Hopkins University, Baltimore, MD.

IRON DEFICIENCY (ID) INCREASES MANGANESE (MN) ACCUMULATION IN THE DEVELOPING RAT BRAIN. S. J. Garcia1, T. Syversen2, E. Steine3s, K. Gellein3 and M. Aschner3, 1Physiology and Pharmacology, Wake Forest University School of Medicine, Winston-Salem, NC, 2Neuroscience, Norwegian University of Science and Technology, Trondheim, Norway and 3Chemistry, Norwegian University of Science and Technology, Trondheim, Norway.

THE EFFECTS OF TRIBUTYL Tin (TBT) ON NEUROTTRANSMITTERS AND NMDA RECEPTORS IN THE BRAINS OF ICR MOUSE OFFSPRING. M. Tsuoda1, N. Konno2 and Y. Sagita-Konishi3, 1Public Health, Fukushima Medical University, Fukushima, Japan, 2Koriyama Women's University and College, Koriyama, Japan and 3Division of Microbiology, National Institute of Health Sciences, Tokyo, Japan.

BEHAVIORAL CONSEQUENCES OF PERINATAL MONOMETHYL Tin EXPOSURE IN RATS. K. D. Ehman3, K. L. McDaniel1, P. M. Phillips3 and V. C. Moser1, 1NTD/NHEERL, USEPA, Research Triangle Park, NC and 2Curriculum in Toxicology, UNC/USEPA, Research Triangle Park, NC.
POSTER SESSION: MALE REPRODUCTIVE TOXICITY TESTING

Chairperson(s): Moussa Diawara, Colorado State University-Pueblo, Pueblo, CO and William Kelce, Pfizer Inc., Kalamazoo, MI.

Displayed: 9:30 AM – 12:30 PM

Attended: 11:00 AM – 12:30 PM

COMBINED EFFECTS OF FLUTAMIDE AND β-ESTRADIOL 3-BENZOATE ON ADULT MOUSE TESTES. R. Anahara1, Y. Toyama2 and C. Mori1, 3, 4.

1Bioenviron Med., Grad Sch Med., Chiba University, Chiba, Japan, 2Anat Devel Biol, Grad Sch Med., Chiba University, Chiba, Japan and 3CREST, JST, Kawaguchi, Japan.

VALIDATION OF A METHOD OF INTRAPROSTATIC ADMINISTRATION OF TEST MATERIAL TO THE MOUSE. S. Grainger and G. Hale, Covance Laboratories Ltd., Harrogate, United Kingdom. Sponsor: D. Everett.

EFFECTS OF GESTATIONAL AND LACTATIONAL EXPOSURE TO 17α-ETHYNYLESTRADIOL ON SPERM QUALITY AND EGG FERTILIZING ABILITY OF MALE OFFSPRING IN MICE. J. Hani1, 3, P. M. Saama1, T. R. Zacharewski2, 3, 4 and K. Chou1, 3, 4.

1Animal Science, Michigan State University, East Lansing, MI, 2Biochemistry & Molecular Biology, Michigan State University, East Lansing, MI, 3Institute for Environmental Toxicology, Michigan State University, East Lansing, MI and 4National Food Safety and Toxicology Center, Michigan State University, East Lansing, MI.

DISRUPTION OF MALE REPRODUCTIVE DEVELOPMENT IN THE RAT BY A SINGLE DOSE OF THE ANTIANDROGEN, FLUTAMIDE, ADMINISTERED ON DIFFERENT GESTATIONAL DAYS. P. M. Foster and M. W. Harris. DHHS, NIH, NIEHS, Research Triangle Park, NC.

EFFECTS OF SULFASALAZINE ON SPERM ACROSOME REACTION AND GENE EXPRESSION IN THE REPRODUCTIVE ORGANS. T. Fukushima1, 2, M. Kato1, T. Adachi3, Y. Hamada1, M. Horimoto1, M. Komiyama2, C. Mori2 and I. Horii1. 1PGRD Nagoya Lab., Pfizer Inc., Taketoyo, Aichi, Japan, 2Department of Bioenvironmental Medicine, Graduate School of Medicine, Chiba University, Inohana, Chiba, Japan and 3Center for Research and Development of Bioresources, Research Institute for Advanced Sciences and Technology, Osaka Prefecture University, Sakai, Osaka, Japan.

IN VIVO EXPOSURE OF YOUNG ADULT RATS TO METHOXYCHLOR (M) REDUCES SERUM TESTOSTERONE (T) LEVELS, BASAL LEYDIG CELL (LC) T FORMATION, LC CYTOCHROME P450 CHOLESTEROL SIDE-CHAIN CLEAVEAGE (P450scc) ACTIVITY AND SERUM DEHYDROEPIANDROSTERONE (DHEA) LEVELS. E. P. Murono and R. C. Derk. Pathology and Physiology Research Branch, CDC/NIOSH, Morgantown, WV. Sponsor: V. Castranova.

DI(2-ETHYLHED) PHthalATE Rapidly Represses Steroidogenesis in the Fetal Testis and Interferes with Adrenal Steroidogenesis through an Alternative Mechanism. C. Thompson, S. M. Ross, S. Heinz and K. W. Gaide. CIT Centers for Health Research, Research Triangle Park, NC.

THE EFFECTS OF NEONATAL EXPOSURE TO DIETHYLTLESTROSTROL AND 17β-ESTRADIOL IN MOUSE EPIIDYMIS. K. Yamazaki1, T. Adachi2, H. Fukata3, K. Kojima4, K. Chiba5, C. Mori5, 5 and M. Komiyama1, 6, 1Department of Bioenvironmental Medicine, Graduate School of Medicine, Chiba University, Chiba, Japan, 2Center for Research and Development of Bioresources, Research Institute for Advanced Science and Technology, Osaka Prefecture University, Sakai, Osaka, Japan, 3Department of Bioenvironmental Medicine (SRL), Graduate School of Medicine, Chiba University, Chiba, Japan, 4Laboratory of Biochemical Pharmacology and Toxicology, Graduate School of Pharmaceutical Sciences, Chiba University, Chiba, Japan, 5Core Research for Evolutional Science of Technology (CREST), Japan Science and Technology Corporation (JST), Kawaguchi, Saitama, Japan and 6Center for Environment, Health and Field Sciences, Chiba University, Kashiwa, Chiba, Japan.

IMPACT OF METHODS OF EUTHANASIA ON SPERM MOTILITY OF OLDER ADULT SPRAGUE-DAWLEY RATS. S. L. Lohrke1, S. A. Stutter1, E. W. Johnson3, J. E. Miller1, K. Carnes2, R. A. Hess2, D. L. Schaeffer2 and D. P. Arfsten1. 1Naval Health Research Center Toxicology Detachment, Wright-Patterson AFB, OH and 2College of Veterinary Medicine, University of Illinois at Urbana-Champaign, Urbana, IL.

IN VITRO EXPOSURE TO 8-MOP DAMAGES MALE REPRODUCTIVE CELLS. M. M. Diawara and J. Carsella. Biology, Colorado State University - Pueblo, Pueblo, CO.

FUNCTIONAL EXPRESSION OF PPAR GAMMA IN SERTOLI CELLS. Y. Ye and J. H. Richburg. College of Pharmacy, The University of Texas at Austin, Austin, TX.

CRITICAL WINDOWS OF VULNERABILITY FOR EFFECTS OF 2, 3, 7, 8-TETRACHLORODIBENZO-P-DIOXIN (TCDD) ON PRENATAL PROSTATE DEVELOPMENT IN MICE. S. M. Hicks, T. Lin and R. E. Peterson. School of Pharmacy, University of Wisconsin, Madison, WI.
Tuesday Afternoon

Tuesday Afternoon, March 23
12:00 NOON to 1:15 PM
Ballroom (Level 400)

**IN VITRO TOXICOLOGY LECTURE: IN VITRO METHODS FOR DERMATOXICOLOGY STUDIES**

**Lecturer:** Robert L. Bronaugh, Ph.D., USFDA, Laurel, MD.

**Hosted by:** The Colgate-Palmolive Company

The lecture will address *in vitro* methods for skin corrosivity, skin sensitization, skin phototoxicity and skin absorption that are widely used in the safety assessment of topical products. These alternative methods can reduce and sometimes replace the need for animals. Methods for skin corrosivity and skin sensitization have been validated by both the ICCVAM (Interagency Coordinating Committee on the Validation of Alternative Methods) and the ECVAM (European Centre for the Validation of Alternative Methods). ECVAM is poised to begin a validation study to assess the adequacy of three methods for dermal irritation measurements. Further efforts are being made to clarify controversial areas in skin absorption methodology with regard to the skin reservoir, skin metabolism and other issues.

Students register for this event on the Annual Meeting Registration form; a $5 deposit per ticket is required and will be exchanged for the ticket at the luncheon. Seating is limited.

Tuesday Afternoon, March 23
12:00 NOON to 1:00 PM
Room 307

**SOT/EUROTOX DEBATE**

**Motion:** Nutraceuticals Should be Regulated as Drugs

**Sponsored by:**
- SOT (Society of Toxicology)
- EUROTOX (European Societies of Toxicology)

**Debaters:**

**SOT:** Penelope A. Fenner-Crisp, Risk Sciences Institute, Washington, DC.

**EUROTOX:** Andy G. Renwick, University of Southampton, Southampton, United Kingdom.

Nutraceuticals (also referred to as dietary supplements or phytochemicals of functional foods) are potentially bioactive natural compounds which may have health promoting, disease preventing or medical properties.
### Tuesday Afternoon, March 23

#### 12:15 PM to 1:15 PM
**Room 325**

**INFORMATIONAL SESSION: AFFYMETRIX GENECHIP EXPRESSION ANALYSIS APPLIED TO TOXICOLOGY**

Affymetrix GeneChip microarray technology is a powerful tool for detecting changes in gene expression due to a toxic or stress-related response. By using GeneChip expression array, it is possible to better understand the molecular mechanism of how known genes interact to produce toxic endpoints.

#### 1:30 PM to 4:00 PM
**Room 325**

**FORUM ON GRANTSMANSHIP AND SOURCES FOR RESEARCH SUPPORT**

**Chairperson(s):** Elaine Knight, Johnson & Johnson Pharmaceutical Research & Development, LLC, Raritan, NJ; Darlene Dixon, NIEHS, Research Triangle Park, NC; and Rosita Proteau, Oregon State University, Corvallis, OR.

**Sponsored by:** The Education Committee*

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<tr>
<th>Time</th>
<th>Activity</th>
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<tr>
<td>1:30 PM</td>
<td>Introduction, Elaine Knight, Johnson &amp; Johnson Pharmaceutical Research &amp; Development, LLC, Raritan, NJ.</td>
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<tr>
<td>1:35 PM</td>
<td>New Program Opportunities at NIEHS and How to Take Advantage of Them, Anne Sassaman, NIEHS, Research Triangle Park, NC. Dr. Sassaman will provide an overview of programs at NIEHS of special interest to SOT members, and discuss how NIH institutes have responded to new science with new initiatives. Learn about some of the new mechanisms in place and how they may be applicable to your project and interests.</td>
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<td>2:25 PM</td>
<td>Toxicology Research and the Reorganization of Study Sections at CSR, Michael Martin, NIH Center for Scientific Review, Bethesda, MD.</td>
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#### 1:30 PM to 4:30 PM
**Room 321**

**SYMPOSIUM SESSION: MODULATION OF HOST DEFENSES BY AMBIENT AND SOURCE PARTICULATE AIR POLLUTANTS**

**Chairperson(s):** Ian Gilmour, USEPA, Research Triangle Park, ND and Matthew Reed, Lovelace Respiratory Research Institute, Albuquerque, NM.

**Endorsed by:**
- Immunotoxicology Specialty Section*
- Inhalation Specialty Section*

Epidemiological evidence links air pollutants with increases in morbidity and mortality in susceptible populations. Among the health effects of long term and episodic air pollution, parameters associated with respiratory infections in susceptible populations, especially small children and the elderly, may be of primary importance. The mechanistic work detailing the modulation of infection by air pollutants is a developing and exciting field of research that brings together cutting edge biology and mechanistic toxicology. For example, the role of toll-like receptors (tlr) in response to infection and airborne particulates has been recognized. This symposium will address the epidemiological evidence suggesting that ambient air pollutants may modulate the occurrence and/or severity of respiratory infection. Subsequently, the current state of experimental models of host defense mechanisms and pathogenesis will be presented in relation to both bacterial and viral respiratory infection as modulated by individual pollutants and pollutant mixtures. Speakers will detail susceptibility to, and lung clearance of gram positive and negative bacteria, and viruses such as RSV. Focus will be placed on infection models modulated by ambient particulates, source emissions (coal fly ash and diesel exhaust), and metals. Target Audience: This Symposium encompasses the fields of microbial pathogenesis, immunology, air pollution, mixtures and mechanistic toxicology.

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#### 3:10 PM

**Room 301**

**INFORMATIONAL SESSION: WHAT’S NEW IN ELECTRONIC LAB ANIMAL IDENTIFICATION?**

Electronic identification has grown in the past 12 months with the addition of new technology. From wireless transmission to programmable chips to accurate temperature there are many exciting products to learn about. Come see how the new technology and new products can make your facilities more productive, more accurate and more compliant!

#### 2:25 PM

**Room 301**

**NEW PROGRAM OPPORTUNITIES AT NIEHS AND HOW TO TAKE ADVANTAGE OF THEM, Anne Sassaman, NIEHS, Research Triangle Park, NC.**

Learn about some of the new mechanisms in place and how they may be applicable to your project and interests.

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#### 3:30 PM

**Room 321**

**THE CENTER FOR SCIENTIFIC REVIEW (CSR) AT THE NATIONAL INSTITUTES OF HEALTH (NIH) IS IN THE FINAL PHASE OF ITS REORGANIZATION ACTIVITIES IN ACCORD WITH RECOMMENDATIONS OF ITS PANEL ON SCIENTIFIC BOUNDARIES OF REVIEW (PSBR). NEW STUDY SECTIONS WILL BEGIN MEETING IN 2004. A MAJORITY OF THE APPLICATIONS CURRENTLY BEING REVIEWED BY THE ALTX 1 AND 4 STUDY SECTIONS ARE LIKELY TO BE ASSIGNED TO THE XNDA (XENOBIOLOGICS AND NUTRITION DISTRIBUTION AND ACTION) AND LIRR (LUNG INJURY AND REPAIR) STUDY SECTIONS. THIS PRESENTATION WILL PROVIDE A REPORT ON PROGRESS AND ADDITIONAL INFORMATION FOR APPLICANTS.**

**Grant Opportunities amongst Private Funding Agencies, T.J. Koerner, American Cancer Society, Atlanta, GA.**

Non-governmental organizations comprise a significant source of research funding. This includes foundations, voluntary health organizations and other private funders. This session will share some of these opportunities and some of the nuances of approaching a mission-driven organization.

Epidemiology of Ambient Air Pollution and Pulmonary Infection. A. Pope. Department of Economics, Brigham Young University, Provo, UT. Sponsor: M. Reed.

Increased Lung Pathogenesis to Respiratory Viral Infection by Diesel Engine Combustion Components. K. S. Harrod1, J. A. Berget1, J. D. McDonald2, and M. D. Reed2. 1Asthma and Pulmonary Immunology Program, Lovelace Respiratory Research Institute, Albuquerque, NM and 2Toxicology, Lovelace Respiratory Research Institute, Albuquerque, NM.


Exacerbation of Pulmonary Pneumonia by Inhaled Ambient Particulate Matter and Associated Metals. J. T. Zelikoff, Y. Li, K. Schmerhorn, M. D. Cohen and R. B. Schlesinger. Nelson Institute of Environmental, NYU School of Medicine, Tuxedo, NY.

Role of Toll-like Receptors (TLR5) in Responses to Air Pollutants and Infections. S. R. Kleeberger. Environmental Genetics Group, Laboratory of Pulmonary Pathobiology, National Institute of Environmental Health Sciences, Research Triangle Park, NC.

The Present and Future of Toxicogenomics in Preclinical Drug Development. J. K. Leighton2 and K. L. Kolaja1. 1Toxicology, Iconix Pharmaceuticals, Mountain View, CA and 2Food and Drug Administration, Laurel, MD.


Identification and Evaluation of Genomic Biomarkers of Toxicity. F. M. Goodsaid. Genetic and Molecular Toxicology, Schering-Plough Research Institute, Lafayette, NJ. Sponsor: W. Choy.


Use of a Large Chemogenomic Database to Facilitate Drug Development. K. L. Kolaja. Toxicology, Iconix Pharmaceuticals, Mountain View, CA.

Symposium Session: The Present and Future of Toxicogenomics in Preclinical Drug Development

Chairperson(s): Frank Sistare, USFDA, Laurel, MD and Kyle Kolaja, Iconix Pharmaceuticals, Mountain View, CA.

Endorsed by:
- Carcinogenesis Specialty Section
- Molecular Biology Specialty Section
- Regulatory and Safety Evaluation Specialty Section*
- Toxicologic & Exploratory Pathology Specialty Section*

Toxicogenomics, the genome scale analyses of chemically induced changes in complex populations of mRNA to understand toxicity, has the potential to dramatically improve predictive, mechanistic and descriptive insights into drug development candidates prior to human exposures. Currently, toxicogenomics and microarray research are used selectively in drug development, primarily to facilitate the generation of proto-type compound databases and/or mechanistic and assay development research on compounds dropped from development consideration. However, as regulatory guidance begins to crystallize regarding toxicogenomics, the opportunity to use transcription profiling to improve and broaden understanding of efficacy and safety of development candidate(s) early in the testing paradigm could become more and more common. This session will discuss the current implementation of toxicogenomics in pharmaceutical companies and delve into the not-so-distant future for this technology. The first speaker will outline some critical steps needed to allow the true value of genome wide expression analysis to be realized. In order to improve human health using transcription profiling, a number of technical, biological, and regulatory/procedural issues will need to be resolved. The remaining speakers will discuss focused hypothesis-driven research projects highlighting the strategic advantage(s) inherent to toxicogenomics.

Symposium Session: Tissue and Species Differences in Regulation of Cytochrome P450s

Chairperson(s): Mary Beth Genter, University of Cincinnati, Cincinnati, OH and Xinxin Ding, New York State Department of Health, Albany, NY.

Endorsed by:
- Molecular Biology Specialty Section*

Tissue differences in the expression and regulation of various xenobiotic-metabolizing cytochrome P450 genes are critical determinants of organ-selective chemical toxicity, and species differences in P450 expression and regulation will impact risk assessment. Although tremendous progress has been made in recent years on the identification and characterization of biotransformation enzymes involved in metabolic activation, we still know very little about the expression and regulation of these enzymes in various extrahepatic target tissues, in either humans or laboratory animals. The goal of this symposium is to provide a timely forum for the dissemination of recent progress in studying P450 regulation in several important extrahepatic organs, including the brain, the lung, the skin, and the nasal mucosa. The individual research topics to be discussed will be diverse, involving different tissues, different P450 genes, different modes of regulation, and different approaches. However, a common theme of tissue- and species differences will be emphasized, and the approaches used will likely benefit studies on gene regulation in other tissues.

Up-to-date information at www.toxicology.org
INTRODUCTION TO THE SYMPOSIUM ON “TISSUE AND SPECIES DIFFERENCES IN REGULATION OF CYTOCHROME P450S”. X. Ding\textsuperscript{1, 2}. \textsuperscript{1}Wadsworth Center, New York State Department of Health, Albany, NY and \textsuperscript{2}School of Public Health, SUNY at Albany, Albany, NY.

TISSUE DIFFERENCES IN THE REGULATION OF THE CYP2A GENES. X. Ding\textsuperscript{1, 2}. \textsuperscript{1}Wadsworth Center, New York State Department of Health, Albany, NY and \textsuperscript{2}School of Public Health, SUNY at Albany, Albany, NY.

OLFACOTORY MUCOSAL METABOLIC ENZYMES: MODULATION OF TOXIC ENDPOINTS BASED ON DISTRIBUTION, INDUCTION, AND AGE-AND SPECIES VARIABLES. M. Center. Department of Environmental Health and Center for Environmental Genetics, University of Cincinnati, Cincinnati, OH.

GENE REGULATION BY THE AHR IN HUMAN KERATINOCYTES. H. I. Swanson, S. S. Ray, E. M. Hoagland, E. Thompson, D. Pupula and Z. M. Georgiava. Molecular and Biomedical Pharmacology, University of Kentucky, Lexington, KY.


MECHANISMS THAT CONTROL THE SELECTIVE EXPRESSION OF CYP2F1, CYP4B1, AND CYP3A5 IN HUMAN LUNG. G. S. You\textsuperscript{1} and R. N. Hines\textsuperscript{2}. \textsuperscript{1}Pharmacology and Toxicology, University of Utah, Salt Lake City, UT and \textsuperscript{2}Department of Pediatrics, Medical College of Wisconsin, Milwaukee, WI.

SYSTEMIC DRUG ALLERGY: FREQUENCY, CHALLENGES, MECHANISMS AND NEED FOR PREDICTIVE MODELS. J. Dean\textsuperscript{2} and R. Pieters\textsuperscript{1}. \textsuperscript{1}Immunotoxicology, IRAS/Utrecht University, Utrecht, Netherlands and \textsuperscript{2}Sanofi-Synthelabo, Inc., Malvern, Philadelphia, PA.

MECHANISMS OF ADVERSE EFFECTS OF LOW MOLECULAR WEIGHT CHEMICALS. J. Utrecht. Faculty of Pharmacy and Medicine, University of Toronto, Toronto, ON, Canada.

MODIFICATION OF THE LOCAL LYMPH NODE ASSAY TO EVALUATE THE POTENTIAL FOR ADVERSE IMMUNOLOGICALLY-MEDIATED DRUG REACTIONS. B. J. Mealde\textsuperscript{1} and J. L. Weaver\textsuperscript{2}. \textsuperscript{1}NIOSH, Morgantown, WV and \textsuperscript{2}CDER, USFDA, Laurel, MD.

THE USE OF THE PLNA IN RELATION TO ORAL ROUTE OF EXPOSURE TO LMWCS. B. W. Gutting. Chemical Biological Systems Technology Division, Naval Surface Warfare Center, Dahlgren Division, Dahlgren, VA.

A primary goal for the Society of Toxicology is to promote the use of sound toxicological science in regulatory and legislative practices and policies. To achieve this goal, the SOT focuses significant activity to support science-related functions in regulatory agencies and legislative bodies with the objective of achieving better working relationships with policy makers. In this session, representatives from Congress and experienced SOT members will explore those practices that have worked best in developing and promoting good science policy. Topics to be included in this session will be a Congressional view on the "rights" and the "wrongs" of working with Congressional committees or individual representatives. It is anticipated that a speaker from both the Senate and House of Representatives will provide special insights for the SOT membership on developing relationships with Congressional members and their staff. Also, SOT members with significant experience with presentations before Congress or have worked closely with Congressional members will present on the practices that work best for the scientific community. A general discussion between speakers will address the importance of strategy and effective communication between policy makers and scientists during those times when scientific topics are being addressed by Congress. A key outcome from this roundtable discus-
sion will be to provide SOT members with greater perspective of how the process of legislation works and how scientists can be a part of that process.

#952 1:30 SCIENCE IN THE LEGISLATIVE PROCESS: A CONGRESSIONAL AND SCIENTIFIC VIEW. W. J. Brock1 and K. Olden2. 1ENVIRON Health Sciences Institute, Arlington, VA and 2National Institute of Environmental Health Sciences, Research Triangle Park, NC.

Tuesday Afternoon, March 23
1:30 PM to 4:30 PM
Room 315

PLATFORM SESSION: AH RECEPTOR

Chairperson(s): Richard Pollenz, University of South Florida, Tampa, FL and Yanan Tian, Texas A&M, College Station, TX.


#954 1:50 A PROPOSED ROLE FOR THE ARYL HYDROCARBON RECEPTOR (AHR) IN NON-PHOTIC FEEDBACK TO THE MASTER CIRCADIAN CLOCK. L. T. Frame1, W. Li1, J. D. Miller2 and R. L. Dickerson1. 1Pharmacology and Neuroscience, Texas Tech Health Sciences Center, Lubbock, TX and 2Department of Cell and Neurobiology, Keck School of Medicine of USC, Los Angeles, CA.

#955 2:10 LIGHT-INDUCED SIGNALING VIA THE ARYL HYDROCARBON RECEPTOR (AHR). A. Rannug1, M. Oberg1, L. Bergander2, H. Hakansson1 and University. Rannug2. 1Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden and 2Cellular and Genetic Toxicology, Stockholm University, Stockholm, Sweden.

#956 2:30 AH RECEPTOR-REGULATED CHROMATIN REMODELING AND TRANSCRIPTIONAL ELONGATION: Sequential recruitment of transcription factors and differential phosphorylation of c-terminal domain of rna polymerase ii at cyp1a1 promoter. Y. Tian and S. Kr. Vet. Physiology and Pharmacology, Texas A&M University, College Station, TX.

#957 2:50 COREGULATOR DYNAMICS OF AHR-MEDIATED TRANSCRIPTIONAL ACTIVATION: RECRUITMENT OF ERG TO TCDD RESPONSIVE PROMOTERS. J. Matthews1, B. Wihlen1 and J. Gustafsson2. 1Biosciences, Karolinska Institutet, Huddinge, Sweden and 2Medical Nutrition, Karolinska Institutet, Huddinge, Sweden. Sponsor: T. Zacharewski.

#958 3:10 AGONIST AND CHEMOPREVENTIVE LIGANDS INDUCE DIFFERENTIAL TRANSCRIPTIONAL COFACTOR RECRUITMENT BY ARYL HYDROCARBON RECEPTOR. E. Hestermann1, 2, 3 and M. Brown2, 3. 1Biological Department, Furman University, Greenville, SC, 2Medical Oncology, Dana Farber Cancer Institute, Boston, MA and 3Harvard Medical School, Boston, MA.

Tuesday Afternoon, March 23
1:30 PM to 4:30 PM
Room 317

PLATFORM SESSION: ANALYSIS OF GENETIC POLYMORPHISMS

Chairperson(s): Terrance Kavanaugh, University Washington, WA and James Yager, Johns Hopkins, Baltimore, MD.


#962 1:30 FUNCTIONALITY OF HUMAN XRCC1 399 AND 194 VARIANT PROTEINS IN CELLS DETERMINED BY AN ULTRA-SENSITIVE AND REAL-TIME SSb ASSAY. J. Nakamura1, T. Takamam2, J. A. Swanberg3 and Y. Kubota4. 1Department of Environmental Sciences and Engineering, University of North Carolina at Chapel Hill, Chapel Hill, NC and 2Department of Biochemistry, Medical School of Medicine, Iwate Medical University, Morioka, Iwate, Japan.

#963 1:50 STUDIES ON PROTEIN STABILITY AND METABOLIC ACTIVITY OF HUMAN CYTOCHROME P450 2A6 (CYP2A6) GENETIC VARIANTS. K. George, X. He and J. Hong. Joint Graduate Program Toxicology, Rutgers University/UMDNJ and School of Public Health, Piscataway, NJ.

#964 2:10 SINGLE AND COMBINED GENOTYPES ON LUNG CANCER SUSCEPTIBILITY IN CHILEAN PEOPLE. L. Gil, V. Martinez and M. Adonis. Cellular and Molecular Biology, Faculty of Medicine University of Chile, Santiago, Chile. Sponsor: R. Jang.

#965 2:30 N-ACETYLTRANSFERASE 2, EXPOSURE TO SMALL AMOUNTS OF AROMATIC AMINES, AND BLADDER CANCER. K. Gokka1, K. Parker2, W. Weisenthote3, T. Reckwitz4, V. Prior5, T. Seidel5, R. Thier1, M. Blaszewicz1 and H. M. Bolt1. 1Institute for Occupational Physiology, University of Dortmund, Dortmund, Germany, 2Institute of Clinical Pharmacology, Friedrich-Schiller-University Jena, Jena, Germany, 3Department of Urology, Klinikum Leverkusen, Leverkusen, Germany, 4Department of Urology, Klinikum Dortmund, Dortmund, Germany and 5Department of Urology, Paul-Gerhard-Stiftung, Lutherstadt Wittenberg, Germany.

#959 3:30 PROTEIN KINASE C (PKC)-ELICITED PHOSPHORYLATION OF THE ARYL HYDROCARBON RECEPTOR (AHR) IS INHIBITED BY MUTATION OF AHR TYROSINE 9. G. D. Minsavage1, G. S. Bedi2 and T. A. Gasiewicz1. 1Toxicology Training Program, Department of Environmental Medicine, University of Rochester, Rochester, NY and 2Biochemistry and Biophysics Center for Oral Biology, University of Rochester, Rochester, NY.
**SOT 43rd Annual Meeting**  
**Program Description**

**Tuesday Afternoon, March 23**  
1:30 PM to 4:30 PM  
**Room 316**

**PLATFORM SESSION: MECHANISMS OF OXIDATIVE INJURY**

**Chairperson(s):** Dennis Petersen, University of Colorado Health Sciences Center, Denver, CO and Ramesh Gupta, Murray State University, Hopkinsville, KY.

**#966 2:50**  
**CORRELATION BETWEEN CATECHOL-O-METHYLTRANSFERASE GENOTYPE AND PHENOTYPE.** A. E. Sullivan1, J. E. Goodman2, P. M. Silver3 and J. D. Yager1.  
1Environmental Health Sciences, Johns Hopkins University, Baltimore, MD, 2Laboratory of Human Carcinogenesis, NCI, NIH, Bethesda, MD and 3In Vitro Technologies, Inc., Baltimore, MD.

**#971 1:30**  
**ARRESTED LUNG DEVELOPMENT ASSOCIATED WITH CHANGES IN TEMPORAL EXPRESSIONS OF FIBROBLAST GROWTH FACTOR (FGF) RECEPTORS-3 AND -4 IN NEWBORN MICE EXPOSED TO SUBLETHAL HYPEROXIA.** S. E. Welty, M. S. Park, B. L. Schanbacher, L. K. Rogers, A. C. Cook, T. N. Hansen, J. A. Bauer and C. F. Smith. Pediatrics, Columbus Children, Columbus, OH.

**#972 1:48**  
**THIOREDOKIN AND THE TOXICITY OF ACROLEIN.** Y. Choi, X. Yang and J. P. Kehrer. Division of Pharmacology and Toxicology, College of Pharmacy, The University of Texas at Austin, Austin, TX.

**#967 3:10**  
**GLUTATHIONE-S-TRANSFERASE POLYMORPHISMS AND ASSOCIATIONS WITH T1DM.** L. M. Bekris1, C. Shephard1, F. Farin1, J. Graham2, B. Mcmeney2, T. J. Kavanagh3 and A. Lernmark4. 1Environmental Health, University of Washington, Seattle, WA and 2Statistics and Actuarial Science, Simon Fraser University, Burnaby, BC, Canada.

**#968 3:30**  
**POLYMORPHISMS IN HUMAN SOLUBLE EPOXIDE HYDROLYASE.** P. K. Srivastava and D. F. Grant. Pharmacy, University of Connecticut, Storrs, CT.

**#969 3:50**  
**POLYMORPHISMS IN ALCOHOL DEHYDROGENASE INFLUENCE TOPICAL CAPSAICINOID ACTIVITY IN HUMAN SKIN.** L. K. Pershing and Y. Chen. Dermatology, University of Utah, Salt Lake City, UT. Sponsor: G. Yost.

**#970 4:10**  
**ACUTE TOXICITY OF ACETALDEHYDE ON ALDEHYDE DEHYDROGENASE 2 GENE TARGETING MICE: SINGLE DOSE IP STUDY.** T. Ise1, T. Oyama1, N. Kamugita2, K. Matsumo3, K. Kitagawa4, A. Yoshida5, I. Uchiyama6, M. Ogawa7, T. Kinaga1, R. Suzuki1, T. Yamaguchi2 and T. Kawamoto4. 1Environmental Health, University of Occupational and Environmental Health, Kitakyushu, Fukuoka, Japan, 2Health Science, University of Occupational and Environmental Health, Kitakyushu, Japan, 3Bio-information Research Center, University of Occupational and Environmental Health, Kitakyushu, Japan, 4First Department of Biochemistry, Hamamatsu Medical University, Hamamatsu, Japan, 5Beckman Research Institute of the City of Hope, Duarte, CA and 6Environmental hygiene, School of technology, Kyoto University, Kyoto, Japan.

**#973 2:06**  
**EFFECT OF OVEREXPRESSION OF HGSTA4-4 ON OXIDATIVE INJURY AND PROLIFERATION OF HEPG2 CELLS EXPOSED TO 4-HYDROXYNONENAL.** E. P. Gallagher and C. M. Huisden. Physiological Sciences, University of Florida, Gainesville, FL.

**#974 2:24**  
**REDUCED EXPRESSION OF 8-OXOGUANINE-DNA GLYOSYLASE IN THE EKER RAT.** S. S. Lau, S. L. Habib, M. S. Chucko and T. J. Monks. Department of Pharmacology and Toxicology, College of Pharmacy, University of Arizona Health Sciences Center, Tucson, AZ.

**#975 2:42**  
**CARBONYL REDUCTASE CATALYZES REDUCTION OF 4-ONOXONONENAL.** D. R. Petersen1, J. A. Doorn2, E. Masers2 and D. J. Claffey3. 1Pharmaceutical Sciences, University of Colorado Health Sciences Center, Denver, CO and 2Experimental Toxicology, University of Kiel, Kiel, Germany.

**#976 3:00**  
**DNA DAMAGE-INDUCED HISTONE H3 PHOSPHORYLATION DOES NOT INVOLVE SITES NORMALLY ASSOCIATED WITH MITOTIC CHROMOSOMAL CONDENSATION.** K. Cox1, A. H. Palmer1, S. S. Lau2, K. N. Dalby2 and T. J. Monks3. 1Pharmacology and Toxicology, University of Texas at Austin, Austin, TX, 2Medicinal Chemistry, University of Texas at Austin, Austin, TX and 3Pharmacology and Toxicology, University of Arizona Health Sciences Center, Tucson, AZ.

**#977 3:18**  
**GENETIC MUTATION ANALYSIS OF THE GLUTATHIONE REDUCTASE HYPOMORPHIC MICE (GRIAINEU) INDICATES A GENETIC KNOCKOUT ANIMAL.** C. V. Smith, T. Tamura, L. K. Rogers, B. J. Rogers, T. N. Hansen and J. E. Welty. Pediatrics, Columbus Children’s Research Institute, Columbus, OH.

**#978 3:36**  
**THE ROLE OF NRF2 AND ARE IN THE INITIATION AND PROGRESSION OF AMYOTROPHIC LATERAL SCLEROSIS.** J. C. Kern, A. D. Kraft and L. A. Johnson. Pharmaceutical Sciences, University of Wisconsin-Madison, Madison, WI.

**#979 3:54**  

**#980 4:12**  
**4-HYDROXYNONENAL-MEDIATED INHIBITION OF ENZYME-CATALYZED OXIDATION OF THE REACTIVE ELECTROPHILE 3,4 DIHYDROXYPHENYLACETALDEHYDE.** J. A. Doorn and D. R. Petersen. Pharmaceutical Sciences, University of Colorado Health Sciences Center, Denver, CO.
POSTER SESSION: SAFETY EVALUATION II

Chairperson(s): James MacGregor, USFDA NCTR, Rockville, MD and George Thomas, Calvert Laboratories, PA.

Displayed: 1:30 PM–4:30 PM

Attended: 1:30 PM–3:00 PM

#981 RAPID ANALYSIS OF HEPATOCYTE TOXICITY USING BD OXYGEN BIOSENSORS. L. E. Dike1, H. Xia1 and M. Timmins2. 1R&D, BD Biosciences, Woburn, MA and 2R&D, BD Biosciences, Bedford, MA. Sponsor: D. Stresser.


#983 EVALUATION OF RAT SERUM PROTEIN ELECTROPHORESIS USING THE SEBIA HYDRASYS SYSTEM. L. Le Sautour, L. Huard, K. Larocque and Y. Deschamps, Immunology, CTBR, Senneville, QC, Canada.

#984 CIRCADIAN RHYTHM OF RATS: SHOULD CNS EFFECTS OF SMALL MOLECULES BE EVALUATED DURING THE DARK CYCLE. K. Cardoza1, M. Gallacher1, C. Doherty2, C. Alden2, D. Tumas2 and V. J. Kadambi2. 1Comparative Medicine, Millennium Pharmaceuticals, Inc., Cambridge, MA and 2Drug Safety and Disposition, Millennium Pharmaceuticals Inc., Cambridge, MA.

#985 EVALUATION OF STATISTICAL METHODS TO ANALYZE MOUSE LYMPHOMA ASSAY MUTATION DATA. M. Moore1, J. Clements2, R. Delongchamp1, A. Thakur2 and B. Myhr3. 1NCTR, Jefferson, AR, 2Covance, Harrogate, United Kingdom and 3Covance, Vienna, VA.

#986 APPLICATIONS OF AUTOMATED DIGITAL MICROSCOPY IN INVESTIGATING MECHANISMS OF TOXICITY. X. Ying, J. Dwyer, A. Schuhl, T. M. Monticello, Z. Jayyosi and P. S. Rao, Drug Safety Evaluation, Aventis, Bridgewater, NJ.

#987 SAFETY EVALUATION OF SMALL MOLECULES USING RADIOTELEMETRY IN RATS. M. Gallacher1, K. Cardoza1, C. Doherty2, C. Alden2, D. Tumas2 and V. J. Kadambi2. 1Comparative Medicine, Millennium Pharmaceuticals, Inc., Cambridge, MA and 2Drug Safety and Disposition, Millennium Pharmaceuticals, Inc., Cambridge, MA.


EFFECTS OF SUBCHRONIC DERMAL APPLICATION OF BREAK-FREE CLP® IN CD-1 MICE. D. P. Arfsten1, A. R. Thitilol2, E. W. Johnson1, A. Jung1, W. W. Drinklely2, D. Schaefer3 and K. R. Still4. 1Naval Health Research Center Toxicology Detachment, Wright-Patterson AFB, OH, 2Operational Toxicology, Air Force Research Laboratory, Wright-Patterson AFB, OH and 3Department of Veterinary Biosciences, University of Illinois at Urbana Champaign, Urbana, IL.

SUBCHRONIC TOXICITY 90-DAY ORAL GAVAGE STUDY OF B-TELOMERIC ALCOHOL IN RATS. G. S. Ladd1, G. L. Kennedy1, J. O’Connor1, N. Eversd1, S. R. Frame1, S. Gannon1, R. Jung2, H. Iwai3 and S. Shin-ya4. 1DuPont Haskell Laboratory, Newark, DE, 2Clariant, GmbH, Sulzbach, Germany, 3Dakin Industries, Ltd., Osaka, Japan and 4Asahi Glass Co., Ltd., Tokyo, Japan.

SAFETY OF TINOSORB® M ACTIVE, A NEW SUNSCREEN INGREDIENT FOR BROAD SPECTRUM UV PROTECTION. W. F. Salminen1 and J. R. Plautz2. 1Product Safety and Regulatory, Ciba Specialty Chemicals Corporation, High Point, NC and 2PSR, Ciba Specialty Chemicals, Basel, Switzerland.


CHRONIC TOXICITY ASSESSMENT OF GENISTEIN IN SPRAGUE DAWLEY RATS. B. Delchos1, C. Weis1, D. Doerg1, G. Olson2, R. Trotter2, N. Sadovova3 and R. Newbold3. 1NCTR, Jefferson, AR, 2Pathology Associates, Jefferson, AR and 3NIHs, Research Triangle Park, NC.


INTRAPERITONEAL ADHESION FORMATION FOLLOWING IMPLANTATION OF HERNIA REPAIR GRAFT MATERIALS: COMPARISONS OF PERMACOL™ WITH SURGIPRO® AND SURGISIS GOLD™ IN THE RAT. S. L. Saynor1, G. Hale1, S. Bloor2 and C. Curtis2. 1Covance Laboratories Ltd., Harrogate, United Kingdom and 2Tissue Science Laboratories Plc, Leeds, United Kingdom. Sponsor: D. Everett.

#998 IS 20% INHIBITION OF HERG CURRENT SUFFICIENT FOR PREDICTING FOR IN VIVO QT INTERVAL PROLONGATION. C. Doherty, C. Chiaborne, T. Glyptis, M. Holmqvist, M. Stewart, P. Eddy, V. Sasseville, C. Alden and V. Kadambi. Millennium Pharmaceuticals, Inc., Cambridge, MA.


#1000 DERMAL DOSING OF NEONATAL RATS: EFFECT OF MOTHER-INFANT SEPARATION AND OCCLUSIVE DOSING. J. F. Barnett1, D. B. Learn1, A. M. Hoherman1, T. G. Osimitz2 and University. Vedula3. 1Charles River Discovery and Development Services, Argus Division, Horsham, PA, 2Science Strategies, LLC., Charlottesville, VA and 3S.C. Johnson & Sons, Inc., Racine, WI.

#1001 TAMPN RISK ASSESSMENT: A COMPREHENSIVE APPROACH. A. E. Hochwalt. Procter & Gamble, Cincinnati, OH.

#1002 COMPARATIVE REPEATED-DOSE TOXICITY OF LIPOSOME-ENCAPSULATED VINCristINE SULFATE AND FREE VINCristINE SULFATE IN RATS. P. M. Tam1, R. Ohnake1, N. Yasuda1, R. Namdari1, A. Janes1, O. Smals1, L. Armer2, J. Daniels3 and C. Flowers1. 1Preclinical Development, INEX Pharmaceuticals Corporation, Burnaby, BC, Canada, 2CTBR Bio-Research Inc., Senneville, QC, Canada and 3Cantox Health Sciences International, Mississauga, ON, Canada.

#1003 CONSTRUCTION OF A HUMAN ADVERSE EFFECTS DATABASE FOR MODELING QUANTITATIVE STRUCTURE-ACTIVITY RELATIONSHIPS (QSARs). N. L. Kruhlak1, J. L. Weaver2, R. Benz3, J. F. Conterera1 and E. J. Matthews1. 1USFDA, Rockville, MD and 2USFDA, Laurel, MD.

TOXICOLOGICAL EVALUATION OF JOALA, A HOME-BREWED BEVERAGE, PREPARED FROM CORN CONTAMINATED WITH Fusarium verticilloides CULTURE MATERIAL, K. A. Voss1, L. H. Couch2, P. C. Howard1, N. P. Keller2, M. Mabathoana1 and C. W. Bacon1. 1Toxicology & Mycotoxicology Research Unit, USDA Agricultural Research Service, Athens, GA; 2NCTR, USFDA, Jefferson, AR; 3Plant Pathology, University of Wisconsin, Madison, WI; 4Consultant, Masera, Lesotho.

FUMONISINS IN MAIZE IN GUATEMALA AND A PRELIMINARY ESTIMATE OF DAILY INTAKES. R. T. Riley1, E. Palencia2, O. R. Torres3, A. E. Glenn1 and M. Fuentes3. 1Toxicology and Mycotoxin Research Unit, USDA-ARS, Athens, GA; 2Institute of Nutrition of Central America and Panama, Guatemala City, Guatemala and 3Institute of Agricultural Science and Technology, Guatemala City, Guatemala.

SAFETY EVALUATION OF A NATURAL TOMATO OLEORESIN EXTRACT DERIVED FROM TOMATOES. R. A. Matulka, A. M. Hood and J. C. Griffiths. Burdock Group, Vero Beach, FL.

A 24-MONTH DIETARY CARCINOGENICITY STUDY OF DAG (DIACYLGlycerol) IN MICE. J. B. Kirkpatrick1, C. P. Chengelis1, R. H. Bruner1, O. Morita2, Y. Tamaki2 and H. Suzuki2. 1WIL Research Laboratories, Inc., Ashland, OH and 2Kao Corporation, Haga Tochigi, Japan.


A 24-MONTH CARCINOGENICITY STUDY OF DAG (DIACYLGlycerol) IN RATS WITH DIETARY OPTIMIZATION. C. P. Chengelis1, J. B. Kirkpatrick1, R. H. Bruner1, O. Morita2, Y. Tamaki2 and H. Suzuki2. 1WIL Research Laboratories, Inc., Ashland, OH and 2Kao Corporation, Haga Tochigi, Japan.

IN VITRO SCREENING FOR BIOLOGICAL ACTIVITY ASSOCIATED WITH FUMONISINS IN NIXTAMALIZED FOODS. L. D. Williams1, 2, K. A. Voss2, W. P. Norred2, D. S. Saunders1 and R. T. Riley2. 1Environmental Health Sciences, University of Georgia, Athens, GA; 2Toxicology and Mycotoxicology Research Unit, USDA, Athens, GA; 3Department of Food Safety, Frito-Lay, Inc., Plano, TX.


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Program Description

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RECALL AND TRACE BACK: FEDERAL, STATE AND FOOD INDUSTRY COOPERATIVE EFFORTS TO ENSURE FOOD SAFETY. A. Tawadrous1, A. M. Kady2, E. Jensen2, W. Schlosser2, J. Kause2 and C. Maczka2. 1Recall Management Division, Food Safety and Inspection Service Department Of Agriculture, Washington, DC and 2Risk Assessment Division, Food Safety and Inspection Service Department Of Agriculture, Washington, DC.

EFFECTS OF SIX DIETARY PHYTOCHEMICALS ON AFLATOXIN B1-MEDIATED GENOTOXICITY AND GENE EXPRESSION IN HUMAN HEPATOCYTES AND HepG2 CELLS. K. Gross-Steinmeyer1, K. M. Bradley1, P. L. Stapleton1, F. Liu1, J. H. Tracy1, T. K. Bannmler1, R. P. Beyer1, S. C. Strom2 and D. L. Eaton1. 1Department Environment & Occup. Health Sciences, University Washington, Seattle, WA and 2Department Pathology, University Pittsburgh, Pittsburgh, PA.

EFFECTS OF INCREASING PERCENTAGE OF DIETARY MAIZE ON RATS. S. A. MacKenzie1, N. E. Everds1, L. A. Mallet1, G. S. Ladics1, J. F. Hansen1, I. Lamb2 and G. Dana2. 1DuPont Haskell Laboratory, Newark, DE and 2Pioneer Hi-Bred International, Inc., Johnston, IA.

IMPACT OF 30-DAY ORAL DOSING WITH N-ACETYL-L-CYSTEINE ON SPRAGUE-DAWLEY RAT PHYSIOLOGY. E. W. Johnson1, A. R. Thiotoff1, A. E. Jung1, J. S. Eggers2, S. L. Lohrke1, A. J. Bobb1 and D. P. Arfsten1. 1Naval Health Research Center Toxicology Detachment, Wright-Patterson AFB, OH and 2Air Force Research Laboratory, Brooks AFB, TX.


APPLE JUICE EXTRACT AND CERTAIN POLYPHENOLS IN APPLE JUICE ACT AS INDUCERS OF CYPIA1 AND MRP2. C. Pohl1, V. Emmerlich1, H. Schmitz1, F. Will2, H. Dietrich2 and D. Schenk1. 1Food Chemistry and Environmental Toxicology, University of Kaiserslautern, Kaiserslautern, Germany and 2Forschungsanstalt Geisenheim, Germany.

ONCOGENICITY EVALUATIONS OF SOY ISOFлавONES AND BOWMAN-BIRK INHIBITOR IN p53(+/−) MICE. D. McCormick1, W. Johnson1, R. Selby1, L. Dooley1, R. Morrissey2, L. Arp2 and J. Crowell1. 1IIT Research Institute, Chicago, IL, 2Pathology Associates, Chicago, IL and 3National Cancer Institute, Bethesda, MD.

A SIMPLE CYTOTOXICITY AND GENOTOXICITY ASSAY FOR ENVIRONMENTAL MONITORING USING NOVEL PORTABLE INSTRUMENTATION. A. W. Knight1, 2, P. O. Keenan1, 3, N. J. Goddard2, P. R. Fielden2 and R. M. Walmsley1, 2, 3. 1BMS, UMIST, Manchester, United Kingdom, 2DIAS, UMIST, Manchester, United Kingdom and 3Gentronix Ltd., Manchester, United Kingdom. Sponsor: L. Walsh.

THE EFFECT OF URBAN PARTICULATE MATTER ON HUMAN LUNG CELLS. A. Jalbert3, N. Gordon2, S. Langley-Turnbuih3 and J. P. Wise1. 1Wise Laboratory of Environmental and Genetic Toxicology, Center for Integrated and Applied Environmental Toxicology, University of Southern Maine, Portland, ME, 2Department of Chemistry, University of Southern Maine, Portland, ME and 3Department of Environmental Science and Policy, University of Southern Maine, Portland, ME.

EFFECTS OF MOTORCYCLE EXHAUST INHALATION EXPOSURE ON CYTOCHROME P450 2B1, ANTIOXIDANT ENZYMES AND LIPID PEROXIDATION IN RAT LIVER AND LUNG. F. Ueng, C. Hung and H. Wang. Institute of Toxicology, National Taiwan University, Taipei, Taiwan.


THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES OF AMPHIBOLE FROM LIBBY, MT. T. L. Ziegler1, J. D. Hyde2, G. P. Meeker1, S. J. Sutley1, P. J. Lamothe1, J. K. Brownfield1, T. M. Hoefen1, G. S. Plumlee1 and M. L. Witten2. 1US Geological Survey, Denver, CO and 2The University of Arizona, Tucson, AZ.

FLUORIDE MODIFIES ADHESION OF STREPTOCOCCUS PYOGENES. J. Cao1, J. luengpailin2 and D. Ron J.2. 1Istituto iatologico, The Great Wall Hospital, Beijing, China and 2Microbiology, University of Louisville, Louisville, KY. Sponsor: G. Jiang.
DEVELOPMENT OF SCREENING VALUES FOR SOIL AND SEDIMENT BASED ON PROTECTION OF FLORIDA WILDLIFE. H. Ochoa-Acuna and S. M. Roberts. Ctr. Env. Human Toxicology, University of Florida, Gainesville, FL.

DETECTION OF ORGANOCHLORINE CONTAMINANTS IN THE SEDIMENT OF SNAKES. S. D. Holladay and D. E. Jones. Veterinary Medicine, Virginia Tech, Blacksburg, VA.

PATHOLOGY OF OCHRATOXIN IN BROILERS. A. - Muthuswamy1 and G. - -2. 1Toxicology, University of Kentucky, Lexington, KY and 2Department of Pathology, Veterinary College and Research Institute, Namakkal, Tamil Nadu, India. Sponsor: M. Vore.

MERCURY AFFECTS NEUROCHEMICAL RECEPTOR BINDING CHARACTERISTICS IN THE CEREBRAL CORTEX AND CEREBELLMUM OF WILD RIVER OTTERS. N. Basu1, K. Klenavic2, A. M. Scheuhammer3 and H. M. Chan4, 5. 1Natural Resource Science, McGill University, Montreal, QC, Canada, 2Environmental and Resource Studies, Trent University, Peterborough, ON, Canada, 3Canadian Wildlife Service, Ottawa, ON, Canada, 4Center for Indigenous Peoples’ Nutrition and Environment, McGill University, Montreal, QC, Canada and 5Dietetics and Human Nutrition, McGill University, Montreal, QC, Canada.

THYROID AXIS INHIBITION IN XENOPUS LAEVIS: GENE EXPRESSION CHANGES IN THE BRAIN. S. J. Degitz1, J. J. Korte1, G. W. Holcombe1, P. A. Kosian1, J. E. Tietje1, C. M. Bailey2, N. Veldhoen2, F. Zhang2 and C. C. Helbing2. 1MED, USEPA, Duluth, MN and 2University of Victoria, Victoria, BC, Canada. Sponsor: J. Nichols.

AQUATIC MICROBIAL POPULATION AND COMMUNITY RESPONSES TO SELECT SSRS. B. W. Brooks1, D. Fadelu1, 2, E. A. Glidewell1 and R. Massengale2. 1Environmental Studies, Baylor University, Waco, TX and 2Biology, Baylor University, Waco, TX. Sponsor: M. Kanz.

INHIBITION OF GERMINAL VESICLE BREAKDOWN (GVBD) IN XENOPUS OOCYTES IN VITRO BY A SERIES OF SUBSTITUTED GLYCOL ETHERS. D. J. Fort1, J. H. Thomas1, J. H. Thomas3, P. D. Guiney2 and J. A. Weeks2. 1Fort Environmental Laboratories, Stillwater, OK, and 2Product Safety, Toxicology & Environmental Fractions. SC Johnson & Son, Inc., Racine, WI.

TOXICOKINETICS OF PCBs IN TADPOLES OF THE GREEN FROG (RANA CLAMITANS): DOES METAMORPHOSIS AFFECT ELIMINATION RATES. J. L. Leney, D. G. Hafliner and K. G. Drouillard. Great Lakes Institute for Environmental Research (GLIER), University of Windsor, Windsor, ON, Canada. Sponsor: R. Letcher.

EFFECT OF TEMPERATURE ON TOXICITY OF HEAVY METALS IN AQUATIC INVERTEBRATES. M. A. Khan. Biological Sciences, University of IL at Chicago, Chicago, IL.


SEX STEROID HORMONES IN A WATERSHED DOMINATED BY CONCENTRATED ANIMAL FEEDING OPERATIONS. E. Oberdoerster, P. Gravel, B. North, A. Dongell and J. H. Easton. Southern Methodist University, Dallas, TX.

LOW SPECIFIC ANTIBODY RESPONSES AND ELEVATED BIOINDICATORS OF INNATE IMMUNITY IN CREOSOTE-ADAPTED MUMMICHOGS, FUNDULUS HETEROCILITUS. L. A. Frederick and C. D. Rice. Biological Sciences, Clemson University, Clemson, SC.

ESTROGENIC COMPOUNDS IN FISH BILE IDENTIFIED WITH BIOASSAY-DIRECTED FRACTIONATION. C. J. Houtman, A. M. van Oostveen, M. H. Lamoree, A. Brouwer and J. Legler. Institute for Environmental Studies, Vrije Universiteit Amsterdam, Netherlands.

EFFECTS OF ACUTE, SUB-LETHAL SODIUM ARSENATE EXPOSURE ON MIGRATORY BIRD MODELS: MITOCHONDRIAL FUNCTION, OXIDATIVE STRESS AND TIME OF FLIGHT. J. M. Braise1, 2, R. Coop2, 1 and C. A. Pritts3, 1. 1Nutrition, University of Nevada, Reno, NV and 2Environmental Sciences and Engineering, University of Nevada, Reno, NV.

ASSESSING ENDOCRINE-ACTIVE COMPOUNDS IN A JAPANESE QUAIL REPRODUCTION STUDY DESIGN. L. Brewer1, J. Stafford1, E. Mihaich2 and R. A. Becker3. 1Springborn Smithers Lab., Inc., Snow Camp, NC, 2Rhodia, Raleigh, NC and 3American Chemistry Council, Arlington, VA.

THE AFRICAN FISH EAGLE: DEVELOPING A BIOSENSITIL MODEL TO STUDY ENVIRONMENTAL POLLUTION IN UGANDA. W. K. Rambeita1, S. Hollandby1, J. Sikarskie2, C. Dranzoa2, J. Kaneene3 and W. Bowerman3. 1Pathobiology and Diagnostic Investigation, Michigan State University, East Lansing, MI, 2Wildlife and Animal Resource Management, Makerere University, Kampala, Uganda, 3Environmental Toxicology, Clemson University, Pendleton, SC and 4Small Animal Clinical Sciences, Michigan State University, East Lansing, MI.

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POSTER SESSION: FEMALE AND MULTIGENERATION REPRODUCTIVE TOXICITY

Chairperson(s): Waheed Siddiqui, Dow Corning Corporation, Midland, MI and Judith Marquis, Genzyme Corporation, Waltham, MA.

Displayed: 1:30 PM - 4:30 PM

Attendees: 3:00 PM - 4:30 PM

#1062 DETECTION OF A CRITICAL PERIOD NECESSARY FOR ATRAZINE-INDUCED MAMMARY GLAND DELAYS IN RATS. J. L. Rayner1 and S. E. Fenton2. 1Department of Environmental Sciences & Engineering, University of North Carolina, Chapel Hill, NC and 2Reproductive Toxicology Division, NHEERL, ORD, USEPA, Research Triangle Park, NC.

#1063 DIFFERENTIATION OF MAMMARY TISSUE IS SEVERELY IMPAIRED IN PREGNANT MICE TREATED WITH TCDD. B. A. Vorderstrasse1, S. E. Fenton2, A. A. Bohn3, J. A. Cundiff1 and B. Lawrence1, 3. 1Pharmaceutical Sciences, Center for Reproductive Biology, Washington State University, Pullman, WA, 2RTD, NHEERL, USEPA, Research Triangle Park, NC and 3Veterinary Clinical Sciences, Washington State University, Pullman, WA.

#1064 ONE-GENERATION REPRODUCTIVE TOXICITY STUDY OF FENITROTHION IN RATS. N. Okahashi1, K. Miyata1, M. Sano2, S. Tamano2, H. Higuchi1, Y. Kamita1 and T. Seki1. 1Environmental Health Science Laboratory, Sumitomo Chemical Company, Ltd., Osaka, Japan and 2Daiyu-Kai Institute of Medical Science, Ichinomiya, Japan. Sponsor: T. Yamada.

#1065 EFFECTS OF 20 WEEK EXPOSURES IN FEMALE SPRAGUE-DAWLEY (S-D) RATS TO THE DRINKING WATER DISINFECTION BY-PRODUCT DIBROMOACETIC ACID. A. S. Murr and J. M. Goldman. RTD, NHEERL, ORD, USEPA, Research Triangle Park, NC. Sponsor: A. Cummings.


#1067 THE ARYL HYDROCARBON RECEPTOR (AHR) MAY ALTER ESTROGEN PATHWAYS IN THE MOUSE OVARY. K. R. Barnett1, W. Fritz2, T. Lin2, R. E. Peterson2 and J. Flaws3. 1Epidemiology and Preventive Medicine, University of Maryland, Baltimore, Baltimore, MD and 2University of Wisconsin, Madison, WI.
DEVELOPING CHEMILUMINESCENT ASSAYS FOR MEASURING ENDOCRINE DISRUPTION IN MAMMALS. C. Morris¹, E. Wood², K. Roberts¹, ³ and S. Woodhead¹. ¹Molecular Light Technology Research, Cardiff, CF14 5DL, United Kingdom, ²SafePharm Laboratories Ltd., PO Box 45, Derby, DE1 2BT, United Kingdom and ³Cardiff University, School of Biosciences, PO Box 911, Cardiff, CF10 3US, United Kingdom. Sponsor: A. Smith.

28-DAY ORAL AND REPRODUCTIVE/DEVELOPMENTAL SCREENING TOXICITY STUDIES OF 1,2-ETHANEDIAMINE, N-[3-(TRIMETHOXYSILYL)PROPYL]- IN RATS. W. H. Siddiqui¹, L. S. Meeker¹, T. R. Barfknecht², S. D. Crofoot¹ and K. P. Plotzek¹. ¹Dow Corning Corporation, Midland, MI and ²Celanese International Corporation, Dallas, TX.

Q-SWITCH LASER AND TATTOO PIGMENTS, A CHEMICAL ANALYSIS OF LASER INDUCED DECOMPOSITION COMPOUNDS. W. Baumer¹, R. Vasold², B. Koenig² and M. Landthaler¹. ¹Department of Dermatology, Regensburg, Germany and ²Institute of organic chemistry, Regensburg, Germany. Sponsor: P. Howard.


EFFECT OF TRICHLOROACETIC ACID IN MALE B6C3F1 MOUSE HEPATOCYTES. D. J. Smith, L. M. Kamendulis and J. E. Klaunig. Department of Pharmacology and Toxicology, Indiana University School of Medicine, Indianapolis, IN.

ATM-DEPENDENT, DNA DAMAGE-INDUCED G1 CHECKPOINT FUNCTION REGULATES GENE EXPRESSION IN HUMAN FIBROBLASTS. T. Zhou¹, ², D. A. Simpson¹, ², Y. Zhou¹, ² and W. K. Kaufmann¹, ², ³. ¹Pathology & Lab. Medicine, University of North Carolina, Chapel Hill, NC, ²Center for Environmental Health and Susceptibility, University of North Carolina, Chapel Hill, NC and ³Lineberger Comprehensive Cancer Center, University of North Carolina, Chapel Hill, NC.


EFFECT OF TRICHLOROACETIC ACID IN MALE B6C3F1 MOUSE HEPATOCYTES. D. J. Smith, L. M. Kamendulis and J. E. Klaunig. Department of Pharmacology and Toxicology, Indiana University School of Medicine, Indianapolis, IN.

QUANTITATION OF CARCINOGENESIS-INITIATING EFFECTS OF 2-ACETYLAMINO-FLUORENE AND THEIR NO-OBSERVED-EFFECT LEVELS IN RAT LIVER. M. J. Iatropoulos, A. M. Jeffrey, J. D. Duan and G. M. Williams. Pathology, New York Medical College, Valhalla, NY.

DICHLOROACETIC AND TRICHLOROACETIC ACID INDUCED ALTERATION IN THE METHYLATION OF TUMOR SUPPRESSOR GENES AND IN THE ACETYLATION OF HISTONE H3 IN MOUSE LIVER AND TUMORS. L. Li, L. T. Tao, P. M. Kranner and M. A. Pereira. Department of Pathology, Medical College of Ohio, Toledo, OH.

PHENOBARBITAL (PB) INDUCES INITIAL HYPOMETHYLATION OF THE PROMOTOR REGION OF HA-RAS, BUT NOT LINE-1 ELEMENTS, IN THE LIVER OF B6C3F1 MICE. A. Carnell and J. J. Goodman. Pharmacology and Toxicology, Michigan State University, East Lansing, MI.

SPECIES DIFFERENCES IN THE INHIBITION OF GAP JUNCTIONAL INTERCELLULAR COMMUNICATION (GJIC) BY DIETHANOLAMINE. L. M. Kamendulis, D. J. Smith and J. E. Klaunig. Division of Toxicology, Indiana University School of Medicine, Indianapolis, IN.

PURIFICATION OF THE BIOSYNTHETIC INGREDIENT IN PSYLLIUM THAT UP-REGULATES GAP JUNCTIONAL COMMUNICATION IN RAS-TRANSFECTED RAT LIVER EPITHELIAL CELLS. Y. Nakamura¹, N. Yoshikawa¹, K. Sato¹, K. Ohtsuki¹, C. Chang², B. L. Upham³ and J. E. Trosko². ¹Food Science, Kyoto Pref. University, Kyoto, Japan and ²NFSTC, Michigan State University, Lansing, MI.


#1095 LACK OF BOTH HEPATIC PORPHYRIA AND TUMORS IN CYPIA2(-/-) MICE EXPOSED TO PCBs AND IRON. A. G. Smith, B. Clothier, R. Davies, R. E. Edwards, T. P. Dalton, D. W. Neber and P. Greaves. 1MRCC Toxicology Unit, University of Leicester, Leicester, United Kingdom and 2Environmental Health, University of Cincinnati, Cincinnati, Ohio.

#1096 ISOLATION AND ENRICHMENT OF PRENEOPLASTIC HEPATOCYTES DURING MALIGNANT CELL TRANSFORMATION. A. Ashley, M. Lohitnavy, Y. Lu, L. Chubb, R. Billings, J. Campain and R. Yang. Quantitative and Computational Toxicology Group, Center for Environmental Toxicology and Technology, Department of Environmental and Radiological Health Sciences, Colorado State University, Fort Collins, CO.

#1096a EFFECTS OF DIMETHYLARSONIC ACID (DMA(V)) ON THE TRANSITIONAL EPITHELIUM OF THE URINARY BLADDER FROM FEMALE F344 RATS. A. Wang, K. Kitchin, B. Sen, G. Knapp, D. C. Wolf and J. Robertson. 1Virginia Tech, Blacksburg, VA and 2USEPA, Research Triangle Park, NC.

Tuesday Afternoon, March 23
1:30 PM to 4:30 PM
Exhibit Hall

POSTER SESSION: NEUROTOXICITY, PESTICIDES I

Chairperson(s): Frode Fonnum, Forsvarets Forskningsinstitutt, Norway and David Herr, USEPA, Research Triangle Park, NC.

Displayed: 1:30 PM–4:30 PM

Attended: 3:00 PM–4:30 PM

#1097 MIPAFOX-INHIBITED ACHE YIELDS A DOUBLY AGED ACTIVE SITE. T. J. Kropp and R. J. Richardson. Environmental Health Sciences, University of Michigan, Ann Arbor, MI.

#1098 EFFECTS OF CHRONIC DERMAL EXPOSURE TO METHYL PARATHION ON GLUTAMATE RECEPTOR SUBTYPES IN THE RAT BRAIN. T. Ma, T. Sun, R. C. Baker, R. E. Kramer and J. K. Ho. Pharmacology & Toxicology, University of Mississippi Medical Center, Jackson, MS.

#1099 MOTOR FUNCTIONS BUT NOT ACQUISITION AND RETENTION OF ACTIVE AVOIDANCE RESPONSE ARE IMPAIRED IN METHYL PARATHION-TOLERANT RATS. T. Sun, I. A. Paul and I. Ho. 1Pharmacology and Toxicology, University of Mississippi Medical Center, Jackson, MS and 2Psychiatry and Human Behavior, University of Mississippi Medical Center, Jackson, MS.

#1100 EFFECTS OF ESTROGEN ON THE NEUROTOXICITY OF DELtamethrin IN THE RAT CORTICAL BRAIN SYNAPTOSOMES. N. Shi, L. Chen, J. Dong, T. Li and D. Chen. Department of Health Toxicology, Tongji Medical College Huazhong University of Science and Technology, Wuhan, Hubei, China. Sponsor: Z. Lai.

#1101 MODULATION OF DOPAMINE METABOLISM BY SEVERAL METABOLITES OF THE HERBICIDE ATRAZINE IN RAT STRIATAL SLICES. N. M. Filipov, M. Tsunoda, S. C. Sistrunk. 1CEHS, Basic Sciences, Mississippi State University, Mississippi State, MS and 2Public Health, Fukushima Medical University, Fukushima, Japan.

#1102 NEUROTROPHIN EXPRESSION IN THE SPINAL CORD OF CHICKENS DURING ACUTE NERVE FIBER DEGENERATION FOLLOWING EXPOSURE TO ORGANOPHOSPHATE COMPOUNDS. M. J. Pomeroy, D. Parran, M. Ehrich and B. Jortner. Virginia Tech, Blacksburg, VA.

#1103 CHLORPYRIFOS ALTERS FUNCTIONAL INTEGRITY AND STRUCTURE OF AN IN VITRO BBB MODEL. D. Parran, G. Magnin, W. Li, B. S. Jortner and M. Ehrich. Virginia-Maryland Regional College of Veterinary Medicine, Virginia Tech, Blacksburg, VA.

#1104 CONCURRENT CHRONIC STRESS AND CHLORPYRIFOS ALTERED SWIMMING BEHAVIOR MORE THAN CHRONIC STRESS ALONE. T. Pung, K. Knight, G. Magnin, K. Fuhrman, J. Hinckley and M. Ehrich. Virginia-Maryland Regional College of Veterinary Medicine, Virginia Tech, Blacksburg, VA.

#1105 DOSE RESPONSE OF NEUROPATHY TARGET ESTERASE INHIBITORS ON ATP PRODUCTION AT COMPLEX I AND II IN HUMAN NEOPLASTIC CELL LINES. T. Jortner, C. Massicotte and M. Ehrich. 1Virginia-Maryland Regional College of Veterinary Medicine, Virginia Tech, Blacksburg, VA and 2Department of Toxicology and Pharmacology, Faculty of Veterinary Medicine, Complutense University, Madrid, Spain.

#1106 ORAL BIOAVAILABILITY AND NERVOUS TISSUE DISTRIBUTION OF CYHALOTHIN IN RATS. M. R. Martinez-Larranaga, M. Martinez, M. A. Martinez, M. J. Diaz, M. T. Frejo and A. Anadon. Toxicology & Pharmacology, Faculty of Veterinary Medicine, Complutense University, Madrid, Spain.

#1107 DECREASE OF 5-HT LEVELS AFTER FIPRONIL TREATMENT. A. Anadon, R. Pita, Y. Garcia-Uzcategui, M. J. Diaz and M. R. Martinez-Larranaga. Department of Toxicology and Pharmacology, Faculty of Veterinary Medicine, Complutense University, Madrid, Spain.
INHIBITION OF CHOLINESTERASE AND CARBOXYLESTERASE FOLLOWING *IN VIVO* EXPOSURE OF RATS TO MIXTURES OF PARATHION AND CHLORPYRIFOS. E. Meek, R. Carr, H. Chambers, J. Kaminsky and J. Chambers, Mississippi State University, Mississippi State, MS.

PHARMACOKINETIC DIFFERENCES MAY EXPLAIN THE AGE-RELATED SENSITIVITY OF DELTAMETHRIN, A PYRETHROID INSECTICIDE, IN RATS. W. Raines1, 2, R. S. Marshall2, D. L. Hunter2 and S. Padilla2, 1. 1Toxicology, UNC-CH, Chapel Hill, NC and 2NHEERL, USEPA, Research Triangle Park, NC.

TWO-GENERATION DIETARY REPETITIVE TOXICITY STUDY WITH CHLORPYRIFOS-METHYL IN CD RATS: INHIBITION OF ACETYLCHOLINESTERASE, B. Marable1, K. E. Stebbins1, A. B. Liberacki2, S. Marty3, R. Billington2 and E. W. Carney1. 1The Dow Chemical Company, Midland, MI and 2Dow Agrosciences, Oxon, United Kingdom.

PROPERTIES AND FIPRONIL MODULATION OF INSECT GLUTAMATE-GATED CHLORIDE CHANNELS. X. Zhao1, J. Z. Yeh1, V. L. Salgado2 and T. Narakashiki1. 1Molecular Pharmacology and Biological Chemistry, Northwestern University Medical School, Chicago, IL and 2Global Biology Insecticides, Bayer CropScience, Monheim, Germany.

TIME AND CONCENTRATION DEPENDENT ACCUMULATION OF ^3H^-DELTAMETHRIN IN *XENOPUS OOCYTES, J. A. Harrill1, C. A. Meacham2, T. J. Shafer2 and K. M. Crofton2. 1Curriculum in Toxicology, University of N. Carolina, Chapel Hill, NC and 2Neurotoxicology Division, NHEERL, ORD, USEPA, Research Triangle Park, NC.


BLOOD LEAD IS A PREDICTOR OF HOMOCYSTEINE LEVELS IN A POPULATION-BASED STUDY OF OLDER ADULTS. J. H. Schafer1, T. A. Glass2 and B. S. Schwartz1. 1, 2. 1Environmental Health Sciences, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD and 2Epidemiology, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD.

IMMUNOglobulins TO AUTOANTIGENS OF NERVOUS AND REPRODUCTIVE SYSTEMS IN MALES OCCUPATIONALLY EXPOSED TO LEAD. H. A. El-Fawal1, A. De Feo1 and M. Shamy2. 1Neurotoxicology Laboratory, Mercy College, Dobbs Ferry, NY and 2Institute of Public Health, University of Alexandria, Alexandria, Egypt. Sponsor: M. Ehrich.

LOW LEVEL LEAD EXPOSURE ALTERS THE MESSO-CORTICOLIMBIC EXCITATORY/HIBBITORY AMINO ACID NEUROTRANSMITTER BALANCE. Y. Gedeon and A. L. JadHAV. Texas Southern University, Houston, TX.

INORGANIC LEAD (PB) EXPOSURE ACTIVATES STRIATAL CFOS EXPRESSION AT LOWER BLOOD LEVELS AND INHIBITS AMPHETAMINE-INDUCED STRIATAL CFOS EXPRESSION AT HIGHER BLOOD LEVELS IN THE RAT. M. W. Lewis and D. K. Pitts. Pharmaceutical Sciences, Wayne State University, Detroit, MI. Sponsor: G. Corcoran.

INHIBITORY EFFECT OF LEAD ON PKC ISOFORMS AND NF-KAPPA B IN VIVO AND IN VITRO. S. xu, B. Rajanna and C. Shan. Biological Sciences, Alcorn State University, Alcorn state, MS.

DIFFERENT MECHANISMS MEDIATE UPTAKE OF LEAD IN A RAT GLIAL CELL LINE. J. P. Bressler2, 3, D. Bannon1, 2, L. Olivii1, J. Cheong2, 3, K. K. Kim2, 3. 1Center for Health Promotion and Preventive Medicine, US Army, APG, Aberdeen, MD, 2Environmental Health Sciences, Johns Hopkins University, Baltimore, MD, 3Neurotoxicology, Kennedy Krieger Institute, Baltimore, MD, 4School of Pharmacy, Sahmyook University, Seoul, South Korea and 5Department of Preventive Medicine, Soonchunhyun University, Seoul, South Korea.

BRAIN- DERIVED NEUROTROPHIC FACTOR (BDNF)POLYMORPHISM ASSOCIATIONS WITH BEHAVIORAL MEASURES OF MEMORY IN HOMOCYSTEINE LEVELS IN A POPULATION-BASED STUDY OF OLDER ADULTS. E. Meek, R. Carr, H. Chambers, J. Kaminsky and J. Chambers, Mississippi State University, Mississippi State, MS.

LOW LEVEL LEAD EXPOSURE ACTS TO INHIBIT THE MESSO-CORTICOLIMBIC EXCITATORY/HIBBITORY AMINO ACID NEUROTRANSMITTER BALANCE. Y. Gedeon and A. L. JadHAV. Texas Southern University, Houston, TX.

EVIDENCE FOR DIRECT MODULATION OF GLUTAMATE (AMPA) RECEPTOR CHANNEL PROPERTIES BY METHYLMERCURY. T. Vaiithianathan, V. Suppiramaniam and P. Dey. Pharmacal Sciences, Auburn University, Auburn, AL.

EFFECTS OF METHYLMERCURY ON GABA A RECEPTOR-MEDIATED CURRENTS (IGABA) IN RAT CORTICAL CELLS IN CULTURE. C. Herden2, 3, Y. Yuan1 and B. Atchison1, 2. 1Department Pharmacology/Toxicology, Mich State University, East Lansing, MI and 2Neuroscience Program, Mich. State University, East Lansing, MI.

ALTERATIONS BY METHYLMERCURY (MEHG) OF PRESYNAPTIC TERMINAL CA++ CONCENTRATION APPEAR TO BE RESPONSIBLE FOR MEHG-INDUCED INITIAL STIMULATION OF SPONTANEOUS INHIBITORY POSTSYNAPTIC CURRENTS. Y. Yuan and W. D. Atchison. Pharmacology/Toxicology, Michigan State University, East Lansing, MI.
CALBINDIN-D-28K TRANSFECTED HUMAN EMBRYONIC KIDNEY (HEK 293) CELL LINE IS RESISTANT TO METHYLMERCURY-INDUCED ALTERATIONS OF CALCIUM HOMEOSTASIS. J. R. Edwards and W. D. Atchison. Michigan State University, East Lansing, MI.

LACK OF EXPRESSION OF CALBINDIN-D 28K CORRELATES WITH INCREASED SENSITIVITY TO METHYLMERCURY CYTOTOXICITY IN GUINEA PIG MYENTERIC PLEXUS NEURONS. A. Rodriguez, J. R. Edwards and B. Atchison. Department Pharmacology/Toxicology, Mich State University, East Lansing, MI.

TRANSFECTION OF PC12 CELLS WITH CALBINDIN-D 28K INCREASES RESISTANCE TO METHYLMERCURY-INDUCED DISRUPTION OF INTRACELLULAR CALCIUM HOMEOSTASIS. J. R. Gomula, J. R. Edwards and B. Atchison. 1Department Pharmacology/Toxicology, Mich State University, East Lansing, MI and 2College of Veterinary Medicine, Mich. State University, East Lansing, MI.

NEUROBEHAVIORAL AND MITOCHONDRIAL MEMBRANE POTENTIAL CHANGES IN CEREBELLAR GRANULE CELLS OF MICE EXPOSED TO METHYLMERCURY. S. Bellum, K. A. Thueett and L. C. Abbott. CVM, VAPH, Texas A&M University, College Station, TX. Sponsor: A. Thuett and L. C. Abbott. CVM, V APH, Texas A&M University, East Lansing, MI and 2College of Veterinary Medicine, Michigan State University, East Lansing, MI.


PROTECTIVE EFFECT OF GLUTATHIONE PEROXIDASE OVEREXPRESSION IN METHYLMERCURY NEUROTOXICITY. M. Polunas, O. Prokopenko, O. Mirochnitchenko, M. Philbert and K. Reuhl. 1, JGPT, Rutgers University/UMDNJ, Piscataway, NJ, 2Department Pharmacology/Toxicology, Rutgers University, Piscataway, NJ, 3Department Biochem., UMDNJ, Piscataway, NJ and 4Department Environment Health Sciences, University Mich., Ann Arbor, MI.

INCREASE IN INTRACELLULAR REACTIVE OXYGEN SPECIES FORMATION INDUCED BY METHYLMERCURY IN CULTURED ASTROCYTES: A CONFOCAL MICROSCOPIC STUDY. G. Shanker, L. A. Mutkus, Q. Wu and M. Aschner. Physiology and Pharmacology, Wake Forest University School of Medicine, Winston-Salem, NC.

GENE EXPRESSION ANALYSIS OF THE MICE CEREBELLAR CELLS IN VITRO EXPOSED TO METHYLMERCURY CHLORIDE. E. S. Calderon-Aranda, A. E. Jedlicka, A. S. Scott and E. K. Silbergeld. 1EHS, Johns Hopkins University, Baltimore, MD, 2MMI, Johns Hopkins University, Baltimore, MD and 3Secion de Toxicologia, Cinvestav, Mexico, DF, Mexico.

MICE OLFATORY BULB NEURONAL DEATH AFTER V2O5 INHALATION. L. COLIN-BARENQUE, M. AVILA-COSTA, V. DELGADO, I. SANCHEZ, I. LOPEZ, E. PASOS and T. I. FORTOUL. 1BIOLOGIA CELULAR Y TISULAR, UNIVERSIDAD NACIONAL AUTONOMA DE MEXICO, MEXICO CITY, Mexico and 2NEUROCIENCIAS, FES IZTACALCA, MEXICO, Mexico.

DIFFERENTIAL RESPONSES TO CADMIUM IN AN IN VIVO AND IN VITRO MODEL OF NEUROTOXICITY. C. Bolin, D. Cox and F. Cardozo-Pelaez. Biomedical and Pharmaceutical Sciences, University of Montana, Missoula, MT. Sponsor: A. Holian.

ARSENIC LEVELS AND GLUTATHIONE REDUCTASE ACTIVITY IN CD1 MICE BRAIN. M. E. Gonsalvez, J. H. Limon, V. Rodriguez, M. M. Giordano and L. M. Del Razo. 1Medical Genomics and Environmental Toxicology, Instituto de Investigaciones Biomedicas, Mexico, DF, Mexico, 2Instituto de Neurobiologia, Queretaro, Mexico and 3Toxicology Section, CNVSTAV, IPN, Mexico, DF, Mexico.

THE TRIMETHYL Tin MODEL OF HIPPOCAMPAL INJURY: GENE ARRAY ANALYSIS REVEALS EARLY AND DIVERSE CHANGES IN GENE EXPRESSION ASSOCIATED WITH NEURONAL INJURY AND GLIAL ACTIVATION. A. R. Little and J. P. O’Callaghan. TMBB, CDC-NIOSH, Morgantown, WV.


ERYTHROPOIETIN PREVENTS TRIMETHYL Tin-INDUCED NEURONAL DEATH AND GLIAL ACTIVATION. B. Viviani, S. Bartesaghi, E. Corsini, L. Lucchi, C. L. Galli and M. Marinovich. Department of Pharmacological Sciences, University of Milan, Milan, Italy.


INHALATION OF URANIUM OXIDE: PHYSIOLOGICAL EFFECTS ON RATS. J. Lewis, J. Karlsson, G. Bensch, O. Myers, W. Barrington, E. Barr and F. Hahn. 1Community Environmental Health Program, University of New Mexico, Albuquerque, NM, 2Lovelace Respiratory Research Institute, Albuquerque, NM and 3Lawrence Livermore National Laboratory, Livermore, CA.
Tuesday Afternoon, March 23
1:30 PM to 4:30 PM
Exhibit Hall

POSTER SESSION: SIGNAL TRANSDUCTION II

Chairperson(s): John Reichard, University of Colorado Health Sciences Center, Denver, CO and Kenneth Ramos, University of Louisville, Louisville, KY.

Displayed: 1:30 PM–4:30 PM

Attended: 1:30 PM–3:00 PM

#1165
AMPLIFICATION OF THE CELLULAR RESPONSE TO PARTICULATE THROUGH TUMOR NECROSIS FACTOR AUTOCRINE SIGNALING. B. chin, G. Holtom, C. chen and B. D. thrall. Molecular Biosciences Division, Pacific Northwest National Laboratory/Battelle, Richland, WA.

#1166
SILENCING OF THROMBOSPONDIN-1 EXPRESSION BY ESTROGEN IS REQUIRED FOR ESTROGEN-INDUCED ENDOTHELIAL CELL PROLIFERATION AND MIGRATION AND IS MEDIATED THROUGH NONGENOMIC ER-MAPK-JNK SIGNALING PATHWAY. K. Sengupta, B. Snigdha, N. Saxena and S. K. Banerjee. Hematology and Oncology, University of Kansas Medical Center & VA Medical Center, Kansas City, KS.

#1167
SP600125, AN ANTHRYPYRAZOLONE INHIBITOR OF JNK, INHIBITS B LYMPHOMA GROWTH. M. Gururajan1, 3, R. Chui2, A. K. Karuppapan2, 3 and S. Bondada1, 2, 3. 1Graduate Center for Toxicology, University of Kentucky, Lexington, KY, 2Microbiology & Immunology, University of Kentucky, Lexington, KY and 3Center on Aging, University of Kentucky, Lexington, KY. Sponsor: M. Vore.

#1168
STRUCTURAL STABILIZATION OF CELLS DETECTED BY FTIR IS POSSIBLY DUE TO TYROSINE PHOSPHORYLATION BY RHO KINASE IN SPLENCYTES: EFFECT OF WATER EXTRACT OF THUNBERGIA LAURIFOLIA LINN. P. Sinhaseni1, V. Taechakitiroj1, T. Suramana2, T. Posayanonda3, N. Nuntharatanapong4, R. Sindhiphak1, S. Chivapat4, P. Chavalittumrong4 and N. Dusitins1. 1Institute of Health Research, Chulalongkorn University, Bangkok, Thailand, 2Pharmacology and Toxicology Unit, Faculty of Sciences, Rangsit University, Pathumthani, Thailand, 3Food Control Division, Food and Drug Administration, Nonthaburi, Thailand, 4Department of Medical Science, Medicinal Plant Research Institute, Nonthaburi, Thailand and 5Department of Pharmacology, Faculty of Pharmaceutical, Chulalongkorn University, Bangkok, Thailand.

#1169
DOES THALIDOMIDE ALTER THE ABILITY TO ALTER PROTEIN KINASE C SIGNALING TRANSDUCTION PATHWAY. T. N. Ezell. Biology, Morgan State University, Baltimore, MD.

#1170
COMPARISON OF OVERALL METABOLISM OF 1, 2, 3, 7, 8-PENTACHLOROBENZENZO-P-DIOXIN (PECD) IN CYP1A2 (+/-) KNOCKOUT (KO) AND C57BL/6N PARENTAL STRAINS OF MICE. J. J. Diliberto1 and H. Hakki2, 1PKB, ETD, NHEERL ORD, USEPA, Research Triangle Park, NC and 2ARS, BRL, USDA, Fargo, ND. Sponsor: L. Birnbaum.

DEVELOPMENT OF A PBPK MODEL FOR HEXACHLOROBENZENE IN THE CONTEXT OF ITO'S MEDIUM-TERM LIVER FOCI BIOASSAY. Y. Lu, M. Reddy, M. Lohitnavy, O. Lohitnavy, A. Ashley and R. S. Yang. Quantitative and Computational Toxicology Group, Center for Environmental Toxicology and Technology, Colorado State University, Fort Collins, CO.

TOXICITY AND RELATIVE POTENCY OF 1, 2, 3, 4, 6, 7-HEXACHLORONAPHTHALENE (PCN66) AND 1, 2, 3, 5, 6, 7-HEXACHLORONAPHTHALENE (PCN67) IN FEMALE SPRAGUE-DAWLEY RATS. L. M. Fomby1, M. Hjelmancik1, D. Vasconcelos1, A. Fucarelli2, M. Valanz3, R. Chhabra2, H. Toyoshiba3, N. Walker2 and M. Hooth3, 1Battelle Columbus, Columbus, OH, 2Battelle Northwest, Richland, WA and 3NIEHS, Research Triangle Park, NC.

ROLE OF THE AROMATIC HYDROCARBON RECEPTOR (AhR) IN CAUSING NEONATAL LETHALITY IN MICE EXPOSED TO COPLANAR HEXABROMOBIPHENYL (CHBB). C. P. Curran, K. Miller, T. Dalton, M. Miller, H. G. Shertzer and D. W. Nebert. Environmental Health, University of Cincinnati, Cincinnati, OH.

NEONATAL EXPOSURE TO PCB 180 AFFECTS THE PREPUBERTAL REPRODUCTIVE ORGAN DEVELOPMENT IN FEMALE RATS BY ANTIESTROGENIC ACTIVITY. G. Rhe5, S. Kim1, R. Lee1, S. Kwack1, K. Lim1, H. Yhun1, G. Lee2, E. Jeung2 and K. Park1. 1Battelle Columbus, Columbus, OH, 2Battelle Northwest, Richland, WA and 3NIEHS, Research Triangle Park, NC.

AROCLR 1254 CHEMICAL MODEL FOR REYE'S SYNDROME. K. Ebney1, 2, 3, 4 and T. M. Basford. 1Battelle Columbus, Columbus, OH and 2Department of Pharmacol, Ohio St University, Columbus, OH and 3Department Pharmacol/Toxicol, Mich St. University, East Lansing, MI.

EFFECTS OF PCB 126 ON LIVER ENZYMES AND THE THYROID AXIS. T. L. Almekinder2, J. L. Campbell2, S. Muralidhara2, J. V. Bruckner2, D. C. Ferguson2, M. Muntaz2, H. El-Masri3 and J. Fisher4. 1Environmental Health Science, University of Georgia, Athens, GA, 2Interdisciplinary Toxicology Program, University of Georgia, Athens, GA, 3Pharmacology and Pharmacology, University of Georgia, Athens, GA and 4Division of Toxicology, ATSDR, Atlanta, GA.

BIOMEDICAL APPLICATION OF ACCELERATOR MASS SPECTROMETRY (AMS): PLACENTAL AND LACTATIONAL TRANSFER OF PCB 126 IN SPRAGUE-DAWLEY RATS. B. Buchholz1, S. Lee1, M. B. Reddy1, K. H. Liao1, M. Lohitnavy1, J. Vogel1 and R. Yang1. 1Environmental and Radiological Health Sciences, Colorado State University, Fort Collins, CO and 2Center for Accelerator Mass Spectrometry, Lawrence Livermore National Laboratory, Livermore, CA.
SOT 43rd Annual Meeting
Program Description

#1204  EFFECTS OF IN UTERO AND LACTATIONAL 2, 3, 7, 8-TETRACHLORODIBENZO-P-DIOXIN (TCDD) EXPOSURE ON THE PROSTATE AND ITS RESPONSE TO CASTRATION IN SENESCENT C57BL/6 MICE. W. A. Fritz, T. Lin and R. E. Peterson. School of Pharmacy, University of Wisconsin, Madison, WI.

#1205  DECREASED CARDIOMYOCYTE PROLIFERATION AND DOWN-REGULATION OF CELL-CYCLE-SPECIFIC GENES FOLLOWING IN UTERO 2, 3, 7, 8-TETRACHLORODIBENZO-P-DIOXIN EXPOSURE. E. A. Thackaberry and M. K. Walker. College of Pharmacy, University of New Mexico, Albuquerque, NM.

#1206  LOSS OF ARNT2 IS INSUFFICIENT TO PROTECT AGAINST TCDD DEVELOPMENTAL TOXICITY IN ZEBRAFISH. A. L. Prasch, W. Heideman and R. E. Peterson. School of Pharmacy, University of Wisconsin, Madison, WI.

#1207  TCDD INHIBITS REGRESSION OF THE COMMON CARDINAL VEIN IN DEVELOPING ZEBRAFISH. S. M. Bello, W. Heideman and R. E. Peterson. Pharmacy, University of Wisconsin - Madison, Madison, WI.

#1208  WATER PERMEABILITY AND TCDD-INDUCED EDEMA IN EARLY LIFE STAGES OF ZEBRAFISH. A. J. Hill, S. M. Bello, A. L. Prasch, R. E. Peterson and W. Heideman. School of Pharmacy, University of Wisconsin, Madison, WI.

#1209  MORPHOLINO KNOCKDOWN OF CYP1A DOES NOT PROTECT AGAINST 2, 3, 7, 8-TETRACHLORODIBENZO-P-DIOXIN INDUCED EMBRYOTOXICITY IN ZEBRAFISH. S. Carney, W. Heideman and R. E. Peterson. University of Wisconsin, Madison, WI.

#1210  CHRONIC EXPOSURE TO LOW DOSES OF TCDD ALTERS REPRODUCTIVE SUCCESS IN ZEBRAFISH. T. King Heiden, B. Wimpee, R. Hutz and M. J. Carvan. UW-Milwaukee Great Lakes Water Inst and NIEHS Marine and Freshwater Biomedical Sciences Center, Milwaukee, WI.

#1211  EFFECTS OF 2, 3, 7, 8-TETRACHLORODIBENZO-P-DIOXIN (TCDD) ON MATRIX METALLOPROTEINASE (MMP) EXPRESSION IN A FISH MODEL OF WOUND REPAIR. K. Hogan1, B. Wall2, K. Cooper1, 2 and L. White1, 2. 1Joint Graduate Program in Toxicology, Rutgers/UMDNJ, Piscataway, NJ and 2Department of Biochemistry, Rutgers, New Brunswick, NJ.

#1212  TCDD DECREASES RESPONSIVENESS OF THE CHICK EMBRYO HEART TO ISOPROTERENOL BUT NOT TO AGENTS EFFECTING DOWNSTREAM EVENTS OF THE ALPHA-ADRENERGIC RECEPTOR. R. J. Sommer1 and M. K. Walker2. 1Biology Department, Bates College, Lewiston, ME and 2College of Pharmacy, University of New Mexico, Albuquerque, NM.
Tuesday Evening

Tuesday Evening, March 23
6:00 PM to 7:30 PM
See Events Calendar on Pages 2–6 for Room Listings

SPECIALTY SECTION MEETINGS:
COMPARATIVE AND VETERINARY, DERMAL, FOOD SAFETY,
HISPANIC ORGANIZATION FOR TOXICOLOGISTS, IN VITRO,
MOLECULAR BIOLOGY, REPRODUCTIVE AND
DEVELOPMENTAL, WOMEN IN TOXICOLOGY

Tuesday Evening, March 23
6:00 PM to 11:00 PM
See Events Calendar on Pages 2–6 for Room Listings

REGIONAL CHAPTER MEETINGS/RECEPTIONS
Many of the Regional Chapters meet during the SOT Annual Meeting. Details for these Regional Chapter receptions and meetings are listed in Program’s Events Calendar.

Wednesday Morning

Wednesday Morning, March 24
7:15 AM to 8:15 AM
Room 318

TOWN MEETING: SOT ENDOWMENT—YOUR FUTURE
Presiding: Linda S. Birnbaum, Ph.D., SOT Vice President

Dr. Birnbaum invites you to the SOT Town Meeting, open to all members, which will be a forum to discuss the SOT endowment plans. The SOT endowment will provide stable financial resources that will be used to foster and further SOT goals and contribute to the health and betterment of society.

Whether you are interested in how the endowment can contribute to the accomplishment of SOT goals or whether you are in search of a tool to help you achieve your long-term financial goals, please plan on attending the Town Meeting. Bring your comments and suggestions; we will do our best to give each member an opportunity to be heard on this topic as well as any issues on your mind, as time permits.

Wednesday Morning, March 24
8:30 AM to 11:30 AM
Room 318

SYMPOSIUM SESSION: ARSENIC DISRUPTION OF CELL CYCLE:
MECHANISMS AND EFFECTS ON APOPTOSIS, DIFFERENTIATION
AND CARCINOGENESIS

Chairperson(s): Michael McCabe, University of Rochester, Rochester, NY and J. Christopher States, University of Louisville, Louisville, KY.

Endorsed by:
Carcinogenesis Specialty Section
In Vitro Specialty Section
Mechanisms Specialty Section
Metals Specialty Section*
Molecular Biology Specialty Section

Epidemiological studies indicate that arsenic is a human carcinogen, but the mechanism of arsenic carcinogenesis is unknown and a subject of great debate. Paradoxically, arsenic is an effective anti-leukemia agent. There is great interest in understanding and exploiting the potential chemotherapeutic effects of arsenic compounds to treat other malignancies. Recent discoveries detailing arsenic’s effects on cell cycle regulation may provide insight into the mechanisms underlying its carcinogenic and chemotherapeutic activities. Collectively, recent studies suggest that arsenic may influence cell cycle regulators at either the transcriptional or post-translational levels, and effects on specific protein-protein interactions also have been postulated. Arsenic recently has been shown to interfere with protein ubiquitination — an important finding given the role of ubiquitination of cell cycle regulatory proteins (e.g., cyclins) in normal cell cycle control. Disruption of normal cell cycle checkpoints is thought to be a key feature of the carcinogenic process. Similarly, disrupting cell cycle control is a contemporary strategy for chemotherapy. Determining which cell cycle regulators are targeted by arsenic and how such targeting is linked to cellular processes (i.e., differentiation, apoptosis) will provide an understanding of the carcinogenic mechanism and molecular targets that may be useful for chemotherapeutic benefit. This symposium will present an overview of the role of protein ubiquitination in cell cycle regulation, as well as the latest research investigating arsenic effects on protein ubiquitination and on regulation of genes and signaling pathways controlling cell cycle, differentiation and apoptosis. The presentations will discuss mechanisms that may explain the paradoxical effects of arsenic as both a cancer causing and a chemotherapeutic agent.
ARSENIC DISRUPTION OF CELL CYCLE: MECHANISMS AND EFFECTS ON APOPTOSIS, DIFFERENTIATION AND CARCINOGENESIS. J. States1 and M. J. McCabe2. 1Pharmacology & Toxicology, University of Louisville, Louisville, KY and 2Environmental Medicine, University of Rochester, Rochester, NY.

UBIQUITINATION IN THE CONTROL OF CELL CYCLE, GROWTH AND ONGENESIS. A. Banerjee. Inst. of Env. Health Sciences, Wayne State University, Detroit, MI. Sponsor: J. States.

EFFECTS OF IN VITRO EXPOSURE TO ARSENIC ON THE UBIQUITIN PATHWAY IN HUMAN RENAL AND BLADDER CELLS. A. J. Gandolfi, D. S. Kirkpatrick, T. G. Bredfeldt and X. H. Zheng. Pharmacology and Toxicology, University of Arizona, Tucson, AZ.

ARSENIC-INDUCED DISRUPTION OF MITOTIC PROGRESSION: IMPLICATIONS FOR CARCINOGENESIS AND POTENTIAL FOR CHEMOTHERAPY. J. States1, S. C. McNeely1 and M. J. McCabe2. 1Pharmacology & Toxicology, University of Louisville, Louisville, KY and 2Environmental Medicine, University of Rochester, Rochester, NY.

CELL CYCLE DYSREGULATION BY ARSENITE: IMPLICATIONS FOR ITS CHEMOTHERAPEUTIC ACTIONS. M. J. McCabe and G. McCollum. Environmental Medicine, University of Rochester, Rochester, NY.

MOLECULAR EVENTS DURING TRANSPLACENTAL INORGANIC ARSENIC CARCINOGENESIS IN MICE: ABBERRANT ACTIVATION OF GENES LINKED TO CELL CYCLE DYSREGULATION. M. P. Waalkes1, J. Liu1, H. Chen1, W. E. Achanzar2 and B. A. Diwan1. 1LCC, NCI at NIEHS, Research Triangle Park, NC and 2SAIC, NCI-Frederick, Frederick, MD.

**SYMPOSIUM SESSION: OCCUPATIONAL SKIN EXPOSURE: CURRENT TRENDS AND FUTURE DIRECTIONS FROM THE FIELD TO GENOMICS**

Chairperson(s): Michael Luster, NIOSH, Morgantown, WV and Anna Shvedova, NIOSH, Morgantown, WV

Endorsed by: Dermal Toxicology Specialty Section Occupational Health Specialty Section

Xenobiotic-activated receptors comprise several classes of structurally distinct receptor/transcription factors, which sense changes in the chemical environment of cells, mediate transcriptional responses to the chemical stimuli, and thereby control the homeostasis of cells. Overactivation or dysfunction of the receptors is often associated with altered responses to chemicals, including toxicity and disease states. The rapid advances in understanding of signal transduction and molecular mechanism of action of these receptors provide new insights into the biological functions of the receptors and their relation to disease pathogenesis. Moreover, increasing evidence reveals that many xenobiotic-activated receptors represent important targets for developing effective therapeutic and preventive strategies in disease control and prevention. The objective of this symposium is to bring together leading experts to present new advances in the concept and understanding of the biological functions of a number of receptors in relation to disease development and prevention. Topics include ligand-receptor interactions and implications for therapy/chemoprotection; receptor-mediated antioxidant/oxidative responses and relation to autoimmune regulation/embryonic development; and control of metal homeostasis.

SYMPOSIUM SESSION: XENOBIOTIC-ACTIVATED RECEPTORS: BIOLOGICAL FUNCTIONS AND DISEASE PREVENTION

Chairperson(s): Jack Vanden Heuvel, Penn State University, University Park, PA and Qiang Ma, CDC/NIOSH, Morgantown, WV

Endorsed by: Carcinogenesis Specialty Section Molecular Biology Specialty Section

The purpose of this symposium is to address important and emerging areas of occupational skin toxicology with respect to current trends and future directions from the field to genomics. For many years, skin has been considered primarily as a route of exposures for toxic chemicals and not as a target organ. As a result, research in skin toxicology per se is extremely underemphasized and under-represented in the discipline of toxicology. Advances in cellular and molecular skin biology have provided insightful opportunities to explore dermal toxicology at different levels. There is no doubt occupational and environmental exposures play a substantial role in skin maladies. A comprehensive discussion of recent developments and trends in occupational skin toxicology will provide novel approaches to elucidate exposure outcomes. This group of selected topics will bring together leading experts representing diverse perspectives in this important field. Ample time will be allotted for full discussion of major skin programs and current findings in Europe and the US. This symposium will address innovative issues in the area of skin toxicology ranging from disease incidences and causes to dermal toxicogenomics.
A NEW CLASS OF PEROXISOME PROLIFERATOR-ACTIVATED RECEPTORγ AGONISTS: 1, 1-BIS(3'-INDOLYL)-1-(P-SUBSTITUTEDPHENYL) METHANES. S. Safe. Veterinary Physiology & Pharmacology, Texas A&M University, College Station, TX.

THE AH RECEPTOR: DIVERSITY IN LIGAND BINDING AND BIOLOGICAL/TOXICOLOGICAL RESPONSES. M. Denison1, A. Padini3, L. Bonati3 and S. Safe2. 1Environmental Toxicology, University of California, Davis, CA, 2Vet. Physiol. & Pharmacology, Texas A&M University, College Station, TX and 3di Scienze dell, University of Milano-Bicocca, Milano, Milano, Italy.

NRF2, AN ANTIOXIDANT ACTIVATED CNC BZIP TRANSCRIPTION FACTOR: MECHANISM OF ACTION AND ROLE IN AUTOIMMUNE FUNCTION. Q. Ma. Toxicology and Molecular Biology Branch, CDC/NIOSH, Morgantown, WV.

THE NRF1 TRANScription FACTOR IN OXIDATIVE STRESS RESPONSE AND DEVELOPMENT. J. Chan. Pathology, University of California at Irvine, Irvine, CA. Sponsor: Q. Ma.

DEFENSE AGAINST ZINC AND CADMIUM TOXICITY. R. D. Palmeter1, 2. 1Biochemistry, University Washington, Seattle, WA and 2Howard Hughes Medical Institute, University of Washington, Seattle, WA. Sponsor: Q. Ma.


DEVELOPMENT OF ADME DATA IN AGRICULTURAL CHEMICAL SAFETY ASSESSMENTS. T. Pastoor1 and H. Barton2. 1Syngenta Crop Protection, Greensboro, NC and 2EPA Office of Research and Development-NHEERL, Research Triangle Park, NC.

INTEGRATING LIFE STAGE TESTING INTO AGRICULTURAL CHEMICAL SAFETY ASSESSMENT. J. C. Lamb. BBL Sciences, Reston, VA.

WORKSHOP SESSION: HISTOMORPHOLOGY AND BEYOND: CORRELATING NON-CLINICAL IMMUNE MODULATION WITH CLINICAL DATA

Chairperson(s): Lynda Reid, FDA/CDER, Rockville, MD and JoAnn Schuh, Applied Veterinary Pathobiology, PLLC, Bainbridge Island, WA.

Endorsed by:
Immunotoxicology Specialty Section
Toxicologic & Exploratory Pathology Specialty Section*

Histopathology is an important component for assessing immunomodulation as part of immunotoxicology profiling in non-clinical studies. Histomorphological evaluation of lymphoid organs and tissues in animals captures the accumulation of both background and treatment-specific immunomodulation and careful evaluation can provide evidence of altered immune function. However, immunomodulatory changes in tissues need to be interpreted in the context of variation due to genetic modifiers, stress and degree of environmental antigenic exposure. In the last few years, experiences with expanded immunotoxicology testing have resulted in availability of data sets that allow correlation of histomorphology to functional data and clinical studies. Additionally, compartments of the mucosal immune system are also beginning to be more thoroughly analyzed. Many challenges remain in our efforts to fully understand non-clinical immunohistology relative to functional data. The increasing need for immunotoxicology assessment as part of regulatory submissions reinforces our need to continually improve our abilities to correctly interpret and apply immunotoxicology information. Periodic reassessment of completed and ongoing immunohistology and immune function studies is important to monitoring the robustness of testing guidelines, directing testing modifications and to establish predictive value of animal studies for clinical studies. This purpose of this workshop is to present and examine several available data sets that have evaluated histomorphology and immunomodulation in animals and resulting correlations to clinical data. Representative data sets from immunomodulation subsequent to chemical and pharmaceutical exposure conducted by laboratories in The Netherlands and by the NTP, USFDA and ILSI will be highlighted. Discussions on these current and ongoing experiences with correlative data sets will be relevant to individuals involved in gathering and evaluating data in all aspects of the rapidly progressing field of immunotoxicology.

CONCORDANCE OF ANIMAL TOXICITY AND ZEBRAFISH AS A MODEL FOR SMALL

R. L. Tanguay

Specialty Section


PROTOCOLS AND VALIDATION STUDIES OF HISTOPATHOLOGY AND IMMUNE FUNCTION IN NON-CLINICAL STUDIES. J. G. Vos. Laboratory of Pathology and Immunology, National Institute for Public Health and the Environment, Bilthoven, Netherlands.


CONCORDANCE OF ANIMAL TOXICITY AND SAFETY PHARMACOLOGY DATA WITH HUMAN TOXICITIES FOR THERAPEUTIC AGENTS: FOCUS ON THE IMMUNE SYSTEM. M. P. Holzapple1, K. Thomas1, J. Sanders2 and E. Kadyaszewski3. 1Health and Environmental Sciences Institute, International Life Sciences Institute, Washington, DC, 2Aventis Pharmaceuticals, Bridgewater, NJ and 3Pfizer Central Research, Groton, CT.

Several organisms such as the worm (C. elegans), fly (D. melanogaster), frog (X. laevis) and zebrafish (D. rerio) have been discussed as alternative models for assessing developmental toxicity of environmental agents in higher mammals. Zebra fish seems to be an appropriate model for several reasons. It is a vertebrate, its genetics and development is well understood and transgenics/knockdowns can be easily made. The zebrafish life cycle is short therefore; its specific developmental phenotypes can be screened effectively. Zebrafish are easily bred throughout the year in the laboratory and individual females can give rise to hundreds of progeny on a year-round basis. Several zebrafish mutants are representative of known forms of human genetic disorders. In addition, its genomic sequence will be available from the Sanger Sequencing Center and this has already allowed easy isolation and identification of gene regions. Commercial sources of DNA libraries for microarray analysis are now available. Moreover, they can be easily exposed to environmental agents; can be used to screen environmental agents that have developmental risk in a semi or high-throughput manner. Mechanistic data involving specific genes/pathways can also be effectively generated to help better estimate the human developmental risk. Therefore, zebrafish can be an effective alternative model in the drug discovery process or environmental risk assessment.

SOT 43rd Annual Meeting
Program Description

#1237 8:30 HISTOMORPHOLOGY AND BEYOND: CORRELATING NON-CLINICAL IMMUNE MODULATION WITH CLINICAL DATA. J. Schuh1 and L. Reid2. 1Applied Veterinary Pathobiology, PLLC, Bainbridge Island, WA and 2Division of Reproductive and Urologic Drug Products, USFDA, Rockville, MD.


#1239 9:10 PROTOCOLS AND VALIDATION STUDIES OF HISTOPATHOLOGY AND IMMUNE FUNCTION IN NON-CLINICAL STUDIES. J. G. Vos. Laboratory of Pathology and Immunology, National Institute for Public Health and the Environment, Bilthoven, Netherlands.


#1241 10:10 CONCORDANCE OF ANIMAL TOXICITY AND SAFETY PHARMACOLOGY DATA WITH HUMAN TOXICITIES FOR THERAPEUTIC AGENTS: FOCUS ON THE IMMUNE SYSTEM. M. P. Holzapple1, K. Thomas1, J. Sanders2 and E. Kadyaszewski3. 1Health and Environmental Sciences Institute, International Life Sciences Institute, Washington, DC, 2Aventis Pharmaceuticals, Bridgewater, NJ and 3Pfizer Central Research, Groton, CT.

Wednesday Morning, March 24
8:30 AM to 11:30 AM
Room 321

WORKSHOP SESSION: ZEBRAFISH—A MODEL ORGANISM FOR ASSESSING DEVELOPMENTAL TOXICITY IN DRUG DISCOVERY/ENVIRONMENTAL RISK ASSESSMENT

Chairperson(s): John Rogers, USEPA, Research Triangle Park, NC and Ravi Dugyala, Schering Plough Research Institute, Lafayette, NJ.

Endorsed by: In Vitro Specialty Section Neurotoxicology Specialty Section Regulatory and Safety Evaluation Specialty Section Reproductive and Developmental Toxicology Specialty Section*

Several organisms such as the worm (C. elegans), fly (D. melanogaster), frog (X. laevis) and zebrafish (D. rerio) have been discussed as alternative models for assessing developmental toxicity of environmental agents in higher mammals. Zebra fish seems to be an appropriate model for several reasons. It is a vertebrate, its genetics and development is well understood and transgenics/knockdowns can be easily made. The zebrafish life cycle is short therefore; its specific developmental phenotypes can be screened effectively. Zebrafish are easily bred throughout the year in the laboratory and individual females can give rise to hundreds of progeny on a year-round basis. Several zebrafish mutants are representative of known forms of human genetic disorders. In addition, its genomic sequence will be available from the Sanger Sequencing Center and this has already allowed easy isolation and identification of gene regions. Commercial sources of DNA libraries for microarray analysis are now available. Moreover, they can be easily exposed to environmental agents; can be used to screen environmental agents that have developmental risk in a semi or high-throughput manner. Mechanistic data involving specific genes/pathways can also be effectively generated to help better estimate the human developmental risk. Therefore, zebrafish can be an effective alternative model in the drug discovery process or environmental risk assessment.

#1242 8:30 ZEBRAFISH—A MODEL ORGANISM FOR ASSESSING DEVELOPMENTAL TOXICITY IN DRUG DISCOVERY/ENVIRONMENTAL RISK ASSESSMENT. R. R. Dugyala1 and J. M. Rogers2. 1Reproductive Toxicology, Schering-Plough Research Institute, Lafayette, NJ and 2Reproductive Toxicology Division, National Health and Environmental Effects Research Laboratory, Research Triangle Park, NC.

#1243 8:35 TRANSGENESIS, MICROARRAY ANALYSIS AND ANTI-SENSE KNOCKDOWNS OF ZEBRAFISH GENES-TOOLS FOR USING ZEBRAFISH AS A TOXICOLOGICAL MODEL. E. Limney1, L. Upchurch1, S. Donerly1, Q. Xhao1, C. Lassiter1 and E. Levin2. 1Department of Molecular Genetics and Microbiology, Duke University Medical Center, Durham, NC and 2Department of Psychiatry, Duke University Medical Center, Durham, NC.

#1244 9:10 ZEBRAFISH AND DIOXIN DEVELOPMENTAL TOXICITY: POISED TO IDENTIFY CRITICAL GENES FOR SPECIFIC ENDPOINTS, R. E. Peterson1, A. L. Prasch1, E. A. Andreason1, R. L. Tanguay2 and W. Heideman1. 1School of Pharmacy, Molecular and Environmental Toxicology, University of Wisconsin, Madison, WI and 2Department of Biological Sciences, Oregon State University, Corvallis, OR.

#1245 9:45 NICOTINE-INDUCED DEVELOPMENTAL TOXICITY IN ZEBRAFISH. R. L. Tanguay1, K. R. Svoboda2 and S. Vijayaraghavan3. 1Environmental and Molecular Toxicology, Oregon State University, Corvallis, OR, 2Department of Biological Sciences, Louisiana State University, Baton Rouge, LA and 3Department of Physiology and Biophysics, University of Colorado Health Sciences Center, Denver, CO.

#1246 10:20 ZEBRAFISH AS A MODEL FOR SMALL MOLECULE SCREENING/DISCOVERY. R. T. Peterson, D. Milan, C. MacRae, T. Peterson and M. Fishman. Cardiovascular Research Center, Massachusetts General Hospital, Charlestown, MA. Sponsor: R. Dugyala.


up-to-date information at www.toxicology.org
SOT 43rd Annual Meeting

Program Description

Wednesday Morning, March 24
8:30 AM to 11:30 AM
Room 315

PLATFORM SESSION: BIOMARKERS OF EXPOSURE AND EFFECTS

Chairperson(s): David Doolittle, RJR Tobacco Company, Winston Salem, NC and Christopher Bral, Schering Plough Research Institute, Lafayette, NJ.

#1248 8:30

#1249 8:50
LARGE WITHIN CHILD VARIABILITY FOR OP PESTICIDE URINARY BIOMARKERS LIMITS OUR ABILITY TO IDENTIFY HIGH EXPOSURE FARM WORKER CHILDREN. W. C. Griffith,1 C. L. Curl1, E. M. Faustman2,1 C. A. Li1 and R. A. Fenske.1 1DEOHs, University of Washington, Seattle, WA and 2Institute for Risk Analysis and Risk Communication, University of Washington, Seattle, WA.

#1250 9:10

#1251 9:30
DEVELOPMENT OF AN LCMS METHOD FOR THE QUANTITATIVE MEASUREMENT OF AFLATOXIN B1, SERUM ALBUMIN ADDUCTS. P. F. Scholl1, L. McCoy2, R. Schleicher2 and J. D. Groopman1. 1Environmental Health Sciences, Johns Hopkins University Bloomberg School of Public Health, Baltimore, MD and 2National Center for Environmental Health, Inorganic Toxicology and Nutrition Branch, Centers for Disease Control and Prevention, Atlanta, GA.

#1252 9:50
 CYCLIN AND HOX GENE EXPRESSION ASSOCIATED WITH DRUG-INDUCED BILIARY HYPERPLASIA AND CELL PROLIFERATION IN CYNOMOLGUS MONKEYS. C. M. Bral, F. M. Goodsaid, R. J. Smith, F. Poulet and J. Y. Rosenblum. Genetic and Molecular Toxicology, Schering-Plough Research Institute, Lafayette, NJ.

#1253 10:10
DMBT1 IS A BIOMARKER OF BILE DUCT HYPERPLASIA IN F344 RATS. D. E. Watson1, I. Kadura1, B. Li1, G. Searfoss1, K. Rodocker2, J. Sullivan2 and B. Berridge2. 1Global Exploratory Toxicology Team, Eli Lilly and Company, Greenfield, IN and 2Experimental Pathology, Eli Lilly and Company, Greenfield, IN. Sponsor: C. Thomas.

#1254 10:30
BIOMARKERS OF HEPATOTOXINS IDENTIFIED USING MURINE EMBRYONIC STEM CELL DIFFERENTIATION SYSTEMS. Y. S. Kim1, Y. Luo1, O. A. Callan1, A. Vickers2 and H. R. Snodgrass1. 1VistaGen Therapeutics, Burlingame, CA and 2Novartis Pharmaceuticals, East Hanover, NJ.

#1255 10:50
DIFFERENTIATION BETWEEN RENAL INJURY AND COMPENSATORY RESPONSES BY THE USE OF SPECIFIC BIOMARKERS. A. Coyle1, P. R. Maxwell2 and D. Gordon3. 1Biotrin, Dublin, Ireland, 2Biochemistry, Stobhill Hospital, Glasgow, United Kingdom and 3Medicine, Stobhill Hospital, Glasgow, United Kingdom. Sponsor: R. Chandra Gupta.

#1256 11:10
EVALUATION OF A HIGH-THROUGHPUT ARRAYPLATE TEST PLATFORM FOR GENOMIC BIOMARKERS OF TOXICITY. I. Botros1, F. M. Goodsaid2, B. Seligmann1, J. W. Davis2, M. Crawford1, R. J. Smith2, R. Martel1 and I. Y. Rosenblum2. 1High-Throughput Genomics, Tucson, AZ and 2Genetic and Molecular Toxicology, Schering-Plough Research Institute, Lafayette, NJ.

Wednesday Morning, March 24
8:30 AM to 11:30 AM
Room 317

PLATFORM SESSION: HYPERSENSITIVITY II

Chairperson(s): Jack Uetrecht, University of Toronto, Department of Pharmacy, ON, Canada and MJ Selgrade, USEPA, Research Triangle Park, NC.

#1257 8:30
EVIDENCE OF AN IMMUNE-MEDIATED MECHANISM FOR NEVIRAPINE-INDUCED SKIN RASH IN THE BROWN NORWAY RAT. J. M. Shenton and J. P. Uetrecht. Pharmaceutical Sciences, University of Toronto, Toronto, ON, Canada.

#1258 8:50
CONTRIBUTION OF MAJOR HISTOCOMPATIBILITY COMPLEX DIFFERENCE ON OCCURRENCE OF SYSTEMIC ANAPHYLAXIS IN MICE. Y. Heo1, H. Kim2 and S. Hur3. 1Occupational Health, Catholic University of Daegu, Kyongsan si, Kyongbuk, South Korea, 2Preventive Medicine, The Catholic University of Korea, College of Medicine, Seoul, South Korea and 3Biological Products, Korea Food & Drug Administration, Seoul, South Korea.

#1259 9:10
 INVESTIGATING IMMUNOGENICITY OF 2-PHENYLPROPENAL, A REACTIVE METABOLITE OF FELBAMATE. M. Popovic1, S. Nierkens2, W. Santos3, R. Pieters2 and J. Uetrecht1. 1Pharmaceutical Sciences, University of Toronto, Toronto, ON, Canada, 2IRAS-IT, Utrecht, Netherlands and 3Harvard University, Cambridge, MA.

#1260 9:30
CHARACTERIZATION OF HARDWOOD AND SOFTWOOD DUST INDUCED EXPRESSION OF CYTOKINES AND CHEMOKINES IN MOUSE MACROPHAGE RAW 264.7 CELLS. J. Maatta1, M. Majuri1, A. Lauerna2, K. Hugaifvel-Pursiainen1, H. Alenius1 and K. Sovolainen1. 1Department of Industrial Hygiene and Toxicology, Finnish Institute of Occupational Health, Helsinki, Finland and 2Department of Occupational Medicine, Finnish Institute of Occupational Health, Helsinki, Finland.

#1261 9:50
CAN THE POPULTEAL LYMPH NODE (PLN) ASSAY BE USED TO PREDICT SPECIFIC IgE ADJUVANT ACTIVITY OF AMBIENT AIR PARTICLES? RESULTS FROM THE EUROPEAN RAIAP PROJECT. M. Lovik, T. Lovdal, E. Groeng and E. Dybing. Environmental Medicine, NIPH, Oslo, Norway.
SOT 43rd Annual Meeting
Program Description

#1262 10:10 SENSITIVITY AND SPECIFICITY OF A SEROLOGICAL TEST THAT DETECTS HUMAN IGE ANTIBODY TO THE BACILLUS ENZYME Y217L BPN', K. Sarlo1, B. Schnell1, R. J. Harbeck2, D. Leto2, E. Finn1 and B. Kirchner1. 1Miami Valley Laboratories, Procter & Gamble Company, Cincinnati, OH and 2National Jewish Medical and Research Center, Denver, CO.

#1263 10:30 DIFFERENTIAL GENE EXPRESSION IN OCCUPATIONAL ASTHMA. J. F. Regal1, A. L. Greene1, R. R. Regal2, M. S. Rutherford3, G. H. Flickinger3, J. A. Hendrickson3 and M. E. Mohrman1. 1Pharmacology, University of Minnesota, Duluth, MN, 2Mathematics and Statistics, University of Minnesota, Duluth, MN and 3Veterinary Pathobiology, University of Minnesota, St. Paul, MN.


Wednesday Morning, March 24
8:30 AM to 11:30 AM
Room 326

PLATFORM SESSION: OMICS TECHNOLOGIES: APPLICATION IN TOXICOLOGY

Chairperson(s): Craig Thomas, Eli Lilly & Co., Greenfield, IN and Clay Frederick, Merck & Co Inc., West Point, PA.


#1266 8:50 DEVELOPMENT OF A PUBLIC TOXICOGENOMIC SOFTWARE FOR MICROARRAY DATA MANAGEMENT AND ANALYSIS. W. Tong, S. Harris, X. Cao, H. Fang, L. Shi, H. Sun, J. Fuscoe, H. Hong, Q. Xie, R. Perkins and D. Casciano. NCTR, Jefferson, AR.


#1270 10:10 TARGETED PROTEOMIC PROFILING: USE OF LECTIN AFFINITY CHROMATOGRAPHY TO ISOLATE CANCER-RELATED FUCOSYLATED PROTEINS FROM SERUM. C. R. Wilson1, C. L. Feasley2, F. E. Regnier2 and S. B. Hooser3. 1Animal Disease Diagnostic Laboratory, Purdue University, West Lafayette, IN and 3Chemistry, Purdue University, West Lafayette, IN.

#1271 10:30 GENE EXPRESSION CHANGES IN PRIMATES ARE DIFFERENT FROM THOSE IN RODENTS FOLLOWING EXPOSURE TO THE HEPATOXIN ACETAMINOPHEN. M. S. Lawrence, D. Redmond, R. Roth, J. Elsworth, S. Tam, R. Jensen and S. Gullans. RxGen, Hamden, CT. Sponsor: Y. Dragon.

#1272 10:50 GENOMIC CHARACTERIZATION OF IDIOPATHIC AND DRUG-INDUCED DILATED AND HYPERTROPHIC CARDIOMYOPATHY IN THE RAT HEART. D. Donna1, M. R. Fielden2, K. Kolaja1, J. M. Moehlencamp1, M. Peden3 and B. Car1. 1Bristol-Myers Squibb, Princeton, NJ, 2Iconix Pharmaceuticals, Mountain View, CA and 3Bristol-Myers Squibb, Evansville, IN.


Wednesday Morning, March 24
8:30 AM to 10:50 AM
Room 324

PLATFORM SESSION: RESPIRATORY TRACT V—TOBACCO SMOKE AND COPD

Chairperson(s): Willie McKinney, Phillip Morris, Richmond, VA and Rogene Henderson, Lovelace Respiratory Research Institute, Albuquerque, NM.

#1274 8:30 TRANSCRIPTIONAL PERTURBATION OF LYSYL OXIDASE BY CIGARETTE SMOKE CONDENSATE IN CULTURED LUNG FIBROBLASTS. W. Li1, K. Chen1, Y. Zhao2, L. Chen1, P. Toselli1, J. Cho2 and P. Stone1. 1Biochemistry, Boston University School of Medicine, Boston, MA and 2Microbiology, Boston University School of Medicine, Boston, MA.
### Program Description

| #1275 | 8:50 | INHIBITION OF LYSYL OXIDASE AT PROTEIN AND CATALYTIC LEVELS AND CELLULAR THIOL HOMEOSTASIS IN RAT LUNG FIBROBLASTS TREATED WITH CIGARETTE SMOKE CONDENSATE. | #1282 | RETROSPECTIVE ASSESSMENT OF THE RABBIT ENUCLEATED EYE TEST (REET) AS A SCREEN TO REFINED WORKER SAFETY STUDIES. F. J. Guerriero, C. W. Seaman, M. J. Olson, R. Guest and A. Whittingham. |
| #1280 | 10:30 | ACUTE RESPONSES IN MICE EXPOSED TO POLYMER AND TOBACCO COMBUSTION PRODUCTS USING A DIN FURNACE. R. Lemus, K. M. Lee and M. S. Werley. 1Philip Morris USA, Richmond, VA and 2Battelle Toxicology NW, Richland, WA. | #1287 | SPECIES AND TISSUE DIFFERENCES IN ENDOPLASMIC RETICULUM CA2+ INDEPENDENT PHOSPHOLIPASE A2 EXPRESSION. G. R. Kinsey, B. S. Cummings. 1, J. Mchowat and R. G. Schnellmann. 1Pharmacology Sciences., Med. University of South Carolina, Charleston, SC, 2Pharmacology and Biomed. Sciences., University of Georgia, Athens, GA and 3Pathology, St. Louis University, St. Louis, MO. |

**Wednesday Morning, March 24**

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<td>9:30 AM to 12:30 PM</td>
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**POSTER SESSION: IN VITRO/ANIMAL ALTERNATIVE MODELS II**

**Chairperson(s):** Alan Goldberg, Johns Hopkins University, Baltimore, MD and Charles Tyson, SRI International, Menlo Park, CA.

**Displayed:** 9:30 AM–12:30 PM

**Attended:** 9:30 AM–11:00 AM

**Wednesday Morning, March 24**

### #1281 INVESTIGATION OF A METHOD OF PREPARING A SINGLE CELL SUSPENSION IN THE LOCAL LYMPH NODE ASSAY USING CHEMICAL DISSOLUTION. D. Dreher and D. Everett. Covance Laboratories Ltd., Harrogate, United Kingdom.

### #1282 RETROSPECTIVE ASSESSMENT OF THE RABBIT ENUCLEATED EYE TEST (REET) AS A SCREEN TO REFINED WORKER SAFETY STUDIES. F. J. Guerriero, C. W. Seaman, M. J. Olson, R. Guest and A. Whittingham.


### #1284 IGE MEASUREMENTS: COMPARISON OF RBL AND PASSIVE CUTANEOUS ANAPHYLAXIS (PCA) ASSAYS. R. Skinner, N. Deakin, D. Shaw, R. J. Dearman and I. Kimber.

### #1285 THE IMPORTANCE OF MULTIPLE ENDPOINT ANALYSIS (MEA) USING RECONSTITUTED HUMAN TISSUE MODELS FOR IRRITATION AND COMPATIBILITY TESTING. B. De Wever, M. Cappadore and M. Rosby.


### #1287 SPECIES AND TISSUE DIFFERENCES IN ENDOPLASMIC RETICULUM CA2+ INDEPENDENT PHOSPHOLIPASE A2 EXPRESSION. G. R. Kinsey, B. S. Cummings.

### #1288 A PROTOTYPE IN VITRO NEUROTOXICITY DATABASE. A. D. Weissman, NovaScreen Biosciences Corp, Hanover, MD.

### #1289 LYSES OF ADHERENT HUMAN EPIDERMAL KERATINOCYTES IN SITU BY A MISONIX TISSUE CULTURE PLATE SONICATOR. C. L. Gross, O. E. Clark, E. W. Neallley, M. T. Nipwoda and W. J. Smith. USAMRICD, APG-EA, MD.

### #1290 DIFFERENTIATION OF THE ABSORPTION KINETICS OF JET FUEL HYDROCARBONS WITH AN ETHANOL/WATER SYSTEM AND A MEMBRANE-COATED FIBER TECHNIQUE. X. Xia and J. E. Riviere.

### #1291 THE PERFORMANCE OF IN VITRO TEST BATTERIES AS PRE-SCREENS TO IN VIVO SKIN AND EYE IRRITATION TESTS. D. I. Lees and R. W. Lewis. CTL, Syngenta, Cheshire, United Kingdom.
UPTAKE KINETICS OF JET FUEL AROMATIC HYDROCARBONS FROM AQUEOUS SOLUTIONS STUDIED BY A MEMBRANE-COATED FIBER TECHNIQUE. J. E. Rivera and X. Xia. Center for Chemical Toxicology Research and Pharmacokinetics, North Carolina State University, Raleigh, NC.

DEVELOPMENTAL TOXICITY OF TRIETHYLENE GLYCOL, TRIETHYLENE GLYCOL MONOMETHYL ETHER AND TRIETHYLENE GLYCOL DIMETHYL ETHER IN INTACT DROSOPHILA MELANOGASTER. D. Lynch. Biomonitoring and Health Assessment Branch, NIOSH, Cincinnati, OH.


PRECISION-CUT TISSUE CHIPS AS A TOXICOLOGICAL TOOL. J. M. Catania and A. Gandolfi. Pharmacology and Toxicology, University of Arizona, Tucson, AZ.

EVALUATION OF THE BCOP ASSAY AS A PREDICTOR OF OCULAR IRRITATION OF PETROCHEMICAL PRODUCTS. P. T. Bailey1, J. J. Freeman1, R. D. Phillips1 and J. C. Merrill2. 1Toxicology and Environmental Sciences Division, ExxonMobil Biomedical Sciences, Inc., Annandale, NJ and 2Institute for In Vitro Sciences, Inc., Gaithersburg, MD.

ESTIMATE OF FALSE NEGATIVE RATES FOR THE INVIVO RABBIT DERMAL IRRITATION ASSAY. N. Choksi1, J. Haseman2, R. Tice1 and W. Stokes1. 1ILS, Inc., Research Triangle Park, NC, and 2NIEHS, Research Triangle Park, NC.

ESTIMATE OF FALSE NEGATIVE RATES FOR THE INVIVO RABBIT DERMAL CORROSION ASSAY. R. Tice1,2, N. Choksi1, J. Haseman2, R. Hill3, M. Lewis3, D. Lowther4 and W. Stokes2. 1ILS, Inc., Research Triangle Park, NC, 2NIEHS, Research Triangle Park, NC, 3NICEATM, NIEHS, Research Triangle Park, NC.

ESTIMATE OF FALSE NEGATIVE RATES FOR THE INVIVO ORAL DERMAL CORROSIVE ASSAY. R. Tice1,2, N. Choksi1, J. Haseman2, R. Hill3, M. Lewis3, D. Lowther4 and W. Stokes2. 1ILS, Inc., Research Triangle Park, NC, 2NIEHS, Research Triangle Park, NC, 3NICEATM, NIEHS, Research Triangle Park, NC, 4EPA, Washington, DC and 5FDA, College Park, MD.


FURTHER DEVELOPMENT OF A FLOW CYTOMETRY-BASED LOCAL LYMPH NODE ASSAY WITH EAR SWELLING AND IMMUNOPHENOTYPIC ENDPOINTS. S. Young, D. R. Cerven, T. L. Ripper and G. L. DeGeorge. MB Research Laboratories, Spinnerston, PA.

DEVELOPMENT OF AN INVITRO MODEL FOR ASSESSING PULMONARY INFLAMMATION. J. M. Kennedy and J. M. Carter. Central Product Safety, Procter & Gamble, Cincinnati, OH.

PERFORMANCE OF THE PH 6.7 SYRIAN HAMSTER EMBRYO (SHE) CELL TRANSFORMATION ASSAY IN PREDICTING THE CARCINOGENIC POTENTIAL OF CHEMICALS. H. Zhang and B. C. Myhr. Genetic and Molecular Toxicology, Covance Laboratories Inc., Vienna, MD.

DEVELOPMENT OF A CELLOMICS-BASED INVITRO SCREEN FOR PHOSPHOLIPIDOSIS. J. K. Morelli, M. Buehrle, F. Pognan and P. Ciaccio. Safety Assessment, AstraZeneca Pharmaceuticals, Wilmington, DE.

COMPARATIVE MICROARRAY ANALYSIS OF BASAL GENE EXPRESSION IN MOUSE HEPATIC? WILD-TYPE AND MUTANT CELL LINES. C. J. Fong, L. D. Burgoon, M. D. Ramer and T. R. Zacharewski. Department of Biochemistry & Molecular Biology, Department of Pharmacology & Toxicology, Institute of Environmental Toxicology, National Food Safety and Toxicology Center, Michigan State University, East Lansing, MI.

PHASE TWO: EVALUATING THE EYE IRRITATION POTENTIAL OF SOLVENTS. S. Yeung, R. Cerven, T. L. Ripper and C. Prusiewicz1, J. J. Freeman, R. C. Hayes, M. Kennedy and S. Young. Institute for In Vitro Sciences, Inc., Gaithersburg, MD.

COMPARISON OF INVITRO EYE IRRITATION POTENTIAL BY BCOP ASSAY TO ERYTHEMA SCORES IN HUMAN EYE STING TEST OF SURFACANT-BASED FORMULATIONS. K. C. Cater1, E. Patrick2, J. W. Harbell3, J. C. Merrill3 and S. L. Schilcher1. 1The Dial Corporation, Scottsdale, AZ, 2Consultant, Westfield, NJ and 3Institute for In Vitro Sciences, Gaithersburg, MD.

THE USE OF A HUMAN RECONSTITUTED EPIDERMAL MODEL FOR THE OCCUPATIONAL HAZARD ASSESSMENT OF PHARMACEUTICAL PROCESS MATERIALS. C. W. Seaman1, 2, B. De Wever2, M. Cappadoro2, A. Whittingham3, R. Guest3 and C. Prusiewicz1. 1c/o GlaxoSmithKline, Ware, Herts, United Kingdom, 2SkinEthic Laboratories, Nice, France and 3SafePharm Laboratories, Derby, United Kingdom.

THE USE OF A HUMAN RECONSTITUTED CORNEAL EPITHELIUM MODEL FOR THE OCCUPATIONAL HAZARD ASSESSMENT OF PHARMACEUTICAL PROCESS MATERIALS. R. M. Potter and J. G. Hadley. Product Stewardship, Owens Corning Science and Technology Center, Granville, OH.
#1311 COCAETHYLENE-INDUCED CHANGES IN ENDOTHELIAL PERMEABILITY AND CATION FLUX. D. H. Tacker and A. O. Okorodudu. Department of Pathology, The University of Texas Medical Branch at Galveston, Galveston, TX.


#1313 ALTERNATIVE PHOTOSENSITIZATION ASSAY IN THE MOUSE (PHOTO-LLNA). G. L. DeGeorge, T. L. Ripper, S. Young and D. R. Cerven. MB Research Laboratories, Spinnerstown, PA.

#1314 MULTI-CENTER PREVALIDATION USING IN VITRO RECONSTITUTED HUMAN CORNEAL EPITHELIAL MODEL TO ASSESS THE EYE IRRITATING POTENTIAL OF CHEMICALS. B. De Wever1, M. Cappadoro1, F. Straube2, N. Alepeye3, F. Van Goethem4, P. Vanparys5 and E. Adriaens5. 1SkinEthic Laboratories, Nice, France, 2Novartis Pharma, Basel, Switzerland, 3Johnson & Johnson Pharmaceutical R&D, Beersel, Belgium, 4Pfizer Global R&D, Amboise, France and 5University of Ghent, Ghent, Belgium. Sponsor: A. Goldberg.

#1315 COMPUTATIONAL MODEL FOR RADIATION-INDUCED CELL DEATH AT LOW DOSES IN THE DEVELOPING NEOCORTEX. N. M. DeFrank, W. C. Griffith, J. M. Gohlke and E. M. Faustman. Environmental and Occupational Health Sciences, University of Washington, Seattle, WA.

#1316 CONTRIBUTION OF EXPERIMENTAL AND INTER AND INTRASPECIES VARIABILITY IN A COMPUTATIONAL MODEL FOR ETHANOL-INDUCED PERTURBATIONS OF NEOCORTICAL DEVELOPMENT. J. M. Gohlke, W. C. Griffith and E. M. Faustman. Environmental and Occupational Health Sciences, University of Washington, Seattle, WA.

#1317 PREDICTIVE MODELING OF IN VITRO BRAIN CHOLINESTERASE INHIBITION FOLLOWING SIMULTANEOUS OR SEQUENTIAL EXPOSURES TO BINARY MIXTURES OF ORGANOPHOSPHATES. J. E. Chambers1, R. L. Carr1, H. W. Chambers2, J. A. Kamkowski1, E. C. Meek1, S. F. Oppenheimer1 and J. R. Richardson1. 1Coll Veterinary Med., Mississippi State University, Mississippi State, MS, 2Department of Entomology, Mississippi State University, Mississippi State, MS and 3Department of Mathematics, Mississippi State University, Mississippi State, MS.

#1318 STOCHASTIC MATHEMATICAL MODELING OF TUMOR GROWTH AND DIFFERENTIATION IN HUMAN CARCINOGENESIS. S. Y. Whitaker1, A. Kopp-Schneider2 and C. J. Portier1. 1LCBRA, NIEMHS, Research Triangle Park, NC and 2Biostatistics, DFKZ, Heidelberg, Germany.

#1319 PHARMACOKINETIC (PK)/PHARMACODYNAMIC (PD) RELATIONSHIP OF PC626 UNDER THE CONDITIONS OF MODIFIED ITO MEDIUM-TERM LIVER BIOASSAY. M. Lohitnavy, L. Chubb, O. S. Lohitnavy, C. C. Yang, J. Homburg, J. A. Campain and R. S. Yang. Quantitative and Computational Toxicology Group, Center for Environmental Toxicology and Technology, Environmental and Radiological Health Sciences, Colorado State University, Fort Collins, CO.

#1320 REACTION NETWORK MODELING OF BENZO(A)PYRENE METABOLIC PATHWAYS: FURTHER DEVELOPMENT. K. H. Liao1,2, A. N. Mayeno1,3, K. F. Reardon1,2 and R. S. Yang1,3. 1Quantitative and Computational Toxicology Group, Center for Environmental Toxicology and Technology, Colorado State University, Fort Collins, CO, 2Department of Chemical Engineering, Colorado State University, Fort Collins, CO and 3Department of Environmental and Radiological Health Sciences, Colorado State University, Fort Collins, CO.


#1322 PATHWAYS TO UNDERSTANDING THE METABOLISM OF CHLORINATED ENVIRONMENTAL CONTAMINANTS THROUGH BIOCHEMICAL REACTION NETWORK MODELING. A. N. Mayeno, B. Reisfeld and R. Yang. Quantitative and Computational Toxicology Group, Center for Environmental Toxicology and Technology, Department of Environmental and Radiological Health Sciences, Colorado State University, Fort Collins, CO.

#1323 APPLICATION OF A STATISTICAL DYNAMIC MODEL INVESTIGATING THE SHORT-TERM CELLULAR KINETICS INDUCED BY RIDDELLINE, A HEPATIC ENDOTHELIAL CARCINOGEN. M. V. Smith1, A. Nyska2 and C. Porter2. 1Constitella Health Sciences, Constitella Group, Durham, NC, NC and 2NIEMHS, Research Triangle Park, NC.

#1324 A FEEDBACK MODEL FOR TESTICULAR-PITUITARY AXIS HORMONE KINETICS AND THEIR EFFECTS ON THE REGULATION OF THE PROSTATE IN ADULT MALE RATS. H. A. Barton2, M. G. Zager3 and L. K. Potter1. 1Toxicology, University of North Carolina, Chapel Hill, NC and 2NHEERL, USEPA, Research Triangle Park, NC.
SOT 43rd Annual Meeting
Program Description

#1325 PRELIMINARY ANALYSIS OF ALGORITHMS PREDICTING BLOOD: AIR AND TISSUE: BLOOD PARTITION COEFFICIENTS FROM SOLVENT PARTITION COEFFICIENTS. T. R. Sterner1, P. J. Robinson2, D. R. Matte1 and G. A. Burton1. 1OpTech, Dayton, OH; 2ManTech Environmental Technology, Dayton, OH; 3Air Force Research Laboratory, Wright-Patterson AFB, OH and 4Wright State University, Dayton, OH.

#1326 STEADY STATE TOXICO KINETICS OF METHYL MERCURY IN HUMANS. G. Balagopal and H. Chan. Nutrition and Dietetics, McGill University, Ste-Anne-de-Bellevue, QC, Canada.

Wednesday Morning, March 24
9:30 AM to 12:30 PM
Exhibit Hall

POSTER SESSION: DEVELOPMENTAL NEUROTOXICITY I

Chairperson(s): Christiane Massicotte, VA MD Regional College of Veterinary Medicine, Blacksburg, VA and Larry Sheets, Bayer CropScience, Stilwell, KS.

Displayed: 9:30 AM–12:30 PM

Attended: 9:30 AM–11:00 AM

#1327 DEVELOPMENTAL EXPOSURE TO LEAD PROMOTES NEURODEGENERATION IN THE SENESENT RAT BRAIN. B. Brock, N. H. Zavia and M. Basha. Biomedical Sciences, University of Rhode Island, Kingston, RI.


#1329 EFFECT OF ETHANOL ON CARBACHOL-STIMULATED PHOSPHOLIPASE D SIGNALING IN ASTROGLIAL CELLS. M. Guizzetti and H. Chan. Nutrition and Dietetics, McGill University, Ste-Anne-de-Bellevue, QC, Canada.

#1330 THE EFFECTS OF EARLY POSTNATAL CHLORPYRIFOS EXPOSURE ON PERFORMANCE IN THE 12-ARM RADIAL MAZE. F. O. Johnson and R. L. Carr. College Of Veterinary Medicine, Center For Environnmental Health Sciences, Mississippi State University, Starkville, MS.

#1331 DEVELOPMENTAL EXPOSURE TO CHLORPYRIFOS ELICITS SEX-SELECTIVE ALTERATIONS OF SEROTONERGIC SYNAPTIC FUNCTION IN ADULTHOOD. J. E. Aldridge, F. J. Seidler and T. A. Slotkin. Pharmacology & Cancer Biology, Duke University Med. Ctr, Durham, NC.


#1334 TETRALUTINAL IS A DEVELOPMENTAL NEUROTOXICANT: EFFECTS ON NEUROPROTEINS AND MORPHOLOGY IN CEREBELLUM, HIPPOCAMPUS, AND SOMATOSENSORY CORTEX. M. C. Rhodes1, F. J. Seidler1, A. Abdel-Rahman1, A. Nyska2, H. L. Rincavage2 and T. A. Slotkin1. 1Pharmacology & Cancer Biology, Duke University Med. Ctr, Durham, NC and 2Niehs, Research Triangle Park, NC.

#1335 ELEVATED EXPRESSION OF GLIAL FIBRILLARY ACIDIC PROTEIN IN THE CEREBELLUM OF THE OFFSPRING AT LATE PUBERTY FOLLOWING MATERNAL EXPOSURE TO NICOTINE DURING GESTATION. W. A. Khan, A. Abdel-Rahman, A. M. Dechkovskaia, J. M. Sutton, X. Guan and M. B. Abou-Donia. Pharmacology and Cancer Biology, Duke University Medical Center, Durham, NC.

#1336 MATERNAL EXPOSURE TO NICOTINE VIA INFUSION DURING GESTATION PRODUCES NEUROBEHAVIORAL DEFICITS AND ELEVATED EXPRESSION OF GLIAL FIBRILLARY ACIDIC PROTEIN IN THE CEREBELLUM IN THE OFFSPRING AT PUBERTY. M. B. Abou-Donia, A. Abdel-Rahman, A. M. Dechkovskaia, J. M. Sutton and W. A. Khan. Pharmacology and Cancer Biology, Duke University Medical Center, Durham, NC.

#1337 GENE EXPRESSION CHANGES ASSOCIATED WITH A DEVELOPMENTAL PESTICIDE EXPOSURE MODEL OF PARKINSON’S DISEASE. M. Thruchelvam1, A. I. Brooks2, E. K. Richfield3 and D. A. Cory-Slechta1. 1Environmental and Community Medicine, University of Medicine and Dentistry of New Jersey, Piscataway, NJ and 2Environmental Medicine, University of Rochester, Rochester, NY.

#1338 ONTOGENY OF PROTEINS FOR USE AS BIOMARKERS OF DEVELOPMENTAL NEUROTOXICITY. B. L. Robnette and W. R. Mandy. Neurotoxicology Division, NHEERL, ORD, USEPA, Research Triangle Park, NC.

#1339 NEUROPATHOLOGICAL EXAMINATION OF FETAL RAT BRAIN EXPOSED TO THE GENOTOXIC COMPOUND, 5-BROMO-2-DEOXYURIDINE (BRDU). T. Ogawa1, K. Muneoka2, M. Kuwagata1 and S. Shioda1. 1Hatano Research Institute, FDSC, Kanagawa, Japan and 2Hatano Research Institute, FDSC, Kanagawa, Japan.

#1340 EPA SCREEN FOR DEVELOPMENTAL NEUROTOXICITY: RESULTS WITH SIX ORGANOPHOSPHORUS (OP) INSECTICIDES. L. P. Sheets. Toxicology, Bayer CropScience, Stilwell, KS.

up-to-date information at www.toxicology.org
#1341 AUDITORY STARTLE REFLEX HABITUATION IN DEVELOPMENTAL NEUROTOXICITY TESTING: A CROSS-LABORATORY COMPARISON OF CONTROL DATA. W. Sette2, K. Crofton1, S. Makris3, J. Doherty1 and K. Raffaele1. 1OPP, USEPA, Washington, DC, 2OSA, USEPA, Washington, DC and 3NEHERL, ORD, USEPA, Research Triangle Park, NC.

#1342 LEARNING AND MEMORY TESTS IN DEVELOPMENTAL NEUROTOXICITY TESTING: A CROSS-LABORATORY COMPARISON OF CONTROL DATA. K. Raffaele1, M. Gilbert1, K. Crofton1, S. Makris1 and W. Sette1. 1OPP, USEPA, Washington, DC, 2NEHERL, ORD, USEPA, Research Triangle Park, NC and 3OSA, USEPA, Washington, DC.

#1343 DEVELOPMENTAL NEUROTOXICITY OF PYRETHROID INSECTICIDES: CRITICAL REVIEW. T. J. Shafer1, D. A. Meyer2 and K. M. Crofton1. 1Neurotoxicology Division, NEHERL, ORD, USEPA, Research Triangle Park, NC and 2Curriculum in Toxicology, University of N. Carolina, Chapel Hill, NC.

Wednesday Morning, March 24
9:30 Am to 12:30 PM
Exhibit Hall

POSTER SESSION: NEUROTOXICITY, PESTICIDES II

Chairperson(s): Bernard Jortner, Virginia Tech, Blacksburg, VA and Mary Gilbert, USEPA, NC.

Displayed: 9:30 AM–12:30 PM

Attended: 11:00 AM–12:30 PM

#1344 NEUROPATHOLOGICAL STUDY OF LONG-TERM CONCURRENT EXPOSURE TO TWO ORGANOPHOSPHATES (OPS) IN RATS. B. S. Jortner, S. Hancock, J. Hinckley, L. Tobias, L. Flory and M. Ehricht. Laboratory for Neurotoxicity Studies, Virginia Tech, Blacksburg, VA.

#1345 THE EFFECT OF REPEATED ORAL INGESTION OF CHLORPYRIFOS ON CHOLINESTERASE AND CARBOXYLESTERASE ACTIVITY IN ADULT RATS. A. M. Betancourt and R. Carr. Mississippi State University, MS State, MS.

#1346 EFFECTS OF REPEATED EARLY POSTNATAL EXPOSURE TO EITHER CHLORPYRIFOS OR METHYL PARATHION ON SPATIAL LEARNING AND MEMORY AND MOTOR ACTIVITY. R. L. Carr, A. M. Betancourt, J. E. Chambers, F. O. Johnson and J. A. Kamikowski. Center for Environmental Health Sciences, College of Veterinary Medicine, Mississippi State University, Mississippi State, MS.

#1347 DNA MICROARRAY ANALYSIS OF RAT BRAIN TO ASSESS CHANGES IN GENE EXPRESSION AND NEUROTOXICITY OF FOUR CONAZOLES. L. D. White1, D. B. Tully2, W. Bao2, J. E. Schmid2, H. Ren2, A. K. Goetz4, G. Sun3, S. Nesnow3, D. J. Dix2 and S. Baron1. 1Neurotoxicology, USEPA, Research Triangle Park, NC, 2Reproductive Toxicology, USEPA, Research Triangle Park, NC, 3Department of Environmental Carcinogenesis, USEPA, Research Triangle Park, NC and 4Department of Environ. & Molecular Toxicology, NCSU, Raleigh, NC.

#1348 BEHAVIORAL AND NEUROCHEMICAL ALTERATIONS ASSOCIATED WITH ACUTE AND CHRONIC ATRAZINE EXPOSURE. V. M. Rodrigue, M. Thiruchelvam and D. A. Cory-Slechta. Environmental and Community Medicine, EOHSI, University of Medicine and Dentistry of New Jersey and Rutgers State University, Piscataway, NJ.

#1349 INFLUENCE OF 14-DAY EXPOSURE TO ATRAZINE ON STRESS-RELATED NEUROCHEMISTRY IN JUVENILE MALE C57BL/6 MICE. A. Coban, A. B. Norwood, S. C. Sistrunk and N. M. Filipov. CEHS, Basic Sciences, Mississippi State University, Mississippi State, MS.

#1350 SPECIES, STRAIN, AND SEX INFLUENCE ON THE DOPAMINERGIC TOXICITY OF THE HERBICIDE ATRAZINE EX Vivo. J. A. Whitehead, S. C. Sistrunk and N. M. Filipov. CEHS, Basic Sciences, Mississippi State University, Mississippi State, MS.

#1351 PARAOXONASE ABUNDANCE AND Q192R GENOTYPE ARE IMPORTANT DETERMINANTS OF ORGANOPHOSPHATE TOXICITY IN DEVELOPMENT. T. B. Cole1, 2, C. Pettan-Brewer1, R. Richter2, D. M. Shih3, A. Tward3, A. J. Luis3, L. G. Cost4 and C. E. Furlong1. 1Genome Sciences and Medicine, Division of Medical Genetics, University of Washington, Seattle, WA, 2Environmental Health, University of Washington, Seattle, WA and 3Microbiology and Molecular Genetics, UCLA, Los Angeles, CA.

#1352 EVALUATION OF EPIDEMIOLOGICAL AND ANIMAL DATA ASSOCIATING PESTICIDES WITH PARKINSON’S DISEASE. A. A. Li1, P. Mink2, L. Mcintosh1, J. Teta2 and B. Finley1. 1Toxicology/Human Health Risk Assessment, Exponent, San Francisco, CA and 2Health/Epidemiology, Exponent, Washington D.C., DC.

#1353 NEUROTOXICOLOGICAL AND STATISTICAL ANALYSES OF A MIXTURE OF FIVE ORGANOPHOSPHOROUS PESTICIDES USING A RAY DESIGN. V. C. Moser1, A. Hamm2, M. Casey2, W. H. Carter2, J. E. Simmons3 and C. Gennings4. 1NEHERL, USEPA, Research Triangle Park, NC and 2Biostatistics, VCU, Richmond, VA.

#1354 CHOLINESTERASE INHIBITION AND HYPOTHERMIA FOLLOWING EXPOSURE TO BINARY MIXTURES OF ANTICHLINESTERASE AGENTS: LACK OF EVIDENCE FOR CAUSE-AND-EFFECT. C. J. Gordon1, D. Herr1, C. Gennings2 and C. M. Mack1. 1Neurotoxicology, USEPA, Res. Tri. Park, NC and 2Virginia Commonwealth University, Richmond, NC.

#1355 ESTERASE PROFILES FOR A DIALKYLPHOSPHATE SERIES: QSAR APPROACH. G. Makhueva1, V. Malygin1, A. Aksinенко1, V. Sokolov1 and R. J. Richardson2. 1Institute of Physiologically Active Compounds, RAS, Chernogolovka, Russian Federation and 2Toxicology Program, University of Michigan, Ann Arbor, MI.

#1356 CHARACTERIZATION OF LARGEMOUTH BASS ACETYLCOLINESTERASE AND ITS INHIBITION BY ANTIESTERASE PESTICIDES. D. S. Barber and T. Knowles. Center for Environmental and Human Toxicology, University of Florida, Gainesville, FL.
DELTA METHRIN INCREASES DOPAMINE TRANSPORTER EXPRESSION AND ENHANCES COCAINE-INDUCED LOCOMOTION. T. S. Guilott, J. R. Richardson and G. W. Miller. Center for Neurodegenerative Disease, Rollins School of Public Health, Emory University, Atlanta, GA.

DIETARY SUGAR-INDUCED MODULATION OF PARATHYROID HORMONE IN JUVENILE AND ADULT RATS. J. Liu, S. Karanth and C. Pope. Physiol Sciences, Oklahoma State University, Stillwater, OK.

EFFECTS OF INVIVO EXPOSURE TO ENDOSULFAN AND PERMETHRIN ON THE STRIATAL DOPAMINERGIC PATHWAYS. C. Aguilar1 and H. P. Misra1, 2. 1College of Osteopathic Medicine, Blacksburg, VA and 2Biomedical Sciences and Pathobiology, Virginia Tech, Blacksburg, VA.

THE EFFECTS OF ZINEB AND ENDOSULFAN ON MPTP-INDUCED STRIATUM DOPAMINE DEPLETION IN MICE. Z. Jia1 and H. P. Misra2. 1Virginia-Maryland Regional College of Veterinary Medicine, Virginia Tech, Blacksburg, VA and 2Edward Via Virginia College of Osteopathic Medicine, Blacksburg, VA.

PREGNANCY ALTERS THE MECHANISM OF ALCOHOL-INDUCED BONE LOSS. M. J. Ronis1, 5, M. Hidestrand1, K. Shankar1, C. K. Lumpkin2, T. M. Badger3, 5, J. Aronson4, R. Skinner4, W. Hogue4, C. Jo2, P. Simpson2, M. Zipperman5, R. Haley5 and L. Humphrey6. 1Pharmacology and Toxicology, University of Arkansas for Medical Sciences, Little Rock, AR and 2Arkansas Children’s Hospital Research Institute, Little Rock, AR and 3Laboratory Nutrition Center, Arkansas Children’s Hospital, Little Rock, AR.

DIRECT BONE FORMATION IN NUDE (NU/NU) MICE. L. Liu3, J. Aronson1, 2, 3, E. C. Wahl2, R. A. Skinner2, B. G. Fowlkes3, T. M. Badger2 and C. K. Lumpkin1, 3. 1Department of Pediatrics, University of Arkansas for Medical Sciences, Little Rock, AR, 2Department of Orthopaedics, University of Arkansas for Medical Sciences, Little Rock, AR and 3Laboratory for Limb Regeneration Research, Arkansas Children’s Hospital Research Institute, Little Rock, AR.

ADMINISTRATION OF RMTNF-α INHIBITS ENDOSTEAL BONE FORMATION IN A MOUSE DISTRACTION OSTEOGENESIS MODEL. J. Aronson1, 2, L. Liu3, E. C. Wahl2, P. S. Daniel3, 2, R. A. Skinner1, T. M. Badger1, 2 and C. K. Lumpkin1, 2. 1University of Arkansas for Medical Sciences, Little Rock, AR and 2Arkansas Children’s Hospital Research Institute, Little Rock, AR.


INHIBITION OF DIRECT BONE FORMATION ASSOCIATED WITH CHRONIC ETHANOL EXPOSURE IN A MOUSE MODEL OF DISTRACTION OSTEOGENESIS. E. C. Wahl2, L. Liu3, D. S. Perrien2, 1, J. Aronson1, 2, W. R. Hogue1, R. A. Skinner1, M. Hidestrand2, M. J. Ronis1, 1, T. M. Badger1, 2 and C. K. Lumpkin1, 2. University of Arkansas for Medical Sciences, Little Rock, AR and 2Arkansas Children’s Hospital Research Institute, Little Rock, AR.

EFFECT OF PERCHLORATE ON DISPLACEMENT OF THYROXINE FROM SERUM BINDING PROTEINS AND BINDING OF PERCHLORATE TO SERUM PROTEINS. J. L. Campbell1, L. Narayanan2, D. C. Ferguson3, M. Mumtaz4, H. El-Masri5 and J. Fisher1. 1Interdisciplinary Toxicology Program, University of Georgia, Athens, GA, 2Pharmacology and Pharmacology, University of Georgia, Athens, GA, 3Geo-Centers, Inc., Wright-Patterson AFB, Dayton, OH and 4Division of Toxicology, ATSDR, Atlanta, GA.


CHANGES IN SERUM TSH LEVEL AND T4/T3 RATIO IN DEVELOPMENTAL TOXICITY STUDIES OF PERCHLORATE IN RATS FED HIGH-IODINE DIETS REFLECT ADAPTIVE INCREASES IN IODIDE UPTAKE NOT RELEVANT TO HUMANS. G. Goodman. Intertox, Inc., Seattle, WA.

MARGINAL IODINE DEFICIENCY EXACERBATES PERCHLORATE THYROID TOXICITY. P. C. Das1, J. M. Hedge2, D. C. Wolf2 and K. M. Crofton2. 1Curriculum In Toxicology, UNC, Chapel Hill, NC and 2NHEERL, ORD, USEPA, Research Triangle Park, NC.

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AN ADDITIVE EFFECT OF A MIXTURE OF AMMONIUM PERCHLORATE AND SODIUM CHLORATE ON THE PITUITARY-THYROID AXIS IN MALE F344 RATS. M. A. Khan1,2, S. E. Fenton3, A. E. Swank1, G. W. Knapp1, S. D. Hester1 and D. C. Woff1.1. Environmental Carcinogenesis Division, USEPA, Research Triangle Park, NC; 2NRC, Research Triangle Park, NC and 3Reproductive Toxicology Division, USEPA, Research Triangle Park, NC.

CUMULATIVE EFFECTS OF ENDOCRINE DISRUPTERS (EDCS): SYNERGY OR ADDITIVITY. L. E. Gray1, J. Ostby1, J. Furr1, C. Lambright1, A. Hotchkiss2 and V. S. Wilson3. 1ORD, NHEERL, RTD, EB, USEPA, Research Triangle Park, NC and 2Psychology, Ohio State University, Columbus, OH.

MALFORMATIONS IN GUBERNACULAR LIGAMENT DEVELOPMENT INDUCED BY DEHP, DBP, and BBP ARE ASSOCIATED WITH DECREASES IN INSL3 GENE EXPRESSION IN THE FETAL RAT TESTIS. V. S. Wilson, C. Lambright, J. Furr, C. Wood, G. Held and L. E. Gray. Reproductive Toxicology Division, USEPA, ORD, NHEERL, Research Triangle Park, NC.

DI-BUTYL PHTHALATE ACTIVATES THE NUCLEAR RECEPTORS CAR AND PXR AND ENHANCES THE EXPRESSION OF CYP 2B1 AND 3A1 IN MATERNAL AND FETAL LIVER IN THE RAT. L. You1, M. Wyde2, S. Kirwan3, A. Laughter1, E. Bartolucci-Pagel1, K. Guido1 and B. Yan2. 1CHT Centers for Health Research, Research Triangle Park, NC and 2Department of Biological Sciences, University of Rhode Island, Kingston, RI.

EFFECTS OF GESTATIONAL PROCHLORAZ ADMINISTRATION ON MALE REPRODUCTIVE DEVELOPMENT IN RATS. IN VIVO ASSESSMENTS OF A FUNGICIDE WITH MULTIPLE IN VITRO EFFECTS. N. Noriega, J. Ostby, C. Lambright, V. S. Wilson and E. Gray. USEPA, Research Triangle Park, NC.


EFFECTS OF PRENATAL EXPOSURE TO PCB METABOLITES 4-OH-CB 107 AND 4-OH-CB 187 ON ENDOCRINE STATUS AND REPRODUCTIVE CYCLE OF THE FEMALE RAT. C. Buitenhuis1, P. Cevenijn1, A. Bergman2, A. Gutleib1, J. Legler1 and A. Brouwer1. 1Institute for Environmental Studies (IVM), Vrije Universiteit, Amsterdam, Netherlands and 2Department of Environmental Chemistry, Stockholm University, Stockholm, Sweden.

THE CHARACTERIZATION AND HORMONAL REGULATION OF KIDNEY ANDROGEN-REGULATED PROTEIN (KAP)-LUCIFERASE TRANSGENIC MICE. S. Malsstrom1, A. F. Purchio2 and D. B. West1. 1LPTA, Xenogen Corporation, Alameda, CA and 2Xenogen Corporation, Alameda, CA.

AIRWAY HYPERRESPONSIVENESS AND PULMONARY HYPERTENSION IN PULMONARY HYPERTENSIVE RATS EXPOSED TO CONCENTRATED AMBIENT PARTICLES. T. Cheng1, Y. Lei1, M. Chen2, C. Chan3 and P. Wang4. 1Institute of Occupational Medicine and Industrial Hygiene, National Taiwan University College of Public Health, Taipei, Taiwan and 2Institute of Environmental Engineering, National Central University, Chung Li, Taiwan. Sponsor: T. Ueng.

RESPONSES TO SUBCHRONIC INHALATION OF DIESEL EXHAUST (DE) AND HARDWOOD SMOKE (HWS) MEASURED IN RAT BRONCHOALVEOLAR LAVAGE FLUID. J. Seagray1, S. K. Seilkop2 and J. L. Maudery3. 1Lovelace Respiratory Research Institute, Albuquerque, NM and 2SKS Consulting, Siler City, NC.

TOXICOLOGICAL ASSESSMENT OF DIESEL-WATER EMULSION [PURINOX™ (SUMMER FUEL BLEND)] EXHAUST EMISSIONS. R. Kraska1, E. Barr2, I. Daly3, R. Guyl4, J. D. McDonald2, M. Mercieca6, D. Naus7, J. O Caliagn8, N. Ronk9, S. Seilkop2, V. Wagner2 and M. O. Reed8. 1Lubrizol Corporation, Wickliffe, OH; 2Lovelace Respiratory Research Institute, Albuquerque, NM; 3Regulatory and Technical Associates, Lebanon, NJ; 4BioReliance, Rockville, MD; 5Pathology Associates, Frederick, MD; 6CDC/ NIOSH, Morgantown, WV; 7SKS Consulting, Silver City, NC and 8AccuTox Consulting, Midland, MI.

USING TOXICOLOGY TO PREDICT THE HEALTH EFFECTS OF DIESEL PARTICLE MATTER (DPM) IN THE University. S. L. C. Green, M. Ames and E. Crouch. Cambridge Environmental, Cambridge, MA.

INHALATION OF DIESEL EXHAUST AFFECTS CALCITONIN GENE-RELATED PEPTIDE (CGRP) DENSITY IN F344 RATS. S. S. Wong1, I. M. Keith2, N. N. Sun1, C. Kweon3, J. J. Schauer4, D. E. Foster3, R. Lantz5 and M. L. Witten6. 1Center for Toxicology, The University of Arizona, Tucson, AZ; 2School of Veterinary Medicine, The University of Wisconsin, Madison, WI; 3Engine Research Center, The University of Wisconsin, Madison, WI; 4Wisconsin College of Engineering & State Laboratory of Hygiene, The University of Wisconsin, Madison, WI.

SURFACE AREA AS DETERMINANT OF ULTRAFINE PARTICLE-INDUCED OXIDATIVE STRESS. Y. Lei and T. Cheng. Institute of Occupational Medicine and Industrial Hygiene, National Taiwan University, Taipei, Taiwan. Sponsor: T. Ueng.
TOXICOLOGICAL ASSESSMENT OF DIESEL-METHANOL-WATER EMULSION [PURINOX™ (ALL WEATHER) GENERATION 2 FUEL] EXHAUST EMISSIONS. M. D. Reed1, J. Daly1, R. Gud1, J. D. McDonald2, M. Merceica3, J. O’Callagan6, N. Ronisko2, S. Seilkop7, W. Wagner8 and R. Kraska1.

1Toxicology, Lovelace Respiratory Research Institute, Albuquerque, NM, 2Lubrizol Corporation, Wickliffe, OH, 3Regulatory and Technical Associates, Allendale, NJ, 4Bioreliance, Rockville, MD, 5Pathology Associates, Frederick, MD, 6CDC/NIOSH, Morgantown, WV and 7SKS Consulting, Silver City, NC.

INDUCTION OF IL-6 IN LUNG CELLS BY PM2.5 PARTICLES FROM DESERT SOILS AND COAL FLY ASH. J. M. Veranth, M. M. Veranth and G. S. Yost. Pharmacology and Toxicology, University of Utah, Salt Lake City, UT.

EFFECTS OF PARTICULATE MATTER ON GLUTAMATE CYSTEINE LIGASE IN RAW CELLS. S. M. Leaman1, P. Vliet1, D. L. Luchte1, M. E. Rosenfeld2 and T. J. Kavanagh1. 1Department of Occupational and Environmental Health Sciences, University of Washington, Seattle, WA and 2Department of Pathobiology and Nutritional Sciences Program, University of Washington, Seattle, WA.

EFFECTS OF COMBUSTION-DERIVED PARTICULATE MATTERS CONTAINING ARSENIC IN NF-κB LUCIFERASE TRANSGENIC MICE. J. Park1, B. Park2, G. Yang2, M. Young3, N. Colburn3 and M. Cho1. 1Laboratory of Toxicology, College of Veterinary Medicine, Seoul National University, Seoul, South Korea, 2Laboratory of Combustion and Air Pollution Control, College of Environmental Engineering, Chubuk National University, Chunju, South Korea and 3Basic Research Laboratory, National Cancer Institute, Frederick, MD.

CYTOTOXICITY AND CELL SIGNALING IN MH-S CELLS: RELATIVE POTENCY OF DIESEL AND COAL COMBUSTION PARTICLES. P. Singh1, Y. Kostetski2, M. Daniels3, T. Stevens3 and I. Gilmour3. 1ORD/NHEERL, USEPA, Research Triangle Park, NC, 2NUS, Singapore, Singapore and 3UNC, Chapel Hill, NC.

INFLAMMATORY AND GENOTOXIC RESPONSES AND PULMONARY FUNCTION CHANGES DURING 60 DAYS OF WELDING FUME EXPOSURE PERIOD. J. Sung1, I. Yu1, S. Maeng1, S. Kim1, B. Choi1, K. Song2, J. Han1, Y. Chung1 and J. Hyun1. 1Center for Occupational Toxicology, Occupational Safety & Health Research Institute, KOSHA, Daejeon, South Korea and 2College of Veterinary Medicine, Seoul National University, Seoul, South Korea.


SEASONAL METAL CONTENT MEASURED IN BALTIMORE PM2.5 SEAS SAMPLES CORRELATES WITH CYTOKINE AND CHEMOKINE RELEASE IN AN IN VITRO ASSAY SYSTEM. R. J. Mitkus1, J. L. Powell1, J. P. Pancraze2, J. M. Ondov3 and R. S. Squib4. Epidemiology and Preventive Medicine, University of Maryland School of Medicine, Baltimore, MD and 2Chemistry and Biochemistry, University of Maryland, College Park, MD.

METHOD OF DUST EXTRACT PREPARATION AFFECTS CYTOKINE PRODUCTION BY RESPIRATORY EPITHELIAL CELLS AFTER DUST EXPOSURE. R. D. Massengale and J. J. Balsam. Biology, Baylor University, Waco, TX. Sponsor: M. Kanz.

ROLE OF TNFα AND CAVEOLIN-1 IN OZONE-INDUCED INFLAMMATORY MEDIATOR RELEASE AND TOXICITY. L. Fakhrazadeh, J. D. Laskin and D. L. Laskin. Environmental and Occupational Health Sciences Institute, Rutgers University/UMDNJ-Robert Wood Johnson Medical School, Piscataway, NJ.


PRE-TREATMENT WITH DIESEL EXHAUST EXTRACT ALTERS INFLUENZA VIRUS REPLICATION IN LUNG EPITHELIAL CELLS. I. Jaspersii1, J. Cienicewick1, M. Beck2, W. Zhang1 and M. Brightton1. 1Center for Env. Med., Asthma, & Lung Biology, University of North Carolina, Chapel Hill, NC, 2Pediatrics, University of North Carolina, Chapel Hill, NC and 3Curriculum of Toxicology, University of North Carolina, Chapel Hill, NC.

SOLUBLE METALS ASSOCIATED WITH ROFA SUPPRESS LUNG IMMUNE DEFENSE AND ALTER CYTOKINE PROFILING AFTER INFECTION IN RATS. J. B. Roberts1, M. D. Taylor1, V. Castranova1, M. Ondov2 and J. M. Antonini1, 2. 1NIOSH, Morgantown, WV and 2WVU, Morgantown, WV.

SHORT-TERM EXPOSURE TO INHALED DIESEL EXHAUST PARTICLES ENHANCES ASTHMA-LIKE SYMPTOMS AND INCREASES CYPIA1 mRNA LEVELS. M. J. Whitekus1, N. Brechun2, S. K. Nelson2, O. Hankinson1 and D. Diaz-Sanchez3. 1Department of Pathology and Laboratory Medicine and Jonsson Comprehensive Cancer Center, UCLA, Los Angeles, CA, 2Webb-Waring Antioxidant Research Institute, Denver, CO and 3Division of Clinical Immunology and Allergy at UCLA School of Medicine, UCLA, Los Angeles, CA.

DISPARATE ALLERGIC AIRWAY RESPONSES TO DIESEL EXHAUST INHALATION DURING ALLERGEN SENSITIZATION VERSUS ALLERGEN CHALLENGE. J. Wagner1, E. Barrett2, J. McDonald2 and J. Harke1. Pathobiology and Diagnostic Investigation, Michigan State University, East Lansing, MI and 2Lovelace Respiratory Research Institute, Albuquerque, NM.

up-to-date information at www.toxicology.org
#1400  
**CHANGES IN THE COMPOSITION OF DIESEL EXHAUST RESULTS IN CHANGES IN THE MAGNITUDE OF SEVERAL ACUTE INHALATION RESPONSES.** J. McDonald, K. S. Harrod, J. Seagrave, S. Selikoff and J. Mauderly. Toxicoology, Lovelace Respiratory Research Institute, Albuquerque, NM.

#1401  

#1402  
**OXIDATIVE STRESS OF POLAR AND NONPOLAR AIR PARTICULATE MATTER COMPONENTS.** A. Kubatova, L. C. Dronen, S. B. Hawthorne and M. J. Picklo. 1EERC, University of North Dakota, Grand Forks, ND and 2School of Medicine and Health Sciences, University of North Dakota, Grand Forks, ND.

#1403  

#1404  
**IMMUNOLOGIC SENSITIZATION OF GUINEA PIGS VIA INHALATION.** W. Lee, C. Banks and A. Viau. CTBR, Senneville, QC, Canada.

#1405  
**DIFFERENTIAL GENE EXPRESSION PROFILES IN RAT TRACHEAL EPITHELIAL (RTE) CELLS IN RESPONSE TO COMBUSTION-SOURCE PARTICULATE MATTER (PM) AND VANADIUM (V) A PRIMARY METAL CONSTITUENT.** S. Nakadur, J. A. Dye and D. L. Costa. Pulmonary Toxicology Branch, USEPA, Research Triangle Park, NC.

#1406  
**ANALYSIS OF GENE EXPRESSION IN RAT ALVEOlar EPITHELIAL CELLS IN RESPONSE TO ORGANIC EXTRACT OF DIESEL EXHAUST PARTICLES.** E. KOIKE, S. Hirano and T. Kobayashi. 1PM2.5 and DEP Research Project, National Institute for Environmental Studies, Tsukuba, Ibaraki, Japan and 2Environmental Health Sciences Division, National Institute for Environmental Studies, Tsukuba, Ibaraki, Japan.

#1407  
**HEAVY METALS AND ELEMENTAL AND ORGANIC CARBON IN ATMOSPHERIC FINE PARTICLES (PM2.5) FROM PUERTO RICO.** B. D. Jimenez, D. Acevedo and C. Rodriguez-Sierra. 1Biochemistry, University of Puerto Rico, San Juan, PR, Puerto Rico, 2Center for Environmental and Toxicological Research, University of Puerto Rico, San Juan, PR, Puerto Rico and 3Public Health, University of Puerto Rico, San Juan.

#1408  
**QSAR STUDY FOR THE ACTIVATION OF THE ARYL HYDROCARBON RECEPTOR BY POLYCHLORINATED NAPHTHALENES.** J. Olvera-Verbel and K. Kannan. 1University of Cartagena. Environmental and Computational Chemistry Group, Cartagena, Colombia and 2Wadsworth Center and Department of Environmental Toxicology and Health, State University of New York, Albany, NY.

#1409  

#1410  
**RECOVERY DETERMINATIONS FOR DIOXIN ANALYSIS WITH THE CALUX® BIOASSAY.** G. C. Clark, A. C. Chu, J. D. Gordon, D. J. Brown, M. Nakamura, M. D. Chu, H. Murata and M. S. Denison. 1Xenobiotic Detection Systems, Inc., Durham, NC, 2Hyoshi Corporation, Omihachiman, Shiga, Japan, 3Alta Analytical Perspectives, Wilmington, NC and 4Department of Environmental Toxicology, University of California, Davis, Davis, CA.

#1411  
**ACTIVATION OF ARYL HYDROCARBON RECEPTOR BY TCDD INDUCES GENE SILENCING BY PROMOTER METHYLATION: A NOVEL MECHANISM FOR TCDD MEDIATED TUMOR PROMOTION.** S. S. Ray and H. I. Swanson. Molecular and Biomedical Pharmacology, University of Kentucky, Lexington, KY.

#1412  
**SUPPRESSOR OF CYTOKINE SIGNALING-2: A NOVEL TCDD INDUCIBLE GENE IN CH12.LX MURINE B-CELLS.** E. Tam, D. R. Boverhof, R. B. Crawford, N. E. Kaminski and T. R. Zacharewski. Department of Biochemistry and Molecular Biology, Department of Pharmacology and Toxicology, and Institute for Environmental Toxicology, National Food Safety and Toxicology Center, Michigan State University, East Lansing, MI.

#1413  
**EFFECTS OF 2, 3, 7, 8-TCHELORODIBENZO-P-DIOXIN EXPOSURE ON HYPOXIA DRIVEN GENES IN HUMAN MICROVASCULAR ENDOTHELIAL CELLS.** K. N. De Abreu, K. K. Graven and B. Allen-Hoffman. 1Molecular and Environmental Toxicology Center, University of Wisconsin, Madison, WI, 2Medicine, University of Wisconsin, Madison, WI and 3Pathology and Laboratory Medicine, University of Wisconsin, Madison, WI.
GENE EXPRESSION RESPONSES TO 2, 3, 7, 8-TETRACHLOROBDENZO-P-DIOXIN (TCDD) IN MULTIPOTENTIAL C12H10T1/2 FIBROBLASTS EXHIBIT CLUSTER ACCORDING TO THE FUNCTIONAL STATE OF THE CELLS. P. Hanlon2 and C. Jefcoate1, 2. Pharmacology, University of Wisconsin, Madison, WI and 2Molecular & Environmental Toxicology Center, University of Wisconsin, Madison, WI.

INHIBITION OF INTERFERON-γ INDUCED APOPTOSIS BY TCDD IN HUMAN PERIPHERAL LUNG EPITHELIAL CELLS. M. Richards1, 2, J. M. Martinez2, D. M. Mays and N. J. Walker2, 1Toxicology, University of North Carolina, Chapel Hill, NC and 2Laboratory of Computational Biology and Risk Analysis, NIEHS, NIH, Research Triangle Park, NC.

TCDD ATTENUATES VITAMIN A INDUCED GROWTH AND DIFFERENTIATION IN HUMAN LUNG EPITHELIAL CELLS. D. M. Mays1, J. M. Martinez1, M. P. Richards2, 1 and N. J. Walker1. 1Laboratory of Computational Biology and Risk Analysis, NIEHS, Research Triangle Park, NC and 2Toxicology, University of North Carolina, Chapel Hill, NC.

HISTONE MODIFICATION IN ARYL HYDROCARBON RECEPTOR MEDIATED GENE TRANSCRIPTION. A. Fretland1, 2 and O. Hankinson1, 2, 1Department of Pathology and Laboratory Medicine, University of California, Los Angeles, Los Angeles, CA and 2Jonsson Comprehensive Cancer Center, Los Angeles, CA.

EVIDENCE OF AN INDUCTION THRESHOLD IN LIVER CELL LINES TREATED WITH 3, 3′, 4, 4′, 5-PENTACHLOROBIPHENYL. C. Broccardo1, R. E. Billings1, L. S. Chubb1, M. E. Andersen2 and W. H. Hanneman1. 1Department of Environmental & Radiological Health Sciences, Colorado State University, Fort Collins, CO and 2CIT, Research Triangle Park, NC.

INHIBITION OF AROMATASE ACTIVITY BY METHYL P SULFONYL PCB METABOLITES IN H295R CELLS AND IN PRIMARY CULTURE OF HUMAN MAMMARY FIBROBLASTS. M. Heneweer1, M. van den Berg1, P. C. de Jong1, A. Bergman3 and J. T. Sanderson1. 1Institute for Risk Assessment Sciences (IRAS), Utrecht University, Utrecht, Netherlands, 2Department of Internal Medicine, St. Antonius Hospital, Nieuwegein, Netherlands and 3Department of Environmental Chemistry, Stockholm University, Stockholm, Sweden.

2, 2′, 4, 4′-TETRACHLOROBIPHENYL STIMULATES RELEASE OF ARACHIDONIC ACID FROM NEUTROPHILIC HL-60 CELLS. S. Bezdeceny1, 2, 3, R. A. Roth1, 2, 3 and P. E. Ganev1, 2, 3. 1Department of Pharmacology and Toxicology, Michigan State University, East Lansing, MI, 2Institute for Environmental Toxicology, Michigan State University, East Lansing, MI and 3National Food Safety and Toxicology Center, Michigan State University, East Lansing, MI.

A NON-COPLANAR POLYCHLORINATED BIPHENYL INDUCES OXIDATIVE STRESS AND CELL DEATH IN A MID-BRAIN DOPAMINERGIC CELL LINE. R. F. Seegal1, A. G. Kanthasamy2 and S. Kaul3. 1Wadsworth Center, New York State Department of Health, Albany, NY and 2Department of Biomedical Sciences, Iowa State University, Ames, IA.

Wednesday Morning, March 24
9:30 AM to 12:30 PM
Exhibit Hall

POSTER SESSION: PHARMACEUTICAL SAFETY EVALUATION

Chairperson(s): Sushmita Chanda, Roche Palo Alto, Palo Alto, CA and Vikram Arora, AVI BioPharma, Inc., Corvallis, OR.

Displayed: 9:30 AM–12:30 PM

Attended: 11:00 AM–12:30 PM

PHARMACOKINETICS AND IMPROVED ORAL BIOAVAILABILITY OF TWO NONSTRUCTURED DRUG CRYSTALS: COMPARISON OF PARTICLE ENGINEERING TECHNOLOGIES. S. A. Saghir, G. B. Kupperblatt, D. A. Markham, T. L. Rogers, C. J. Tucker, J. E. Hitt and E. J. Elder. The Dow Chemical Company, Midland, MI.

γ-SECRETASE (γ-SECRETASE) INHIBITORS THAT MODULATE NOTCH PROCESSING CAUSE INTESTINAL GOBLET CELL METAPLASIA (GM) AND SPLENIC MARGINAL ZONE LYMPHOMA DEPLETION. PART I, PATHOLOGY. P. Ciacci1, J. McKay2, C. Louden1, C. Dagenais1, R. Gadient1, Q. Jiang1, L. Foster-Brown1, F. Pognan1, T. Piser1, J. Stahl1 and B. Greenberg1. 1AstraZeneca Pharmacology R&D, Wilmington, DE and 2AstraZeneca Pharmacology R&D, Alderley Park, United Kingdom.

OTOTOXICITY STUDY WITH CIPRODEX STERILE OTIC SUSPENSION® IN THE GUINEA PIG. L. E. Lenke1, D. H. McGee1, D. M. Prieskorn2, R. A. Altschuler2, R. B. Hackett3 and J. M. Miller2. 1Toxicology, Aleon Research, Ltd., Fort Worth, TX and 2Kresge Hearing Research Institute, University of Michigan, Ann Arbor, MI.

THG213.29: SAFETY OF A NOVEL PEPTIDE FOR TREATMENT OF ACUTE RENAL FAILURE. G. Washel1, E. Ferdinandi1, K. High1, K. Peri1, J. Prasillica2, J. Laliberte2, C. Pare3, C. Thompson3 and S. Cote4. 1Theratechneologies Inc., Montreal, QC, Canada, 2TR, Montreal, QC, Canada, 3CTBR, Montréal, QC, Canada and 4Anapharm, Quebec City, QC, Canada.

SAFETY EVALUATION OF TELBERMIN IN RABBITS USING A FULL THICKNESS EXCISIONAL DERMAL WOUND MODEL. T. R. Gelzleichter1, A. L. Fuller2, N. Pelletier2, S. M. Eppler2, D. Fei1 and S. Brignoli2. 1Safety Assessment, Genentech, South San Francisco, CA, 2Development Sciences, Genentech, South San Francisco, CA and 3Covance, Madison, WI.

1Toxicology, NeurogesX, Inc., San Carlos, CA; 2Covance Laboratories, Vienna, VA and 3Inveresk Research, Trenton, Scotland, United Kingdom.

GLYCOGEN SYNTHASE KINASE (GSK3) INHIBITORS STIMULATE CELLULAR PROLIFERATION VIA WNT SIGNALING PATHWAY IN VITRO AND IN VIVO. C. E. Ruegg1, L. E. Faure1, P. Vignand1, A. Raynard1, F. Drabik1, D. R. Helton1, G. M. Shopp1 and J. D. Moehlenkamp2.
1Toxicology Research Laboratory, University of Illinois at Chicago, Chicago, IL and 2Pathology and Pharmacology Services, L’Arbresle, France.


SECRETASE INHIBITORS THAT MODULATE NOTCH PROCESSING CAUSE INTESTINAL GOBLET CELL METAPLASIA. PART II: GENE EXPRESSION. J. Milano1, S. Matis2, F. Pogna3 and P. Ciaccio4. 1Safety Assessment, AstraZeneca Pharmaceuticals, Wilmington, DE and 2 unintelligible data.

SOCIALIZATION AND ENVIRONMENTAL ENRICHMENT IN LONG-TERM TOXICITY STUDIES IN MICE. L. Bonnet, J. Gollier1, B. Heritier1 and J. Descotes2. 1MDS Pharmacology Service, L’Arbresle, France and 2Poison Center, Lyon, France.

BILIARY EXCRETION OF 14C-DIAZEPAM IN MALE RATS AFTER PRETREATMENT WITH TACROLIMUS. L. Faure1, P. Vignand1, A. Raynard1, F. Paselio-Legrand1 and J. Descotes2. 1MDS Pharmacology Services, L’Arbresle, France and 2Poison Center, Lyon, France.


BIOAVAILABILITY OF INSULIN FOLLOWING PULMONARY ADMINISTRATION TO THE BEAGLE DOG VIA A SURGICALLY PREPARED TRACHEOSTOME. G. Cow and P. McDonald. Inhalation Toxicology, Inveresk Research, Edinburgh, United Kingdom. Sponsor: R. Greenough.

NINETY DAY TOXICOLOGICAL EVALUATION OF THE ORAL TOXICITY OF GBR 12909 IN DOGS. R. Krishnaraj1, R. L. Morrissey2 and B. S. Levine1. 1Toxicology Research Laboratory, University of Illinois at Chicago, Chicago, IL and 2Pathology Associates, Chicago, IL.

CONTINUOUS SUBCUTANEOUS INFUSION IN RODENTS. M. Stilianakis, S. Groom and C. Copeman. CTBR, Senneville, QC, Canada. Sponsor: M. Vezina.

SAFETY EVALUATION OF XMP.629, A NOVEL PEPTIDE FOR ACNE TREATMENT. R. Hawks1, J. Secrest2, S. Franz2, E. Serbinova3, T. Merriman3, D. Leam2 and K. Meyer1. 1XOMA US, Berkeley, CA; 2MPI Research, Mattawan, MI; 3Dow Pharmaceuticals, Petaluma, CA; 4Charles River Springborn, Spencerville, OH and 5Charles River Argus, Horsham, PA.

MONITORING THE PRIMARY AND SECONDARY ANTIBODY RESPONSE TO KLH IN A DEVELOPMENTAL IMMUNOTOXICITY (DIT) STUDY. G. Desilets, N. Rouleau, P. Louise and L. LeSauter. CTBR, Senneville, QC, Canada. Sponsor: L. LeSauter.

PHARMACOKINETIC AND TOXICITY STUDIES OF GENTAMICIN IN AFRICAN GREEN MONKEYS. D. J. Auyeung1, S. Cytrek1, J. Schindler-Horvat2, L. Iyer2, R. Sweezy2, Y. Li3, J. Arezzo3, K. Draper4 and J. Mirtsalis5. 1CRL DDS Sierra Division, Sparks, NV; 2SRI International, Menlo Park, CA and 3Albert Einstein College of Medicine, Bronx, NY.

SUBCHRONIC TOXICITY OF ZICONOTIDE ADMINISTERED BY CONTINUOUS INTRATHECAL INFUSION IN RAT AND DOG. G. M. Shop1, M. J. Skov1 and T. L. Jaksch2. 1Safety Evaluation, Elan Pharmaceuticals, Inc., South San Francisco, CA and 2Anesthesiology, University of California, San Diego, La Jolla, CA.


Wednesday Morning, March 24
9:30 AM to 12:30 PM
Exhibit Hall

POSTER SESSION: MECHANISMS OF PHASE I AND PHASE II BIORAMIFICATION II
Chairperson(s): Burhan Ghanayem, Meharry Medical College, TN and Bhupendra Khaphalia, UTMB, Galveston, TX.
Displayed: 9:30 AM–12:30 PM

Attended: 9:30 AM–11:00 AM

PHIP PRODUCES DNA ADDUCTS FOLLOWING IN SITU PHASE I AND II METABOLISM IN MCF10A CELLS. R. D. Thomas1, M. R. Green1, T. A. Kocarek2 and M. Rung-Morris2. 1Basic Pharmaceutical Sciences, Florida A&M University, Tallahassee, FL and 2Institute of Environmental Health Sciences, Wayne State University, Detroit, MI.

COMPARATIVE METABOLISM AND DISPOSITION OF 1-14C- AND 2, 3-14C- ACRYLAMIDE IN CYTOCHROME P450 2E1-NULL (KO) AND WILD-TYPE (WT) MICE. L. El-Hadri and B. J. Ghanayem. NIEHS/NIH, Research Triangle Park, NC.
SOT 43rd Annual Meeting
Program Description

#1445  METHACRYLONITRILE: EFFECT OF CAFFEINE AND ALCOHOL ON TOXICITY IN MALE SPRAGUE-DAWLEY RATS. M. Farooqui and R. Ruiz. Biology, University of Texas Pan American, Edinburg, TX.


#1447  EFFECTS OF ROXARSONE AND ITS METABOLITES ON CACO-2 CELL PROLIFERATION. G. S. Bayse1, W. G. Kirk1 and P. D. Kirkland1. 1Chemistry, Spelman College, Atlanta, GA and 2Pharmacology & Toxicology, Morehouse School of Medicine, Atlanta, GA.

#1448  EPoxidation of Coumarin is the major determinant of coumarin-induced Clara cell toxicity in the mouse. J. D. Vassallo and G. P. Daston. Central Product Safety, Procter & Gamble, Cincinnati, OH.

#1449  IN VITRO METABOLISM OF ERGOTAMINE BY MOUSE LIVER MICROSOMES FROM ENDOPHYTE SUSCEPTIBLE AND RESISTANT BREEDING LINES. J. M. Duringer1, R. M. Lewis2, L. A. Kuehn2, T. J. Fleischmann1 and M. Craig1. 1Biomedical Sciences, Oregon State University, Corvallis, OR and 2Animal and Poultry Sciences, Virginia Polytechnic Institute and State University, Blacksburg, VA.

#1450  METABOLISM OF VINCLOZOLIN AND ITS METABOLITES IN RAT. A. Sierra-Santoyo1, R. A. Harrison2, H. A. Barton3 and M. F. Hughes2. 1TOXICOLOGY, CINVESTAV-IPN, Mexico City, D.F., Mexico and 2ETD, USEPA, Research Triangle Park, NC.

#1451  IN VITRO METABOLISM OF CARBOFURAN BY HUMAN, MOUSE, AND RAT LIVER MICROSOMES, AND HUMAN CYTOTOCHROME P450 ISOFORMS. K. A. Usmani, E. Hodgson and R. L. Rose. Environmental & Molecular Toxicology, North Carolina State University, Raleigh, NC.

#1452  COMPARISON OF DETOXIFICATION AND BIOACTIVATION PATHWAYS FOR BROMODICHLOOROMETHANE IN THE RAT. M. K. Ross1, C. R. Ekundayo2 and R. A. Pegram2. 1Curriculum in Toxicology, UNC-CH, Chapel Hill, NC and 2ETD, USEPA, Research Triangle Park, NC.

#1453  EFFECT OF DIMETHYL SULFOXIDE ON METABOLISM AND TOXICITY OF MODEL HEPATOTOXICANTS IN MICE. M. Yoon1, 2 and Y. Kim2. 1Research Associateship Program, National Research Council, Chapel Hill, NC and 2College of Pharmacy, Seoul National University, Seoul, South Korea.

#1454  METABOLISM OF ORALLY ADMINISTERED N, N-DIMETHYL-P-TOLUIDINE (DMPT) IN F344 RATS AND B6C3F1 MICE. K. Ghanbari, K. J. Dix, D. Kracko and J. McDonald. Toxicology, Lovelace Respiratory Research Institute, Albuquerque, NM.

#1455  SUBSTRATE SPECIFICITY OF THE INDIVIDUAL RAT UGT1A FAMILY OF ENZYMES. L. J. Webb, F. K. Kessler and J. K. Ritter. Pharmacology and Toxicology, Virginia Commonwealth University, Medical College of Virginia Campus, Richmond, VA.

#1456  INVESTIGATION OF UDP-GLUCURONOSYLTANSFERASES INVOLVED IN GLUCURONIDATION OF MYCOPHENOLIC ACID IN RATS. K. Miles1, S. Stern2, F. Kessler1, P. Smith2 and J. Ritter1. 1Pharmacology and Toxicology, VCU, Richmond, VA and 2Drug Deliv. and Dispos., UNC, Chapel Hill, NC.

#1457  THYROID HORMONE METABOLISM IN SPRAGUE DAWLEY AND UGT2B2-DEFICIENT FISCHER 344 RATS. T. A. Couch1 and C. D. Klaassen2. 1Pharmacology, Emory University, Atlanta, GA and 2Pharmacology, Toxicology and Therapeutics, University of Kansas Medical Center, Kansas City, KS.

#1458  IN VITRO CONJUGATION OF ETHANOLAMINE WITH FATTY ACIDS. S. H. Khan, B. S. Khaphalia and G. Ansari. Pathology, UTMB, Galveston, TX.

#1459  CHARACTERIZATION OF THE PHASE 2 METABOLITES OF RUTAECARPINE AS GLUCURONIDE/SULFATE CONJUGATES BY LIQUID CHROMATOGRAPHY-ELECTROSpray IONIZATION TANDEM MASS SPECTROMETRY. S. Lee1, D. Lee1, J. Lee1, D. Kim2, E. Lee1, Y. Jahng1 and T. Jeong1. 1Pharmacy, Yeungnam University, Gyeongsang, Kyungbuk, South Korea and 2Bioanalysis and Biotransformation Research Center, KIST, Seoul, South Korea.

#1460  SUBCELLULAR LOCALIZATION OF SOLUBLE EPOXIDE HYDROLASE IN HUMAN TISSUES USING CONFOCAL MICROSCOPY. A. Enayetallah1, D. F. Grant1 and M. Barber2. 1Pharmaceutical sciences, University of Connecticut, Storrs, CT and 2Biotechnology / Bioservices Center, University of Connecticut, at Storrs, CT.

#1461  THE IN VITRO INHIBITION OF DIETHYLSTILBESTROL-DNA ADDUCTS BY DIALLYL SULFIDE: A POSSIBLE MECHANISM OF BREAST CANCER PREVENTION. M. R. Green, C. L. Wilson, M. McCaskill and R. D. Thomas. Basic Pharmaceutical Sciences, Florida A&M University, Tallahassee, FL.

#1462  COMPARATIVE BIOSYNTHESIS OF FATTY ACID ETHYL ESTERS IN AR42J CELLS AND HEPG2 CELLS. B. S. Kanghem1, H. Ku1, D. L. Clemens2, T. R. Jerrems2, M. Khan1 and G. Ansari1. 1Pathology, University of Texas Medical Branch, Galveston, TX and 2Pathology and Microbiology, University of Nebraska Medical Center, Omaha, NE.
Wednesday Morning, March 24
9:30 AM to 12:30 PM
Exhibit Hall

POSTER SESSION: GENE EXPRESSION I

Chairperson(s): Nathan Cherrington, University of Arizona, Tucson, AZ and Susan Burst, University of Kansas, Kansas City, KS.

Displayed: 9:30 AM–12:30 PM

Attended: 11:00 AM–12:30 PM


ONTENONY OF P-GLYCOPROTEIN (Pgp) IN THE BRAIN AND GONADS OF NEONATAL MALE AND FEMALE SPRAGUE-DAWLEY RATS. S. J. Yavanhxay1, J. T. Stevens1, J. Eldridge1, M. S. Chistian2 and A. M. Hoberman1. 1University of Arizona, Tucson, AZ and 2Brown University, Providence, RI.

MECHANISM OF FEMALE-PREDOMINANT OAT2 EXPRESSION. S. C. Buist and C. D. Klaassen. University of Kansas Medical Center, Kansas City, KS.

ALTERATIONS IN GENE EXPRESSION OF HEPATIC DRUG TRANSPORTERS BY THE LOSS OF THE TRANSCRIPTIONAL FACTOR HNF1α. T. Callaghan1, A. L. Slitt1, J. M. Maher1, C. Cheung2, F. J. Gonzalez2 and C. D. Klaassen1. 1University of Kansas Medical Center, Kansas City, KS and 2National Cancer Institute, NIH, Bethesda, MD.

DISTRIBUTION OF THE MULTIDRUG RESISTANCE-ASSOCIATED PROTEINS (MRPS) IN TESTES, OVARY, AND PLACENTA OF MICE. J. M. Maher, A. L. Slitt, T. M. Leazer and C. D. Klaassen. Pharmacology, KU Medical Center, Kansas City, KS.

REGULATION OF MOUSE ORGANIC ANION TRANSPORTING POLYPEPTIDES (OATPs) IN MOUSE LIVER BY CLASSES OF PROTOTYPICAL MICROSOMAL ENZYME INDUCERS THAT ACTIVATE VARIOUS TRANSCRIPTIONAL PATHWAYS. X. Cheng and C. Klaassen. University of Kansas Medical Center, Kansas City, KS.

REGULATION OF HEPATIC TRANSPORTERS DURING CHOLESTASIS IS INDEPENDENT OF TNFα, IL-1, AND IL-6 ACTIVITY. A. J. Lickteig1, A. L. Slitt2, N. Li2, C. D. Klaassen2 and N. J. Cherrington1. 1University of Arizona, Tucson, AZ and 2University of Kansas Medical Center, Kansas City, KS.

XENOBIOTIC TRANSPORTER EXPRESSION IN THE BLOOD-TESTIS BARRIER. N. J. Cherrington1, R. J. Markelewicz2 and K. Boekelheide2. 1University of Arizona, Tucson, AZ and 2Brown University, Providence, RI.
MECHANISM OF GLUTATHIONE S-TRANSFERASE A4-4 IN PROTECTION AGAINST OXIDATIVE STRESS INDUCED APOPTOSIS IN ENDOTHELIAL CELLS. Y. Yang1, Y. Yang2, M. B. Trent3, S. D. Lick1, P. Zimniak1, Y. C. Awasthi2 and P. Boor3.

1Pathology, University of Texas Med. Branch, Galveston, TX, 2Human Biological Chemistry and Genetics, University of Texas Medical Branch, Galveston, TX, 3Department of Surgery, University of Texas Medical Branch, Galveston, TX, and 4Department of Pharmacology and Toxicology, University of Arkansas for Medical Sciences, and Central Arkansas Veterans Healthcare System, Little Rock, AR.

MGSTA4-4 NULL (-/-) MICE ALTERS THE COURSE OF CCL4 INDUCED HEPATOTOXICITY. S. Dwivedi1, R. Sharma2, A. Sharma1, Y. C. Awasthi3 and P. Boor4.

1Pathology, University of Tex. Med. Branch, Galveston, TX and 2Department of Pharmacology and Toxicology, University of Texas Medical Branch, Galveston, TX.


1Department of Pharmacology and Toxicology, University of Louisville, Louisville, KY and 2Department of Medicine, University of Louisville, Louisville, KY.


1Department of Pharmacology and Toxicology, University of Louisville, Louisville, KY, 2Department of Medicine, University of Louisville, Louisville, KY and 3Department of Clinical Genetics and Human Genetics, VU University Medical Center, Amsterdam, Netherlands.

PROTEIN MODIFICATION BY 4-HYDROXYNONENAL MODULATES 26S PROTEASOMAL DEGRADATION. D. L. Carbone and D. R. Petersen.

1Pathology, University of Texas Medical Branch, Galveston, TX.

THE PROTECTIVE EFFECTS OF CHEMICALLY-INDUCED ENDOGENOUS GLUTATHIONE ON DOPAMINE AND 6-HYDROXYPREFORMERATOXICITY IN RAT PHECHROMOCYTOMA PC12 CELLS. X. Peng and Y. Li.

Pharmaceutical Sciences, St. John’s University, Jamaica, NY.

DIFFERENTIAL EFFECTS OF CHRONIC ESTRADIOL TREATMENT ON INDUCTION OF PHASE II ANTIOXIDANT ENZYMES IN BRAIN AND LIVER OF ACI RATS. T. M. Stakhiv, R. I. Sanchez and F. C. Kaufman.

Joint Graduate Program in Toxicology, Rutgers University/UMDNJ, Piscataway, NJ.

ANILINE-INDUCED ACTIVATION OF REDOX-SENSITIVE TRANSCRIPTION FACTOR NF-κB IN THE RAT SPLEEN. S. Kannan, J. Wang, H. Li and M. Khan.

Pathology, University of Texas medical branch, Galveston, TX.

PHARMACOLOGIC SUPPRESSION OF OXIDATIVE DAMAGE AND DENDRITIC DEGENERATION FOLLOWING KAINIC ACID-INDUCED EXCITOTOXICITY IN MOUSE CEREBRUM. D. Milatovic1, S. Milatovic1, R. C. Gupta2 and T. J. Montine1.

1Pathology, University of Washington, Seattle, WA and 2Toxicology, Murray State University, Hopkinsville, KY.
OVEREXPRESSION OF CYTOKINES IN SPLENIC FIBROGENIC RESPONSE TO ANILINE. J. Wang, H. Li, S. Kannan, B. S. Kaphalia and M. Khan. Pathology, University of Texas Medical Branch, Galveston, TX.

THE GENES INVOLVED IN THE ONSET OF PARACYTOLAL INJURY AND THE INDIVIDUAL DIFFERENCE OF THE TOXIC EFFECT. M. Tomita1, T. Okuyama1 and T. Nohno2. 1Medical Toxicology, Kawasaki Medical School, Kurashiki, Japan and 2Molecular Biology, Kawasaki Medical School, Kurashiki, Japan. Sponsor: L. Birnbaum.


INDUCIBLE GLUTAMATE-CYSTEINE LIGASE TRANSGENIC MICE EXHIBIT PROTECTION AGAINST ACETAMINOPHEN INDUCED LIVER INJURY. D. Botta, S. Shi, C. C. White, S. Chatterton-Kirchmeier, P. A. Vliet and T. J. Kavanagh. Environmental and Occupational Health Sciences, University of Washington, Seattle, WA.

QUANTITATION OF 4-HYDROXY-TRANS-2-NONENAL AND ITS METABOLITES BY LIQUID CHROMATOGRAPHY-MASS SPECTROMETRY. M. J. Meyer1, M. Miyagi2 and M. J. Picklo3. 1Pharmacology and Physiology, University of North Dakota, Grand Forks, ND and 2Biochemistry and Molecular Biology, University of North Dakota, Grand Forks, ND.

MEMANTINE PROTECTS SKELETAL MUSCLES AGAINST OXIDATIVE STRESS. R. C. Gupta1, D. Milatovic2, T. J. Montine2 and W. D. Dettbarn3. 1Toxicology, Murry State University, Hopkinsville, KY, 2Pathology, University Washington, Seattle, WA and 3Pharmacology, Vanderbilt University, Nashville, TN.

ANTIOXIDANT EFFECTS ON ETHANOL-INDUCED OXIDATIVE STRESS AND HEPATOTOXICITY IN RATS FED VIA TOTAL ENTERAL NUTRITION. T. M. Badger1, 2, S. Korourian3, M. Ferguson3, B. Sampey4, E. Albano5, D. Peterson6 and M. J. Ronis7, 8, 9. 1Department of Environmental and Occupational Health, University of South Florida, Tampa, FL, 2Laboratory of Toxicology and Risk Assessment, Polish Academy of Sciences, Gliwice, Poland and 3Department of Interdisciplinary Oncology, H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL.

OVERACTIVATION OF POLY (ADP-RIbose) POLYMERASE-1 ACCOMPANIES CARBON TETRACHLORIDE-INDUCED CENTRILOBULAR NECROSIS. M. Banasik1, 2, T. Stedeford1, 2, C. Muro-Cacho3 and R. D. Harbison3. 1Department of Environmental and Occupational Health, University of South Florida, Tampa, FL, 2Laboratory of Toxicology and Risk Assessment, Polish Academy of Sciences, Gliwice, Poland and 3Department of Pharmacology and Physiology, University of North Dakota, Grand Forks, ND.


INHIBITION OF PHAGOCYTOSIS IN PRIMARY RAT KUPFFER CELLS BY METHYL PALMITATE. P. Cai, B. S. Kaphalia and G. Ansari. Pathology, UTMB, Galveston, TX.

DIETARY ZINC SUPPLEMENTATION ATTENUATES CHRONIC ALCOHOL-INDUCED LIVER INJURY IN MICE THROUGH INHIBITION OF OXIDATIVE STRESS. Z. Zhou1, L. Wang1, J. T. Saari2, C. J. McClain1 and Y. Kang1. 1University of Louisville, Louisville, KY and 2Human Nutrition Research Center, USDA, Grant Forks, ND.


IMPARED TISSUE REPAIR IN THIOACETAMIDE TREATED DIABETIC RATS: NF-κB AS A RINGMASTER. S. S. Devi and H. M. Mehendale. Toxicology, The University of Louisiana at Monroe, Monroe, LA.

ROLE OF CALPAIN IN ENDOTOXIN-MEDIATED HEPATIC INJURY. University. M. Apte, R. McRee, J. Nguyen and S. K. Ramiah. Department of Pathobiology, Texas A&M University, College Station, TX.

OSTEOPONTIN-MEDIATED INDUCTION OF MATRIX METALLOPROTEINASE-9 ACTIVITY VIA NF-κB IN ALCOHOLIC STEATOSIS. S. K. Ramiah, R. McRee, J. Nguyen, S. J. Smith, M. Garza, E. Wellberg and University. M. Apte. Department of Pathobiology, Texas A&M University, College Station, TX.

OVERACTIVATION OF POLY (ADP-RIbose) POLYMERASE-1 ACCOMPANIES CARBON TETRACHLORIDE-INDUCED CENTRILOBULAR NECROSIS. M. Banasik1, 2, T. Stedeford1, 2, C. Muro-Cacho3 and R. D. Harbison3. 1Department of Environmental and Occupational Health, University of South Florida, Tampa, FL, 2Laboratory of Toxicology and Risk Assessment, Polish Academy of Sciences, Gliwice, Poland and 3Department of Interdisciplinary Oncology, H. Lee Moffitt Cancer Center and Research Institute, Tampa, FL.


INHIBITION OF PHAGOCYTOSIS IN PRIMARY RAT KUPFFER CELLS BY METHYL PALMITATE. P. Cai, B. S. Kaphalia and G. Ansari. Pathology, UTMB, Galveston, TX.

DIETARY ZINC SUPPLEMENTATION ATTENUATES CHRONIC ALCOHOL-INDUCED LIVER INJURY IN MICE THROUGH INHIBITION OF OXIDATIVE STRESS. Z. Zhou1, L. Wang1, J. T. Saari2, C. J. McClain1 and Y. Kang1. 1University of Louisville, Louisville, KY and 2Human Nutrition Research Center, USDA, Grant Forks, ND.


WEDNESDAY
IN VITRO DEVELOPMENT OF BIOMARKERS FOR ACETAMINOPHEN TOXICITY IN PRIMARY MOUSE HEPATOMES. J. N. Mayer1,2, R. Edmondson3, R. Jones3 and Y. P. Dragun2,1. 1Pharmacology and Toxicology, University of Arkansas for Medical Sciences, Little Rock, AR, 2Hepatic Toxicology, NCTR, Jefferson, AR and 3Chemistry, NCTR, Jefferson, AR.


VISUALIZATION AND QUANTITATION OF PEROXISOMES USING QUANTUM DOTS™; DETECTION IN THE LIVER FOLLOWING TREATMENT OF RATS AND MONKEYS WITH FIBRATES. G. Falta3, H. M. Colton1, H. Ni1, P Kwan2, D. R. Creech3, N. F. Cardello3 and G. Hamilton2. 1Safety Assessment, GlaxoSmithKline, Research Triangle Park, NC and 2Hepatotech Inc., Pittsboro, NC.

GENOMIC ANALYSIS OF SUSCEPTIBILITY FACTORS ASSOCIATED WITH HALOTHANE-INDUCED LIVER INJURY IN GUINEA PIGS. M. Holt1, M. Board1, A. Elkahlu2, D. Erias1 and L. Pohl1. 1Molecular and Cellular Toxicology Section/LMI, NHLBI/NIH/DHHS, Bethesda, MD and 2Cancer Genetics Branch, NHGRI/NIH/DHHS, Bethesda, MD.

EFFECTS OF FLAVONOID TREATMENT ON THE PERMEABILITY OF CYCLOSPORIN A ACROSS Caco-2 CELL MONOLAYERS. J. E. Mata1, R. Rodriguez-Proteau1,2, C. L. Miranda2, D. R. Buhler2 and J. Brown1. 1Pharmaceutical Sciences, Oregon State University, Corvallis, OR and 2Environmental and Molecular Toxicology, Oregon State University, Corvallis, OR.

ABSENCE OF LIVER CANALICULAR MRP2 TRANSPORTER SHIFTS METHYLENE DIANILINE INJURY FROM BILIARY EPITHELIAL CELLS TO HEPATOCYTES. M. E. Kanz1, F. Nayeem1, V. Santa Cruz3, T. R. Dugas2 and M. Trenien-Moslen1. 1Pathology, University of Texas Medical Branch, Galveston, TX and 2Pharmacology, LSU Health Sciences Center, Shreveport, LA.

MULTIPLE DRUG RESISTANCE GENE REGULATION IN MICE. J. M. Brady1, X. G. Cheng, J. M. Maher and C. D. Klaassen. University of Kansas Medical Center, Kansas City, KS.


LIPOPOLYSACCHARIDE-MEDIATED DOWN-REGULATION OF ORGANIC ANION TRANSPORTING POLYPEPTIDE 4 (OATP4; SLC21A10) IS INDEPENDENT OF TUMOR NECROSIS FACTOR-α, INTERLEUKIN-1β, INTERLEUKIN-6, OR INDUCIBLE NITRIC OXIDE SYNTHASE. N. Li and C. D. Klaassen. University of Kansas Medical Center, Kansas City, KS.

ROLE OF NAD(P)H:QUINONE OXIDOREDUCTASE 1 IN CLOFIBRATE MEDIATED HEPATOPROTECTION FROM ACETAMINOPHEN TOXICITY. J. Moffit1, M. Kardas1, L. M. Aleksunes1, A. M. Slitt2, C. D. Klaassen2 and J. E. Manautou1. 1Department of Pharmaceutical Sciences, University of Connecticut, Storrs, CT and 2Department of Pharmacology, Toxicology, and Therapeutics, University of Kansas Medical Center, Kansas City, KS.

DIFFERENTIAL GENE EXPRESSION OF MEMBRANE TRANSPORT AND DETOXIFICATION PROTEINS DURING HEPATIC INJURY. L. Aleksunes1, A. Slitt2, M. Thibodeaux1, C. Klaassen2 and J. Manautou1. 1Pharmaceutical Sciences, University of Connecticut, Storrs, CT and 2Pharmacology, Toxicology, and Therapeutics, University of Kansas Medical Center, Kansas City, KS.

TRANSPORT CHARACTERISTICS OF 3, 5'-DIINDOLYL-METHANE USING HUMAN DUODENAL, INTESTINAL CELLS, Caco-2 and P27.7 CELLS. A. J. Rodriguez1, R. Rodriguez-Proteau1,2, S. C. Tilton1, J. Chen1, K. P. Hall1, J. E. Mata1 and D. E. Williams2,3,4. 1Pharmaceutical Sciences, Oregon State University, Corvallis, OR, 2Department of Environmental and Molecular Toxicology, Oregon State University, Corvallis, OR, 3Linus Pauling Institute, Oregon State University, Corvallis, OR and 4Marine and Freshwater Biomedical Science Center, Oregon State University, Corvallis, OR.

EFFECT OF TROGLITAZONE (TGZ) ON BASOLATERAL AND CANALICULAR TRANSPORT OF MODEL ORGANIC ANIONS. D. C. Kemp1 and K. L. Brouwer2,1. 1Curriculum in Toxicology, University of North Carolina, Chapel Hill, NC and 2Drug Disposition and Delivery, School of Pharmacy, University of North Carolina, Chapel Hill, NC.

AUTOPROTECTION: SUBCHRONIC LOW DOSE ADMINISTRATION OF CHLOROFORM RENDERS RESISTANCE TO A LETHAL DOSE OF CHLOROFORM. H. M. Mehendale1, S. S. Anand1, P. S. Palkar1 and M. M. Muntaz2,1. 1Department of Toxicology, University of Louisiana, Monroe, Monroe, LA and 2ATSDR, Atlanta, GA.

ANALYSIS OF GENOMIC AND PROTEOMIC DATA FROM TRANSGENIC RAT LIVER NEOPLASMS. Y. Dragan1, F. Hong2, W. Tong2, J. Ward3, S. Yim4, R. Perez2, L. Zhang2 and M. Freitas5. 1Hepatic Toxicology, NCTR, Jefferson, AR, 2Bioinformatics, NCTR, Jefferson, AR, 3Pathology, NCI, Frederick, MD, 4Metabolism, NCI, Bethesda, MD and 5Chemistry, Ohio State University, Columbus, OH.

QUANTITATIVE RNA INVADER ANALYSIS AS A FAST METHOD TO SCREEN FOR INDUCTION POTENTIAL OF DRUGS USING PRIMARY CULTURES OF HUMAN AND RAT HEPATOCYTES. V. Kostrubsky, S. Kulkarni, J. Hanson and S. Duddy. Safety Sciences, Pfizer, Ann Arbor, MI.
SOT's 43rd Annual Meeting

Wednesday Afternoon

Wednesday Afternoon, March 24
12:00 NOON to 1:00 PM
Room 318

SPECIAL WORKSHOPS: A CONVERSATION WITH THE DIRECTORS

The Meet the Directors session is a one-hour special session that will be formatted like a panel discussion with the leaders of several major federal agencies. The intention is to promote interaction between agency directors and the Annual Meeting attendees. Each agency head will briefly provide the five to ten year vision for their agency with an opportunity for discussion.

- Dr. Henry Falk, Assistant Administrator, Agency for Toxic Substances and Disease Registry (ATSDR) Director, National Center for Environmental Health (NCEH), Centers for Disease Control and Prevention (CDC), Atlanta, GA.
- Dr. Paul Gilman, Assistant Administrator for Research and Development, U.S. Environmental Protection Agency (USEPA), Washington, DC.
- Dr. Kenneth Olden, Director, National Institute of Environmental Health Sciences (NIEHS), Research Triangle Park, NC.
- Dr. Stephen F. Sundlof, Director, Center for Veterinary Medicine, U.S. Food and Drug Administration (USFDA), Rockville, MD.

Wednesday Afternoon, March 24
12:00 NOON to 1:00 PM
Room 307

ISSUES SESSION: DOES FUNDING SOURCE INFLUENCE RESEARCH INTEGRITY?

Chairperson(s): Bruce Kelman, GlobalTox, Redmond, WA and Steven Gilbert, Institute of Neurotox & Neurological Disorders, Seattle, WA.

Co-Sponsored by: DHHS/ORI

#1526 12:00
1INND, Seattle, WA, 2GlobalTox, Seattle, WA, 3Clinical Pharmacy, University of California, San Francisco, CA, 4Pediatrics, Radiology and Pathology, duPont Hospital for Children and Thomas Jefferson University, Wilmington, DE and 5Pharmacology and Toxicology, Michigan State University, East Lansing, MI.

Wednesday Afternoon, March 24
1:30 PM to 4:30 PM
Room 314

SYMPOSIUM SESSION: COMPARISON OF THRESHOLD DOSE-RESPONSE METHODS FOR COMPLETE DATA SETS: COPPER AS A CASE STUDY

Chairperson(s): Scott Baker, International Copper Association Ltd., New York, NY and Laura Plunkett, Integrative Biostrategies, Houston, TX.

Endorsed by:
- Metals Specialty Section
- Occupational Health Specialty Section
- Risk Assessment Specialty Section

Copper is an essential element with a high redox potential, and therefore can be highly toxic. The complete range of physiologic response (toxicity of deficiency, essentiality, and toxicity of excess) was considered in a dose-response assessment of copper. The data set on the biological effects of copper is difficult to interpret because the cascade of effects occurs over a very narrow dose range, making it hard to define the critical effect and dose. Dose-response data from the entire database on health effects of copper (observations on acute human poisoning, chronic toxicity, nutritional essentiality/homeostasis, animal nutrition and toxicity, and molecular/genetic mechanisms of copper control and action) were subjected to mathematical modeling to better understand the human response. This was particularly important to better define the regions of marginal deficiency and excess, where adverse effects are subtle and where individuals with mild inborn errors of metabolism are positioned on the University-shaped dose-response curve. The purposes of this approach to dose-response analysis are to better define quantitative ranges for marginal deficiency and excess, bound the limits of essentiality and uncertainty, account for broad interindividual variability, and use the power of the entire database to define the human response to copper exposure. The comparative analysis of NOAEL/LOAEL, Benchmark Dose, and Categorical Regression approaches to understanding how copper behaves in the body and the thresholds for effects will applicable to other essential trace elements, in developing more precise RDAs and regulatory/guidance limits for metals in food, diet, and water.

#1527 1:30
COMPARISON OF THRESHOLD DOSE-RESPONSE METHODS FOR ENTIRE DATA SETS: COPPER AS A CASE STUDY. S. Baker.
International Copper Association, New York.

#1528 1:45

#1529 2:10
QUALITATIVE INTERPRETATION OF COMPLEX AND DISPARATE DATA SETS FOR DOSE-RESPONSE ASSESSMENT OF ESSENTIAL TRACE ELEMENTS: COPPER AS A CASE STUDY. L. M. Plunkett. Integrative Biostrategies, LLC, Houston, TX.

#1530 2:35
A CRITICAL COMPARISON OF DOSE-RESPONSE ASSESSMENT APPROACHES FOR COPPER, AN ESSENTIAL TRACE ELEMENT. T. B. Starr. TBS Associates, Raleigh, NC.

#1531 3:00
ANALYSIS OF NEUROTOXICITY IN VESICULAR MONOAMINE TRANSPORTER KNOCKOUT MICE. G. W. Miller. Emory University, Atlanta, GA.

USE OF MOLECULAR APPROACHES TO EXAMINE MECHANISMS OF NEUROTOXICITY. W. D. Atchison. Michigan State University, East Lansing, MI.
THE USE OF BCL-XL OVEREXPRESSING TRANSGENIC MICE HELPS DECIPHER THE MITOCHONDRIALLY-MEDIATED MECHANISM OF LEAD-INDUCED ROD PHOTORECEPTOR APOPTOSIS. D. A. Fox. College of Optometry, University of Houston, Houston, TX.

MOLECULAR APPROACHES TO DEFINE NECROTIC-LIKE NEURONAL DEATH AND STRATEGIES OF PHYSIOLOGICAL DEATH SUPPRESSION IN C. ELEGANS. M. Driscoll. Molecular Biology and Biochemistry, Rutgers University, Piscataway, NJ.

MOLECULAR BASIS OF DIFFERENTIAL SENSITIVITIES OF INSECT SODIUM CHANNELS TO PYRETHROID INSECTICIDES. K. Dong1, 2, 1Entomology, Michigan State University, East Lansing, MI and 2Neuroscience Program, Michigan State University, East Lansing, MI. Sponsor: B. Atchison.

EFFECTS OF NEUROTOXIC METALS ON HUMAN RECOMBINANT CALCIUM CHANNELS—ROLE OF THE α1 SUBUNIT. W. D. Atchison. Department Pharmacology/Toxicology, Mich State University, East Lansing, MI.

Biomedical and Chemical Engineering

#1540 2:10 THE USE OF BCL-XL OVEREXPRESSING TRANSGENIC MICE HELPS DECIPHER THE MITOCHONDRIALLY-MEDIATED MECHANISM OF LEAD-INDUCED ROD PHOTORECEPTOR APOPTOSIS. D. A. Fox. College of Optometry, University of Houston, Houston, TX.

#1541 2:45 MOLECULAR APPROACHES TO DEFINE NECROTIC-LIKE NEURONAL DEATH AND STRATEGIES OF PHYSIOLOGICAL DEATH SUPPRESSION IN C. ELEGANS. M. Driscoll. Molecular Biology and Biochemistry, Rutgers University, Piscataway, NJ.

#1542 3:20 MOLECULAR BASIS OF DIFFERENTIAL SENSITIVITIES OF INSECT SODIUM CHANNELS TO PYRETHROID INSECTICIDES. K. Dong1, 2, 1Entomology, Michigan State University, East Lansing, MI and 2Neuroscience Program, Michigan State University, East Lansing, MI. Sponsor: B. Atchison.

Wednesday Afternoon, March 24
1:30 PM to 4:30 PM
Room 309

WORKSHOP SESSION: BIOMARKERS: DEVELOPMENT, EVALUATION AND USE

Chairperson(s): Thomas Monticello, Aventis, Bridgewater, NJ and Ruth Roberts, Aventis Pharmacology, France.

Endorsed by:
Carcinogenesis Specialty Section*
Occupational Health Specialty Section
Risk Assessment Specialty Section
Toxicologic & Exploratory Pathology Specialty Section

Interest in biomarkers continues to grow at a rapid pace. In part, this interest is attributed to the potential utilization of biomarkers in the many aspects of toxicology. Biomarkers of toxicity are characteristics that can be measured and evaluated as indicators of adverse or pathological responses to a drug or xenobiotic. This workshop will feature four stimulating, state-of-the-art presentations on the different aspects of biomarker development, evaluation and use in the field of toxicology. Topics to be covered will include the utility of biomarkers for nonclinical toxicity during drug development, including current applications, validation procedures and regulatory interest, and an evaluation of the newer genomic and proteomic technologies that can contribute to the discovery of potential novel biomarkers of toxicity. In addition, biomarkers for rodent nongenotoxic carcinogenesis will be described and evaluated in the context of screening assays. Finally, the development and utilization of biomarkers for environmental exposure to toxicants and human risk assessment will be addressed in the session. This workshop will suit those who wish to update and extend their knowledge in this rapidly moving field. It is of general interest to all toxicologists, particularly those concerned with drug development, carcinogenesis and risk assessment.

#1543 3:55 EFFECTS OF NEUROTOXIC METALS ON HUMAN RECOMBINANT CALCIUM CHANNELS—ROLE OF THE α1 SUBUNIT. W. D. Atchison. Department Pharmacology/Toxicology, Mich State University, East Lansing, MI.

#1544 1:30 BIOMARKERS: DEVELOPMENT, EVALUATION AND USE. R. Roberts1 and T. Monticello2. 1Drug Safety Evaluation, Aventis, Vitry sur Seine, France and 2Drug Safety Evaluation, Aventis, Bridgewater, NJ.

#1545 1:40 BIOMARKERS OF NONCLINICAL TOXICITY. T. M. Monticello. Drug Safety Evaluation, Aventis, Bridgewater, NJ.

#1546 2:10 BIOMARKERS FOR NONGENOTOXIC CARCINOGENS. J. K. chipman. Biosciences, University of Birmingham, Birmingham, United Kingdom. Sponsor: R. Roberts.

#1547 2:40 BIOMARKERS OF ENVIRONMENTAL EXPOSURE TO GENOTOXICANTS. D. E. Shuker. Chemistry, The Open University, Milton Keynes, United Kingdom. Sponsor: R. Roberts.

#1548 3:10 BIOMARKERS FROM NEW TECHNOLOGIES. R. Roberts1, J. Leonard1, M. Duchesne2, P. Fabienc2, M. Courcol1, C. Saulnier1 and J. Gautier1. 1Drug Safety Evaluation, Aventis, Vitry sur Seine, France and 2Functional Genomics, Aventis, Vitry sur Seine, France.

Wednesday Afternoon, March 24
1:30 PM to 4:30 PM
Room 307

WORKSHOP SESSION: HORMONE REPLACEMENT THERAPY: A CHALLENGE OF RISKS AND BENEFITS

Chairperson(s): Anthony Scialli, Georgetown University Medical Center, Washington, DC and Virginia Moser, USEPA, Research Triangle Park, NC.

Endorsed by:
Regulatory and Safety Evaluation Specialty Section
Reproductive and Developmental Toxicology Specialty Section
Risk Assessment Specialty Section
Women in Toxicology Specialty Section*

A large epidemiological study of the risks and benefits of estrogen plus progesterin hormone therapy was stopped early due to the unanticipated but significantly higher incidence of invasive breast cancer, coronary heart disease, and stroke in postmenopausal women receiving this therapy (JAMA 2002, 288:321-333). The medical community was faced with difficult questions, since estrogen has been so commonly prescribed for relieving menopausal symptoms and preventing bone loss. Questions remain, including whether the results are valid for other pharmaceutical formulations and whether clinicians could have predicted the toxicity of estrogen and progesterin based on experimental studies and previous clinical trials. This workshop will present the basic and epidemiological studies of hormone therapy for women and men, as well as the challenge of managing the apparent and real risks and benefits of hormone therapy.

#1549 1:30 HORMONE REPLACEMENT THERAPY: A CHALLENGE OF RISKS AND BENEFITS. V. C. Moser1 and A. R. Scialli2. 1Neurotoxicology Division, USEPA, Research Triangle Park, NC and 2Department of Obstetrics and Gynecology, Georgetown University Medical Center, Washington, DC.

#1550 1:35 HORMONE THERAPY IN MENOPAUSE: THE CLINICAL CONTEXT. A. R. Scialli. Ob-Gyn, Georgetown University Hospital, Washington, DC.

#1551 2:15 ALTERNATIVES TO HORMONE THERAPY. A. Fugh-Berman. Health Care Sciences, George Washington University School of Medicine, Washington DC, DC. Sponsor: V. Moser.

#1552 2:55 RESULTS AND PREDICTABILITY OF ANIMAL STUDIES FOR HUMAN RISK. A. jordan. fda, rockville, MD. Sponsor: G. moser.
SOT 43rd Annual Meeting
Program Description

#1553 3:35 TESTOSTERONE AND AGING: CLINICAL RESEARCH DIRECTIONS; INSTITUTE OF MEDICINE REPORT ON TESTOSTERONE THERAPY IN OLDER MEN. E. Vaughan1,2, D. Blazer3, E. Barrett-Connor4, B. A. Brody5, R. M. Califf6, J. P. Costantino7, D. D. Federman8, L. P. Fried9, D. G. Grady10, W. R. Hazzard11, S. B. Heymsfield10, S. W. Lagakos11, M. S. Litwin12, C. T. Liverman13, P. A. Lombardo13, P. S. Nelson14, E. S. Orwell15 and L. R. Schorr16. 1Committee on Assessing the Need for Clinical Trials of Testosterone Therapy, Institute of Medicine, Washington, DC, 2University of California, San Diego, San Diego, CA, 3Duke University, Durham, NC, 4Baylor College of Medicine, Houston, TX, 5University of Pittsburgh, Pittsburgh, PA, 6Harvard Medical School, Boston, MA, 7Johns Hopkins University, Baltimore, MD, 8University of California, San Francisco, San Francisco, CA, 9University of Washington, Seattle, WA, 10Columbia University College of Physicians and Surgeons, New York, 11Harvard School of Public Health, Boston, MA, 12University of California, Los Angeles, Los Angeles, CA, 13University of Virginia, Charlottesville, VA, 14Fred Hutchinson Cancer Research Center, Seattle, WA, 15Oregon Health Sciences University, Portland, OR, 16M.D. Anderson Cancer Center, Houston, TX and 17Cornell University, New York. Sponsor: V. Moser.

Wednesday Afternoon, March 24
1:30 PM to 4:30 PM
Room 316

WORKSHOP SESSION: STRATEGIES TO IDENTIFY BIOACTIVE SUBSTANCES IN COMPLEX AIR POLLUTANT MIXTURES

Chairperson(s): Jack Harkema, Michigan State University, East Lansing, MI and Michael Madden, USEPA, Chapel Hill, NC.

Endorsed by:
Inhalation Specialty Section*

Both indoor and outdoor air contains a very complex mixture of gas and particulate matter (PM) pollutants. The assessment of the role of each pollutant in the complex atmosphere in the induction of an associated health effect or a response can be difficult due to many factors, including the vast number of pollutants that may potentially induce or modify the health effect. The aim of this session is to present different strategies that have been used by researchers in attempts to identify airborne toxic components in complex mixtures. The range of strategies to be presented spans a wide spectrum of possible approaches (from study of whole populations to predictive toxicology modeling). Findings will be presented on: appropriately designed field epidemiological studies and controlled exposure studies with humans subjects aimed at determining the components of airborne ambient PM that induce increased morbidity and mortality (e.g., premature deaths, hospitalizations, asthma symptomatology); determination of airway irritants in indoor air using rodent exposures; comparative potencies of components of diesel exhaust using controlled in vitro cell exposures; and prediction of toxicity using quantitative structure-activities relationships. In each case, individual components of a polluted atmosphere were isolated or considered, and then assessed for potential bioactivity using a variety of methods. In some cases where individual components appeared to be relatively biologically inactive, different individual components were added together to assess potency. This session is timely in that the topics provide insights that may be utilized by researchers to aid in risk assessment and management of complex atmospheres such as combustion emissions, outdoor PM, and indoor air quality, all currently subject to regulation at local to federal levels. [This abstract may not represent official EPA policy.]

#1554 1:30 STRATEGIES TO IDENTIFY BIOACTIVE SUBSTANCES IN COMPLEX AIR POLLUTANT MIXTURES. M. C. Madden1 and J. R. Harkema2. 1NHEERL/Human Studies Division, USEPA, Chapel Hill, NC and 2Department National Food Safety and Toxicology, Michigan St. University, East Lansing, MI.

THE EPIDEMIOLOGICAL APPROACH TO INVESTIGATING AIR POLLUTION MIXTURES. J. M. Samet. Department of Epidemiology, Johns Hopkins University, Baltimore, MD. Sponsor: M. Madden.

#1555 1:45 LUNG RESPONSES IN HEALTHY HUMAN SUBJECTS INHALING COARSE FRACTION PARTICULATE MATTER (PM CF). N. E. Alexis1, W. Bennett3, T. Huang2 and S. Becker2. 1Pediatrics, UNC-Chapel Hill, Chapel Hill, NC, 2Human Studies Division, USEPA, Chapel Hill, NC and 3Pulmonary Medicine, UNC Chapel Hill, Chapel Hill, NC. Sponsor: M. Madden.


#1557 2:45 AIR-LIQUID INTERFACE CULTURE: TOWARDS MORE PHYSIOLOGICAL IN VITRO TOXICOLOGY OF AEROSOLS. J. Seagrave, J. D. McDonald and J. L. Mauderly. Lovelace Respiratory Research Institute, Albuquerque, NM.


#1559 3:45 THE EPIDEMIOLOGICAL APPROACH TO INVESTIGATING AIR POLLUTION MIXTURES. J. M. Samet. Department of Epidemiology, Johns Hopkins University, Baltimore, MD. Sponsor: M. Madden.

#1560 1:30 NEUROMODULATION OF TELEOST CATECHOLAMINES BY PROPRANOLOL AND FLUOXETINE. W. Smith1, L. Blank1, C. M. Foran2, D. E. Huggett3 and B. W. Brooks4. 1Chemistry and Biochemistry, University of Oklahoma, Norman, OK, 2Biology, West Virginia University, Morgantown, WV, 3Pharmacology, University of Mississippi, University, MS and 4Environmental Studies, Baylor University, Waco, TX. Sponsor: M. Kan.

#1561 1:50 BEHAVIORAL AND NEUROLOGICAL BIOMARKERS OF STRESS EXPOSURE IN A FISH MODEL. J. Salibro1, A. Murphy2, J. Shields3 and A. Kane1. 1Vet. Med., University MD, College Park, MD, 2Biology, Georgia State University, Atlanta, GA and 3VIMS, College of William & Mary, Gloucester Pt, VA. Sponsor: K. Squibb.
SOT 43rd Annual Meeting
Program Description

#1562 2:10 IMMUNOTOXIC EFFECTS OF IN VIVO CHLORPYRIFOS EXPOSURE ON MURRAY COD (MACCULLOCHELLA PEELI), P. F. Wright1, A. J. Harford1 and K. O’Halloran1. 1Key Centre for Toxicology, RMIT-University, Melbourne, VIC, Australia and 2CENTOX, Landcare Research, Lincoln, Canterbury, New Zealand. Sponsor: M. Karol.


#1564 2:50 MECHANISMS OF PAH- AND PCB-MEDIATED IMPACTS ON EMBRYONIC DEVELOPMENT IN THE KILLIFISH, FUNDULUS HETEROCLIATUS. D. Wassenberg and R. T. Di Giulio. Integrated Toxicology Program, Duke University, Durham, NC.

#1565 3:10 DEVELOPMENT OF A QUANTITATIVE VITELLOGENIN ELISA FOR DETECTION OF ENDOCRINE DISRUPTOR EFFECTS IN ZEBRAFISH (DANIO RERIO). F. F. Mikkelsen1, J. K. Eidem1, B. M. Nilsen1 and A. Goksoyr1. 1Biosense Laboratories AS, Bergen, Norway and 2Department of Molecular Biology, University of Bergen, Bergen, Norway. Sponsor: E. Dybing.

#1566 3:30 ACUTE TOXICITY AND BIOACCUMULATION OF TRIBUTYLtin IN TISSUES OF UROLOPHUS JAMAICENSIS (YELLOW STINGRAY). J. Dwivedi1 and L. D. Trombetta. 1Biological Sciences, St. John’s University, New York and 2Pharmaceutical Sciences, St. John’s University, New York.


#1568 4:10 NOTOCHORD DISTORTION BY THIURAM AND OTHER DITHIOCARBAMATE IN ZEBRAFISH EMBRYO. H. Teraoka1, S. Urakawa1, S. Nanba1, W. Dong1, T. Imagawa2, H. Handley3, J. J. Siegemann3 and T. Hiraga1. 1School of Veterinary Medicine, Rakuno Gakuen University, Ebetsu, Hokkaido, Japan, 2Faculty of Agriculture, University of Tottori, Tottori, Japan and 3Woods Hole Oceanographic Institution, Woods Hole, MA.

#1570 1:50 DISSECTING ANTIOXIDANT RESPONSE ELEMENT (ARE)-DRIVEN GENE EXPRESSION INDUCED BY TERT-BUTYLIHYDROQUINONE: A COMPARATIVE STUDIES USING LONG AND SHORT OLIGONUCLEOTIDE MICROARRAYS. J. A. Johnson, J. Li and M. L. Spletter. School of Pharmacy, University of Wisconsin at Madison, Madison, WI.


#1572 2:30 ENHANCED EXPRESSION OF MAMMALIAN PROTEASES THROUGH THE KEAP1-NRF2 SIGNALING PATHWAY. M. Kwak1, N. Wakabayashi1, J. L. Greenlaw1, M. Yamamoto2 and T. W. Kensler1. 1Environmental Health Sciences, Johns Hopkins University, Baltimore, MD and 2University of Tsukuba, Tsukuba, Japan.

#1573 2:50 THE TAKI-TAO1 COMPLEX MEDIATES STRESS-ACTIVATED SIGNALING. W. HuangFu and J. Ninomiya-Tsuji. Environmental and Molecular Toxicology, North Carolina State University, Raleigh, NC.

#1574 3:10 USE OF AFFINITY CHROMATOGRAPHY TO IDENTIFY NOVEL PROTEINS THAT MEDIATE STRESS-INDUCED GENE ACTIVATION. N. Macdonald, D. A. Clynes, J. G. Moggs, J. Kimber and G. Orphanides. Syngenta Central Toxicology Laboratory, Alderley Park, United Kingdom.

#1575 3:30 INHIBITION OF NUCLEAR FACTOR KAPPA B BY PHENOLIC ANTIOXIDANTS: INTERPLAY BETWEEN ANTIOXIDANT SIGNALING AND INFLAMMATORY CYTOKINE EXPRESSION. Q. Ma and K. Kinneer. HELD/TMBB, CDC/NIOSH, Morgantown, WV.

#1576 3:50 RESTRAINT STRESS ACTIVATES STAT3 VIA ADRENOCEPTOR STIMULATION AND IL-6 PRODUCTION IN MOUSE LIVER. E. A. Johnson1, J. P. O’Callaghan2 and D. B. Miller1. 1Chronic Stress and Neurotoxicology Laboratory, Toxicology and Molecular Biology Branch, Centers for Disease Control- NIOSH, Morgantown, WV and 2Molecular Neurotoxicology Laboratory, Toxicology and Molecular Biology Branch, Centers for Disease Control-NIOSH, Morgantown, WV.

Wednesday Afternoon, March 24
1:30 PM to 4:30 PM
Exhibit Hall

POSTER SESSION: SKIN

Chairperson(s): John Schlager, AFRL/HEST, Wright-Patterson AFB, OH and Nancy Monteiro-Riviere, North Carolina State University, Raleigh, NC.

Displayed: 1:30 PM–4:30 PM

Attended: 1:30 PM–3:00 PM

#1577 1:30 PM EVALUATION OF THE DERMAL BIOAVAILABILITY OF AQUEOUS XYLENE IN F344 RATS AND HUMAN VOLUNTEERS. K. D. Thrall and A. D. Woodstock. Battelle, Pacific Northwest Laboratories, Richland, WA.
#1578 A NEW QSAR MODEL FOR HUMAN SKIN ABSORPTION. W. Luo¹, H. Nguyen¹, Q. Telesford² and W. Fang¹. ¹Toxicology, L’Oreal USA, Clark, NJ and ²Bioengineering, Rutgers University, New Brunswick, NJ.


#1581 SIMULATED SOLAR UV LIGHT (SSL) INDUCES INFLAMMATION AND OXIDATIVE STRESS IN THE SKIN OF SKH-1 HAIRLESS MICE. A. R. Murray¹, E. Kisin², V. Castranova¹,², B. J. Miller³, P. C. Howard² and A. A. Shvedova¹,². ¹Physiology and Pharmacology, West Virginia University, Morgantown, WV, ²MPPRB, NIOSH, Morgantown, WV and ³NCTR, USFDA, Jefferson, AR.

#1582 MOLECULAR CHANGES IN RAT SKIN RELATED TO IRRITATION BY JP-8 JET FUEL. J. N. McDougal, C. M. Garrett and C. M. Amato. Pharmacology/Toxicology, Wright State University, Dayton, OH.

#1583 ASSESSMENT OF SKIN BARRIER CREAMS TO LOWER PENETRATION OF JP-8 JET FUEL. J. J. Schlager¹, D. L. Pollard² and A. J. Guilfoyl¹. ¹AFRL/HEST, Wright-Patterson AFB, OH and ²Mantech Environmental Technology, Inc., Wright-Patterson AFB, OH.

#1584 A NEW TECHNIQUE TO ASSESS DERMAL ABSORPTION OF CHEMICAL VAPORS IN VITRO BY THERMAL GRAMICAVIMETRY ANALYSIS. T. S. Isaksson and G. Johanson. Work Environment Toxicology, Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden.

#1585 INFLUENCE OF CUTTING FLUID CONTAMINANTS ON THE DERMAL DISPOSITION OF THE BIOCIDES, TRIAZINE. R. E. Baynes¹, J. D. Brooks, B. Beth, R. Wilkes and J. E. Riviere. Center for Chemical Toxicology Research and Pharmacokinetics, North Carolina State University, Raleigh, NC.

#1586 A COMPARATIVE INVESTIGATION OF THE EFFECTS OF WATER, ETHANOL AND WATER/ETHANOL MIXTURES ON CHEMICAL PARTITIONING INTO PORCINE STRATUM CORNEUM AND PERMEABILITY IN PORCINE SKIN. D. van der Merwe and J. E. Riviere. Center for Chemical Toxicology Research and Pharmacokinetics, North Carolina State University, Raleigh, NC.


#1588 TOPICAL HYDROCARBON ABSORPTION IN PORCINE SKIN PREVIOUSLY EXPOSED TO JP-8 JET FUEL. F. Muhammad, N. A. Monteiro-Riviere and J. E. Riviere. Center for Chemical Toxicology Research and Pharmacokinetics, North Carolina State University, Raleigh, NC.

#1589 A MURINE MODEL FOR CUTANEOUS PHOTOAGING: OBSERVATIONAL, HISTOPATHOLOGIC AND MOLECULAR ENDPOINTS. D. B. Lear¹, C. P. Sambucu¹, P. D. Forbes¹, M. J. Mayo², C. S. Johnson² and A. M. Hooper³. ¹Charles River Discovery and Development Services, Argus Division, Horsham, PA and ²Pathology Associates, West Chester, OH.

#1590 DIFFERENTIAL REGULATION OF COX-2 EXPRESSION BY ULTRAVIOLET LIGHT IN KERATINOYTES AND MACROPHAGES. A. T. Black¹, A. M. Vetrano¹, R. Sur¹, D. E. Heck¹ and J. D. Laskin². ¹Rutgers University, Piscataway, NJ and ²Environmental and Community Medicine, UMDNJ-Robert W Johnson Medical School, Piscataway, NJ.

#1591 EPIDERMAL CYTOKINE SECRETION INDUCED BY CHEMICAL CONTACT AND RESPIRATORY ALLERGENS. M. Cumberbatch, R. J. Dearman and J. Kimber. Syngenta CTL, Macclesfield, United Kingdom.

#1592 IN VIVO AND IN VITRO DERMATOOTOXICITY OF CUTTING FLUID MIXTURES. N. A. Monteiro-Riviere, A. Inman, B. Barlow and R. E. Baynes. Center for Chemical Toxicology Research and Pharmacokinetics, North Carolina State University, Raleigh, NC.


#1594 ASSESSMENT OF SKIN ABSORPTION AND METABOLISM OF ARACHIDONIC ACID & GLYCERYL ARACHIDONATE USING IN VITRO DIFFUSION CELL TECHNIQUES. A. R. Eppler¹,² and R. R. Wickett². ¹Office of Cosmetics and Colors/ Cosmetic Toxicology Branch, US Food & Drug Administration, Laurel, MD and ²College of Pharmacy, University of Cincinnati, Cincinnati, OH.

#1595 MIXTURE EFFECTS OF JET FUEL ALIPHATIC AND AROMATIC HYDROCARBONS ON HUMAN EPIDERMAL KERATINOYTES. C. Chou¹, J. Yang², C. Lee¹ and N. A. Monteiro-Riviere³. ¹Veterinary Medicine, National Chung-Hsing University, Taichung, Taiwan, ²Chung-Shan Medical University, Taichung, Taiwan and ³Center for Cutaneous Toxicology and Research Pharmacokinetics, NC State University, Raleigh, NC.

#1596 DIPHOTERINE: SKIN SENSITIZATION STUDY IN THE GUINEA PIG. L. Mathieu¹, F. Burgher¹ and A. H. Hall¹. ¹Researches and Communication, PREVOR, TALENCE, France and ²TCMTS, Inc., Elk Mountain, WY.
#1597 ROLE OF SP-1 IN SDS-INDUCED ADIPOSE DIFFERENTIATION RELATED PROTEIN SYNTHESIS IN HUMAN KERATINOCYTES. C. L. Galli, O. Zancanella, L. Lucchi, B. Viviani, M. Marinovich and E. Corsini. Department of Pharmacological Sciences, University of Milan, Milan, Italy.

#1598 INFLUENCE OF SKIN THICKNESS ON PERCUTANEOUS PENETRATION OF CAFFEINE, BUTOXYPETHANOL AND TESTOSTERONE IN VITRO. S. C. Wilkinson1, L. Greaves2 and F. M. Williams3. 1Clinical and Lab. Sciences, University of Newcastle, Newcastle upon Tyne, Tyne and Wear, United Kingdom and 2Neurology, University of Newcas, Newcastle upon Tyne, Tyne and Wear, United Kingdom.

#1599 AN IN VITRO MODEL FOR CUTANEOUS PHOTOAGING USING A LUCIFERASE REPORTER GENE TO MEASURE HUMAN ELASTIN PROMOTER ACTIVITY. D. B. Brown, M. D. Schwartz, S. M. Ksenzenko, E. F. Bernstein, P. D. Forbes, C. P. Sambuco and A. M. Hoberman. Charles River Discovery and Development Services, Argus Division, Horsham, PA.

#1600 RETINOIC ACID INDUCED EXPRESSION OF THE HELIX-LOOP-HELIX INHIBITORY PROTEIN ID-1 IN NORMAL HUMAN KERATINOCYTES. C. Villano2, L. A. White1 and E. Myers1. 1Biochemistry and Microbiology, Rutgers University, New Brunswick, NJ and 2Joint Graduate Program in Toxicology, Rutgers University, New Brunswick, NJ.

#1601 IN VITRO PERCUTANEOUS ABSORPTION OF SALICYLIC ACID IN HAIRLESS MOUSE AND HUMAN SKIN. M. E. Kraeling and R. L. Bronaugh. Office of Cosmetics and Colors, USFDA, Laurel, MD.

#1602 RESPONSE OF SKH-1 MOUSE SKIN FOLLOWING THE ACUTE INJURY OF TATTOOING. N. V. Gopee1, 2, Y. Cui1, 2, G. Olson2, A. Warbritton1, B. J. Miller1, L. H. Couch1, 2, W. G. Hance2 and P. C. Howard1, 2. 1Division Biochemical Toxicology, NCTR, USFDA, Jefferson, AR, 2Division of Chemistry, NCTR, USFDA, Jefferson, AR and 3NTP Center for Phototoxicology, NCTR, USFDA, Jefferson, AR.

#1603 MECHANISM OF PARQUAT-INDUCED TOXICITY IN MOUSE KERATINOCYTES. A. Vetrano3, D. E. Heck1, A. T. Black1, M. Thruchelvam2, E. Richfield3, D. A. Cory-Slechta4 and J. D. Laskin2. 1Pharmacology and Toxicology, Rutgers University, Piscataway, NJ, 2Environmental and Community Medicine, UMDNJ-Robert Wood Johnson Medical School, Piscataway, NJ and 3Pathology and Lab. Medicine, UMDNJ-Robert Wood Johnson Medical School, Piscataway, NJ.

#1604 MECHANISMS OF UVB LIGHT-INDUCED OXIDANT FORMATION IN THE SKIN. D. E. Heck. Pharmacology and Toxicology, Rutgers University, Piscataway, NJ.

#1605 SUNSCREENS WITH PHYSICAL UV BLOCKERS CAN INCREASE TRANSDERMAL ABSORPTION OF THE HERBICIDE 2, 4 D. R. M. Brand, J. M. Pike and A. R. Charron. Internal Medicine, Evanston Northwestern Healthcare and Feinberg School of Medicine, Evanston, IL. Sponsor: P. Iversen.
THE ASSOCIATION OF APOPTOSIS WITH THE INDUCTION OF NEUTROPHIL GELATINASE ASSOCIATED LIPOCALIN (NGAL). J. P. Kehrer, Z. Tong and X. Wu. Division of Pharmacology and Toxicology, College of Pharmacy, The University of Texas at Austin, Austin, TX.

AKT PLAYS A ROLE IN THE APOPTOSIS INDUCED BY THE 5-LIP OXYGENASE ACTIVATING PROTEIN (FLAP) INHIBITOR, MK886. Z. Tong, X. Wu and J. P. Kehrer. Division of Pharmacology and Toxicology, College of Pharmacy, The University of Texas at Austin, Austin, TX.

α-SYNUCLEIN PREVENTS MITOCHONDRIAL AND NUCLEAR LOCALIZATION OF PRO-APOPTOTIC KINASE PKCδ DURING 1-METHYL-4-PHENYLPIRIDINIUM (MPP+)-INDUCED CELLULAR APOPTOSIS IN DOPAMINERGIC NEURONAL CELLS. NOVEL ROLE OF α-SYNUCLEIN IN DOPAMINERGIC DEGENERATION. S. Kaul, V. Anantharam and A. Kanhasany. Iowa State University, Ames, IA.

ROLE OF PROTEIN KINASE Cδ IN SILICA-INDUCED APOPTOSIS AND AUTOIMMUNITY. J. M. Brown and A. Holian. CEHS, University of Montana, Missoula, MT.

MECHANISMS OF NORDHYDROGUAIARETIC ACID (NDGA)-MEDIATED APOPTOSIS IN FLS.12 CELLS. V. S. Deshpande and J. P. Kehrer. Division of Pharmacology and Toxicology, College of Pharmacy, The University of Texas at Austin, Austin, TX.

ENVIRONMENTAL STRESS-MEDIATED SENSITIZATION OF B-LYMPHOID CELLS TO PESTICIDE-INDUCED APOPTOSIS AND INDUCTION OF MAP KINASE PATHWAYS. S. E. Bloom and D. E. Muscarella. Microbiology and Immunology, Cornell University, Ithaca, NY.

THIOREDOXIN AND TGHQ-INDUCED APOPTOSIS IN HL-60 CELLS. M. Yang, S. S. Lau and T. J. Monks. Pharmacology and Toxicology, University of Arizona Health Sciences Center, Tucson, AZ.


APOPTOTIC CELL INSTALLATION RESULTS IN ELEVATED TGF-β AND APOPTOSIS-INDUCED APOPTOSIS IN RAT LUNG. L. Wang1, J. Scabilloni1, J. Antonini1, Y. Rojamasakul2, V. Castranova1 and R. R. Mercer1. 1PPRB, NIOSH, Morgantown, WV and 2School of Pharmacy, West Virginia University, Morgantown, WV.

Wednesday Afternoon, March 24 1:30 PM to 4:30 PM Exhibit Hall

POSTER SESSION: CARCINOGENESIS III

Chairperson(s): Deodutta Roy, University of Alabama at Birmingham, Birmingham, AL and Shyam Biswal, Johns Hopkins, Baltimore, MD.

Displayed: 1:30 PM–4:30 PM

ATTENDED: 1:30 PM–3:00 PM

PERTURBATION OF TESTICULAR CELL PROLIFERATION USING SODIUM ARSENITE. N. L. Harmon and J. W. DuMond. Biology, Texas Southern University, Houston, TX.

ARSENIC ACTIVATES NADPH OXIDASE THROUGH CDC42 AND THEIR INVOLVEMENT IN ACTIN FILAMENT REMODELING AND CELL MOTILITY IN ENDOTHELIAL CELLS. Y. Qian1, D. C. Flynn2, V. Castranova2 and X. Shi1. 1The pathology and Physiology Research Branch, National Institute for Occupational Safety and Health, Morgantown, WV and 2Microbiology, Immunology and cell biology, West Virginia University, Morgantown, WV.

TRANSGENERATIONAL EFFECTS OF CHROMIUM(III) ON OFFSPRING WEIGHT, SERUM THIODOTHYRONINE, AND HEPATIC GENE EXPRESSION. R. Y. Cheng and L. M. Anderson. Laboratory of Comparative Carcinogenesis, National Cancer Institute, Frederick, MD.

INDUCTION OF THE HYPOXIA MARKERS, CARBONIC ANHYDRASE IX AND CAP43, BY NICKEL OR CELL DENSITY IS RELATED TO ASCORBATE DEPLETION. A. A. Karaczyn1, K. S. Kasprzak1, S. Ivanov2 and K. Salnikow1. 1Laboratory of Comparative Carcinogenesis, National Cancer Institute at Frederick, Frederick, MD and 2SAIC, NCI-Frederick, Frederick, MD.

THE BENZENE METABOLITES HYDROQUINONE AND BENZOQUINONE INCREASE C-MYB ACTIVITY IN B33 CELLS: AN INSIGHT INTO BENZENE MEDIATED LEUKEMOGENESIS. J. Wan1 and L. M. Winn1, 2. 1Pharmacology and Toxicology, Queen’s University, Kingston, ON, Canada and 2School of Environmental Studies, Queen’s University, Kingston, ON, Canada.

ACTIVATION OF DOWNSTREAM RAS EFFECTORS IN LUNG LESIONS FOLLOWING DOXYCYCLINE (DOX) REGULATED EXPRESSI ON OF MUTANT HUMAN KI-ras IN A BITRANSGENIC MOUSE MODEL. H. S. Floyd1, C. L. Farnsworth2, N. D. Kock1, J. L. Little1, S. T. Dance1 and M. S. Miller1. 1Cancer Biology, Wake Forest University, Winston-Salem, NC and 2Cell Signaling Technology, Beverly, MA.

OVEREXPRESSION OF PKC EPSILON IN THE MOUSE EPIDERMIS LEADS TO POLYMORPHONUCLEAR NEUTROPHIL INFILTRATION AND EPIDERMAL DESTRUCTION AFTER A SINGLE TOPICAL DMBA-TPA TREATMENT. Y. Li, D. Wheeler, H. Anathaswamy, A. Verma and T. D. Oberley. Molecular and Environmental Toxicology, University of Wisconsin, Madison, WI.
#1645 ACTIVATION OF AP-1 AND PRO/ANTIOXIDANT STATUS IN SKIN OF AP-1 TRANSGENIC MICE DURING CANCER PROMOTION WITH CUMENE HYDROPEROXIDE. M. Xu1, E. Kisn2, A. R. Murray1, C. Kominmeni2, V. Valiyathan2, V. Castranova1, 2 and A. A. Shvedova1, 2. Physiology and Pharmacology, WVU, Morgantown, WV and 2PPRB, NIOSH, Morgantown, WV.


#1647 INHIBITION OF ESTROGEN RECEPTOR NEGATIVE MDA-MB-453 AND BT-474 BREAST CANCER CELL GROWTH BY ARYL HYDROCARBON RECEPTOR AGONISTS. L. Kotha and S. Safe. Veterinary Physiology & Pharmacology, Texas A&M University, College Station, TX.

#1648 ESTROGEN THROUGH CALCIUM MEDIATED SIGNALING INDUCES CELL GROWTH IN BREAST CANCER CELLS. M. K. Singh and D. Roy. Environmental Health Sciences, University of Alabama at Birmingham, Birmingham, AL.

#1649 ESTROGEN-INDUCED UPREGULATION OF CRE CONTAINING GENES IN BREAST CANCER CELLS. Q. H. Feltly and D. Roy. Environmental Health Sciences, University of Alabama at Birmingham, Birmingham, AL.

#1650 LONG TERM EXPOSURE OF HUMAN MAMMARY EPITHELIAL CELLS TO HEXACHLOROBENZENE (HCB) INDUCES A PROCARCINOGENIC PHENOTYPE. R. M. Aude1, S. Girard, G. Lassonde and M. Charbonneau. INRS-Institut Armand-Frappier, Universite du Quebec, Montreal, QC, Canada.

#1651 MAPPING AND GENOMIC ANALYSIS OF RESISTANCE TO AZOXYMETHANE-INDUCED COLORECTAL CANCER. D. J. Barrick1, J. Uronis2 and D. Threadgill2, 1. 1Curriculum in Toxicology, UNC-Chapel Hill, Chapel Hill, NC and 2Genetics, UNC-Chapel Hill, Chapel Hill, NC.

#1652 MAPPING RAT MAMMARY CANCER SUSCEPTIBILITY LOCI THAT CONTROL N-METHYL-N-NITROSOUREA-INDUCED MAMMARY CARCINOGENESIS IN FISHER 344 RAT. H. Zarbf1, 2, L. Jing1, A. M. Mikheev1, H. Xie1, Y. Gao1, X. Ren1, J. Lew1 and X. Zhang1. 1Human Biology and Public Health Sciences, Fred Hutchinson Cancer Research Center, Seattle, WA and 2Center for Ecogenetics and Environmental Health, NIEHS/University of Washington, Seattle, WA.

#1653 GENISTEIN AND ESTROGEN REGULATION OF ANDROGEN RECEPTOR AND EXTRACELLULAR REGULATING KINASES IN RAT PROSTATE. C. E. Harper. Pharmacology and Toxicology, University of Alabama at Birmingham, Birmingham, AL.

#1654 INHALATION DELIVERY OF AEROSOL CONTAINING PEI-GLUCOSE-PTEN COMPLEX INDUCED CHANGE OF PROTEIN TRANSLATION IN KRAS KNOCKOUT LUNG CANCER MODEL MICE. H. Kim1, J. Park2, C. Cho2, G. Beck3, N. Colburn3 and M. Cho1. 1Laboratory of Toxicology, College of Veterinary Medicine, Seoul National University, Seoul, South Korea and 2Basic Research Laboratory, National Cancer Institute, Frederick, MD.

#1655 PREVENTION BY METHIONINE OF DICHLOROACETIC ACID-INDUCED LIVER CANCER AND DNA HYPMETHYLATION IN MICE. M. A. Pereira, W. Wang, P. M. Kamer and L. H. Tao. Pathology, Medical College of Ohio, Toledo, OH.

#1656 LACK OF MODIFICATION OF MEIQX RAT LIVER CARCINOGENESIS BY CAFFEINE INDUCTION OF CYP1A2. H. Kando1, 2, M. Kuribayashi1, 1, M. Asamoto1, S. Suzuki1 and T. Shirai1. 1Department of Experimental Pathology and Tumor Biology, Nagoya City University Graduate School of Medical Sciences, Nagoya, Japan, 2Takeda Chemical Industries Ltd., Drug Safety Research Laboratories Hikari Branch, Hikari, Japan and 3Ono Pharmaceutical Co. Ltd., Safety Research, Fukui, Japan.

#1657 CURCUMIN PROTECTS AGAINST 2-AMINO-1-METHYL-6-PHENYLIMIDAZO[4, 5-B]PYRIDINE (PHP) CARCINOGENICITY THROUGH MODULATION OF ITS METABOLISM. R. Thimmulappa1, M. Knize1, M. A. Pereira1, S. Suzuki1 and S. Biswal1. 1Johns Hopkins University, Baltimore, MD and 2Biology and Biotechnology Research Program, Lawrence Livermore National Laboratory, Livermore, CA.

#1658 CURCUMIN ENHANCES ECGG-MEDIATED CYTOTOXICITY IN VITRO AND MODULATES LIVER ENZYMES IN VIVO. S. Valentine, M. J. Le Nedelec and R. J. Rosengren. Pharmacology & Toxicology, University of Otago, Dunedin, New Zealand.

#1659 COMPARATIVE EFFECTS OF NNK AND RESVERATROL ON INOS EXPRESSION AND INITIATION OF TUMORIGENESIS IN THE LIVER OF FEMALE A/J MICE. R. H. Nasif, O. M. Philip and C. S. Mehta. College of Pharmacy and Health Sciences, Texas Southern University, Houston, TX.


up-to-date information at www.toxicology.org
**POSTER SESSION: CYTOCHROME P450 REGULATION BY XENOBIOTICS**

**Chairperson(s):** Rhonda Rosengren, University of Otago, New Zealand and Bhagavatula Moorthy, Baylor College of Medicine, Houston, TX.

**Displayed:** 1:30 PM–4:30 PM

**Attended:** 3:00 PM–4:30 PM

### #1661

**MOLECULAR CLONING OF CYTOCHROME P450 2 AND 3A FROM LARGEMOUTH BASS.**

A. McNally, T. Knowles and D. S. Barber. Center for Environmental and Human Toxicology, University of Florida, Gainesville, FL.

### #1662

**ROLE OF USF AND NF-1 PROTEINS IN THE BASAL EXPRESSION OF HUMAN CYP1A2.**


1. Medicine, University of Colorado Health Sciences. Ctr., Denver, CO and 2Pharmaceutical Sciences, University of Colorado Health Sciences. Ctr., Denver, CO.

### #1663

**NONYLPHENOL ATTENUATES P450 INDUCTION BY TCPOBOP IN FVB/NJ MICE.**

J. P. Hernandez and W. Baldwin. Biological Sciences, University of Texas at El Paso, El Paso, TX.

### #1664

**DEVELOPMENT OF CHEMILUMINESCENT ASSAYS FOR MEASURING CYTOCHROME P450 ISOFORMS.**


1. Molecular Light Technology Research, Cardiff, CF14 5DL, United Kingdom and 2Cardiff University, School of Biosciences, PO Box 911, Cardiff, CF10 3US, United Kingdom. Sponsor: A. Smith.

### #1665

**DEVELOPMENTAL CYTOCHROME P450 EXPRESSION IN THE MOUSE LUNG: SUSCEPTIBILITY DIFFERENCES TO METABOLICALLY-ACTIVATED PULMONARY CYTOTOXICANTS.**

A. Taff, M. Bartosiewicz, D. Rock, K. Ruggiero, B. Buckpitt, and A. Buckpitt.

1. Molecular Biology, School of Veterinary Medicine, University of California, Davis, CA, 2Anatomy, Physiology, Cell Biology, School of Veterinary Medicine, University of California, Davis, CA, 3Applied Science, University of California, Davis, CA, 4CSIRO Mathematical and Informational Sciences, Canberra, ACT, Australia and 5Primary Industries Research, Victoria, Australia.

### #1666

**SYNERGISTIC INDUCTION OF CYP3A4 EXPRESSION BY RIFAMPICIN AND TCDD IN PXR-ENHANCED HEPG2 CELLS.**


1. Vet. Physiology and Pharmacology, Texas A&M University, College Station, TX, 2EOHSI, Rutgers University, Piscataway, NJ and 3Center for Pharmacogenetics, School of Pharmacy, University of Pittsburgh, Pittsburgh, PA.

### #1667

**ALTERED HEPATIC CYTOCHROME P450 ENZYME EXPRESSION IN A CHOLESTATIC MOUSE MODEL.**

S. M. Bandiera, E. G. Hrycay, D. Forrest, R. Wang, and V. Ling.

1. Faculty of Pharmaceutical Sciences, University of British Columbia, Vancouver, BC, Canada and 2British Columbia Cancer Research Center, British Columbia Cancer Agency, Vancouver, BC, Canada.

### #1668

**EXPRESSION OF CYP1A1 AND 1B1 MRNA IN BLOOD LYMPHOCYTES FROM TWO POPULATIONS IN SLOVAKIA COMPARED TO TOTAL PCBs LEVELS AND TEQS IN BLOOD.**


1. Institute for Risk Assessment Sciences, Utrecht, Netherlands, and 2National Reference Center for Dioxins and Related Compounds, Bratislava, Slovakia.

### #1669

**HISTONE DEACETYLATION EFFECTS OF THE CYT 1A1 PROMOTER ACTIVITY, PROLIFERATION AND APOPTOSIS OF CELLS IN HEPATIC, PROSTATE AND BREAST CANCER CELLS.**


Pharmacy, Ewha Womans University, Seoul, South Korea. Sponsor: Y. Cha.

### #1670

**EFFECTS OF QUERCETIN AND AMENTOFLAVONE ON CYP1 EXPRESSION IN RLS92-2 ENDOMETRIAL CARCINOMA CELLS.**

Z. R. Master and K. L. Willett.

Pharmacology, University of Mississippi, Oxford, MS.

### #1671

**NO RELATIONSHIP BETWEEN NF-κB ACTIVATION BY PPARGAGON TICS AND TCDD-MEDIATED INDUCTION OF CYP1A1 IN Mouse.**

D. E. Machemer, A. Galijatovic, D. J. Beaton, Z. Li, M. Karin, and R. H. Tukey.

1. Department of Pharmacology, University of California San Diego, La Jolla, CA and 2Department of Chemistry & Biochemistry, University of California San Diego, La Jolla, CA.

### #1672

**EFFECT OF EPICALLOTECTACHIN GALLATE AND EPICATECHIN GALLATE ON CYP450 ISOFORMS IN THE MALE SWISS WEBSTER MOUSE.**

M. G. Goodin and R. J. Rosengren.

Pharmacology and Toxicology Department, University of Otago, Dunedin, New Zealand.

### #1673

**ENDOGENOUS REGULATION OF CYP1A1 INDUCTION IN HEPATOCYTE C17 Cells IS MEDIATED BY CALCIUM-DEPENDENT ADHESION.**


1. Molecular and Environmental Toxicology, University of Wisconsin-Madison, WI, 2Biotechnology Training Program, University of Wisconsin-Madison, WI and 3Pathology and Laboratory Medicine, University of Wisconsin-Madison, Madison, WI.

### #1674

**EFFECT OF THIABENDAZOLE ON RAT HEPATIC XENOBIOTIC METABOLISING ENZYME ACTIVITIES.**


BIBRA International Ltd., , Cashalton, Surrey, United Kingdom.
ABILITY OF FLAVONOIDS IN ST. JOHN'S WORT TO DECREASE CYPI ACTIVITIES. A. M. Chaudhary and K. L. Willett. Pharmacology, The University of Mississippi, University, MS.

THEOPHYLLINE METABOLISM AND PHARMACOKINETICS IN CYP1A2(+/+) WILDTYPE AND CYP1A2(-/-) KNOCKOUT MICE. S. Derkenne, C. Curran, T. P. Dalton, H. G. Shertzer and D. W. Nebert. University of Cincinnati, Cincinnati, OH.

DECREASED CYP1A1-DEPENDENT ENZYME ACTIVITY AND PROTEIN LEVELS IN HEPG2 CELLS EXPOSED TO BENZO(A)PYRENE IN THE PRESENCE OF 1-NITROPYRENE. S. Cherng1,2, S. Hsu2, J. Yang3 and H. Lee1. 1Institute of Toxicology, Chung Shan Medical University, Taichung, Taiwan, 2Food Science and Nutrition, Hung Kuang University, Taichung, Taiwan, 3Department of Education & Research, Taichung Veterans General Hospital, Taichung, Taiwan and 4Department of Life Science, National Tsing Hua University, Hsinchu, Taiwan. Sponsor: P. Howard.

ROLE OF MOUSE CYP2E1 IN THE O-HYDROXYLATION OF P-NITROPHENOL: COMPARISON OF ACTIVITIES IN CYP2E1 (-/-) AND WILDTYPE MICE. K. K. Wolf1, S. G. Wood1, J. L. Bement2, P. R. Sinclair3,4,1, S. A. Wrighton5, E. Jeffery5, F. J. Gonzalez6 and J. F. Sinclair3,4,1. 1Pharmacology and Toxicology, Dartmouth Medical School, Hanover, NH, 2Biochemistry, Dartmouth Medical School, Hanover, NH, 3VA Medical Center, White River Junction, VT, 4Lilly Research Laboratories, Indianapolis, IN, 5Food Science and Human Nutrition, University of Illinois, Urbana, IL and 6Laboratory of Drug Metabolism/Disposition, National Cancer Institute, Bethesda, MD.

STUDY OF METABOLIC INTERACTIONS OF FIPRONIL AND SOME CYP3A4 SUBSTRATES. J. Tang, A. Usmani, E. Hodgson and R. L. Rose. Environmental and Molecular Toxicology, North Carolina State University, Raleigh, NC.


COMPARATIVE HEPATIC MICROSOMAL ENZYME STUDIES IN COMMERCIAL RAISED GAMEBIRDS. K. A. Cortright and A. L. Craigmiller. Environmental Toxicology, University of California-Davis, Davis, CA.


MODULATION OF HEPATIC AND PULMONARY CYTOCHROME P450A1 EXPRESSION BY HYPEROXIA AND INHALED NITRIC OXIDE IN THE NEWBORN RAT: IMPLICATIONS FOR LUNG INJURY. X. J. Courouchil, Y. Wei, W. Jiang, L. Evey and B. Moorby. Pediatrics, Baylor College of Medicine, Houston, TX.


INJURY PATTERNS IN THE NASAL PASSAGE FROM INHALED NA ARE RELATED TO AIRFLOW PATTERNS AND IN SITU METABOLISM OF NA IN SPRAGUE-DAWLEY RATS. M. G. Lee1, S. Camacho2, A. R. Buckpitt2 and C. G. Plappert1. 1Department of Anatomy, Physiology, and Cell Biology, School of Veterinary Medicine, University of California, Davis, Davis, CA and 2Department of Molecular Biosciences, School of Veterinary Medicine, University of California, Davis, Davis, CA.


MECHANISM-BASED INACTIVATION OF HUMAN PULMONARY CYTOCHROME P450 2F1 BY PNEUMOTOXIN 3-METHYLINDOLE. J. S. Kartha, K. W. Skordos, D. L. Lanza and G. S. Yost. Pharmacology and Toxicology, University Of Utah, Salt lake city, UT.

INVESTIGATION OF THE IRREVERSIBILITY OF CYP450 INHIBITION CAUSED BY M-XYLENE AND METABOLITES IN RAT LUNG AND NASAL MUCOSA. A. Vaidyanathan and R. Schatz. Pharmacology Sciences., Northeastern University, Boston, MA.

Wednesday Afternoon, March 24
1:30 PM to 4:30 PM
Exhibit Hall

POSTER SESSION: GENE EXPRESSION II

Chairperson(s): John Davis, Schering-Plough, Lafayette, NJ.
Displayed: 1:30 PM–4:30 PM
Attended: 3:00 PM–4:30 PM

TOXICOGENOMICS PROJECT IN JAPAN—OBJECTIVE AND PROPOSAL. T. Urushidani1,2, J. Kanno1, T. Miyagishima2 and T. Nagao3,2. 1Cell. & Mol. Toxicol., National Institute of Health Sciences(NIHIS), Tokyo, Japan, 2Toxicogenomics Project, NIH, Tokyo, Japan and 3Director General, NIH, Tokyo, Japan. Sponsor: S. Tsuda.
USING TRANSCRIPT PROFILING FOR
PREDICTIVE TOXICOLOGY: OPPORTUNITIES
AND CHALLENGES. R. A. Jolly, K. M. Goldstein, T.
Wei, J. Colet, H. Gao, T. P. Ryan, C. E. Thomas, H. B.
Harlow, K. Kramer, S. Patwardhan, S. T. Estrem and J. L.
Stevens. Exploratory Toxicology, Lilly Research Labs,
Indianapolis, IN.

FORMULATION OF RNA PERFORMANCE
STANDARDS FOR REGULATORY
TOXIGENOMIC STUDIES. B. A. Rosenzweig1, E.
Mansfield1, P. Pine1, D. Sistare1, J. C. Fuscoe2 and
K. Thompson1. 1Division of Applied Pharmacology
Research, CDER, USFDA, Laurel, MD and 2Center for
Functional Genomics, NCTR, USFDA, Jefferson, AR.

LASER MICRODISSECTION AND ITS
APPLICATION IN TOXIGENOMICS. W. Hu, M.
Taurino, M. Wojke, T. Monticello and Z. Jayyosi. Drug
Safety Evaluation, Aventis Inc., Bridgewater, NJ.

EXPRESS ANALYSIS OF NOVEL
BIOMARKERS OF NEPHROTOXICITY USING
LASER CAPTURE MICRODISSECTION (LCM) AND
IMMUNOHISTOCHEMISTRY (IHC). L. A.
Obert2, J. W. Davis3, F. Goodsaid1, K. Milford2, P.
Louro2, M. Geniri, R. J. Smith1 and J. Y. Rosenblum1.
1Molecular Toxicology, Schering-Plough, Lyndhurst, NJ
and 2Pathology, Schering-Plough, Lyndhurst, NJ.

QUANTIFYING GENE EXPRESSION
NETWORKS: IDENTIFYING NETWORK
STRUCTURE. T. Yamakane1, H. Toyoshiba1, N.
Walker1, F. Parham1, J. Martinez1, H. Sone1 and C.
Portier1. 1Laboratory of Computational Biology and
Risk Analysis, National Institute of Environmental
Health Sciences, Research Triangle Park, NC and
2LCBRA, NIEHS, Research Triangle Park, NC.

ESTROGENICITY OF THE DIETARY INDOLE, 3,
3'-DIINDOLYLMETHANE, IN RAINBOW TROUT
(ONCORNYNCHUS MYKISS), S. C. Tilton and D. E.
Williams. Environmental and Molecular Toxicology and
The Marine and Freshwater Biomedical Sciences Center,
Oregon State University, Corvallis, OR.

ESTROGEN-INDUCED GENE EXPRESSION IN
HUMAN UTERINE LEIOMYOMA AND NORMAL
UTERINE SMOOTH MUSCLE CELL LINES. C.
Swartz1, C. Afshari1, 2, L. Yu1, K. Hall1 and D. Dixon1.
1NIEHS, Research Triangle Park, NC and 2Amena,
Thousand Oaks, CA.

DIFFERENTIAL GENE EXPRESSION BY
ANDROGENS AND ESTRODIOL BY
MICROARRAY ANALYSIS IN THE
LARGEMOUTH BASS (MICROPTERUS
SALMNOIDES). J. L. Blum2, P. Larkin4, K. J. Kroll1 and
N. D. Denslow1, 3, 4. 1Biochemistry and Molecular
Biology, University of Florida, Gainesville, FL,
2Graduate Program in Pharmacology, University of
Florida, Gainesville, FL, 3Biotechnology Program,
University of Florida, Gainesville, FL and 4EcoArray,
LLC, Alachua, FL.

DOSE RESPONSE ANALYSIS OF FEMORAL
CHANGES IN GENE EXPRESSION ELICITED BY
ETHINYL Estradiol USING CDNA
MICROARRAYS. J. Burt1, 2, L. D. Burgoon2, 3, 4.
D. R. Boverhoff1, 2, 3, 4, Y. Sun1, 2, 3 and T. R.
Zacharewski1, 2, 3, 4. 1Biochemistry and Molecular Biology, Michigan State
University, East Lansing, MI, 2Pharmacology &
Toxicology, Michigan State University, East Lansing, MI
and 3Institute of Environmental Toxicology, Michigan
State University, East Lansing, MI.

THE USE OF GENE EXPRESSION PROFILING
FOR IDENTIFYING POTENTIAL BIOMARKERS
OF REPRODUCTIVE TOXICOLOGY. L. Nelms1, R.
E. Chapin2, B. Lu1, S. J. Curry2, M. B. Wilhelms3, M.
R. Elwell4, D. Pelletier1 and M. P. Lawton1. 1Molecular
and Investigative Toxicology, Pfizer, Groton, CT,
2Investigative Developmental Toxicology, Pfizer,
Groton, CT and 3Pathology, Pfizer, Groton, CT.

EXPRESS PROFILING THE HEPATIC
RESPONSE OF RATS TREATED WITH
FENOFRIBATE AND FIVE OTHER FIBRATE
ANALOGUES. P. D. Cornwell, A. T. De Souza and R.
G. Ulrich. Molecular Profiling, Rosetta Inpharmatics,
Merck Research Labs, Kirkland, WA.

GENE EXPRESSION PROFILE OF HEPATIC
STEATOSIS IN PPARα-DEFICIENT MOUSE
LIVER AFTER EXPOSURE TO HYDRAZINE, V. E.
Richards, B. Chau and C. A. McQueen. Pharmacology and
Toxicology, University of Arizona, Tucson, AZ.

EFFECT OF FURAN, CHLOROFORM, DI-(2-
ETHXYLHEXYL)PHTHALATE (DEHP) AND
OXAZEAPAM ON BIOMARKERS OF CELL
CYCLING AND PROLIFERATION IN MOUSE
LIVER. C. Meredith1, M. P. Scott1, A. Barton2, R. J.
Price1, T. R. Hupp3, C. R. Elcombe4 and B. G.
Lake4. 1BiBRA International Ltd., Carshalton, Surrey,
United Kingdom, 2CXR Biosciences Ltd., Dundee, United
Kingdom, 3Chemical Engineering, The Ohio State University, Columbus, OH and
4Chemical Engineering, The Ohio State University,
Columbus, OH. Sponsor: D. Johnson.

DI(2-ETHXYLHEXYL) PHTHALATE INDUCED
GENE EXPRESSION CHANGES. J. S. Wang. Cell
Biology & Neuroscience, Environmental Toxicology
Program, University of California, Riverside, CA.

CHEMICAL GENOMICS ANALYSIS OF GENE
EXPRESSION PROFILES TO HELP ELUCIDATE
MOLECULAR MECHANISMS OF ANTI-BREAST
CANCER AGENTS. C. Yang1, 2, P. Blower1, K. Cross1,
G. Myatt1, J. Richards2, R. Brueggeimer2 and J.
Rathman3. 1Leadscope, Inc., Columbus, OH, 2College
of Pharmacy, The Ohio State University, Columbus, OH
and 3Chemical Engineering, The Ohio State University,
Columbus, OH. Sponsor: D. Johnson.

IDENTIFICATION OF GENE EXPRESSION
CHANGE AS A FUNCTION OF DOSE IN A
MICROARRAY EXPERIMENT. K. Dawson1, J. E.
Eckel1, C. Gennings1, D. Boverhoff2 and T.
Zacharewski2, 3, 4. 1Biostatistics, VA Commonwealth
University, Richmond, VA, 2Department of
Biochemistry & Molecular Biology, Michigan State
University, East Lansing, MI, 3Nation Food Safety &
Toxicology Center, Michigan State University, East
Lansing, MI and 4Institute for Environmental
Toxicology, Michigan State University, East Lansing, MI.
NOMALIZATION OF MICROARRAY DOSE-RESPONSE DATA. J. Eckel1, C. Gennings1, K. Dawson1, D. Boverhof2 and T. Zacharewski2.
1Department of Biostatistics, Virginia Commonwealth University, Richmond, VA and 2Department of Biochemistry & Molecular Biology, National Food Safety & Toxicology Center and Institute for Environmental Toxicology, Michigan State University, East Lansing, MI.

POSTER SESSION: CHEMICAL & BIOLOGICAL WARFARE POSTERS

Chairperson(s): Richard Carchman, N/A, Columbia, VA and Gary Rosenthal, RxKinetix, Drug Development, Louisville, CO.

Displayed: 1:30 PM–4:30 PM

Attended: 1:30 PM–3:00 PM

#1721 USE OF RAY DESIGNS IN EVIDENCE-BASED DECISIONS INVOLVING MIXTURES OF LARGE NUMBERS OF CHEMICALS. C. Gennings, H. Carter, K. Fisher and R. Carchman. Solveritas, LLC, Richmond, VA.

#1722 IMPROVED DETERMINATION OF REGENERATED SARIN (GB) IN MINIPIG AND HUMAN BLOOD BY GAS CHROMATOGRAPHY-CHEMICAL IONIZATION MASS SPECTROMETRY USING ISOTOPE DILUTION AND LARGE VOLUME INJECTION. E. M. Jakubowski1, J. M. McGuire2, J. L. Edwards2, R. A. Evans2, S. W. Hule1, B. J. Benton1, J. S. Forster1, D. C. Burnett1, W. T. Muse1, C. L. Crouse2, R. J. Mioduszewski1 and S. A. Thomson1. 1Toxicology Team, Edgewood Chemical Biological Center, APG-Edgewood, MD and 2Geo-Centers, APG-Edgewood, MD.

#1723 THE INHALATION TOXICITY OF GB VAPOR IN RATS AS A FUNCTION OF EQUILIBRATION TIME FOR TEN MINUTE EXPOSURES. J. S. Anthony1, M. V. Hake1, I. H. Manthey1, R. A. Way1, D. C. Burnett1, B. P. Gaviola1, D. R. Sommerville1, R. B. Crosier1, R. J. Mioduszewski1, S. A. Thomson1, C. L. Crouse2 and K. L. Matson3. 1Edgewood Chemical Biological Center, Department of the Army, Aberdeen Proving Ground, MD and 2Geo-Centers Inc., Abingdon, MD.

#1724 CLINICAL SAFETY OF REACTIVE SKIN DECONTAMINATION LOTION (RSDL). D. A. Tonucci1, S. Masaschi1, L. Lockhart1, M. Millward1, D. Liu2, R. Clawson2, V. Murphy3, P. O’Dell4, M. C. Lanouette5, T. Hayes6 and C. Sabourin6. 1Hill Top Research, Cincinnati, OH, 2Chemical Biological Medical Systems Project Management Office, Ft Detrick, MD, 3MarCorSysCom, Quantico, VA, 4O’Dell Engineering, Cambridge, ON, Canada, 5Canadian Department of National Defense, Ottawa, ON, Canada and 6Battle, Columbus, OH.

#1725 DETERMINATION OF RADIOPROTECTIVE EFFICACY OF GENISTEIN WHEN ADMINISTERED BEFORE OR AFTER IONIZING RADIATION. M. R. Landauer1 and V. Srinivasan. Radiation Pathophysiology and Toxicology, Armed Forces Radiobiology Research Institute, Bethesda, MD.

#1726 SEIZURE/STATUS EPILEPTICUS AND ANIMAL TOXICITY INDUCED BY LITHIUM PILOCARPINE CLOSELY MIMICS HIGH-DOSE ORGANOPHOSPHATE EXPOSURE. M. P. Nambo1, L. M. Tetz1 and R. K. Gordon1. 1Biochemical Pharmacology, Walter Reed Army Institute of Research, Silver Spring, MD, 2Biochemical pharmacology, WRIAR, Silver Spring, MD and 3Biochemical Pharmacology, WRIAR, Silver Spring, MD.


#1728 LOW-LEVEL EFFECTS OF VX VAPOR EXPOSURE ON PUPIL SIZE IN RATS. B. J. Benton1, K. L. Matson2, C. L. Crouse2, J. S. Forster1, E. M. Jakubowski1, J. S. Anthony1, J. Scotto1, J. H. Manthey1, R. A. Way1, S. W. Hule1, C. E. Whalley1, D. C. Burnett1, B. I. Gaviola1, W. T. Muse1, D. B. Miller2, R. J. Mioduszewski1 and S. A. Thomson1. 1US Army Edgewood Chemical Biological Command, Aberdeen Proving Ground, MD and 2Geo-Centers Inc., Gunpowder, MD.

#1729 A COMPARISON OF BASELINE CHOLINESTERASE LEVELS AND THE INHIBITORY RESPONSE TO PYRIDOSTIGMINE IN WHOLE BLOOD, PLASMA, AND RBCS FROM HUMANS AND SEVERAL NONHUMAN PRIMATE SPECIES. N. A. Niemuth1, C. T. Olson1, T. L. Hayes1, G. van der Zwaag1, C. Matthews4, D. E. Lenz2 and I. Koplovitz2. 1Medical Research and Evaluation Facility, Battelle Memorial Institute, Columbus, OH and 2US Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD.

#1730 LOCALIZATION OF SUBSTANCE P GENE EXPRESSION FOR EVALUATING PROTECTIVE COUNTERMEASURES AGAINST SULFUR MUSTARD. S. L. Casbohm1, J. V. Rogers1, M. K. Stonerock1, J. L. Martin2, K. M. Ricketts-Kaminsky2, M. C. Babin3, R. P. Casillas1 and C. L. Sabourin3. 1Medical Research & Evaluation Facility, Battelle Memorial Institute, Columbus, OH and 2US Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD.

#1731 PROTEOLYTIC CLEAVAGE AND COUNTERIRRITATING EFFECT OF H2A HISTONE FRAGMENT AGAINST SULFUR MUSTARD-INDUCED SKIN LESIONS. University: Wormser and B. Brodsky. Institute of Life Sciences, The Hebrew University, Jerusalem, Israel.
#1732

REDUCED SULFUR MUSTARD-INDUCED SKIN TOXICITY IN CYCLOOXYGENASE-2 KNOCKOUT AND CELECOXIB-TREATED MICE. A. Nyska1, A. Sintov2, R. Langenbach3, B. Brodsky4 and University. Wormser5. 1Laboratory of Experimental Pathology, NIEHS, Research Triangle Park, NC, 2Institutes for Applied Research, Ben Gurion University of the Negev, Beer-Sheva, Israel, 3Laboratory of Molecular Carcinogenesis, NIEHS, Research Triangle Park, NC and 4Institute of Life Sciences, The Hebrew University, Jerusalem, Israel.

#1733

GENE EXPRESSION IN MICE EXPOSED TO LOW AND HIGH LEVELS OF SULFUR MUSTARD. J. V. Rogers1, Y. W. Choi1, R. C. Kiser1, R. P. Caclitas1, M. C. Babkin1, J. J. Schlager2 and C. L. Sabourin1. 1Medical Research & Evaluation Facility, Battelle Memorial Institute, Columbus, OH and 2Pharmacology Division, US Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD.

#1734


#1735


#1736

THIODIGLYCOL METABOLISM BY ALCOHOL DEHYDROGENASE USING NMR: SYNTHETIC ROUTE TO THE METABOLIC INTERMEDIATE HYDROXYETHYLTHIOACETALDEHYDE. A. A. Brimfield1 and M. J. Novak2. 1Biochemical Pharmacology, USAMRICD, Aberdeen Proving Ground, MD and 2Chemistry, Florida Institute of Technology, Melbourne, FL.

#1737

REAL-TIME CONCENTRATION AND RESPIRATORY MONITORING TO CONTROL PRESENTED DOSE IN AN AUTOMATED AEROSOL EXPOSURE SYSTEM. J. M. Hartings1, 2, B. R. Goodenow2 and C. J. Roy3. 1Biaera Technologies, Inc., Frederick, MD and 2Department of Aerobiology and Product Evaluation, USAMRIID, Fort Detrick, MD.

#1738


#1739

IMMUNE RESPONSE INDUCED BY AN EXPERIMENTAL MUCOSAL ADJUVANT ADMINISTERED WITH RECOMBINANT PROTECTIVE ANTIGEN (RPA) IN A GUINEA PIG CHALLENGE MODEL. E. K. Leffel, B. R. Goodenow and C. J. Roy. Toxicology & Aerobiology, USAMRIID, Frederick, MD.

#1740

A NOVEL VACCINE DELIVERY SYSTEM THAT MINIMIZES ADVERSE EVENTS WHILE IMPROVING IMMUNE RESPONSE. J. M. Blonder1, C. Coebohott1, E. Verderber1, A. Sanamiogeo1, C. Tate1, K. Stone1, S. Smithson2, M. Westerink2 and G. J. Rosenthal3. 1Drug Development, RxKinetics, Inc., Louisville, CO and 2Department of Medicine, Medical College of Ohio, Toledo, OH.

#1741

DIFFERENTIAL SUSCEPTIBILITY OF MACROPHAGE CELL LINES TO BACILLUS ANTHRACIS (VOLLUM 1B). B. W. Gutting, K. Gaske, R. Mackie, A. Slaterbeck, L. Sobota, A. Schilling and T. Buhr. Naval Surface Warfare Center, Dahlgren, VA.

Wednesday Afternoon, March 24
1:30 PM to 3:30 PM
Exhibit Hall

POSTER SESSION: EDUCATION AND PUBLIC OUTREACH

Chairperson(s): Helen Goeden, Minnesota Department of Health, MN and Kristine Willett, University of Mississippi, University, MS.

Displayed: 1:30 PM–3:30 PM

Attended: 3:00 PM–4:30 PM

#1742

METHYLMERCURY CONTAMINATION IN FISH: HUMAN EXPOSURES AND RISK COMMUNICATION. D. D. Petersen. NRMRL, USEPA, Cincinnati, OH.

#1743

LINKING COMMUNITY OUTREACH AND EDUCATION WITH RESEARCH TO IMPROVE THE HEALTH OF A POPULATION. C. G. Sumana1, G. Carrillo2, 1, K. C. Donnelly2, 1 and J. A. Parrish2, 1. 1Center for Community Outreach and Education, Texas A& M University Center for Environmental and Rural Health, College Station, TX and 2School of Rural Public Health, Texas A&M University System Health Science Center, College Station, TX.

#1744

TRANSLATING CHILDREN’S ENVIRONMENTAL HEALTH RISK RESEARCH FOR COMMUNITIES. C. H. Drew and E. M. Faustman. Institute for Risk Assessment and Risk Communication, University of Washington, Seattle, WA.

#1745

ENVIROHEALTH CONNECTIONS: A COLLABORATIVE EXPLORATION OF THE ENVIRONMENT & HUMAN HEALTH. C. Mutryn1, M. A. Trush2 and G. P. Long1. 1Maryland Public Television, Owings Mills, MD and 2JHU Bloomberg School of Public Health, Baltimore, MD.

#1746


#1747

BUILDING CREDIBILITY IN K-12 EDUCATION. H. Goeden1, J. P. Shubart1, L. Solen2 and R. Skogland3. 1Minnesota Department of Health, St. Paul, MN, 2Minnesota Pollution Control Agency, Duluth, MN and 3M, St. Paul, MN.
THE AMBIENT PROJECT: HIGH SCHOOL ENVIRONMENTAL HEALTH SCIENCES CURRICULUM. L. Pitman1, 2, L. E. Fleming1, T. Pitman1, 4, W. Stephan1, H. Davis1 and K. Goodman1. 1NIEHS MFBS Center, Rosenstiel School of Marine and Atmospheric Sciences, University of Miami, Miami, FL, 2Educational Specialists, Miami Dade County Public Schools, Miami, FL, 3Epidemiology, Miami Dade County Public Health Department, Miami, FL and 4Chemistry, Florida International University (FIU), Miami, FL. Sponsor: L. O’Fallon.


AN INTERDISCIPLINARY, ENVIRONMENTAL HEALTH-BASED APPROACH TO IMPROVING SCIENCE LEARNING BY ELEMENTARY TEACHERS AND STUDENTS. N. Moreno, B. Tharp and P. Cutler. Center for Educational Outreach, Baylor College of Medicine, Houston, TX. Sponsor: L. O’Fallon.

PROBLEM-BASED LEARNING FOR ENVIRONMENTAL HEALTH. E. Henry3, D. G. Markowitz1, P. Braus2, P. Debes1, K. Hart2, D. Hursh3 and C. Martina3. 1Environmental Medicine, University of Rochester, Rochester, NY, 2Community and Preventive Medicine, University of Rochester, Rochester, NY and 3Warner Graduate School of Education and Human Development, University of Rochester, Rochester, NY.

DEVELOPMENT AND ASSESSMENT OF AN ONLINE, UNDERGRADUATE INTRODUCTION TO TOXICOLOGY COURSE. K. L. Willett1 and A. S. Bouldin2. 1Pharmacology and Environmental Toxicology, University of Mississippi, University, MS and 2Pharmacy Administration, The University of Mississippi, University, MS.

CHARACTERIZING THE UNCERTAINTIES IN SCREENING AND ASSESSING RISKS TO CHEMICALS THAT DECREASE THYROID HORMONE CONCENTRATIONS. M. J. DeVito and K. M. Crofton. ORD/NHEERL/ETD, USEPA, Research Triangle Park, NC.

ESTABLISHING A SAFE DOSE FOR PERCHLORATE BASED ON HUMAN EVIDENCE OF A NO EFFECT LEVEL. R. C. Pleus1. 1Intertox, Seattle, WA and 2Pharmacology, UNMC, Omaha, NE.

EXPOSURE ASSESSMENT FOR PERCHLORATE IN DRINKING WATER. D. Proctor1, E. Cohen1, H. Leung1, S. Hays1, L. Barraj1 and A. Madl2. 1Exponent, Irvine, CA and 2ChemRisk, San Francisco, CA.

Wednesday Afternoon, March 24
1:30 PM to 4:30 PM
Exhibit Hall

POSTER SESSION: RISK ASSESSMENT II
Chairperson(s): Lisa Yost, Exponent, Bellevue, WA and John Lipscomb, USEPA, Cincinnati, OH.
Displayed: 1:30 PM–4:30 PM

A TRIAL OF TOXICOGENOMIC ANALYSIS OF HUMAN UMBILICAL CORDS FOR DEVELOPING A NEW RISK ASSESSMENT METHOD OF FETAL EXPOSURE TO MULTIPLE CHEMICALS. M. Komiyama1, 2 and C. Mori1. 1Bioenvironmental Medicine, Chiba University, Chiba, Japan, 2Center for Environment, Health and Field Sciences, Chiba University, Kashiwa, Japan and 3Core Research for Evolutional Sciences and Technol. (CREST), Japan Sciences. and Technol. Corporation (JST), Kawaguchi, Japan.

APPLICATION OF A PBPK MODEL TO AID IN UNDERSTANDING THE RELATIVE POTENCIES (REPS) OF DIOXIN-LIKE CHEMICALS. L. S. Birnbaum1, C. Emond2 and M. J. DeVito3. 1ORD/NHEERL/ETD, USEPA, Research Triangle Park, NC and 2NRC, NAS, Washington, DC.

DERIVATION OF A RANGE OF INTERIM INHALATION CANCER SLOPE FACTORS FOR TCE USING PHYSIOLOGICALLY BASED PHARMACOKINETIC MODELING. L. You1, 2, J. F. Greene1, 3, S. M. Hays3, 5, M. Kelsh1, 4 and P. Sheehan1. 1Exponent, Menlo Park, CA, 2Health Risk, Exponent, Oakland, CA, 3Health Risk, Exponent, Bellevue, WA, 4Health, Exponent, Menlo Park, CA and 5Health Risk, Exponent, Boulder, CO.

THE CONTRIBUTION OF PHARMACOKINETIC VARIABILITY TO VARIABILITY IN HEPATIC LABELING INDEX DATA FROM B6C3F1 MICE EXPOSED TO CHLOROFORM. C. Tan and R. Conolly. CIIT Centers for Health Research, Research Triangle Park, NC.
ISSUES IN THE VALIDATION OF PBPK MODELS FOR RISK ASSESSMENT: AN EXAMPLE WITH PERCHLOROETHYLENE. J. Kester, R. Gentry and H. Clewell. 1ENVIRO Resource Sciences Institute, Ruston, LA and 2ENVIRO Health Sciences Institute, St. Louis, MO.

PREDICTION OF BIOLOGIC PARTITION COEFFICIENTS AND BINDING AFFINITIES USING STRUCTURE ACTIVITY RELATIONSHIPS (SAR) MODELS. M. Montaz, H. A. El-Harasi, D. Hawkins, D. Mills and S. Basak. 1Computational Toxicology Laboratory/Division of Toxicology, ATSDR, Atlanta, GA, 2School of Statistics, University of Minnesota, Minneapolis, MN and 3Natural Resources Research Institute, University of Minnesota Duluth, Duluth, MN.

ANALYSIS OF AN INTERACTION THRESHOLD IN DRUG/CHEMICAL MIXTURES ALONG A FIXED-RATIO RAY. A. Hamm, C. Gennings, H. Carter and R. Carchman. 1Biostatistics, Virginia Commonwealth University, Richmond, VA and 2Solvartas, LLC, Richmond, VA.

D-OPTIMAL EXPERIMENTAL DESIGNS TO TEST FOR DEPARTURE FROM ADDITIVITY IN A FIXED-RATIO RAY MIXTURE. T. Coffey, L. Stork, C. Gennings, W. H. Carter and J. E. Simmons. 1Biostatistics, Virginia Commonwealth University, Richmond, VA and 2ORD/NHEERL, USEPA, Research Triangle Park, NC.

ANALYSIS OF AN INTERACTION THRESHOLD IN A MIXTURE OF DRUGS AND/OR CHEMICALS. H. Carter, A. Hamm, C. Gennings, H. Carter and R. Carchman. 1Biostatistics, Virginia Commonwealth University, Richmond, VA and 2Solvartas, LLC, Richmond, VA.


RISK ASSESSMENT FOR MALE REPRODUCTIVE TOXICANTS. I. Mangelsdorf, J. Buschmann and B. Orthen. 1Chemical Risk Assessment, Fraunhofer Institute for Toxicology and Experimental Medicine, Hannover, Germany and 2Federal Institute for Occupational Safety and Health, Dortmund, Germany. Sponsor: H. Hulthe.

APPROACHES FOR CONVERTING ADULT DOSE TO CHILDREN OF VARIOUS AGE GROUPS: RELEVANCE FOR THE RISK ASSESSMENT OF ENVIRONMENTAL CHEMICALS. D. Gohore Bi and K. Krishnan. Occupational and Environmental Health, Universite de Montreal, Montreal, QC, Canada.

BENCHMARK DOSE MODELING OF MERCURY-INDUCED ACUTE RENAL FAILURE IN SPRAGUE-DAWLEY RATS WITH RENAL INSUFFICIENCY COMPARED TO HEALTHY CONTROLS. R. Brown, E. F. Madden, M. E. Stratmeyer and P. L. Goering. CDRH, USFDA, Rockville, MD.


LACK OF SUBCHRONIC TOXICITY OF TRICHLOROETHYLENE ADMINISTERED VIA AQUEOUS GAUGE TO MICE. P. S. Falk, S. S. Anand, M. M. Montaz and H. M. Mehendale. 1Department of Toxicology, University of Louisiana, Monroe, Monroe, LA and 2ATSDR, Atlanta, GA.


DOSE-RESPONSE ANALYSIS OF COMBINED DATA FROM CLINICAL TRIALS: A CASE STUDY OF DATA ANALYSIS FOR SYSTEMIC CONTACT DERMATITIS IN A SENSITIZED POPULATION. Q. Zhao, L. Haber and A. Bathija. 1TERA, Cincinnati, OH and 2USEPA, Washington, DC.

THE ATSDR CHRONIC ORAL MINIMAL RISK LEVEL (MRL) FOR FLUORIDE. L. Ingerman, C. Tylenia and D. Jones. 1Environmental Science Center, Syracuse Research Corp, Saratoga Springs, NY and 2ATSDR, Atlanta, GA.


DEVELOPMENT OF PROVISIONAL TOXICITY VALUES FOR COBALT. H. Choudhury. ORD, NCEA, USEPA, Cincinnati, OH.

THE IMPORTANCE OF CONSIDERATION OF MODE OF ACTION DATA IN NON-CANCER RISK ASSESSMENT: THE CASE OF ETHYLENE CYANOHYDRIN. M. Oster and M. Odin. Syracuse Research Corporation, Syracuse, NY.

LACK OF EFFECTS OF 1439 MHZ ELECTROMAGNETIC NEAR FIELD EXPOSURE ON THE BLOOD-BRAIN BARRIER IN IMMATURE AND YOUNG RATS. M. Kuribayashi, J. Wang, O. Fujiiwara, Y. Doi, K. Nabae, S. Tamaru, T. Ogiso, M. Asamoto and T. Shiraishi. 1Experimental Pathology and Tumor Biology, Nagoya City University Graduate School of Medical Sciences, Nagoya, Japan, 2Electrical and Computer Engineering, Nagoya Institute of Technology, Nagoya, Japan, 3Daiyukai Institute of Medical Science, Nagoya, Japan and 4Ono Pharmaceutical Co. Ltd., Safety Research, Fukui, Japan.
RESULTS OF SCREENING TESTS ON REFINED MINERAL OILS DERIVED FROM USED OILS. W. Dalbey, R. McKe, S. Hong, M. Amoruso and J. Freeman. ExxonMobil Biomedical Sciences, Inc., Ammandale, NJ.

AN EMPIRICAL EVALUATION OF THE CANCER POTENCY OF DIOXIN TOXIC EQUIVALENTS (TEQs) IN FOUR PCB MIXTURES. R. E. Keenan, J. M. Hamblen, J. B. Silswoth, M. N. Gray, P. O. Gwinn and S. B. Hamilton. AMEC Earth & Environmental, Portland, ME.

AN EXPANDING WEB RESOURCE ON AVAILABLE TOXICITY DATA ON ALTERNATIVE TIM. McMahon, USEPA, Washington, DC and Ashraf NEW DATA AND GUIDELINES SUPPORT A NATO WORKSHOP ON COMPARATIVE RISK HORMESIS DATABASE. C. R. Kirman, AN EMPIRICAL EVALUATION OF THE CANCER BENCHMARK DOSE ANALYSIS OF PAPILLOMA INDUCTION IN THE SKIN OF TG.AC MICE FOLLOWING ORAL OR DERMAL EXPOSURE TO 2, 3, 7, 8-TETRACHLORODIBENZO-P-DIOXIN. M. E. Wyde, A. Bruen, M. R. Hejtmancik, J. D. Johnson, A. F. Fuciarelli, M. K. Vallant, R. Bucher and N. J. Walker. NIHES, Research Triangle Park, NC, Hoffman-La Roche, Nutley, NJ, Battelle, Columbus, OH and Battelle, Richland, WA.

COMPARISON OF RISK ASSESSMENT METHODS FOR POLYCYCLIC AROMATIC HYDROCARBON (PAH) MIXTURES IN AIR. H. I. Williams, A. Wiman, C. A. Williams, C. Stineman and T. Husain. Ecology and Environment, Inc., Tallahassee, FL, Ecology and Environment, Inc., Chicago, IL and Faculty of Engineering, Memorial University of Newfoundland, St. Johns, NF, Canada.


NEW DATA AND GUIDELINES SUPPORT A REVISED CANCER RISK ASSESSMENT FOR ACRYLAMIDE. P. R. McClure, D. W. Wohlers and R. S. DeWoskin. Environmental Science Center, Syracuse Research Corporation, Syracuse, NY and National Center for Environmental Assessment, USEPA, Research Triangle Park, NC.


CHILDREN'S HEALTH BENEFITS FROM REDUCTIONS IN CRITERIA AIR POLLUTION CONCENTRATIONS. E. Wong, J. Gohlke, W. Griffith and E. M. Faustman. Institute for Risk Analysis and Risk Communication, Department of Pathology, University of California, San Francisco, CA.

DESIGNED TO EXAMINE THE POTENTIAL USE OF TOXNET'S 43rd Annual Meeting SOT 43rd Annual Meeting Program Description

Wednesday Afternoon, March 24 1:30 PM to 4:30 PM Exhibit Hall

POSTER SESSION: REGULATORY/POLICY

Chairperson(s): Timothy McMahon, USEPA, Washington, DC and Ashraf Yousef, TAP Pharmaceuticals Products, Inc., Lake Forest, IL.

Displayed: 1:30 PM–4:30 PM

Attended: 3:00 PM–4:30 PM


TRENDS.


ESTIMATING SEVERITY FOR DEVELOPMENT OF THE CONTAMINANT CANDIDATE LIST (CCL). A. M. Mahfouz1, J. Donohue1, N. Chiu1, J. Du1, O. Conerly1, C. O. Abernathy1, B. Ambika1, S. Kueberuwa1 and W. Mendez1. Office of Water, USEPA, Washington, DC.

ESTIMATING POTENCY FOR DEVELOPMENT OF THE CONTAMINANT CANDIDATE LIST (CCL). G. Blumenthal2, J. M. Donohue1, O. Conerly1, K. Sullivan2, A. Mahfouz1, J. Du1, S. Kueberuwa1, C. Abernathy1, N. Chiu1 and A. Bathija1. Health and Ecological Criteria Department, USEPA, Washington, DC.

THE USEPA CONTAMINANT CANDIDATE LIST (CCL) DEVELOPMENT PROCESS. O. D. Conerly1, C. Abernathy1, A. Bathija1, N. Chiu1, J. Donohue1, J. Du1, S. Kueberuwa1, A. Mahfouz1 and W. Mendez2. Office of Water, USEPA, Washington, DC.


VALIDATION OF THE HUMAN EPIDERMIS MODEL SKINETHIC FOR SKIN CORROSION TESTING ACCORDING TO NEW OECD TEST GUIDELINE 431. M. Liebsch1, H. Kandarova1, H. Spielmann1, R. Guest2, A. Whittingham3, N. Warren2, A. O. Ganner1, T. Kaufmann3, M. Remmle1 and B. De Wever4. 1ZEBET, Federal Institute for Risk Assessment (BR), Berlin, Germany, 2SafePharm Laboratories, Derby, United Kingdom, 3Toxikologie Z470, BASF AG, Ludwigshafen, Germany and 4Skinethic Laboratories, Nice, France. Sponsor: A. Goldberg.


DO PRECLINICAL STUDIES IN PREADOLESCENT ANIMALS PREDICT CLINICAL TOXICITY? LANSOPRAZOLE (A PROTON PUMP INHIBITOR) AS A CASE EXAMPLE. A. Youssef. TAP Pharmaceutical Products Inc., Lake Forest, IL.

ICCVAM PROCESS FOR NOMINATION AND SUBMISSION OF NEW, REVISED, AND ALTERNATIVE TEST METHODS. L. M. Schechtman1, W. S. Stokes2, M. L. Wind3, B. C. Blackard4 and R. R. Tice2, 4. 1NCTR, USFDA, Rockville, MD, 2NICEATM, NIEHS, Research Triangle Park, NC, 3DHS, CPSC, Bethesda, MD and 4NICEATM, ILS. Inc., Research Triangle Park, NC.


REGULATION OF VETERINARY ANTIMICROBIAL DRUG RESIDUES IN FOOD: FDA AND VICH APPROACHES. A. H. Fernandez. CVM, USFDA, Rockville, MD.

POSTER SESSION: CARDIOVASCULAR METHODS & MARKERS

Chairperson(s): Bruce Hammond, Monsanto Company, St. Louis, MO and William Kerns, Pharmacology Consulting, Harvard, MA.

Displayed: 1:30 PM–4:30 PM

Wednesday Afternoon, March 24
1:30 PM to 4:30 PM
Exhibit Hall


NOVEL TECHNIQUES FOR ISOLATION AND CHARACTERIZATION OF ENDOTHELIAL CELLS AND VASCULAR SMOOTH MUSCLE CELLS FROM CANINE CORONARY ARTERIES. X. Yu1, M. K. Dame2, G. Garido1, D. Stump1, W. Bobrowski1, J. E. McDuffie1, J. Varami2 and M. A. Albassam1. 1Worldwide Safety Sciences, Pfizer Global Research & Development, Ann Arbor, MI and 2Pathology, University of Michigan, Ann Arbor, MI. Sponsor: A. Brown.


An experimental PDE IV inhibitor-induced vascular injury (VI) associated with increased mast cell degranulation and elevated serum levels of acute-phase proteins in Sprague-Dawley rats. J. Zhang1, R. Honchel1, J. L. Weaver1, A. Knapton1, E. H. Herman1, F. M. Goodsdain2, J. W. Davis II, J. Y. Rosenblum1 and F. D. Stotare1. 1Division of Applied Pharmacology Research, Center For Drug Evaluation and Research, USFDA, Laurel, MD and 2Toxicology, Schering-Plough Research Institute, Lafayette, NJ.

Establishment of an invitro method for assessment of drug-induced vasculitis. Y. Zhou1, H. Yamada1, J. Horii3 and K. Suzuki1. 1Worldwide Safety Sciences, Pfizer Global Research & Development, Nagoya Laboratories, Pfizer Inc., Nagoya, Japan and 2Department of Molecular Pathobiology, Mie University School of Medicine, Tsu, Japan.

Use of a non-invasive telemetry system (EMKA) for functional cardiovascular endpoints in toxicology studies. H. Prior1, D. Hunter1, J. Schofield1, K. Gracie1, J. Moors1, K. Philp1, P. Carter2, J. Valentin1 and T. Hammond2. 1Safety Pharmacology, AstraZeneca UK Ltd., Macclesfield, Cheshire, United Kingdom and 2Safety Assessment UK, AstraZeneca UK Ltd., Macclesfield, Cheshire, United Kingdom.

A method for the long term monitoring of cardiovascular and respiratory function in the Wistar rat. N. McMahon1, A. Robinson1, E. Martel2 and J. Valentin1. 1Safety Pharmacology, Safety Assessment, AstraZeneca R&D, Macclesfield, Cheshire, United Kingdom and 2CERB, Baugy, France. Sponsor: T. Hammond.


Comparisons of non-invasive versus invasive dog telemetry. H. Prior1, D. Hunter1, S. Jason1, K. Gracie1, J. Moors1, K. Philp1, J. Valentin1 and T. Hammond2. 1Safety Pharmacology, AstraZeneca UK Ltd., Macclesfield, Cheshire, United Kingdom and 2Safety Assessment UK, AstraZeneca UK Ltd., Macclesfield, Cheshire, United Kingdom.


ECG changes during inhalation of diluted engine emissions in a rat model of myocardial infarction (MI). J. Morin1, S. Lorig1, F. Anselme2, A. Chagrou1, J. Henry1 and F. Dionnet3. 1E9920, INSERM, ROUEN, France. 2Cardiology Unit, CHRU Rouen, Rouen, France and 3CERTAM, Saint Etienne du Rouvray, France. Sponsor: R. Forster.

VALIDATION FOR QT PROLONGATION IN CONSCIOUS CYNOMOLGUS MONKEYS ADMINISTERED SOTALOL VIA NASOGASTRIC ROUTE. M. miyamoto, C. M. Kelly and S. J. Gosselin. Huntington Life Sciences, East Millstone, NJ.

TRIANGULATION, REVERSE-USE-DEPENDENCE AND INSTABILITY DISTINGUISH THE PROARRHYTHMIC POTENTIAL OF DRUGS IN A PACED ISOLATED LANGENDORFF RAT HEART. J. Valentin1, K. Gracie1, S. Palethorpe1, T. Hammond1 and L. Hondeghem2. 1Safety Pharmacology, Safety Assessment, AstaZzeneca R&D, Macclesfield, Cheshire, United Kingdom and 2Hondeghem Pharmaceutical Consulting, Oostende, Belgium.

EFFECTS OF PERINATAL EXPOSURE TO PCB AND S. J. Gosselin. J. R. 1:30 PM–4:30 PM

EFFICACY OF INCREASED METHAMPHETAMINE-INITIATED ANDROGEN-MEDIATED BEHAVIORS. M. Z. Wang and G. W. Miller. Center for Neurodegenerative Disease, Rollins School of Public Health, Emory University, Atlanta, GA.

ROLE OF ENVIRONMENT IN FETAL BASIS FOR ADULT DISEASES: DEVELOPMENT OF AN ANIMAL MODEL FOR NEURODEGENERATION (ND). A. E. Ahmed. Pathology, UTMB, Galveston, TX.

DELTAMETHRIN-INDUCED DELAYS IN BEHAVIORAL DEVELOPMENT. M. A. Cheh1, L. Michna2, A. W. Kusnecov3 and G. C. Wagner3. 1Neurotoxicology, Rutgers University, New Brunswick, NJ, 2Toxicology, Rutgers University, New Brunswick, NJ and 3Psychology, Rutgers University, New Brunswick, NJ. Sponsor: K. Reuhl.

EXPLORING A FISH MODEL OF DEVELOPMENTAL ETHANOL NEUROTOXICITY. S. Oxendine1,2, S. Padilla1 and D. E. Hinton3. 1Neurotox. Division, USEPA, Research Triangle Park, NC, 2Curr. in Toxico., UNC-CH, Chapel Hill, NC and 3Nicholas School of the Environment, Duke University, Durham, NC.

DOPAMINE TRANSPORTER AND VESICULAR MONOAMINE TRANSPORTER LEVELS ARE INCREASED BY PERINATAL HEPTACHLOR EXPOSURE. W. M. Caudle, J. R. Richardson, E. D. Dean, M. Z. Wang and G. W. Miller. Center for Neurodegenerative Disease, Rollins School of Public Health, Emory University, Atlanta, GA.

HUMAN LIVER CARBOXYLESTERASE DURING POSTNATAL MATURATION AND ITS SENSITIVITY TO CHLORPYRIFOS OXON. C. Pope1, S. Karantil1, J. Liu1, J. Shaih1 and B. Tan2. 1Physiol Sciences, Oklahoma State University, Stillwater, OK and 2Biomed Sciences, University Rhode Island, Kingston, RI.


PERINATAL EXPOSURE TO DELTAMETHRIN ALTERS DOPAMINERGIC NEUROCHEMISTRY IN THE DEVELOPING MOUSE BRAIN. J. R. Richardson, W. M. Caudle, E. D. Dean, M. Z. Wang and G. W. Miller. Center for Neurodegenerative Disease, Rollins School of Public Health, Emory University, Atlanta, GA.

METHAMPHETAMINE-INITIATED NEURODEVELOPMENTAL DEFICITS ARE ENHANCED IN OXOGUANINE GLYCOSYLASE 1 (OOG1) KNOCKOUT MICE. J. T. Pittman1, W. J. Wang1 and P. G. Wells1. 1Faculty of Pharmacy, University of Toronto, Toronto, ON, Canada and 2Department of Pharmacology, University of Toronto, Toronto, ON, Canada.

INCREASED METHAMPHETAMINE-ENHANCED DNA OXIDATION IN FETAL BRAIN OF COCKAYNE SYNDROME B (CSB) KNOCKOUT MICE. T. J. Preston1, P. G. Wells1,2, W. J. Wang1 and A. W. Wong1. 1Faculty of Pharmacy, University of Toronto, Toronto, ON, Canada and 2Department of Pharmacology, University of Toronto, Toronto, ON, Canada.

EFFECTS OF LOW DOSE PERINATAL VINCLOZOLIN EXPOSURE ON A BATTERY OF ANDROGEN-MEDIATED BEHAVIORS. N. W. Colbert, J. B. Concannon and V. P. Markowski. Environmental Toxicology Center, University of Southern Maine, Portland, ME.
AGE-DEPENDENT INCREASES IN MDMA-MEDIATED DOPAMINERGIC NEUROTOXICITY IN MICE. M. E. Reveron, G. V. Erives, S. S. Lau and T. J. Monks. 1Division of Pharmacology and Toxicol., University of Texas at Austin, Austin, TX and 2Department of Pharmacology and Toxicol., University of Arizona Health Sciences Center, Tucson, AZ.

THE EFFECT OF ACUTE ETHANOL EXPOSURE ON OXIDATIVE STRESS AND CASPASE-3 ACTIVE SUBUNIT EXPRESSION IN POSTNATAL DAY 4 RAT CEREBELLUM. K. H. Horn, L. M. Kamendulis, C. R. Goodlett and J. E. Klaunig. 1Program in Medical Neurobiology, Indiana University School of Medicine, Indianapolis, IN, 2Department of Pharmacology and Toxicology, Division of Toxicology, Indiana University School of Medicine, Indianapolis, IN, and 3Psychology, Indiana University Purdue University at Indianapolis, Indianapolis, IN.


PRENATAL EXPOSURE OF TCDD DECREASED HIPPOCAMPAL ARC AND NMDAR1 EXPRESSION IN F1 GENERATION RATS. J. Wu, T. Nayar, T. Tu, S. Johnson and D. B. Hood. pharmacology, meharry medical college, Nashville, TN.

Wednesday Afternoon, March 24
4:45 PM to 5:30 PM
Room 309

SOT COUNCIL MEETING WITH STUDENTS/POST-DOCTORAL FELLOWS

All students and post-doctoral fellows are encouraged to attend this meeting, which serves as a two-way dialog between SOT Council and students.

Wednesday Evening

Wednesday Evening, March 24
6:00 PM to 7:30 PM
See Events Calendar on Pages 2–6 for Room Listings

SPECIALTY SECTION MEETINGS:
EPIDEMIOLOGY, ETHICAL, LEGAL, AND SOCIAL ISSUES, IMMUNOTOXICOLOGY, MECHANISMS, OCCUPATIONAL HEALTH, RISK ASSESSMENT, TOXICOLOGY AND EXPLORATORY PATHOLOGY.

Wednesday Evening, March 24
6:00 PM to 11:00 PM
See Events Calendar on Pages 2–6 for Room Listings

REGIONAL CHAPTER MEETINGS/RECEPTIONS

Many of the Regional Chapters meet during the SOT Annual Meeting. Details for these Regional Chapter receptions and meetings are listed in Program's Events Calendar.

Thursday Morning, March 25
8:30 AM to 11:30 AM
Room 302

SYMPOSIUM SESSION: ASSESSING THE BIOLOGICAL AND ENVIRONMENTAL RISKS OF NANOPARTICULATES

Chairperson(s): Jeff Everitt, GlaxoSmithKline, Research Triangle Park, NY and David Warheit, DuPont Haskell Laboratories, Newark, DE.

Endorsed by:
Inhalation Specialty Section
Occupational Health Specialty Section

This symposium is a basic primer on nanoparticles and health. After a brief introduction, Dr. Vicki Colvin, director of Rice University CBEN will discuss potential environmental risks related to nanomaterials. Few data exist on the environ. effects of engineered nanomaterials, yet some NGOs are calling for bans on these systems. Govt. policy issues will also be presented. Next, Dr. Sally Tinkle will discuss skin exposure to fine particulates: mechanism of entry and biological response. Previously, it was assumed that exposures to fine particles could not penetrate the stratum corneum of the skin; however, particle size may play a role in skin penetration potential. Dr. Gunter Oberdorster will discuss the pulmonary and extrapulmonary disposition of inhaled nanoparticles. Airborne particles <100 nm in diam. in urban air along with nanotechnol. particles (<10 nm) raise health concerns for humans. Toxicology. studies with different types of nano/ultrafine particles suggest a range of adverse effects. Translocation of 10 to 50 nm sized particles from the respiratory tract to other organs, including the CNS and heart, have also been demonstrated. Dr. Jeff Everitt will next discuss a recent interspecies study of lung responses to inhaled ultrafine TiO2 particles. Female rats, mice and hamsters were exposed to aerosols of ultrafine TiO2 particles for 13 weeks and evaluated through 1 year. At higher doses the adverse lung responses in rats were significantly greater than the other 2 species. The final presentation will discuss lung bioassay studies of intratracheally instilled single wall carbon nanotubes (SWCNT). Individual SWCNT have dimensions of 1 nm (diameter) and lengths > 1 um, yet, SWCNT have a high electrostatic potential and thus agglomerate, forming bundles of 10 to 100 SWCNT, so-called nanoropes. There are very low respirable concentrations of SWCNT in the workplace (i.e., < 0.1 mg/m3). SWCNT instilled in the lungs of rats or mice have produced granulomas. Because of agglomeration, however, the relevance of these findings are questionable and should be confirmed via an inhalation study with SWCNT.


#1851 8:40 ENVIRONMENTAL IMPACTS OF ENGINEERED NANOMATERIALS: RESEARCH FROM THE CENTER FOR BIOLOGICAL AND ENVIRONMENTAL NANOTECHNOLOGY. V. Colvin. Rice University, Houston, TX. Sponsor: D. Warheit.

#1852 9:10 SKIN EXPOSURE TO PARTICLES: PENETRATION IS DEPENDENT ON PARTICLE SIZE. S. S. Tinkle. NIAID, NIH, Bethesda, MD. Sponsor: D. Warheit.

#1853 9:40 BIOLOGICAL EFFECTS AND FATE OF INHALED NANO/ULTRAFINE PARTICLES. G. Oberdorster. Environmental Medicine, University of Rochester, Rochester, NY.
THE INTEGRATION OF MOLECULAR PROFILING, TOXICOLOGY AND PATHOLOGY DATASETS FOR KNOWLEDGE DISCOVERY. M. Waters1, P. Bushe1, G. Boorman2, W. Eastm2, S. Gustafson3, P. Hurban3, R. Irwin2, A. Merrick1, J. Nehls1, K. Olden3, R. Paules1, J. Selkirk1, N. Stasiowicz2, N. Stegman3, K. Tomer3, R. Weiss3, J. Yost4, S. Xirasagar4 and R. Tennant1. 1National Center for Toxicogenomics (NCT), Research Triangle Park, NC, 2National Toxicology Program (NTP), Research Triangle Park, NC, 3NIHES, NIH, DHHS, Research Triangle Park, NC, 4Science Applications International Corporation, Germantown, MD and 5Paradigm Genetics, Research Triangle Park, NC.

COMPARISON OF INTERSPECIES LUNG RESPONSES TO ULTRAFINE (NANO) TITANIUM DIOXIDE PARTICLES. J. Everitt and E. Bermudez. CITI, Research Triangle Park, NC.

PULMONARY BIOASSAY STUDIES WITH CARBON NANOTUBES IN RATS. D. B. Warheit. Pulmonary Toxicology, DuPont Haskell Lab., Newark, DE.

**SYMPOSIUM SESSION: MOLECULAR PROFILING AND COMPUTER MODELING IN EARLY DETECTION AND TREATMENT OF CANCER**

**Chairperson(s):** Richard Thomas, INTERCET Ltd, McLean, VA.

**Endorsed by:**
- Carcinogenesis Specialty Section
- Mechanisms Specialty Section
- Risk Assessment Specialty Section

Cancer diagnosis is traditionally an ad hoc activity where the quality of diagnosis and treatment is often limited by experience and available tools. There exists an opportunity to provide clinicians with important new tools to increase the potential for patients to receive superior diagnosis and treatment. At the core of this opportunity are enhanced research and bioinformatics tools which allow toxicologists and other researchers to identify and exploit gene and molecular profiles associated with many stages of cancer development. For example, such profiles are currently being explored as methods for early detection of ovarian and breast cancer. In addition, gene and molecular profiles have shown promise in identifying aggressive tumor subtypes and in predicting patient outcomes. The purpose of this symposium will be to explore some of the most recent advances in gene profiling and bioinformatics tools now available to toxicologists, clinicians and other researchers.

**#1854 10:10** COMPARISON OF INTERSPECIES LUNG RESPONSES TO ULTRAFINE (NANO) TITANIUM DIOXIDE PARTICLES. J. Everitt and E. Bermudez. CITI, Research Triangle Park, NC.

**#1855 10:40** PULMONARY BIOASSAY STUDIES WITH CARBON NANOTUBES IN RATS. D. B. Warheit. Pulmonary Toxicology, DuPont Haskell Lab., Newark, DE.

**#1856 8:30** MOLECULAR PROFILING AND COMPUTER MODELING IN EARLY DETECTION AND TREATMENT OF CANCER. R. Thomas. Canswers, McLean, VA.

**#1857 8:40** THE MOLECULAR STAGING OF COLORECTAL CANCER. W. E. Grizzle1, University, Manne1, N. Jhala1, C. Suarez-Cuervo1, S. Meleth2 and D. Alexander3. 1Pathology, University of Alabama at Birmingham, Birmingham, AL, 2Medical/Health Informatics Unit, University of Alabama at Birmingham, Birmingham, AL and 3Department of Pathology, University of Alabama at Birmingham, Birmingham, AL. Sponsor: R. Thomas.

**#1858 9:15** PREDICTING CLINICAL PROGNOSIS IN COLORECTAL CANCER PATIENTS USING MOLECULAR PROFILE DATA AND BIOINFORMATICS TECHNOLOGIES. R. D. Thomas1, 2, W. E. Grizzle1 and University. Manne3. 1Canswers, Inc., McLean, VA, 2INTERCET, LTD., McLean, VA and 3Department of Pathology, University of Alabama at Birmingham, Birmingham, AL.


**WORKSHOP SESSION: NOVEL APPROACHES TO ENGAGING TOXICOLOGISTS IN K–12 SCIENCE EDUCATION AND OUTREACH**

**Chairperson(s):** Craig Marcus, University of New Mexico, Albuquerque, NM and David Eaton, University of Washington, Seattle, WA.

**Endorsed by:**
- Education Committee
- K–12 Subcommittee*
- NIEHS K–12 Education Foundation
- Women in Toxicology Specialty Section

Toxicologists are encouraged to become engaged in K–12 classroom activities with the goal of increasing student interest in and awareness of toxicology and environmental health. The SOT K–12 education subcommittee has been very supportive of providing toxicologists with tools and resources to help them prepare for K–12 classroom visits. This session will spotlight positive impacts of classroom visits by toxicologists, and will provide SOT members with novel approaches, tools and resources that can be used to facilitate toxicology education in the K–12 setting. During this workshop, there will be hands-on demonstrations of a variety of tools that toxicologists can use before and during classroom visits. Presenters will include toxicologists who have been actively engaged in K–12 outreach and as K–12 teachers who have utilized toxicology in the classroom. The presenters will highlight successful models for taking students into the field to learn more about local issues that affect their life and health. The purpose of the session is to show how toxicologists can make a positive impact; provide them with, and direct them to, locations where they can obtain tools; and show them how specific tools can be used effectively in the classroom. In addition, SOT members will learn how to take the classroom learning experience into the field to study local environmental health issues.

**#1860 10:15** THE INTEGRATION OF MOLECULAR PROFILING, TOXICOLOGY AND PATHOLOGY DATASETS FOR KNOWLEDGE DISCOVERY. M. Waters1, P. Bushe1, G. Boorman2, W. Eastm2, S. Gustafson3, P. Hurban3, R. Irwin2, A. Merrick1, J. Nehls1, K. Olden3, R. Paules1, J. Selkirk1, N. Stasiowicz2, N. Stegman3, K. Tomer3, R. Weiss3, J. Yost4, S. Xirasagar4 and R. Tennant1. 1National Center for Toxicogenomics (NCT), Research Triangle Park, NC, 2National Toxicology Program (NTP), Research Triangle Park, NC, 3NIHES, NIH, DHHS, Research Triangle Park, NC, 4Science Applications International Corporation, Germantown, MD and 5Paradigm Genetics, Research Triangle Park, NC.

**#1861 8:30** NOVEL APPROACHES TO ENGAGING TOXICOLOGISTS IN K–12 SCIENCE EDUCATION AND OUTREACH. D. L. Eaton1, C. Marcus3, D. Dixon2 and L. O’Fallon2. 1Occupational and Environmental Health Sciences, University of Washington, Seattle, WA, 2NIEHS, Research Triangle Park, NC and 3College of Pharmacy, University of New Mexico, Albuquerque, NM.

**#1862 8:35** POSITIVE IMPACTS OF TOXICOLOGIST VISITS TO THE CLASSROOM: A TEACHER’S PERSPECTIVE. D. Becker1, A. Renkwitz1, F. Ross2 and B. Tharp3. 1Cambridge-South Dorchester High School, Baltimore, MD, 2Robert Poole Middle School #56, Baltimore, MD and 3Baylor College of Medicine, Houston, TX. Sponsor: D. Eaton.
Thursday Morning, March 25 8:30 AM to 11:30 AM  Room 318

WORKSHOP SESSION: THE NATIONAL CHILDREN'S STUDY: PROGRESS DEVELOPING METHODS APPROPRIATE FOR ASSESSING CHILDREN'S EXPOSURE, BIOMARKERS, AND GENETIC SUSCEPTIBILITY

Chairperson(s): Carole Kimmel, USEPA, Washington, DC and Barbara Abbott, USEPA, Research Triangle Park, NC.

Endorsed by:
Nutriconology Specialty Section
Reproductive and Developmental Toxicology Specialty Section

The National Children's Study is a long term prospective study of the effects of environmental influences on the development and health of children across the United States. This study is a collaborative effort authorized by the Children's Health Act of 2000. The National Institute of Child Health and Human Development (NICHD), the National Institute of Environmental Health Sciences (NIEHS), the Center for Disease Control and Prevention (CDC), and the USEPA (EPA) are involved in planning and conduct of the study. This study will include approximately 100,000 children, following them from before birth to adulthood. Social, behavioral, cultural, chemical, physical, and genetic factors need to be considered to assess the broad and complex influences of the environment on child health and development. In this symposium, individuals involved in various aspects of study planning and/or advisory groups will present recent progress in developing improved methods for identifying biomarkers, evaluating genetic susceptibility, and modeling children's exposure. A final presentation will discuss the issues and concerns related to childhood asthma, one of the major themes of the study, and progress in that research area. The NCS and the ongoing pilot studies to develop the final form of that study, represent a rich resource for the toxicological and epidemiological community. This symposium provides an introduction to this vast resource, an update on research in this arena and an indication of future research directions in studies of children's environmental health.

#1863 9:05 TOXICOLOGISTS IN THE CLASSROOM: SUCCESSFUL MODELS FOR K–12 OUTREACH. D. L. Eaton1, N. L. Kerckvliet2, C. Marcus3, S. H. Safe4 and M. A. Truth5, 1Environment Occup. Health Sciences., University Washington, Seattle, WA, 2Environment Molec. Toxicology, Oregon St. University, Corvallis, OR, 3College of Pharmacy, University New Mexico, Albuquerque, NM, 4Vet. Physiol. & Pharmacology, Texas A & M University, College Station, TX and 5Environment Health Sciences., Johns Hopkins University, Baltimore, MD.


#1865 10:50 CLASSROOM TO FIELD: PUTTING TOXICOLOGY IN A LOCAL CONTEXT. J. Lewis1 and B. Sattler2, 1University of New Mexico Health Sciences Center, Albuquerque, NM and 2University of Maryland School of Nursing, Baltimore, MD.

Thursday Morning, March 25 8:30 AM to 11:30 AM  Room 316

ROUNDTABLE SESSION: DEVELOPING THE USE OF THRESHOLD CONCEPT FOR PROTEIN ALLERGENS

Chairperson(s): Timothy Landry, Dow Chemical Company, Midland, MI and Jay Vodela, USDA, Washington, DC.

Endorsed by:
Food Safety Specialty Section
Regulatory and Safety Evaluation Specialty Section

Public exposure guidelines are meant to protect all segments of the population, including the very young and the very old, pregnant women, and hypersensitive individuals. Each year the Food & Drug Administration receives reports of consumers who experienced adverse reactions following exposure to an allergenic substance in foods. Food allergies are abnormal responses of the immune system, especially involving the production of allergen specific IgE antibodies, to naturally occurring proteins in certain foods that most individuals can eat safely. Although the number of food proteins with allergenic potential is not clearly established, there are a limited number of proteins involved in commonly observed food allergy. When the immune system recognizes a food protein as foreign and harmful, cellular and biochemical cascades are initiated that may lead to sensitization and ultimately allergic reactions. There is a significant incidence of food allergy to naturally occurring allergens in children (5% to 6% in US) and adults (2% U.S.). Although protection may require exposure avoidance (e.g. to peanuts in peanut sensitive persons), it would be preferable to be able to apply the “dose makes the poison” concept to induction and/or elicitation. This roundtable will provide recent scientific information on the health effects of protein allergens and will consider how the “threshold” concept for sensitization to allergens may be applied to establishing non-zero exposure guidelines.

#1866 8:30 THE NATIONAL CHILDREN'S STUDY: PROGRESS DEVELOPING METHODS APPROPRIATE FOR ASSESSING CHILDREN'S EXPOSURE, BIOMARKERS AND GENETIC SUSCEPTIBILITY. C. A. Kimmel2 and B. D. Abbott1, 1RTD, NHEERL, ORD, USEPA, Durham, NC and 2NCEA, ORD, USEPA, Silver Spring, MD.


#1868 9:10 VALIDATION OF NON-INVASIVE BIOLOGICAL SAMPLES: PILOT PROJECTS RELEVANT TO THE NATIONAL CHILDREN STUDY. J. E. Gallagher1, T. Lehman2, R. Modali2, S. Rhoney1, J. Rockett1, M. Clas1, J. Immol1, D. Dix1, C. Mamay1, S. Penton1, S. McMaster2, S. Barone1 and R. Stom1, 1NHEERL, USEPA, Research Triangle Park, NC and 2Bioserve Biotechnologies LTD, Laurel, MD.

#1869 9:45 DEVELOPMENT AND USE OF BIOMARKERS OF EXPOSURE FOR CDC'S NATIONAL EXPOSURE REPORT. L. L. Needham. Organic Analytical Toxicology, Centers for Disease Control and Prevention, Atlanta, GA. Sponsor: B. Abbott.


DEVELOPING THE USE OF THRESHOLD CONCEPT FOR PROTEIN ALLERGENS. J. Vodela and T. D. Landry. 1Residue Branch, USDA/FSIS, Washington DC, DC and 2Environment, Health and Safety, Dow Chemical Company, Midland, MI.

FOOD ALLERGENS-THE FDA PERSPECTIVE. K. Caldelari. 1CELLnTEC advanced cell systems, Bern, Switzerland and 2Bristol Myers Squibb, Princeton, NJ.


FACTORS AFFECTING THE DETERMINATION OF THRESHOLD DOES FOR ALLERGENIC FOODS-CLINICAL ASPECTS. J. Hourihane. Infection Inflammation and Repair, University of Southampton, Southampton, United Kingdom. Sponsor: J. Hourihane.


EVIDENCE FOR THRESHOLDS FOR TYPE 1 ALLERGY TO ENZYMES USED IN THE DETERGENT INDUSTRY. K. Sarlo. Central Product Safety, Procter & Gamble Company, Cincinnati, OH.

C. ELEGANS RESPONSE TO MAMALIAN ANTIOXIDANT RESPONSE ELEMENT INDUCER TBHQ. M. Klausner. 1VistaGen Therapeutics, Inc., Burlingame, CA, 2Mount Sinai School of Medicine, New York, NY, and 3Nara Medical University, Japan. Sponsor: J. Vodela.

WOUND HEALING RESPONSE OF THE EPIDERM FULL THICKNESS (EPIDERM-FT) IN VITRO HUMAN SKIN EQUIVALENT AFTER SOLAR UV IRRADIATION: COMPARISON TO EXCISED HUMAN SKIN. P. J. Hayden, B. Burnham, M. Klausner, J. Kubilus and J. E. Sheasgreen. MatTek Corp., Ashland, MA.


DEVELOPING THE USE OF THRESHOLD CONCEPT FOR PROTEIN ALLERGENS. J. Vodela and T. D. Landry. 1Residue Branch, USDA/FSIS, Washington DC, DC and 2Environment, Health and Safety, Dow Chemical Company, Midland, MI.

AN IN VITRO SURROGATE FOR DRUG-INDUCED PHOSPHOLIPIDOSIS. R. E. Morgan, A. Kriaucianus, B. Berridge, J. Sullivan and D. K. Monteith. Lead Optimization Toxicology, Eli Lilly Research Labs, Greenfield, IN.

MODELLING THE ESTROUS CYCLE IN VITRO USING 3-D RAT VAGINAL EPITHELIUM CELL CULTURES. R. Caldelari1, B. D. Car2, L. D. Lehman-McKeeman2, E. J. Muller2 and M. M. Suter1. 1CELLnTEC advanced cell systems, Bern, Switzerland and 2Bristol Myers Squibb, Princeton, NJ.

PREDICTION OF OVARIAN FUNCTION DEFECTS BY MOUSE POLLICLE CULTURE. J. E. SMITZ1, I. Hellincks2 and R. Cortvrindt1, 2. 1Reprod Med., AZ-VUB, BRUSSELS, Belgium and 2EggCentris NV, Zellik, Belgium. Sponsor: P. McAmulty.

AN IN VITRO SURROGATE ASSAY FOR MITOCHONDRIAL TOXICITY. B. Li, D. Watson, R. Morgan and D. Monteith. Lilly Research Laboratories, Greenfield, IN.


SOT 43rd Annual Meeting
Program Description

Thursday Morning, March 25
8:30 AM to 11:30 AM
Room 324

PLATFORM SESSION: CHEMICAL & BIOLOGICAL WARFARE
Chairperson(s): Colin Bourdin, Battelle, Medical Research & Evaluation Facility, Columbus, OH and Alan Brimfield, USAMRICD, Chemical Defense, Aberdeen Proving Ground, MD.


SULFUR MUSTARD ALTERS LAMININ 5 AND GELATINASE MNRA LEVELS AND INCREASES GELATINASE ACTIVITY IN A MOUSE EAR VESICANT MODEL. D. R. Gerecke1, P. Bhatt1, C. L. Sabourin2, T. L. Rudge2, R. P. Cassillas2, R. C. Kiser2, S. L. Cashbom2, M. K. Gordon3, D. J. Riley3 and M. P. Shakarjian1. 1Pharmacology & Toxicology, Rutgers University, Piscataway, NJ, 2Medical Research and Evaluation Facility, Battelle Memorial Institute, Columbus, OH and 3Medicine, UMDNJ/Robert Wood Johnson Medical School, Piscataway, NJ.

GENOMIC ANALYSIS OF SULFUR MUSTARD-INDUCED LUNG INJURY. C. S. Phillips1, J. F. Dilliman1, L. M. Dorsch1, M. D. Croxton2, Z. Hess2, T. S. Moran2 and A. M. Sciuto2. 1Applied Pharmacology, USAMRICD, Aberdeen Proving Ground, MD and 2Neurotoxicology, USAMRICD, Aberdeen Proving Ground, MD.
SOT 43rd Annual Meeting
Program Description

Thursday, March 25
8:30 AM to 11:30 AM
Room 326

PLATFORM SESSION: DNA DAMAGE AND REPAIR

Chairperson(s): Gary Williams, NY Med. College, Valhalla, NY and Toby Rossman, NYU, Tuxedo, NY.

#1890 9:30  GENOMIC ANALYSIS OF THE MECHANISM OF ACTION OF POTENTIAL VESICANT COUNTERMEASURES. J. F. Dillman1, L. M. Dorsch1, A. I. Hegde1, C. S. Phillips1, Y. W. Choi2, R. C. Kiser2 and C. L. Sabourin2. 1Applied Pharmacology, USAMRMC, Aberdeen Proving Ground, MD and 2Medical Research and Evaluation Facility, Battelle Memorial Institute, Columbus, OH.

#1891 9:50  TIME-AND DOSE-DEPENDENT ANALYSIS OF GENE EXPRESSION IN SULFUR MUSTARD-EXPOSED MICE. C. L. Sabourin1, J. V. Rogers1, Y. W. Choi1, R. C. Kiser1, R. P. Casillas1, M. C. Bahin1 and J. J. Schlager2. 1Medical Research & Evaluation Facility, Battelle Memorial Institute, Columbus, OH and 2Pharmacology Division, US Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD.

#1892 10:10  LOW-LEVEL INHALATION EXPOSURE TO SARIN AND CYCLOSPORIN LEADS TO ENHANCED EXPRESSION OF NEURONAL CELL DEATH AND REGENERATION RELATED GENES. J. W. Sekowskii1, J. Bucher1, M. Orehek1, M. Horsmon1, D. Menking1, C. E. Whalley2, B. Benton2, M. Vahey3, M. Nau3, D. Burnett2, J. Jarvis2, B. Gaviola2, R. Mioduszewski2, S. Thomson2 and J. J. Valdes1. 1Molecular Engineering Team, US Army RD&E Command, APG-EA, MD and 2Geo-Centers, Inc., Aberdeen Proving Ground, MD.


#1894 10:50  DEVELOPMENT OF A MICROFLUIDIC MICROARRAY FOR THE RAPID DETECTION OF TOXICOCENOMIC SIGNATURES. J. West1, R. M. DeVay1 and S. Michael1. 1Microfluidics Research Group, Sandia National Laboratories, Livermore, CA and 2VetMed: Molecular Biosciences, University of California, Davis, CA.


#1896 8:50  CYTGENETIC EVALUATION OF ARSENIC TRIOXIDE TOXICITY IN SPRAGUE-DAWLEY RATS. A. K. Patolla and P. B. Tchounwou. Center for Environmental Health, Jackson State University, Jackson, MS.

#1897 9:10  ARSENITE DEPRESSES POLY(ADP-RIBOSYL)ATION IN HUMAN SKIN KERATINOCYTES AND IN MOUSE SKIN. T. G. Rossman, E. V. Komissarova, A. N. Uddin and P. Li. Environmental Medicine, New York University School of Medicine, Tuxedo, NY.


#1899 9:50  α-ETHYL-α-NITROSOUREA (ENU) INCREASES BRAIN MUTATIONS IN PRENATAL AND INFANT MICE BUT NOT IN THE ADULTS. W. Slikker III1, N. Mei2 and T. Chen2. 1College of Letters and Science, University of California, Los Angeles, CA and 2Division of Genetic and Reproductive Toxicology, NCTR/FDA, Jefferson, AR.

#1900 10:10  A MODEL OF SENSITIVITY: 1, 3-BUTADIENE INDUCES HPRT MUTANTS IN MICE LACKING MICROSOMAL EPOXIDE HYDROLYSIS ACTIVITY. J. Wiclkifie, M. M. Ammenheuser, L. Galbert, J. Salazar and J. Ward. University of Texas Medical Branch, Galveston, TX.

#1901 10:30  FORMATION OF DNA ADDUCTS IN F344 RAT NASAL TISSUE BY 2, 6-DIMETHYLANILINE AND 2, 6-DIETHYLANILINE, BUT NOT ALACHLOR. J. D. Duan1, M. Genter2, A. M. Jeffrey1 and G. M. Williams1. 1Department of Pathology, New York Medical College, Valhalla, NY and 2Department of Environmental Health, University of Cincinnati, Cincinnati, OH.

#1902 10:50  THE ROLE OF 06 METHYLGUANINE DNA REPAIR METHYLTRANSFERASE AND MOUSE 3-METHYLADENINE DNA GLOSUCYLASE IN REPAIRING ANTIRHYCYLONE-INDUCED DNA ADDUCTS IN SALMONELLA TYPHIMURIUM AND ESCHERICHA COLI. W. J. Mackay, J. Armagost, R. Robinson and E. Scully. Biology & Health Services, Edinboro University of PA, Edinboro, PA.

SOT 43rd Annual Meeting
Program Description

Thursday Morning, March 25
8:30 AM to 11:30 AM
Room 307

POSTER SESSION: PBDES

Chairperson(s): Daniele Staskal, USEPA, ORD/NHEERL/ETD/IO. Research Triangle Park, NC and Herbert Wiegand, Heinrich-Heine University, Germany.

Displayed: 8:30 AM–11:30 AM
Attended: 8:30 AM–10:00 AM


1Environmental Sciences, University of Texas School of Public Health, Dallas, TX; 2ERGO Research Laboratory, Hamburg, Germany; 3Health Canada, Ottawa, ON, Canada; 4Pharmacology & Toxicology, University at Buffalo, Buffalo, NY; 5State Laboratory for Chemical and Veterinary Analysis, Freiburg, Germany and 6Experimental Toxicology Division, USEPA, Research Triangle Park, NC.


#1908 EXPOSURE TO AN ENVIRONMENTALLY RELEVANT DOSE OF PBDE 99 DISRUPTS THYROID HORMONE HOMEOSTASIS AND CAUSES NEUROBEHAVIOR DISTURBANCES IN RAT OFFSPRING. S. N. Kuriyama, C. Talsness, W. Wittfoht and I. Chahoud. Department of Toxicology, Institute of Clinical Pharmacology and Toxicology, Charite University Medical School Berlin, Campus Benjamin Franklin, Berlin, Germany. Sponsor: E. Silbergeld.

#1909 2, 2′, 4, 4′-TETRABROMODIPHENYL ETHER (PBDE-47) ALTERS THYROID FUNCTION IN RATS. J. M. Hedgel, K. M. Crofton1, S. C. Laws1, M. J. DeVito1, D. G. Ross1 and P. C. Das2. 1NHEERL, ORD, USEPA, Research Triangle Park, NC and 2Curriculum in Toxicology, UNC, Chapel Hill, NC.

#1910 DISPOSITION OF 2, 2′, 4, 4′-TETRABROMODIPHENYL ETHER (BDE 47) IN FEMALE MICE. D. Staskal1, J. Diliberto2, M. DeVito2 and L. Birnbaum2. 1Curriculum in Toxicology, UNC, Chapel Hill, NC and 2ETD, NHEERL, ORD, USEPA, Research Triangle Park, NC.

#1911 EFFECTS OF POLYBROMINATED DIPHENYL ETHERS (PBDES) ON BASAL AND TCDD-INDUCED CYTOCHROME P450 1A1 ACTIVITY IN MCF7, HEPG2 AND H4IE CELLS. L. Peters1, M. van den Berg1, A. Bergman2 and T. Sanderson1. 1Institute for Risk Assessment Sciences, University of Utrecht, Utrecht, Netherlands and 2Department of Environmental Chemistry, University of Sweden, Stockholm, Sweden.

#1912 EFFECTS OF BROMINATED FLAME RETARDANTS ON THE ACTIVITY OF THE STEROIDOGENIC ENZYME AROMATASE (CYP19) IN H295R HUMAN ADRENOCORTICAL CARCINOMA CELLS IN CULTURE. R. Fernandez-Canton1, T. Sanderson1, R. Letcher3, A. Bergman2 and M. Berg1. 1Institute for Risk Assessment Sciences, Utrecht, Netherlands, 2Department of Environmental Chemistry and Analytical Chemistry, Stockholm University, Stockholm, Sweden and 3Great Lakes Institute for environmental Research, Windsor, ON, Canada.

#1913 POLYBROMINATED DIPHENYL ETHERS INHIBIT TCDD-INDUCED EROD-ACTIVITY IN CARP HEPATOCYTES. R. V. Kuiper1, 2, 3, J. G. Voas3, 2, A. Bergman1 and M. van den Berg1. 1Institute for Risk Assessment Sciences, Utrecht University, Utrecht, Netherlands, 2Pathobiology, Utrecht University, Utrecht, Netherlands, 3National Institute for Public Health and the Environment, Bilthoven, Netherlands and 4Environmental Chemistry, Stockholm University, Stockholm, Sweden.

#1914 CHILDREN’S HEALTH RISK ASSESSMENT OF THE COMMERCIAL PENTABROMODIPHENYL ETHER PRODUCT. T. L. Serex1, R. J. Wenning2, J. A. Biesemeier1, A. Von Burg2, S. Braithwaite2, A. M. Shipp3 and G. Lawrence3. 1Regulatory Affairs, Great Lakes Chemical Corp., West Lafayette, IN, 2ENVIRON International Corp., Emeryville, CA and 3ENVIRON International Corp., Ruston, LA.

#1915 DEVELOPMENTAL EXPOSURE TO POLYBROMINATED DIPHENYL ETHERS IMPAIRS SYNAPTIC TRANSMISSION AND LTP IN HIPPOCAMPUS. M. E. Gilber1, L. Sui2, 1 and K. M. Crofton1. 1Neurotoxicology, USEPA, Research Triangle Pk, NC and 2National Research Council, Washington, DC.
PERFLUOROOCTANE SULFONATE (PFOS) ALTERS LUNG DEVELOPMENT IN THE NEONATAL RAT. R. C. Grasty1,2, N. Roberts1, B. E. Grey1, C. Lau1 and J. M. Rogers1,2. 1Reproductive Toxicology Division, NHEERL, ORD, USEPA, Research Triangle Park, NC. and 2Curriculum in Toxicology, UNC Chapel Hill, Chapel Hill, NC.

EFFECTS OF PERFLUOROOCTANE SULFONATE (PFOS) ON THYROID HORMONE STATUS IN ADULT AND NEONATAL RATS. M. N. Logan1, J. R. Thibodeaux2, R. G. Hansom2 and C. Lau2. 1Biology, North Carolina Central University, Durham, NC and 2USEPA NHEERL, Research Triangle Park, NC. Sponsor: J. Rogers.

PERFLUOROOCTANOIC ACID: RELATIONSHIP BETWEEN REPEATED INHALATION EXPOSURES AND PLASMA PFOA CONCENTRATION IN THE RAT. P. M. Hinderliter, M. P. DeLorme and G. W. Jepson, Haskell Laboratory for Health and Environmental Sciences, Newark, DE.

CONSIDERATIONS RELEVANT TO CONSTRUCTING A HUMAN PBPK MODEL FOR PERFLUOROOCTANOIC ACID (PFOA). D. J. Paustenbach1 and G. W. Jepson2. 1ChemRisk, San Francisco, CA and 2Biochemical and Molecular Toxicology, Haskell Laboratory for Health and Environmental Sciences, Newark, DE.

A LONG-TERM TREND OF SERUM LEVELS OF PERFLUOROOCTANE SULFONATE (PFOS) AND PERFLUOROOCTANOATE (PFOA) IN JAPANESE. K. Harada, A. Koizumi, T. Yoshinaga, K. Inoue and N. Saito. Health Environmental Sciences, Kyoto University Graduate School of Medicine, Kyoto, Japan. Sponsor: R. Reitz.

PERFLUOROOCTANOATE AND PERFLUOROOCTANE SULFONATE CONCENTRATIONS IN SURFACE WATERS IN JAPAN. N. Saito1, A. Koizumi1, T. Yoshinaga1, K. Harada4 and K. Inoue1. 1Health Environmental Sciences, Kyoto University Graduate School of Medicine, Kyoto, Japan and 2Health and Environmental Sciences, Iwate Environmental Institute, Morioka, Japan. Sponsor: R. Reitz.

PAHS EXPOSURE AND BIOMARKERS: SIMULTANEOUS ANALYSIS OF 1-HYDROXYPYRENE AND ITS CONJUGATES IN URINE. Y. Hu1, X. Xue1, Z. Zhou2, J. Fu2, B. S. Cohen1, A. A. Melikian3, M. Desai1, X. Li1, E. Tang1, X. Huang1, N. K. Roy1 and Q. Qu1. 1Institute of Environmental medicine, New York University School of Medicine, Tuxedo, NY, 2Department of Toxicology, School of Public Health, Peking University, Beijing, China and 3American Health Foundation, Valhalla, NY. Sponsor: L. Chen.

THE CARCINOGEN 7, 8-DIHYDRO-9, 10-EPOXY-7, 8, 9, 10-TETRAHDROBENZO[ A]PYRENE AND BENZO(A)PYRENE REDUCED ANDROGEN RECEPTOR EXPRESSION IN HUMAN LUNG CELLS. P. Lin and J. Ko. Toxicology, Chung Shan Medical University, Taichung, Taiwan.

DEVELOPMENT OF A HIGH PERFORMANCE LIQUID CHROMATOGRAPHIC METHOD FOR THE SIMULTANEOUS DETERMINATION OF PYRENE-1, 6- AND -1, 8-DIONE IN ANIMAL AND HUMAN URINE. A. Ruzgyte, M. Bouchard and C. Vian. Environmental & Occupational Health, University of Montreal, Montreal, QC, Canada.

EFFECTS OF POLYAROMATIC HYDROCARBON CONTENT IN VEHICLE GASOLINE EMISSION EXHAUST ON GSH/GSSG RATIO IN VITRO. R. P. Balan1, J. L. Garcia-Tavera1, A. Zambrano-Garcia2, J. L. Arriaga2, University. Gonzalez-Macias2, I. Zapata-Penazco2, M. E. Cebrian1, E. S. Calderon-Aranda1 and A. De Vizcaya-Ruiz1. 1Toxicology, CINVESTAV-IPN, Mexico D.F., Mexico and 2Ecotoxicology, IMP, Mexico D.F., Mexico.


DNA ADDUCT AS BIOLOGICAL EFFECT MARKER IN A CHINESE POPULATION WITH ENVIRONMENTAL EXPOSURES TO PAHS. Q. Qu1, Y. Hu1, X. Xue1, Z. Zhou2, J. Fu2, B. Cohen1, D. Li3, X. Li1, E. Tang1 and N. Roy1. 1Environmental Medicine, NYU School of Medicine, Tuxedo, NY, 2Toxicology, Peking University School of Public Health, Beijing, China and 3Gastrointestinal Medical Oncolog, University of Texas, M.D Anderson Cancer Center, Houston, TX. Sponsor: L. Chen.

NITRIC OXIDE INDUCES P53-DEPENDENT APOPTOSIS IN RAT NEURAL CELL LINES. C. Bryncazka1, B. A. Wetmore1, C. McNeil-Blue1, W. A. Freed2 and B. A. Merrick1. 1NCT, NIEHS, NIH DHHS, Research Triangle Pk, NC and 2Cell Neurobiol Rach Branch, NIDA, NIH, DEHHS, Baltimore, MD.

SIMILAR APOPTOTIC ULTRASTRUCTURAL DAMAGE BUT DIFFERENT BIOCHEMICAL PATHWAYS INDUCED BY ROTEONE AND CAMPTOTHECIN IN HUMAN NEUROSPPHERES. J. Li, M. L. Spletter and J. A. Johnson. School of Pharmacy, University of Wisconsin at Madison, Madison, WI.


CASPA 2 AND THE MITOCHONDRION IN PAH-INDUCED PRO/PRE-B CELL APOPTOSIS. H. Ryu1, J. K. Emberley2, J. J. Schlezingera1, L. L. Allan2 and D. H. Sherr1, 2. 1Environmental Health, Boston University Sch. of Medicine, Boston, MA and 2Microbiology, Boston University Sch. of Medicine, Boston, MA.

TESTICULAR SERTOLI CELLS SURVIVE DESPITE CISPLATIN-INDUCED INJURY DUE TO THE EXPRESSION OF INHIBITOR OF APOPTOSIS PROTEINS THAT DISRUPT MITOCHONDRIAL-MEDIATED APOPTOTIC SIGNALING. P. Sawhney and J. H. Richburg. College of Pharmacy, The University of Texas at Austin, Austin, TX.

EVIDENCE THAT 1, 1-DICHLOROETHYLENE INDUCES APOPTOTIC CELL DEATH IN MURINE LIVER. E. J. Martin and P. Forkert. Anatomy and Cell Biology, Queen’s University, Kingston, ON, Canada.

BCL-X, AND CYCLOSPORIN A (CSA) INHIBIT LEAD-INDUCED ROD PHOTORECEPTOR APOPTOSIS AND DECREASED MITOCHONDRIAL RESPIRATION BY BLOCKING CYTOCHROME C RELEASE. D. A. Fox1, L. Hc2, A. T. Polsen2 and C. J. Medrano1. 1University of Houston, Houston, TX, 2UNC, Chapel Hill, NC and 3UT MDACC, Houston, TX.

CASPA-2 DIRECTLY IMPAIRS MITOCHONDRIAL FUNCTION AND STIMULATES CYTOCHROME C RELEASE. J. D. Robertson1, 2, V. Gogvadze1, A. Kropotov1, H. Vakifahmetoglu1, B. Zhivotovsky1 and S. Orrenius1. 1Toxicology, Karolinska Institutet, Stockholm, Sweden and 2Pharmacology, Toxicology, and Therapeutics, University of Kansas Medical Center, Kansas City, KS.

THE MITOCHONDRIAL PERMEABILITY TRANSITION (MPT) IS A KEY FACTOR IN ACETAMINOPHEN KILLING OF HEPATOCYTES. K. Kon1, J. Kim1, E. A. Doyal1, H. Jaeschke2 and J. J. Lemasters1. 1University of North Carolina, Chapel Hill, NC and 2University of Arizona, Tucson, AZ.

LIVER CELL DEATH AFTER ACETAMINOPHEN (AP) OVERTHOSE: APOPTOSIS OR ONCOTIC NECROSIS. S. Phadke, C. Patel, R. Raja and S. D. Ray. Mol. Toxicology. Program/Pharmacology & Toxicol., Long Island University, Brooklyn, NY.
Thursday Morning, March 25
8:30 AM to 11:30 AM
Room 307

POSTER SESSION: OMICS


Displayed: 8:30 AM–11:30 AM

Attended: 10:00 AM–11:30 AM

#1976
SERUM CYTOKINE ANALYSIS AND TRANSCRIPTIONAL PROFILING OF PBMCs IN CHIMPANZEEs TREATED WITH A LYMPHOTOXIN BETA RECEPTOR AGONIST. M. Cooper2, E. Stanford2, M. Wu1, M. Derbel1, J. Goyal2, J. Green2, M. Subramanyam2 and D. Enke1. 1Biomarker Development and Validation, Biogen, Cambridge, MA and 2Preclinical and Clinical Development Sciences, Biogen, Cambridge, MA.

#1977

#1978

#1979
TOWARDS QUANTITATIVE PREDICTIONS OF HEPATOTOXICITY USING GENE EXPRESSION PROFILES. Y. Yang, R. X. Ciurlionis and J. F. Waring. Department of Cellular and Molecular Toxicology, Abbott Laboratories, Abbott Park, IL.

#1980

#1981

#1982
A GENOMIC MODEL OF BENZO(α)PYRENE INDUCED ATEROGENESIS. C. D. Johnson1,2, T. L. Thomas3 and K. S. Ramos1,2. 1Center for Genetics and Molecular Medicine, University of Louisville, Louisville, KY; 2Biochemistry and Molecular Biology, University of Louisville, Louisville, KY and 3Biology, Texas A&M University, College Station, TX.

#1983
COMPOUND CLASSIFICATION USING TRANSCRIPT PROFILING. S. ruepp1, G. Steiner2, F. Boess3, R. Gasser3, S. Evers3, M. De Vera1, S. Albertini1 and L. Suter1. IRPBN-S, Roche, Basel, Switzerland, 2PRBI-B, Roche, Basel, Switzerland and 3PRG, Roche, Basel, Switzerland.

#1984
THE COMPARATIVE TOXICOGENOMICS DATABASE (CTD). C. J. Mattingly1, G. T. Colby1, M. Rosenstein1, J. N. Forrest2,1 and J. L. Boyer2,1. 1Bioinformatics, MDI Biological Laboratory, Salisbury Cove, ME and 2Medicine, Yale University, New Haven, CT. Sponsor: W. Toscano.

#1985

#1986
PROTEOMIC IDENTIFICATION OF INSULIN-LIKE GROWTH FACTOR BINDING PROTEIN-6 INDUCED BY SUBLETHAL H2O2 STRESS FROM HUMAN DIPLOID FIBROBLASTS. L. Xie and Q. M. Chen. Pharmacology, University of Arizona, Tucson, AZ.

#1987
NEW OPPORTUNITIES TO EXPLOIT THE HAZARDOUS SUBSTANCES DATA BANK USING TEXT MINING. A. Porter2, M. Szczur1, H. F. Chang1, J. Goshorn1 and D. Schoenececk3. 1National Library of Medicine, National Institutes of Health, Bethesda, MD, 2Technology Policy and Assessment Center, Georgia Institute of Technology, Atlanta, GA and 3Search Technology Inc., Norcross, GA. Sponsor: V. Hudson.

#1988

#1989
APPLICATION OF CDNA MICROARRAYS FOR SCREENING CARCINOGENICITY OF CHEMICALS IN THE 28-DAY REPEAT-DOSE TOXICITY STUDY. M. Otsuka1, H. Matsumoto1, Y. Yakabe1, M. Takeyoshi1, K. Saito2, K. Sumida2, M. Sekijima3, K. Nakayama2, Y. Kawano1, M. Tsuchiya3, Y. Shinohara4 and T. Shirai5. 1Chemical Evaluation and Research Institute, Japan, Tokyo, Japan, 2Sumitomo Chemical Co., Ltd., Osaka, Japan, 3Mitsubishi Chemical Safety Institute Ltd., Ibaraki, Japan, 4Hokkaido University, Sapporo, Japan and 5Graduate School of Medical Sciences, Nagoya City University, Nagoya, Japan.
**FREE RADICAL DETERMINANTS OF AMPHETAMINE NEURODEGENERATION:**
PROSTAGLANDIN H SYNTHASE (PHS)-CATALYZED FREE RADICAL FORMATION AND REACTIVE OXYGEN SPECIES (ROS)-MEDIATED OXIDATIVE DNA DAMAGE IN NEURONAL DEGENERATION AND FUNCTIONAL DEFICITS. W. Jeng\(^1\) and P. G. Wells\(^2,1\).
\(1\)Pharmacy, University of Toronto, Toronto, ON, Canada and \(2\)Pharmacology, University of Toronto, Toronto, ON, Canada.

**INCREASED MITOCHONDRIAL THIOREDOXIN INHIBITS OXIDANT-INDUCED APOPTOSIS BY A GSH-INDEPENDENT MECHANISM IN SH-SYSY NEUROBLASTOMA CELLS.** J. Cai, Y. Chen and D. P. Jones. Department of Medicine, Emory University, Atlanta, GA.

**FETAL HEMATOPOIETIC STEM CELLS ARE SENSITIVE TARGETS OF 4-HYDROXYNONENAL.** C. G. Moneypenny, C. M. Huisden and E. P. Gallagher. Department of Physiological Sciences, University of Florida, Gainesville, FL.

**MOUSE GLUTAMATE-CYSTEINE LIGASE CATALYTIC AND MODIFIER SUBUNITS COMPLEX IN VITRO, TO FORM HOLOENZYME EXHIBITING OPTIMIZED CATALYTIC EFFICIENCY.** Y. Chen, S. N. Schneider, H. G. Shertzer, D. W. Nebert and T. P. Dalton. Environmental Health and Center for Environmental Genetics, University of Cincinnati, Cincinnati, OH.

**GENERATION OF REACTIVE OXYGEN BY HALOGENATED AROMATIC HYDROCARBONS IN MOUSE LIVER MICROSONES.** T. P. Dalton, M. Center, C. D. Clay, M. C. Chames, S. N. Schneider, G. G. Oakley, D. W. Nebert and H. G. Shertzer. Department of Environmental Health and Center for Environmental Genetics, University of Cincinnati Medical Center, Cincinnati, OH.

**GLUTATHIONE DEFICIENCY IN PANCREATIC \(\beta\) CELLS PREDISPOSES MALE MICE TO THE DEVELOPMENT OF DIABETES.** S. N. Schneider, Y. Chen, Y. Yang, H. G. Shertzer, D. W. Nebert and T. P. Dalton. Environmental Health and Center for Environmental Genetics, University of Cincinnati, Cincinnati, OH.

**PROTECTIVE EFFECTS OF ENHANCED GLUTATHIONE SYNTHESIS ON TNFA-INDUCED HEPATOTOXICITY IN GLUTAMATE-CYSTEINE LIGASE TRANSGENIC MICE.** S. Shi, D. Botta, C. C. White, P. A. Vliet, S. Chatterton-Kirchmeier and T. J. Kavanagh. Environmental & Occupational Health Sciences, University of Washington, Seattle, WA.

**HYPEROXIA-INDUCED MAP KinASE ACTIVATION IN LUNG CELLS.** M. Wu\(^1,2\), L. Volk\(^2\) and W. I. Martin\(^2,1\). Biochemistry & Mol Biol, University of North Dakota, Grand Forks, ND and College of Medicine, University of Cincinnati, Cincinnati, OH. Sponsor: D. Sens.

**DEP-INDUCED FRA-1 EXPRESSION CORRELATES WITH A DISTINCT ACTIVATION OF API-DEPENDENT GENE TRANSCRIPTION IN ALVEOLAR EPITHELIAL CELLS.** Q. Zhang\(^1\), S. R. Kleeberger\(^2\) and S. P. Reddy\(^1\). Environmental Health Sciences, Johns Hopkins University Bloomberg School of Public Health, Baltimore, MD and Laboratory of Pulmonary Pathobiology, NIEHS, Research Triangle Park, NC.

**HUMAN MITOCHONDRIAL THIOREDOXIN (MTTRX) IS MORE SENSITIVE TO PEROXIDE-DEPENDENT OXIDATIVE STRESS THAN CYTOPLASMIC THIOREDOXIN (TRX1).** Y. Chen, J. Cai and D. P. Jones. Department of Medicine, Emory University, Atlanta, GA.

**INJURY DYNAMICS FOLLOWING SUBLETHAL BLAST OPRESSURE EXPOSURES.** N. M. Elsayed\(^1,2\), N. V. Garbanos\(^3\), S. J. McFaul\(^3\) and J. L. Atkins\(^3\). Hurley Consulting Associates, Chatham, NJ, SUNY Downstate Medical Center, Brooklyn, NY and Walter Reed Army Institute of Research, Silver Spring, MD.

**GENERATION AND CHARACTERIZATION OF A GLUTAMATE-CYSTEINE LIGASE MODIFIER SUBUNIT NULL MOUSE.** L. McConnachie\(^1\), F. N. Hudson\(^2\), C. B. Ware\(^3\), C. Fernandez\(^3\), P. A. Vliet\(^1\), C. C. White\(^1\) and T. J. Kavanagh\(^1\). Environmental and Occupational Health Sciences, University of Washington, Seattle, WA, Pathology, University of Washington, Seattle, WA and Comparative Medicine, University of Washington, Seattle, WA.

**THE ROLE OF ANTIOXIDANTS IN URAEMIC PATIENTS.** Z. A. Fadhel, Division of Neurotoxicology, HFT-132, National Center for Toxicological Research/FDA, Jefferson, AR.
POSTER SESSION: PHYSIOLOGICALLY BASED PHARMACOKINETIC MODELS

Chairperson(s): Paul Schlösser, CIIT Centers for Health Research, Research Triangle Park, NC and Lisa Sweeney, The Sapphire Group, Dayton, OH.

Displayed: 8:30 AM–11:30 AM

Attended: 10:00 AM–11:30 AM

#2020 DETERMINATION OF PARTITION COEFFICIENTS FOR SELECTED N-ALKANES. A. Q. Smith, J. L. Campbell and J. Fisher. Environmental Health Science, University of Georgia, Athens, GA.

#2021 COMPARATIVE METABOLISM OF HYDROQUINONE IN RAT AND HUMAN HEPATOCYTES. T. S. Poet1, H. Wu1, J. C. English2 and R. A. Corley3. 1Ctri for Biological Monitoring and Modeling, PNNL, Richland, WA and 2Eastman Kodak Company, Rochester, NY.

#2022 A COMPREHENSIVE APPROACH FOR PHYSIOLOGICALLY BASED PHARMACOKINETIC (PBPK) MODELS USING THE EXPOSURE RELATED DOSE ESTIMATING MODEL (ERDEM) SYSTEM. A. Ruiz1, A. M. Tsang1, J. Licitra4, F. Power2 and J. Blanco1. 1Las Vegas Technical Center, Anteon Corporation, Las Vegas, NV and 4Human Exposure & Atmospheric Sciences Division, USEPA, Las Vegas, NV.

#2023 APPLICATION OF THE EXPOSURE DOSE ESTIMATING MODEL (ERDEM) TO ASSESSMENT OF DERMAL EXPOSURE IN THE RAT TO MALATHION. M. V. Evans1, F. W. Power2, C. C. Dary2. 1Las Vegas Technical Center, Anteon Corporation, Las Vegas, NV and 2Eastman Kodak Company, Rochester, NY.

#2024 KINETIC MODELING OF ORAL UPTAKE AND ELIMINATION OF 54MN FOLLOWING ORAL AND COMBINED ORAL/INHALATION EXPOSURE. H. J. Clewell1, J. G. Teeguarden2 and M. E. Andersen3. 1ENVIRON Health Sciences Institute, Ruston, LA, 2ENVIRON Health Sciences Institute, Collegeville, PA and 3CIIT Centers For Health Research, Research Triangle Park, NC.

#2025 DOSE METRIC SENSITIVITY TO CHANGES IN PBPK MODEL INPUT FUNCTIONS USED TO SIMULATE DAILY ORAL OR INHALATION EXPOSURE. R. S. DeWoskin1 and H. A. Barton2. 1ORD/NCEA/HPAG, USEPA, Research Triangle Park, NC and 2ORD/NHEERL/ETD, USEPA, Research Triangle Park, NC.

#2026 PHYSIOLOGICAL PARAMETERS OF RATS FOR PHARMACOKINETIC MODELS OF PRENATAL EXPOSURE. T. Leavens, B. Elswick and D. Dorman. Center for Developmental Dosimetry, CIIT Centers for Health Research, Research Triangle Park, NC.


1Environmental Health Science, University of Georgia, Athens, GA, 2Pacific Northwest Division, Battelle, Richland, WA and 3Pacific Northwest Division, Battelle, Richland, WA and 4Mantech Environmental Technology Inc., Dayton, OH. W. D. Faber, OH and 2Edgewood Chemical and Biological Center, US Army, Aberdeen Proving Ground, MD.

DEVELOPMENT OF A PHYSIOLOGICALLY BASED PHARMACOKINETIC MODEL FOR DECANE, A CONSTITUENT OF JET PROPELLENT-8. R. Perleberg1, D. A. Keys1, J. L. Campbell1, W. Everett1, A. Q. Smith1, T. Almekinder1, K. Frank1, M. G. Bartlett2 and J. Fisher1.

1Environmental Health Science, University of Georgia, Athens, GA and 2Pharmaceutical and Biomedical Sciences, University of Georgia, Athens, GA.

DEVELOPMENT OF A PBPK-CHEMICAL LUMPING MODEL FOR GASOLINE VOLATILES. J. E. Dennison1, M. E. Andersen2, H. J. Clewell3, M. M. Mumtaz2 and R. S. Yang1. 1ERHS, Colorado State, Fort Collins, CO, 2CIIT Centers for Health Research, Research Triangle Park, NC, 3Environ Corp, Ruston, LA and 4ATSDR, Atlanta, GA.

PHYSIOLOGICAL MODELING OF DECAMETHYLCYCLOPENTASILOXANE (D5) INHALATION KINETICS IN RATS AND HUMANS. M. Reddy1, J. M. Tobin2, D. A. McNett2, M. L. Jovanovic2, M. J. Utell3, P. E. Morrow3, K. P. Plotzke2 and M. E. Andersen1. 1Quantitative Toxicology Group, Center for Environmental Toxicology and Technology, Colorado State University, Fort Collins, CO, 2Toxicology, Health and Environmental Sciences, Dow Corning Corporation, Midland, MI, 3Departments of Medicine and Environmental Medicine, University of Rochester Medical Center, Rochester, NY and 4Division of Biomathematics and Physical Sciences, CIIT Centers for Health Research, Research Triangle Park, NC.

INCORPORATION OF THE GENETIC CONTROL OF ALCOHOL DEHYDROGENASE INTO A PHYSIOLOGICALLY BASED PHARMACOKINETIC MODEL FOR ETHANOL IN HUMANS. G. M. Pastinò1, L. G. Sultatos1, C. A. Rosenfeld1 and E. J. Flynn1. 1Pharmacology and Physiology, UMD- New Jersey Medical School, Newark, NJ and 2Schering-Plough Research Institute, Lafayette, NJ.

TOWARDS A GENERIC PBPK MODEL OF PYRETHROID PESTICIDES: MODELING DELTAMETHRIN AND PERMETHRIN IN THE RAT. R. Tornero-Velez1, H. Nichols1, M. V. Evans2, M. J. DeVito1, C. C. Dary1, M. Delfarco1 and J. N. Blancato1. 1National Exposure Research Laboratory, USEPA, Las Vegas, NV, 2National Health and Environmental Effects Research Laboratory, USEPA, Research Triangle Park, NC, 3National Center for Environmental Assessment, USEPA, Washington DC, DC and 4National Exposure Research Laboratory, USEPA, Research Triangle Park, NC.

PHYSIOLOGICALLY BASED PHARMACOKINETIC MODELING OF CHLOROETHANE DISPOSITION AND GLUTATHIONE DEPLETION. L. M. Sneewley1, J. W. Holder1 and M. L. Gargas1. 1The Sapphire Group, Dayton, OH and 2USEPA, Washington, DC.

PARTITIONING OF BISPHENOL A (BPA) IN RAT TISSUE FOR PHYSIOLOGICALLY-BASED PHARMACOKINETIC (PBPK) MODELING. I. A. Rosa1, H. M. Lun1, W. Johnson1, J. C. Hutter2 and C. S. Kim1, 2Toxicology, US Food and Drug Administration, Laurel, MD and 2Radiological Health, USFDA, Rockville, MD.

HALOCETIC ACID PHARMACOKINETICS IN RHEUS MONKEYS AND HUMANS: CLASSICAL AND PBPK MODELING APPROACHES. I. Schultz1, R. E. Shanagam2, R. D. Stenner3, D. A. Keys1, J. W. Fisher4. 1Battelle PND, Sequim, WA, 2OHGU, Portland, OR, 3Battelle PND, Richland, WA and 4University of Georgia, Athens, GA.


DEVELOPMENT OF A PRIMATE PHYSIOLOGICALLY-BASED PHARMACOKINETIC MODEL FOR DI-2ETHYLHEXYL PHthalate and its METABOLITE Mono-2ETHYLHEXYL PHthalate. E. D. McLanahan1, R. Conolly1, C. T. Mitchell2, M. E. Andersen3, E. J. Flynn1, L. G. Sultatos1, C. A. Rosenfeld1 and E. J. Flynn1. 1Pharmacology and Physiology, UMD- New Jersey Medical School, Newark, NJ and 2Schering-Plough Research Institute, Lafayette, NJ.
PARAOXONASE STATUS IN A MEXICAN POPULATION AND ITS RELATIONSHIP TO THE SUSCEPTIBILITY TO DNA DAMAGE ON CULTURED HUMAN LYMPHOCYTES TREATED WITH METHYL-PARATHION AND PARAOXON. E. Rojas-García, L. Vega L, M. J. Solís-Heredia and B. Quintanilla-Vega. Toxicology Section, CINVESTAV-IPN, Mexico City, D.F., Mexico.

THE ARYL HYDROCARBON RECEPTOR 1 (AHR1) LOCUS IS HIGHLY POLYMORPHIC IN ATLANTIC KILLFISH (FUNDULUS HETEROCLITUS): RELATIONSHIP TO DIOXIN RESISTANCE. M. E. Hahn1, B. R. Evans1, 2, S. I. Karchner1 and D. G. Franks1. 1Biology, Woods Hole Oceanographic Institution, Woods Hole, MA and 2Biology, Boston University, Boston, MA.

DEVELOPMENTAL EFFECTS OF CHLORPYRIFOS EXTEND BEYOND NEUROTOXICITY: CRITICAL PERIODS FOR IMMEDIATE AND DELAYED-ONSET EFFECTS ON CARDIAC AND HEPATIC CELL SIGNALING. A. Meyer1,2, F. Je Seidler3, and T. A. Stolkin4. 1Pharmacology & Cancer Biology, Duke University Med. Ctr, Durham, NC and 2Escola Nacional de Saude Publica, Rio de Janeiro, Brazil.

INHIBITION OF DIAZINON METABOLISM BY CHLORPYRIFOS IN RAT LIVER MICROSOMES. H. Wu, C. Timchalk and T. Poet. Cntr for Biological Monitoring and Modeling, Battelle, Pacific NW Division, Richland, WA.

COMPARISON OF CHLORPYRIFOS-OXON AND PARAOXON ACETYLCHOLINESTERASE INHIBITION DYNAMICS: POTENTIAL ROLE OF A PERIPHERAL BINDING SITE. A. Kousba1, L. G. Sultatos2, T. Poet1 and C. Timchalk1. 1Center for Biological Monitoring and Modeling, Pacific NW Nat’l Lab, Richland, WA and 2UMDNJ, Newark, NJ.


CONTINUOUS SYSTEMS MODELING OF THE INTERACTIONS OF PARAOXON WITH HUMAN RECOMBINANT ACETYLCHOLINESTERASE. C. A. Rosenfeld and L. G. Sultatos. Pharmacology and Physiology, UMD- New Jersey Medical School, Newark, NJ.


ROLE OF CYP3A METABOLISM IN HEPG2 CYTOTOXICITY OF ALACHLOR. S. R. Miranda and S. A. Meyer. Toxicology, University of Louisiana at Monroe, Monroe, LA.

DIAZINON ALTERS SPERM CHROMATIN STRUCTURE BY NUCLEAR PROTAMINE PHOSPHORYLATION. B. Pina-Guzman1, B. E. Reyes-Marquez2, M. J. Solis-Heredia1 and B. Quintanilla-Vega1. 1Toxicology Section, CINVESTAV-IPN, Mexico City, D.F, Mexico and 2Department of Cell Biology, CINVESTAV-IPN, Mexico City, D.F, Mexico.

THE EFFECT OF THIOFLAVIN-T AND PARAOXON ON THE GROWTH PROMOTING FUNCTION OF ACETYLCHOLINESTERASE IN NG108-15 CELLS. H. M. Campanha and E. J. flynn. UMD-New Jersey Medical School, Newark, NJ.

IN VIVO AND IN VITRO EFFECTS OF THE ORGANOPHOSPHATE INSECTICIDE TETRACHLORVINPHOS ON CHOLINESTERASE AND CARBOXYLESTERASE ACTIVITIES IN HORSES. S. Kanath1, L. Mason1, T. Holbrook2, C. MacAllister2 and C. Pope1. 1Physiol Sciences, Oklahoma State University, Stillwater, OK and 2Vet. Clin Sciences, Oklahoma State University, Stillwater, OK.

IN VITRO METABOLISM OF PYRETHROIDS IN RAT LIVER MICROSOMES. S. J. Godin1, R. A. Harrison2, M. F. Hughes2 and M. J. DeVito2. 1Toxicology, University of North Carolina, Research Triangle Park, NC and 2NHEERL, USEPA, Research Triangle Park, NC.

TOXICITY OF SODIUM METAM IN THE RAINBOW TROUT. T. Bunch1, M. A. Haendel2,3 and G. S. Bailey1,2,3. 1Environmental and Molecular Toxicology, Oregon State University, Corvallis, OR, 2Linus Pauling Institute, Oregon State University, Corvallis, OR and 3MFBS, Oregon State University, Corvallis, OR.

Thursday Morning, March 25
8:30 AM to 11:30 AM
Room 307

POSTER SESSION: IMMUNOTOXICITY: METHODS AND VALIDATION

Chairperson(s): Helen Haggerty, Bristol Meyers Squibb, Drug Safety Evaluation, Syracuse, NY and Stephen Pruett, Louisiana State University, Shreveport, LA.

DISPLAYED: 8:30 AM–11:30 AM

ATTENDED: 8:30 AM–10:00 AM

EVALUATION OF WHITE BLOOD CELL COUNT IN RAT SPLEEN AND THYMUS EXTRACTS USING THE ADVIA 120 HEMATOLOGY ANALYZER. L. LeSautere, J. McCartney, L. Huard and Y. Deschamps. Immunology, CTBR, Senneville, QC, Canada.


CELL CHIP TECHNOLOGY—AN ALTERNATIVE METHOD FOR IMMUNOTOXICITY SCREENING. T. Ringerike1, E. Ulleræs2, G. Nilsson2, R. J. Vandebril1, J. Dastych4 and M. Lovik1. 1Department of Environmental Immunology, Norwegian Institute of Public Health, Oslo, Norway, 2Department of Genetics and Pathology, Uppsala University, Uppsala, Sweden, 3Laboratory for Pathology and Immunobiology, National Institute of Public Health and the Environment, Bilthoven, Netherlands and 4Laboratory of Molecular Immunology, International Institute of Molecular and Cell Biology, Warsaw, Poland. Sponsor: E. Dybing.

IN SEARCH OF A BIOMARKER FOR STRESS-INDUCED IMMUNOMODULATION. P Hebert, C. Schwab and S. B. Pruett. Cellular Biology & Anatomy, LSUHSC-Shreveport, Shreveport, LA.
#2078

#2079
EVALUATION OF ANTI-CD3 INDUCED T-CELL PROLIFERATION ASSAY FOR ASSESSING THE IMMUNOTOXICITY OF VERAPAMIL, NIFEDIPINE, CYCLOSPORIN A, AND FK506. S. Mittelstadt, B. Hulette, G. Fadayel, M. Hare and E. Gerberick. Procter & Gamble, Cincinnati, OH.

#2080
PERIPHERAL LEUKOCYTE PHENOTYPING AND SYSTEMIC ANTIBODY RESPONSE AS FIELD TESTS TO EVALUATE IMMUNOTOXICITY IN BEEF CATTLE. D. Bechtel1, C. Waldner1, W. C. Davis2 and M. Wickstrom1. 1University of Saskatchewan, Saskatoon, SK, Canada and 2Washington State University, Pullman, WA.

#2081
COMPARISON OF THE EFFECTS OF CYCLOPHOSPHAMIDE AND DEXAMETHASONE ON PFC ASSAY, ANTI-KLH AND ANTI-TETANUS TOXOID ELISA RESPONSES IN RATS. F. Condevaux1, J. Guichard1, N. Eltschinger1, C. Cretinon1 and J. Descotes2. 1University of Lorraine, INSA, Nancy, France and 2Research & Development, Ann Arbor, MI. Sponsor: M. Bleavins.

#2082

#2083

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#2085
VALIDATING THE T-DEPENDENT ANTIBODY RESPONSE IN DOGS WITH A KNOWN IMMUNOSUPPRESSIVE AGENT (NEORAL). D. L. Finco-Kent, J. Dugas, A. Hudson, R. Barnes and T. Kawabata. WWSS, Pfizer, Groton, CT.

#2086
VALIDATION OF CYNOMOLGUS MONKEY IMMUNOPHENOTYPING BY FLOW CYTOMETRY. D. Baker, D. Finco-Kent, W. Reagan and T. Kawabata. WWSS, Pfizer, Groton, CT.

#2087

#2088

#2089

#2090
INHIBITION OF IL-6 BUT NOT TNFα INHIBITS THE ANTIBODY RESPONSE TO KLH IN CYNOMOLGUS MACAQUES. P. L. Martin1, J. Cornacoff1, P. Bugelski1, S. Hersey2, E. C. Martin2, J. E. Sutherland3 and G. Trecy1. 1Toxicology, Centocor, Malvern, PA, 2Charles River Laboratories, Worchester, MA and 3Charles River Laboratories, Sparks, NV.

#2091

Thursday Morning, March 25
8:30 AM to 11:30 AM
Room 307

POSTER SESSION: JUVENILE AND PERINATAL TOXICITY STUDIES

Chairperson(s): Rosario Perez, Ina Research Philippines Inc., Laguna, Philippines and Roy Forster, CIT, Evreux, France.

Displayed: 8:30 AM–11:30 AM

Attended: 10:00 AM–11:30 AM

#2092

#2093
EFFECT OF CHRONIC EXPOSURE TO ISOFLAVONE ON POSTNATAL DEVELOPMENT OF MICE. K. Takashima1, 2, H. Fukuta2, H. Kato3, T. Iguchih4, 5, M. Komiyama6 and C. Mori3, 5. 1Department of Bioenvironmental Medicine, Graduate School of Medicine, Chiba University, Chiba, Japan, 2Department of Environmental Medical Science (SRL), Graduate School of Medicine, Chiba University, Chiba, Japan, 3Nihon Bioresearch Inc., Hashima, Japan, 4Center for Integrative bioscience, Okazaki National Research Institutes, Okazaki, Japan, 5CREST, JST, Kawaguchi, Japan and 6Center for Environment, Health and Field Sciences, Health and Field Sciences, Chiba University, Chiba, Japan.
#2094  

#2095  
PRENATAL DOSE LEVEL OF 3,3',4,4',5-PENTACHLOROBIPHENYL (PCB 126) TO INDUCE HYPOSPADIAS IN FEMALE RATS. M. Shiruta1,2, Y. Sakurada2, K. Hayasaka2, K. Inoue2 and K. Shiruta2. 1Hatto Research Institute, Food and Drug Safety Center, Hadano, Kanagawa, Japan and 2Research Institute of Biosciences, Azabu University, Sagamihara, Kanagawa, Japan. Sponsor: H. Ono.

#2096  

#2097  
A TERATOLOGY STUDY OF ZICONOTIDE UTILIZING DOUBLE-STAINING AND POST NATAL EXAMINATIONS TO ELUCIDATE DELAYED OSSIFICATION. M. J. Skov1, G. M. Shopp1, L. Pouliot2, K. J. Robinson2 and J. C. Beck3. 1Safety Evaluation, Elan Pharmaceuticals, Inc., South San Francisco, CA, 2CTBR Bio-Research Inc., Senneville, QC, Canada and 3Roche, Palo Alto, CA.

#2098  
NEONATAL EXPOSURE TO GENISTEIN, A SOY PHYTOESTROGEN, ALTERS MAMMARY GLAND DIFFERENTIATION. E. Padilla-Banks, W. Jefferson and R. Newbold. NIEHS, Research Triangle Park, NC.

#2099  

#2100  
SAFETY ASSESSMENT OF CARGLUMIC ACID IN JUVENILE RATS. R. Forster1, G. Chevalier1, M. Attia1, L. Martin2 and M. Fortun2. 1CIT, Evreux, France and 2Orphan Europe, Paris, France.

#2101  
COMPARATIVE TOXICITY STUDY OF PHENYTOIN IN JUVENILE AND ADULT CYMOLGUS MONKEYS. R. M. Perez1, F. P. de Villa1, L. S. Antonio1, T. Hayashi1, N. Muto2, E. Suzuki2 and M. Nomura2. 1INA RESEARCH INC., Laguna, Philippines and 2Ina Research Inc., Nagano, Japan.

#2102  
GLOBAL ANALYSIS OF ABBERRANT DNA METHYLATION INDUCED BY NEONATAL EXPOSURE TO DIETHYLSITOSTROL USING RESTRICTION LANDMARK GENOMIC SCANNING (RLGS). K. Sato1, H. Fukata2, Y. Kogo3, J. Ohgane3, K. Shiota3 and C. Mori1,4. 1Department of Bioenvironmental Medicine, Graduate School of Medicine, Chiba University, Chiba, Japan, 2Department of Environmental Medical Science (SRL), Graduate School of Medicine, Chiba University, Chiba, Japan, 3Laboratory of Cellular Biochemistry, Veterinary Medical Science/Animal Resource Science, The University of Tokyo, Tokyo, Japan and 4Core Research for Evolutional Science of Technology (CREST), Japan Science and Technology Corporation (JST), Kawaguchi, Japan.

#2103  
DETERMINING THE RESPIRATORY BIOAVAILABILITY OF WATER-SOLUBLE VAPORS USING PBPK MODELING AND A COMBINED GAS UPTAKE INHALATION, PLETHYSMOGRAPHY, AND BLOOD SAMPLING SYSTEM. A. Woodstock1, T. S. Poel1, J. J. Soelberg1, H. Wu1, J. G. Teeguarden2, W. Faber3, B. Francis4 and R. A. Corley5. 1Pacific Northwest National Laboratory, Richland, WA, 2Environ, Collegeville, PA, 3WFTC, LLC, Victor, NY and 4American Chemistry Council, Arlington, VA.

#2104  
ROLE OF TUMOR NECROSIS FACTOR ALPHA AND INTERLEUKIN-1 BETA IN THE DEVELOPMENT OF PULMONARY TOXICITY FROM EXPOSURE TO ADVANCED COMPOSITE MATERIAL COMBUSTION ATMOSPHERES. P. G. Reinhart1, D. L. Courson2, J. E. Reboulet3 and E. C. Kimmel3. 1Naval Health Research Center (Toxicology Detachment), Wright-Patterson AFB, OH, 2Man Tech Environmental Technology Inc., Wright-Patterson AFB, OH and 3Geo-Centers Inc., Wright-Patterson AFB, OH.

#2105  
TIME COURSE OF PULMONARY EFFECTS FROM EXPOSURE TO ADVANCED COMPOSITE MATERIAL COMBUSTION ATMOSPHERES. D. L. Courson1, P. G. Reinhart2, J. E. Reboulet3 and E. C. Kimmel3. 1Naval Health Research Center (Toxicology Detachment), Wright-Patterson AFB, OH, 2Naval Health Research Center (Toxicology Detachment), Wright-Patterson AFB, OH and 3Geo-Centers Inc., Wright-Patterson AFB, OH.

#2106  

#2107  
CORRELATION OF NASAL SURFACE-AREA-TO-VOLUME RATIO WITH PREDICTED INHALED GAS UPTAKE EFFICIENCY IN HUMANS. R. Segal1, G. M. Kepler2, D. L. Kalisak3, R. B. Richardson1 and J. S. Kimbell1. 1CIT Centers for Health Research, Research Triangle Park, NC and 2Consultant, Chapel Hill, NC.

#2108  
EVALUATION OF THREE COMMERCIALY AVAILABLE AEROSOL GENERATORS FOR ANIMAL BASED RESEARCH STUDIES. M. Eifrid, M. J. Brooker and R. Moutvic. Toxicology, Battelle, Columbus, OH.

#2109  
#2110 COMPARISON OF EXPERIMENTAL MEASUREMENTS WITH MODEL CALCULATIONS OF PARTICLE DEPOSITION EFFICIENCIES IN MONKEY AND RAT NASAL AIRWAYS. B. A. Wong1, J. T. Kelly2, B. Asgharzian1 and J. S. Kinne1. 1CIIT CHR, Research Triangle Park, NC and 2UC Davis, Davis, CA.

#2111 NASAL TOXICITY OF CARBON TETRACHLORIDE IN RATS: DOSE RESPONSE AND TIME COURSE STUDIES. C. Reed1, S. Simpson1 and J. Foster2. 1School of Biomolecular Sciences, Liverpool John Moores University, Liverpool, United Kingdom and 2Pathology Department, AstraZeneca, Macclesfield, United Kingdom. Sponsor: E. Lock.

#2112 APPLICATION OF MAGNETIC RESONANCE IMAGING IN THE DEVELOPMENT AND VALIDATION OF 3D COMPUTATIONAL MODELS OF THE RESPIRATORY SYSTEM. R. A. Corley1, K. R. Minard1, B. S. Van Gosen1, H. A. Lunders1, J. D. Bryde2, G. P. Meeker1, A. M. Bern1, S. J. Sutley1, and J. T. Ziegler1. 1Environmental Biostatistics, University of Washington, Seattle, WA, 2University of California, Davis, CA, 3CGC, Los Alamos, NM, 4UBA, Birmingham, AL and 5MU, Lansing, MI.

#2113 INHALED SOLID ULTRAFINE PARTICLES (UFP) ARE EFFICIENTLY TRANSLOCATED VIA NEURONAL NASO-OLFACTORY PATHWAYS. T. Feikert1, P. Mercer1, N. Corson1, R. Gelein1, T. L. Ziegler1, B. Saunders1, T. L. Ziegler1, D. Bernstein1, J. Chevalier2 and H. E. Muhle1. 1US Geological Survey, Denver, CO and 2UC Davis, Davis, CA.

#2114 CARBON BLACK-INDUCED NASAL LESIONS IN LABORATORY RODENTS: A SPECIES COMPARISON. P. Santhanam1, J. Wagner1, L. Bramble1, A. Elder2, G. Oberdorster1 and J. Harkema1. 1Pathobiology & Diagnostic Investigation, Michigan State University, East Lansing, MI and 2Environmental Medicine, University of Rochester, Rochester, NY.

#2115 THE BIOPERSISTENCE OF CANADIAN CHRYSOTILE ASBESTOS FOLLOWING INHALATION. R. Rogers2, D. Bernstein1 and P. Smith3. 1Consultant in Toxicology, Geneva, Switzerland, 2Rogers Imaging Corporation, Needham, MA and 3Research & Consulting Company Ltd., Fullinsdorf, Switzerland.

#2116 COMPARISON OF CALIDRIA CHRYSOTILE ASBESTOS TO PURE TREVOLITE: INHALATION BIOPERSISTENCE AND HISTOPATHOLOGY FOLLOWING SHORT TERM EXPOSURE. D. Bernstein1, J. Chevalier2 and P. Smith3. 1Consultant, Geneva, Switzerland, 2EPS, Muttenz, Switzerland and 3RCC Ltd., Fullinsdorf, Switzerland.

#2117 TOXICOLOGICAL AND MINERALOGICAL ANALYSIS OF RICHTERITE-WINCHITE ASBESTOS. B. S. Van Gosen1, H. A. Lunders1, J. D. Bryde2, G. P. Meeker1, A. M. Bern1, S. J. Sutley1, M. L. Wittom2 and T. L. Ziegler1. 1US Geological Survey, Denver, CO and 2The University of Arizona, Tucson, AZ.


#2119 KINETICS OF ABSORPTION OF INHALED BENZO(A)PYRENE IN THE ISOLATED PERFUSED RAT LUNG: P. Ewing, A. Rychel and P. Gerde. Environmental medicine, Karolinska Institute, Stockholm, Sweden.

#2120 TRACHEOBRONCHIAL AND NASAL CLEARANCE OF 1.0 MICRON PARTICLES IN THE RAT: COMPARISON WITH A TYPICAL PATH TRACHEOBRONCHIAL CLEARANCE MODEL. E. C. Kinne1, 2, S. L. Prues1, 2, J. E. Reboul1, 2 and D. L. Courson1, 3. 1Inhalation/Pulmonary Effects Laboratory, Naval Health Research Center (Toxicology), Wright-Patterson AFB, OH, 2Geo-Centers, Inc., Wright-Patterson AFB, OH and 3ManTech Environmental, Wright-Patterson AFB, OH.

#2121 COMPARATIVE ANALYSIS OF PULMONARY IRRITATION BY FUNCTIONAL MEASUREMENTS (PENH) AND PROTEIN IN BRONCHOALVEOLAR LAVAGE FLUID IN BROWN NORWAY RATS AND WISTAR RATS EXPOSED TO POLYISOCYANATE AEROSOLS. J. Pauluhn. Toxicology, Bayer HealthCare, Wuppertal, Germany.

#2122 EXHALED BREATH PROTEIN SAMPLING IN UNANESTHETIZED PIGS. O. R. Moss1, N. Boggs2 and J. Jackman2. 1Biobiochemistry and Physical Sciences, CIIT Centers for Health Research, Research Triangle Park, NC and 2Research & Technology Dev. Center, APL/JHU, Laurel, MD.

#2123 EFFECTS OF 1-3-BUTADIENE, ISOPRENE, AND THEIR PHOTOCHEMICAL DEGRADATION PRODUCTS ON HUMAN LUNG CELLS. M. Doyle1, K. Sexton1, J. Jaspers2, 1, 2, 1, K. Bridge1 and H. Jeffries3. 1ISEE, University of North Carolina, Chapel Hill, NC and 2CEMALB, University of North Carolina, Chapel Hill, NC.


#2125 KINETICS OF ABSORPTION OF INHALED BENZO(A)PYRENE IN THE ISOLATED PERFUSED RAT LUNG: P. Ewing, A. Rychel and P. Gerde. Environmental medicine, Karolinska Institute, Stockholm, Sweden.

#2126 TRACHEOBRONCHIAL AND NASAL CLEARANCE OF 1.0 MICRON PARTICLES IN THE RAT: COMPARISON WITH A TYPICAL PATH TRACHEOBRONCHIAL CLEARANCE MODEL. E. C. Kinne1, 2, S. L. Prues1, 2, J. E. Reboul1, 2 and D. L. Courson1, 3. 1Inhalation/Pulmonary Effects Laboratory, Naval Health Research Center (Toxicology), Wright-Patterson AFB, OH, 2Geo-Centers, Inc., Wright-Patterson AFB, OH and 3ManTech Environmental, Wright-Patterson AFB, OH.

#2127 COMPARATIVE ANALYSIS OF PULMONARY IRRITATION BY FUNCTIONAL MEASUREMENTS (PENH) AND PROTEIN IN BRONCHOALVEOLAR LAVAGE FLUID IN BROWN NORWAY RATS AND WISTAR RATS EXPOSED TO POLYISOCYANATE AEROSOLS. J. Pauluhn. Toxicology, Bayer HealthCare, Wuppertal, Germany.

#2128 EXHALED BREATH PROTEIN SAMPLING IN UNANESTHETIZED PIGS. O. R. Moss1, N. Boggs2 and J. Jackman2. 1Biobiochemistry and Physical Sciences, CIIT Centers for Health Research, Research Triangle Park, NC and 2Research & Technology Dev. Center, APL/JHU, Laurel, MD.

#2129 EFFECTS OF 1-3-BUTADIENE, ISOPRENE, AND THEIR PHOTOCHEMICAL DEGRADATION PRODUCTS ON HUMAN LUNG CELLS. M. Doyle1, K. Sexton1, J. Jaspers2, 1, 2, 1, K. Bridge1 and H. Jeffries3. 1ISEE, University of North Carolina, Chapel Hill, NC and 2CEMALB, University of North Carolina, Chapel Hill, NC.
#2128 THE EVALUATION OF TWO ANESTHETICS FOR USE IN A BRONCHODILATOR SCREEN MODEL. A. Sivillo, R. Moutvic, M. J. Brooker and I. M. Grossi. Toxicology, Battelle, Columbus, OH.

#2129 VALIDATION OF AN ISO-KINETIC DILUTOR FOR USE WITH AN ANDERSON CASCADE IMPACTOR. J. Frye, R. Moutvic, M. J. Brooker and I. M. Grossi. Toxicology, Battelle, Columbus, CA.

#2130 ACUTE RESPIRATORY RESPONSES OF THE MOUSE TO CHLORINE. W. S. Wilkie1, D. J. Shusterman2 and J. C. Stadler. Toxicology Program, University of Connecticut, Storrs, CT and 2Occupational and Environmental Medicine, University of California at San Francisco, San Francisco, CA.

#2131 COMPARISON OF DOSE AND TOXICITY AFTER ADMINISTRATION OF A FLUOROALKYLETHER PHOSPHATE SURFACTANT BY DERMAL AND INHALATION ROUTES IN RATS. C. Finlay, D. P. Kelly, N. E. Everds, J. F. Hansen and J. C. Stadler. DuPont Haskell Laboratory, Newark, DE.

#2132 DEVELOPMENT OF A METHOD FOR THE SIMULTANEOUS ANALYSIS OF VINYL ACETATE AND ACETALDEHYDE CONCENTRATIONS IN THE NASOPHARYNGEAL CAVITY AND EXHALED BREATH OF HUMAN VOLUNTEERS. R. E. Schwartz1, J. J. Soelberg2, R. A. Corley2, K. K. Weitz2, L. Bloemen3, M. S. Bogdanoff4 and K. D. Thrall2. 1Otolaryngology, Richland, WA, 2Battelle, Pacific Northwest Laboratories, Richland, WA, 3Dow Benelux, Terneuzen, Netherlands and 4DuPont, Newark, DE.

#2133 THE USE OF FLUORESCENTLY LABELED NANOPARTICLES TO DETERMINE THE EFFECT OF PARTICLE SIZE ON TRANSLOCATION FROM THE LUNG. J. M. Carter1, J. M. Kennedy1, G. Oberdorster3 and E. D. Clark2. 1Central Product Safety, Procter & Gamble, Cincinnati, OH, 2The Health and Environmental Safety Alliance, Cincinnati, OH and 3University of Rochester, Rochester, NY.


#2135 CHEMESTHESIS IN 15-MINUTE EXPOSURES TO OCCUPATIONALLY-PERTINENT CONCENTRATIONS OF GLUTARALDEHYDE VAPOR. W. S. Cain, R. Schmidt and A. A. Jalowayski. Otolaryngology, UCSD, La Jolla, CA. Sponsor: J. Cometto-Muñiz.

#2136 ASSESSMENT OF HUMAN SENSORY AND RESPIRATORY RESPONSES TO CONSUMER PRODUCTS. University. Vedula5, L. Fell2, S. Selim4, R. Rogers3, P. Dalton6 and T. G. Osmintz1. 1Science Strategies, Charlottesville, VA, 2ToxLink, LLC, Racine, WI, 3Toxcon, Edmonton, AB, Canada, 4Selim and Associates Toxicology, Camella, CA, 5S.C. Johnson, Racine, WI and 6Monell Institute for the Chemical Senses, Philadelphia, PA.


#2138 MECHANISMS OF ORGANOPHOSPHATE INSECTICIDE-INDUCED AIRWAY HYPERREACTIVITY. P. Lein1 and A. D. Fryer2. 1CROET, Oregon Health & Science University, Portland, OR and 2Physiology and Pharmacology, Oregon Health & Science University, Portland, OR.

#2139 CONTROLLED VENTILATION INHALATION EXPOSURE AND LUNG SCINTIGRAPHY APPLIED TO A PHARMACOKINETIC AND TISSUE DISTRIBUTION STUDY. R. Moutvic1, D. B. Cearlock2, R. L. Beinh3, A. Zutshi4 and M. J. Brooker1. 1Toxicology, Battelle, Columbus, OH, 2Zivena, Columbus, OH, 3Scintiprox, Inc., Indianapolis, IN and 4Pfizer, Inc., Kalamazoo, MI.
The numerals following a author's names refer to the abstract numbers. The asterisk after the abstract number indicates the author is the first presenter.
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Author Index (Continued)
Author Index (Continued)
### SOT Affiliates for 2004

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<th>Company Name</th>
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<td>American Cyanamid Company</td>
<td>Princeton, New Jersey</td>
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<td>Aventis Pharmaceuticals, Inc.</td>
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<td>BAS Evansville</td>
<td>Mt. Vernon, Indiana</td>
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<tr>
<td>Bayer</td>
<td>Stilwell, Kansas</td>
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<td>Berlex Laboratories, Inc.</td>
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<td>Bristol-Myers Squibb Company</td>
<td>New Brunswick, New Jersey</td>
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<td>CANTOX</td>
<td>Mississauga, Ontario</td>
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<tr>
<td>Charles River Laboratories</td>
<td>Wilmington, Massachusetts</td>
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<td>Chevron Research &amp; Technology Company</td>
<td>Richmond, California</td>
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<td>Chevron Phillips Chemical Company</td>
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<td>Chlorine Chemistry Council</td>
<td>Arlington, Virginia</td>
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<tr>
<td>CIIT Centers for Health Research</td>
<td>Research Triangle Park, North Carolina</td>
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<tr>
<td>Coca-Cola Company</td>
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<td>Colgate-Palmolive Company</td>
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<td>Covance Laboratories, Inc.</td>
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<td>Dial Corporation</td>
<td>Scottsdale, Arizona</td>
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<td>Dow AgroSciences</td>
<td>Indianapolis, Indiana</td>
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<tr>
<td>Dow Chemical Company</td>
<td>Midland, Michigan</td>
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<tr>
<td>Dow Corning Corporation</td>
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<tr>
<td>E.I. DuPont de Nemours &amp; Co.</td>
<td>Newark, Delaware</td>
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<tr>
<td>Eastman Chemical Company</td>
<td>Kingsport, Tennessee</td>
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<tr>
<td>Eastman Kodak Company</td>
<td>Rochester, New York</td>
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<tr>
<td>Eli Lilly &amp; Company</td>
<td>Greenfield, Indiana</td>
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<tr>
<td>ExxonMobil Biomedical Sciences, Inc.</td>
<td>Annandale, New Jersey</td>
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<td>Gillette Company</td>
<td>Boston, Massachusetts</td>
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<td>GlaxoSmithKline</td>
<td>King of Prussia, Pennsylvania</td>
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<td>Hoffmann-La Roche, Inc.</td>
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<td>Honeywell International, Inc.</td>
<td>Morristown, New Jersey</td>
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<td>Johnson &amp; Johnson Corporation</td>
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<td>Johnson &amp; Johnson Pharmaceutical Research &amp; Development</td>
<td>Raritan, New Jersey</td>
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<td>L’Oreal USA, Inc.</td>
<td>Clark, New Jersey</td>
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<td>McNeil Consumer Healthcare</td>
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<td>Merck &amp; Co., Inc.</td>
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<td>Millennium Pharmaceuticals, Inc.</td>
<td>Cambridge, Massachusetts</td>
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<td>Novartis Pharmaceuticals Corporation</td>
<td>East Hanover, New Jersey</td>
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<td>Pfizer Global Research &amp; Development</td>
<td>Groton, Connecticut</td>
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<td>Procter &amp; Gamble Company</td>
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<td>Sankyo Company, Ltd.</td>
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<td>Sanofi-Synthelabo</td>
<td>Malvern, Pennsylvania</td>
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<tr>
<td>Schering-Plough Research Institute</td>
<td>Kenilworth, New Jersey</td>
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<td>Sequani, Ltd.</td>
<td>Ledbury, Herefordshire</td>
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<td>Southern Research Institute</td>
<td>Birmingham, Alabama</td>
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<tr>
<td>TissueInformatics.Inc</td>
<td>Pittsburgh, Pennsylvania</td>
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<tr>
<td>Unilever Research U.S., Inc.</td>
<td>Edgewater, New Jersey</td>
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<tr>
<td>WIL Research Laboratories, Inc.</td>
<td>Ashland, Ohio</td>
</tr>
<tr>
<td>Wyeth-Ayerst Research</td>
<td>Chazy, New York</td>
</tr>
</tbody>
</table>
2003-2004 Council

Marion F. Ehrich
Board of Publications, Liaison, Member
Finance Committee, Member
Task Force for a Chemical/Biological Terrorism Resource Registry, Liaison
TEF, Trustee, Liaison

Linda S. Birnbaum
Board of Publications, Auditor
Finance Committee, Member
Placement Committee, Liaison
Program Committee, Chairperson, Liaison

Kendall B. Wallace
Council Subcommittee for Regional Chapter Funding, Member
Nominating Committee, Liaison
Program Committee, Co-Chairperson

George B. Corcoran
Education Committee, Liaison
Historian, Liaison
Newsletter, Editor

Gary P. Carlson
Council Subcommittee for Non-SOT and for Contemporary Concepts in Toxicology Meetings, Member
Council Subcommittee for Regional Chapter Funding, Member
Regulatory Affairs and Legislative Assistance Committee, Liaison

James E. Klaunig
Council Subcommittee for Non-SOT and for Contemporary Concepts in Toxicology Meetings, Chairperson, Liaison
Exhibits Committee, Liaison
Finance Committee, Chairperson, Liaison
SOT Affiliates, Liaison

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IUTOX Councilors, Liaison, Member
Student Advisory Committee, Liaison
WWW Advisory Committee, Liaison

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Continuing Education Committee, Liaison
Council Subcommittee for Non-SOT and Contemporary Concepts in Toxicology Meetings, Member

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Membership Committee, Liaison
Task Force for Student Recruitment and Retention, Liaison

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Education Subcommittee for Minority Initiatives, Liaison
Specialty Sections, Liaison

Shawn Douglas Lamb
Executive Officer
Awards, Staff Liaison
Board of Publications, Staff Liaison
Finance, Staff Liaison
Nominating, Staff Liaison

up-to-date information at www.toxicology.org
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Past Presidents

1961–1962 Harold C. Hodge*
1962–1963 C. Boyd Shaffer
1963–1964 Paul S. Larson*
1964–1965 Harry W. Hays*
1965–1966 Frederick Coulston*
1966–1967 Verald K. Rowe
1968–1969 Carrol S. Weil*
1970–1971 Robert L. Roudabush*
1972–1973 Victor A. Drill*
1974–1975 Sheldon D. Murphy*
1975–1976 Seymour L. Friess
1976–1977 Robert A. Scala
1977–1978 Harold M. Peck
1978–1979 Leon Golberg*
1979–1980 Tom S. Miya
1980–1981 Perry J. Gehring*
1981–1982 Robert B. Forney*
1982–1983 Robert L. Dixon*
1983–1984 Gabriel L. Plaa
1984–1985 Frederick W. Oehme
1986–1987 John Doull
1987–1988 Jerry B. Hook
1988–1989 James E. Gibson
1989–1990 Roger O. McClellan
1990–1991 Curtis D. Klaassen
1991–1992 Donald J. Reed
1993–1994 I. Glenn Sipes
1994–1995 Meryl H. Karol
1995–1996 Jack H. Dean
1996–1997 James S. Bus
1997–1998 R. Michael McClain
1998–1999 Steven D. Cohen
1999–2000 Jay I. Goodman
2001–2002 David L. Eaton
2002–2003 William F. Greenlee

*Deceased
# Headquarters Staff

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<th>Staff Contact</th>
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<tr>
<td>Shawn Douglas Lamb</td>
<td><a href="mailto:shawnl@toxicology.org">shawnl@toxicology.org</a></td>
<td>1444</td>
<td>Executive Director</td>
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<tr>
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<td>Executive Deputy Director</td>
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<tr>
<td>Rosibel Alvarenga</td>
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<td>1432</td>
<td>Membership</td>
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<tr>
<td>Mia Cach</td>
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<td>Accounting</td>
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<td>Lisa Cebulash</td>
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<td>1424</td>
<td>Meetings</td>
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<td>1451</td>
<td>Meetings/Exhibits</td>
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<td>Education Programs Membership Student Awards</td>
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<td>1438</td>
<td>Abstracts Annual Meeting Program Continuing Education</td>
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<td>Exhibits</td>
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<tr>
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<td>Administration</td>
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<td>1441</td>
<td>Publications World Wide Web</td>
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<td>1442</td>
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<td>Lilly Richards</td>
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<td>Rita Rose</td>
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<td>1434</td>
<td>Regional Chapters Registration Specialty Sections</td>
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<td>Nichelle Sankey</td>
<td><a href="mailto:nichelle@toxicology.org">nichelle@toxicology.org</a></td>
<td>1431</td>
<td>Animals in Research Newsletter Placement Regulatory Affairs</td>
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<td>Trevor Thompson</td>
<td><a href="mailto:trevor@toxicology.org">trevor@toxicology.org</a></td>
<td>1443</td>
<td>World Wide Web Web-Based Data Programming</td>
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<td>Elisa Turner</td>
<td><a href="mailto:elisa@toxicology.org">elisa@toxicology.org</a></td>
<td>1445</td>
<td>Publications World Wide Web</td>
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**Elected Committees**

**Awards**
(William F. Greenlee*)
Donald F. Reed (2002-2004)
Susan J. Borghoff (2002-2004)
Bernard Schwetz (2003-2005)
(Shawn D. Lamb**)

**Education**
(George B. Corcoran*)
Elaine V. Knight, Chairperson (2003-2004), Member (2001-2004)
Darlene Dixon (2002-2005)
Mark Reasor (2003-2006)
Judith T. Zelikoff (2002-2005)
Tim O’Brien, Student Representative
(Betty Eidemiller**)

**Membership**
(Serrine S. Lau*)
Patricia E. Ganey, Chairperson (2003-2004), Member (2001-2004)
Rory B. Conolly (2002-2005)
Alvaro Puga (2003-2006)
Denise E. Robinson (2002-2005)
William Slikker (2003-2006)
Garold S. Yost (2001-2004)
Jim Luyendyk, Student Representative
(Betty Eidemiller**)

**Nominating**
(Kendall B. Wallace*)
Gina Pastino (2003-2004)
Lawrence Updyke (2003-2004)
(Shawn D. Lamb**)

**Appointed Committees**

**Animals in Research (AIR)**
(Serrine S. Lau*)
Charles C. Barton (2002-2005)
Steven M. Lasley (2002-2005)
Brian Marable (2003-2006)
Rebecca Rice (2003-2006)
(Nichelle Sankey**)

**Board of Publications (BOP)**
Marion F. Ehrich*, President, Member (2003-2004)
Linda S. Birnbaum, Vice President, Auditor (2003-2004)
Brian J. Day (2002-2006)
Andrea Hubbard (2002-2004)
Lois Lehman-McKeeman, ToxSci Editor, Auditor
Nancy Montiero-Riviere (2003-2007)
(Shawn D. Lamb**)

**Continuing Education (CE)**
(Jon C. Cook*)
Mark S. Miller, Chairperson (2003-2004), Member (2001-2004)
Mary Jane Cunningham (2001-2005)
Jeffrey Johnson (2002-2004)
Douglas Keller (2003-2006)
Jeff Peters (2003-2006)
Joyce S. Tsuji (2001-2004)
Jennifer Orme Zavaleta (2003-2006)
Jessica Duffy, Student Representative
(Julie Dillinger**)

**Finance**
Marion F. Ehrich, President, Member (2003-2004)
Linda S. Birnbaum, Vice President, Member (2003-2004)
Erik Dybing (2003-2006)
Matt Bogdanoff (2002-2005)
Jerry B. Hook (2001-2004)
(Shawn D. Lamb**)

*Council Liaison
**Staff Liaison
Appointed Committees (Continued)

Historian
(George B. Corcoran*)
Ernest Hodgson, Chairperson (2003-2004)
(Shawn D. Lamb**)

IUTOX Councilors
Steven D. Cohen (2001-2004)
Christopher Schonwalder (2001-2004)
(Shawn D. Lamb**)

Placement
(Linda S. Birnbaum*)
Lisa M. Kamendulis, Chairperson (2003-2004), Member
(2001-2004)
Yolanda Banks Anderson (2003-2006)
Michel Charbonneau (2003-2006)
Julia Kimbell (2003-2006)
Mitzi Nagarkatti (2002-2005)
William A. Toscano (2002-2005)
Tracy Williams (2002-2005)
Pheona M. Radcliffe, Student Representative
(Shawn D. Lamb**)

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Barbara D. Beck (2002-2005)
Susan Borghoff (2001-2004)
Rakesh Dixit (2002-2005)
Lori Dostal (2003-2006)
Dorie Germolec (2003-2006)
Terry Gordon (2003-2005)
Thomas W. Kensler (2002-2005)
Kannan Krishnan (2003-2006)
Craig Marcus (2002-2004)
Gary Perdew (2003-2006)
Timothy Joseph Shafer (2001-2004)
Larry Sheets (2003-2005)
(Julie Dillinger**)

Regulatory Affairs and Legislative Assistance
(RALA)
(Gary Carlson*)
William J. Brock, Chairperson (2003-2004), Member
(2001-2004)
Peter Goering (2003-2006)
Janis Hulla (2002-2005)
Leslie Hushka (2002-2005)
(Shawn D. Lamb**)

Student Advisory Committee (SAC)
(William F. Greenlee*)
Jim Luyendyk, Chairperson, Membership Committee
Representative (Michigan)
Christina Wilson, Co-Chairperson (Midwest)
Tim O’Brien, Secretary, Education Committee Representative
(Northland)
Sachin Bendre, WWWAC Representative (South Central)
Susan Buist (Central States)
Andrew Annalora (Mountain West)
Jessica Duffy, Continuing Education Committee
Representative (Mid-Atlantic)
Castle Funatake (Pacific Northwest)
Wendy Jefferson (North Carolina)
Joe Lynch, K–12 Subcommittee (Northeast)
Robert Mitkus (National Capital)
Ashley Murray, WIT Representative (Allegheny-Erie)
Pheona M. Radcliffe, Placement Committee Representative
(Lake Ontario)
Karen Riveles (Northern California)
Vincent Seaman (Northern California)
Danyel Tacker (Gulf Coast)
Lonnie Williams (Southeastern)
Yu Zang, Subcommittee for Minority Initiatives (Ohio Valley)
(Betty Eidemiller**)

Task Force for a Chemical/Biological
Terrorism Resource Registry
(Marion F. Ehrich*)
Ron Riley, Chairperson (2003-2004),
Member (2002-2004)
Stephen Ray Channel, Co-Chairperson (2003-2004), Member
(2002-2004)
Nancy Adams (2002-2004)
Steve Baskin (2002-2004)
Moiz Mumtaz (2002-2004)
George Rusch (2002-2004)
Harry Salem (2002-2004)
(Shawn D. Lamb**)

*Council Liaison
**Staff Liaison
Appointed Committees (Continued)

Task Force on Student Recruitment and Retention
(Serrine S. Lau*)
Daniel Acosta, Jr., Chairperson (2003-2004)
Qin M. Chen (2003-2004)
Garold S. Yost (2003-2004)
Udayan Apte, Student Representative
(Betty Eidemiller**)

World Wide Web Advisory Committee (WWWAC)
(William F. Greenlee*)
James Kehrer, Chairperson (2003-2004), Member (2001-2005)
Michael Dourson, (2003-2006)
Brian Mathison (2001-2004)
David Cragin (2002-2005)
Michael R. Franklin (2001-2004)
Marion Miller (2002-2005)
Sachin Bendre, Student Representative
(Deborah O’Keefe**)

Council Subcommittee for Non-SOT and Contemporary Concepts in Toxicology (CCT) Meetings
Gary Carlson (2003-2004)
(Rita Rose**)

Council Subcommittee for Regional Chapter Funding
Gary Carlson (2003-2004)
(Rita Rose**)

Education Subcommittee for K–12 Education
(Ann de Peyster*)
Mark Reasor, Co-Chairperson (2003-2004), Member (2003-2006)
Joanne Zurlo (2002-2005)
Allen Dearry, ad hoc
John Pierce Wise, ad hoc
Joe Lynch, Student Representative
(Betty Eidemiller**)

Education Subcommittee for Minority Initiatives
(Jose E. Manautou*)
Marquea King (2003-2006)
Peter Thomas (2003-2006)
Chudy Nduaka (2002-2005)
Alice Villalobos (2002-2005)
Michael D. Aleo, ad hoc
Myrtle A. Davis, ad hoc
Yu Zang, Student Representative
(Betty Eidemiller**)

*Council Liaison
**Staff Liaison
Officers — Specialty Sections

Biological Modeling (59)*
Jeffrey W. Fisher, President
John M. Frazier, Vice President
Alan G.E. Wilson, Vice President-elect
Susan J. Borghoff, Secretary/Treasurer
Michael Pelekis (Past President), Torka S. Poet, and Charles Timchalk, Councilors

Carcinogenesis (162)
Jon C. Cook, President
Ruth A. Roberts, Vice President
John E. French, Vice President-elect
Michael L. Cunningham, Secretary/Treasurer
Samuel M. Cohen (Past President), Richard J. Bull, Michel Charbonneau, and Martha M. Moore, Councilors

Dermal (86)
Ian Kimber, President
Nancy A. Monteiro Riviere, Vice President
Robert L. Bronaugh, Vice President-elect
Susan J. Borghoff, Secretary/Treasurer
Michael Pelekis (Past President), Torka S. Poet, and Charles Timchalk, Councilors

Epidemiology (26)
Harold Zenick, President
Ellen Sibergeld, Vice President
TBE, Vice President-elect
Brian Hughes, Secretary/Treasurer
Christopher Schonwalder (Past President) TBE, Vice President-elect

Food Safety (102)
Joel L. Mattsson, President
Ronald T. Riley, Vice President
Bryan Delaney, Vice President-elect
Ken A. Voss, Secretary/Treasurer
James J. Pestka (Past President), George A. Burdock, George E. Dunaf, Bruce G. Hammond, and Thomas A. Vollmuth, Councilors

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Robert W. Luebke, Vice President
Kenneth L. Hastings, Vice President-elect
Stephen B. Pruett, Secretary/Treasurer
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In Vitro (87)
Bruce A. Fowler, President
Julio C. Davila, Vice President
Sidney Green, Vice President-elect
Martin R. Gilman, Secretary/Treasurer
Monica Valentovic (Past President), Joan B. Tarloff, and Rosita J. Rodriguez, Councilors

Inhalation (178)
Steve R. Kleeberger, President
Charles G. Plopper, Vice President
MaryJane K. Selgrade, Vice President-elect
Matthew D. Reed, Secretary/Treasurer
Terrence J. Monks (Past President), M. Ian Gilmour, and Michael C. Madden, Councilors

Mechanisms (237)
Robin S. Goldstein, President
Serrine S. Lau, Vice President
Daniel C. Liebler, Vice President-elect
Gary O. Rankin, Secretary/Treasurer
Terrence J. Monks (Past President), Michael D. Aloo, and John H. Richburg, Councilors

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Judith T. Zelikoff, President
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Donald R. Smith, Vice President-elect
William E. Achanzar, Secretary/Treasurer
Joe Landolph (Past President), Kirk T. Kitchin, and Michael J. McCabe, Councilors

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William B. Mattes, President
Jack P. Vanden Heuvel, Vice President
Melissa A. Runge-Morris, Vice President-elect
Elizabeth V. Wattenberg, Secretary/Treasurer
Mark S. Miller (Past President), Gary H. Perdew, and Richard S. Pollenz, Councilors
Heather Floyd, Student Representative

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Gary N. Pope, Vice President
Richard F. Seegal, Vice President-elect
Mary E. Gilbert, Secretary/Treasurer
Kevin M. Crofton (Past President), Lisa A. Opanashuk, and Susan L. Schantz, Councilors

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Vincent Castranova, President
David A. Morgott, Vice President
Heather D. Burleigh Flayer, Vice President-elect
Robert H. Ku, Secretary/Treasurer
Michael J. Olson (Past President), Barbara J. Meade, and Robert Roy, Councilors

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Carol S. Aulettta, President
Ronald J. Gerson, Vice President
Ronald S. Slesinski, Vice President-elect
Linvai R. DePass, Secretary/Treasurer
Harry M. Olson (Past President) Frank D. Sistare, and Kimberly L. White, Councilors

Reproductive and Developmental (193)
Carole A. Kimmel, President
John M. Rogers, Vice President
Dana L. Shuey, Vice President-elect
Philip E. Mirkes, Secretary/Treasurer
Kimberley A. Treinen (Past President), Barbara D. Abbott, and Kim Boekelheide, Councilors

Risk Assessment (297)
Edward V. Sargent, President
Annie M. Jarabek, Vice President
Kannan Krishnan, Vice President-elect
Stephen M. DiZio, Secretary/Treasurer
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Toxicologic and Exploratory Pathology (52)
Bruce McCullough, President
Brian G. Short, Vice President
George L. Foley, Secretary/Treasurer
Jeffrey I. Everitt (Past President), Thomas M. Monticello, and Douglas C. Wolf, Councilors

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Eva Oberdorster, Vice President
Kristina Dam, Secretary/Treasurer
Michelle J. Hoehn (Past President), Stephanie Padilla, and Rita M. Turkall, Councilors

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Nancy A. Monteiro Riviere, Vice President
Ken A. Voss, Secretary/Treasurer
Bryan Delaney, Vice President-elect
Ronald T. Riley, Vice President
Joel L. Mattsson, President

**Biological Modeling (59)**

**Carcinogenesis (162)**

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**Regulatory and Safety Evaluation (336)**

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**Reproductive and Developmental (193)**

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**Toxicologic and Exploratory Pathology (52)**

**Women in Toxicology (WIT) (132)**
## Officers — Regional Chapters

### Allegheny-Erie
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- Vice President: Mark Weisberg
- Secretary: Lawrence M. Milchak
- Treasurer: Robin E. Gangley
- Student Representative: William J. Mackay
- Officers: Dale W. Porter (Past President), Heather Doerr, Elaine L. Freeman, and Robin Ruppel-Kerr
- Councilors: Ashley Murray, Student Representative

### Central States
- President: Charles S. Schwartz
- Vice President: Anne Diann L. Blanset
- Secretary/Treasurer: Michael F. Kelley
- Vice President-elect: David W. Cragin
- President: Peter J. Harvison
- Officers: Donald Robertson (Past President), Paul A. Jean, John J. LaPres
- Councilors: Robert G. Meeks, Student Representative

### Gulf Coast
- President: Jim P. Luyendyk
- Vice President: Donald Robertson
- Secretary: Paul A. Jean
- Treasurer: John J. LaPres
- President: Robert G. Meeks
- Officers: Mary F. Kanz, Student Representative
- Councilors: David J. McConkey

### Lake Ontario
- President: Harish C. Sikka
- Vice President: TBE
- Secretary: TBE
- Treasurer: Susan Fischer
- Presidents: Kirby C. Donnelly, Rodney Dietert, Andrea Jacobs
- Officers: Danyel Tacker, Student Representative

### Michigan
- President: Robert G. Meeks
- Vice President: Stephen W. Frantz
- Secretary: John H. Richburg
- Treasurer: Susan Fischer
- Presidents: Kirby C. Donnelly, Rodney Dietert, Andrea Jacobs
- Officers: Danyel Tacker, Student Representative

### Mid-Atlantic
- President: Peter J. Harvison
- Vice President: David W. Cragin
- Secretary: Michael F. Kelley
- Treasurer: Diann L. Blanset
- Presidents: Charles S. Schwartz, Anne Chappelle, Margaret A. Wojke, and Judi Zelikoff
- Officers: Jessica Duffy, Student Representative

### Midwest
- President: D. Reid Patterson
- Vice President: Bruce A. Trela
- Secretary: Don W. Korte
- Treasurer: Linda L. Tam
- Presidents: Michael J. Sciosser, Robin Guy, Randy White
- Officers: Christina R. Wilson, Student Representative

### National Capital Area Chapter
- President: Sydney Green
- Vice President: David Jacobson-Kram
- Secretary: Pamela L. Chamberlain
- Treasurer: Susan L. Makris
- Presidents: Benjamin R. Fisher, Katherine S. Squibb, and Thomas J. Flynn
- Officers: Robert J. Mikus, Student Representative

### North Central
- President: Louise M. Ball
- Vice President: David C. Dormon
- Secretary: Paul M. Schlosser
- Treasurer: Barbara D. Abbott
- Presidents: Michella J. Hoot, and Michael J. DeVito
- Officers: Wendy Jefferson, Student Representative

### Northland
- President: Hillary M. Carpenter
- Vice President: Elizabeth V. Wattenberg
- Secretary/Treasurer: Thomas P. Brunshidle
- President: Robert Skoglund (Past President), Therese K. Fick
- Officers: Pamela J. Shubat, and Charmille B. Tamulinas
- Councilors: Tim O’Brien, Student Representative

### Ohio Valley
- President: John V. Lipscomb
- Vice President: Holly I. Swanson
- Secretary/Treasurer: James Kang
- President: Gavin E. Artoe
- Officers: Steven R. Meyers (Past President), Gina Grossi, David R. Mattie, and Charles V. Smith
- Councilors: Jr. Weber, Councilors

### Pacific Northwest
- President: Marc W. Fariss
- Vice President: Peter S. Spencer
- Secretary/Treasurer: Rosita J. Rodriguez
- President: Martin J. Ronis
- Officers: Richard C. Zangar (Past President), Cecile M. Krejsa, and Charles J. Weber
- Councilors: Castle J. Funa, Student Representative

### South Central
- President: Deborah K. Hansen
- Vice President: Kenneth E. McMartin
- Secretary: Tammy R. Dugas
- Treasurer: Martin J. Ronis
- President: Frank P. Pruet (Past President), Russell L. Carr, and Twintilla Tate
- Officers: Sachin Bendre, Student Representative

### Southeastern
- President: James A. Deyo
- Secretary: Essam Enan
- Treasurer: Thomas F. Murray
- President: Julie Coffield, and Carol Forsyth
- Officers: Lonnie Williams, Student Representative

### Southern California
- President: Stacie L. Wild
- Vice President: John A. Wisler
- Secretary: Drew Badger
- Treasurer: Julie K. Doerr-Stevens
- President: Tina Leakakos
- Officers: Charles A. Lapin (Past President), Daniel Schlenk, and Anthony Ndifor
- Councilors: Karen Riveles, Student Representative

### Southern California
- President: Stacie L. Wild
- Vice President: John A. Wisler
- Secretary: Drew Badger
- Treasurer: Julie K. Doerr-Stevens
- President: Tina Leakakos
- Officers: Charles A. Lapin (Past President), Daniel Schlenk, and Anthony Ndifor
- Councilors: Karen Riveles, Student Representative

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(Ann de Pesty, Liaison)
Society of Toxicology Awards

In recognition of distinguished toxicologists and students, SOT presents several prestigious awards each year. In addition to receiving the award stipend and plaque, recipients are honored at a special Awards Ceremony at the SOT Annual Meeting and their names are listed in SOT publications. The deadline for the 2005 award nominations is October 9, 2004.

The Awards Committee reviews applications for SOT Awards and Sponsored Awards for scientists. Nominations for most of these awards must be submitted by a sponsor and a seconder who are Full members of SOT using the On-Line Award Nomination Form. The supporting documentation must indicate the candidate’s achievements in toxicology and is critical in the review of each application. See the award description for the additional requirements for some of the awards, including the Sponsored Awards. The Best Paper Awards is reviewed by the Board of Publications.

Student awards, both SOT and Sponsored awards, are reviewed by the Education Committee, and application procedures are specific for each award. Other student awards are available through Regional Chapters and Specialty Sections. A student may apply for any award for which he or she is eligible and may apply for and receive multiple awards, whether SOT, Regional Chapters, or Specialty Sections sponsor the awards. Policies related to travel awards are determined by the sponsor (SOT, Regional Chapter, or Specialty Section).

Full descriptions of each award, application procedures, and names of past recipients may be found on the SOT Web site at www.toxicology.org.

Award Descriptions

Achievement Award

The Achievement Award is presented to a member of the Society of Toxicology who has less than 15 years experience since obtaining his/her highest earned degree (in the year of the Annual Meeting of the Society of Toxicology) and who has made significant contributions to toxicology. This award consists of a plaque and a cash stipend.

Award Recipients

1967 ........................................... Gabriel L. Plaa
1968 ........................................... Allan H. Conney
1969 ........................................... Samuel S. Epstein
1970 ........................................... Sheldon D. Murphy
1971 ......................................... Yves Alarie
1972 .......................................... Robert L. Dixon
1973 ........................................... (No Award)
1974 .......................................... Morris F. Dixon
1975 .......................................... Ian C. Munro
1976 .......................................... Curtis D. Klaassen
1977 .......................................... James E. Gibson
1978 .......................................... Raymond D. Harbison
1979 .......................................... Michael R. Boyd
1980 .......................................... Philip G. Watanabe
1981 .......................................... (No Award)
1982 .......................................... Frederick P. Guengerich
1983 .......................................... (No Award)
1984 .......................................... Melvin E. Andersen
1985 .......................................... Alan R. Buckpitt
1986 .......................................... Sam Kacew
1987 .......................................... James S. Bus
1988 .......................................... Jeanne M. Manson
1989 .......................................... James P. Kehrer
1990 .......................................... Michael P. Waalkes
1991 .......................................... Debra Lynn Laskin
1992 .......................................... Michael P. Holsapple
1993 .......................................... David L. Eaton
1994 .......................................... James L. Stevens
1995 .......................................... Lucio G. Costa
1996 .......................................... Kenneth Ramos
1997 .......................................... Kevin E. Driscoll
1998 .......................................... Rick G. Schnellmann
1999 .......................................... Michel Charbonneau
2000 .......................................... Christopher Bradfield
2001 .......................................... Martin Philbert
2002 .......................................... Ruth Roberts
2003 .......................................... Lois D. Lehman-McKeeman
2004 .......................................... David Dorman

up-to-date information at www.toxicology.org
Arnold J. Lehman Award

The Arnold J. Lehman Award is presented to recognize an individual who has made a major contribution to risk assessment and/or the regulation of chemical agents, including pharmaceuticals. The contribution may have resulted from the application of sound scientific principles to regulation and/or from research activities that have significantly influenced the regulatory process. The nominee may be employed in academia, government, or industry and must be a SOT member. This award consists of a plaque and a cash stipend.

Award Recipients

1980..............................................................Allan H. Conney
1981 .............................................................Gabriel L. Plaa
1982 ................................................................Gary M. Williams
1983 ................................................................David P. Rall
1984 ....................................................................Tibor Balasz
1985 ..................................................................Frederick Coulston
1986 .............................................................Gerrit Johannes Van Esch
1987 ....................................................................John P. Frawley
1988 ...................................................................Kundan S. Khera
1989 ..................................................................Richard H. Adamson
1990 ..................................................................Harold C. Grice
1991 ..................................................................Bernard A. Schwetz
1992 ..................................................................Roger O. McClellan
1993 ..................................................................Thomas W. Clarkson
1994 ..................................................................Bruce Ames
1995 ....................................................................Emil A. Pfitzer
1996 .............................................................John F. Rosen
1997 ..................................................................(No Award)
1998 .............................................................Helmut Alfred Greim
1999 ..................................................................(No Award)
2000 .............................................................Carole A. Kimmel and Janardan K. Reddy
2001 .....................................................................Samuel M. Cohen
2002 .....................................................................Dennis Paustenbach
2003 .............................................................Michael L. Dourson
2004 .....................................................................Melvin E. Andersen

AstraZeneca SOT/IUTOX Fellowship

The AstraZeneca company sponsors a travel fellowship award annually through SOT and IUTOX. Four (4) fellowship awards will be available to senior scientists from a country where toxicology is underrepresented to assist with travel to attend the 2004 Society of Toxicology meeting in Baltimore, Maryland, USA, March 21–25, 2004.

Award Recipients

2002 .............................................................Christophor Dishovsky (Bulgaria)
.............................................................Zoltan Gregus (Hungary)
.............................................................Maritza Rojas Martini (Venezuela)
.............................................................Choon-Nam Ong (Singapore)
.............................................................W. Wasowicz (Poland)
.............................................................Ping-kun Zhou (China)
2003 .............................................................Jian-Hui Liang (China)
.............................................................Eman A. Seif (Egypt)
2004 ............................................................Christina Bolaton (Phillipines)
..................................................P.K. Gupta (India)
.............................................................Salmaan Inayat-Hussain (Malaysia)
.............................................................Xianping Ying (China)

AstraZeneca Traveling Lectureship Awards

The AstraZeneca Traveling Lectureship Awards are presented through the Society of Toxicology to recognize excellence in research and service in toxicology. AstraZeneca, Ltd., provides one or two awards annually to promote greater collaboration between European and North American toxicologists and to enable North American toxicologists to undertake a three-four week lecture tour of Europe. The awards are intended to familiarize recipients with research and regulatory issues in Europe as well as bring a North American perspective to these issues. Candidates for these awards should be established, mid-career North American scientists who are members of the Society and who demonstrate the ability to develop collaborative relationships with European colleagues. The awards are given each year in the amount of $6,000 each.

Award Recipients

1990 .............................................................Robert I. Krieger, Joseph R. Landolph
1991 ....................................................................Sam Kacew
1992 .............................................................Charles V. Smith, Jerold A. Last
1993 .............................................................Terrence James Monks, Harihara H. Mehandale
1995 .....................................................................David L. Eaton, Hanspeter R. Witschi
1996 .....................................................................Rick G. Schnellmann, James P. Kehrer
1997 .....................................................................Lucio G. Costa, Durisala Desaih
1998 .....................................................................Syed F. Ali, Curtis J. Omiecinski
1999 .....................................................................Alvaro Pugo
2000 .............................................................Kenneth Ramos, Garold Yost
2001 .............................................................Ronald Hines, Richard Seegal
2003 .....................................................................William D. Atchison
2004 .....................................................................Charlene A. McQueen
Society of Toxicology Awards (Continued)

Board of Publications Award

The Board of Publications Award for the Best Paper in *Toxicological Sciences* is presented to the author(s) of the best paper published in this official SOT publication during a 12-month period, terminating with the June issue of the calendar year preceding the Annual Meeting at which the award is presented. The author(s) need not be a member of the Society of Toxicology. Submissions should include a one-page summary of the paper's contribution to the science of toxicology and a copy of the article for which the nomination is being made. Any member of the Society may submit one title for consideration. In addition, the titles of no more than six papers to be considered are submitted by the editor of *Toxicological Sciences*. All papers submitted will be evaluated by the Board of Publications. This award consists of a plaque and a cash stipend. (This award was formerly known as the Frank R. Blood Award.)

Best Paper in *Fundamental and Applied Toxicology* and *Toxicological Sciences*

**Award Recipients**

1995 ................................................. J. L. Larson, D. C. Wolf, B. E. Butterworth
1995 ................................................. D. R. Germolec, E. Corsini, B. L. Blaylock,
P. Pollock, Y. Kouchi, W. Craig, K. L. White,
A. E. Munson, C. E. Comment
1996 ................................................. B. C. Allen, R. J. Kavlock, C. A. Kimmel,
E. M. Faustman
1997 ................................................. F. L. Fort, H. Ando, T. Suzuki, M. Yamamoto,
T. Hamashima, S. Sato, T. Kitazaki,
M. C. Matony, G. D. Hodgen
1998 ................................................. D. D. Parrish, M. J. Schlosser, J. C. Kapeghian,
V. M. Traina
1999 ................................................. C. A. Franklin, M. J. Inskip, C. L. Baccanale,
C. M. Edwards, W. I. Manton, E. Edwards,
E. J. O'Flaherty
2000 ................................................. H.A Boulares, C. Giardina, C.L. Navarro,
E.A. Khairallah, S.D. Cohen
2001 ................................................. Jinqiang Chen, Yunbo Li, Jackie A. Lavigne,
Michael A. Trush, James D. Yager
2002 ................................................. M.J. Bajt, J.A. Lawson, S.L. Vonderfecht,
J.S. Gujral, H. Jaeschke
2003 ................................................. S. Haddad, M. Beliveau, R. Tardif, K. Krishnan
2004 ................................................. U.P. Kodavanti, C.F. Moyer,
A.D. Ledbetter, M.C. Schladweiler, D.L. Costa,
R. Hauser, D.C. Christiansi, A. Nyska

Colgate-Palmolive Post-Doctoral Fellowship Award in *In Vitro* Toxicology

The Colgate-Palmolive Company sponsors the Colgate-Palmolive Post-Doctoral Fellowship Award in *In Vitro* Toxicology through the Society of Toxicology to advance the development of alternatives to animal testing in toxicological research. The award is given in alternate years and includes stipend and research-related costs (up to $33,500) for one year. The award may be extended for an additional year upon agreement between Colgate-Palmolive and the post-doctoral fellow. Post-doctoral trainees in their first year of study beyond the Ph.D., M.D. or D.V.M. degree who are employed by academic institutions, federal/national laboratories or research institutes worldwide may apply. The Education Committee reviews applications, which are due in even calendar years, and the fellowship is awarded for the following year. The next application deadline: October 9, 2004.

**Award Recipients**

1998 ..................................................... Ernest Bloom
1989 ..................................................... Gin Hsieh
1990 ..................................................... Dennis E. Chapman
1991 ..................................................... Anne Walsh
1992 ..................................................... Qin Chen
1993 ..................................................... Erika Cretton
1994 ..................................................... William Chan
1995 ..................................................... Bob Van de Water
1997 ..................................................... Alan Parrish
1999 ..................................................... Russell Thomas
2001 ................................................... Kevin Kerzee, Christopher Reilly
2002 ................................................... Kevin Kerzee
2003 ................................................... Kimberly Miller

up-to-date information at www.toxicology.org
Colgate-Palmolive/SOT Awards for Student Research Training in Alternative Methods

The purpose of the Colgate-Palmolive/SOT Awards for Student Research Training in Alternative Methods is to enhance student research training using in vitro methods or alternative techniques to reduce, replace or refine use of animals in toxicological research. The Education Committee will present the awards to graduate students or to institutions that provide research internships. Up to six awards, at $2,500 each, are available. Applications received after October 9 will be accepted until all funds are committed.

Graduate Students: The award will help to defray expenses for graduate students in toxicology to visit an off-site laboratory for the purpose of gaining knowledge about and developing in vitro or alternative toxicology techniques that will support the student's dissertation research. The overall goal of this program is to support the replacement, reduction or refinement of currently used animal models in toxicology research and testing.

Institutions: Awards will also be made to institutions that propose a 10-week research experience for students (at any level) involving in vitro toxicology or alternative methods to reduce, replace, or refine the use of animals in toxicology research.

Award Recipients

2000 ............................................................ Jason Gross
2001 ............................................................. Jason Biggs, Victoria Richards
2002 ............................................................. Kartik Shankar, Chad M. Vezina,
                                                                 and Ryan L. Williams
2003 ....Sachin Devi, Midhun Korrapati, and Pallavi Limaye
2004 ............................................................ Jaya Chilakapati

Colgate-Palmolive Traveling Lectureship in Alternative Methods in Toxicology Award

The Colgate-Palmolive Company sponsors the Colgate-Palmolive Traveling Lectureship in Alternative Methods in Toxicology Award annually through the Society of Toxicology. This award covers expenses for an individual scholar to visit institution(s) for the dissemination of knowledge and for stimulating research that takes advantage of modern in vitro toxicology approaches. The overall goal of this program is to make scientists aware of the benefits of modern in vitro toxicology approaches and to stimulate research for the replacement, reduction or refinement of currently used animal models. The scholar may be asked to make a special presentation at the SOT Annual Meeting.

Lecturing scholars should be established, mid-career through late-career scientists who are members of SOT and who are developing collaborative relationships with scientists at other institutions.

Requests for funds can be made by the individual scholar or by organizations such as universities, colleges, SOT Specialty Sections and SOT Regional Chapters, and other toxicology organizations that are interested in inviting the scholar. Up to $15,000 is available. The Awards Committee reviews the applications, which must be accompanied by a statement of the applicant’s experience, a brief overview of the techniques to be discussed in the lecture, and a letter from the hosting institution(s) indicating their interest in serving as host and the potential benefits to the institution.

Award Recipients

1996 ................................................. University of Mississippi Medical Center
Visiting Professor: .................................................. Tetsum Satoh
1996 ................................................. University of Illinois at Urbana
Visiting Professor: .................................................. Julio Davila
1996 .................................................. Mississippi State University
Visiting Professor: .................................................. Michael Holsapple
1996 ...................................................... Washington State University
Visiting Professor: .................................................. Daniel Acosta
1997 ....................................................... Indiana University School of Medicine
Visiting Professor: .................................................. A. Jay Gandolfi
1997 ...................................................... University of Arizona Health Science Center
Visiting Professor: .................................................. Kevin E. Driscoll
1997 ..................................................... University of New Mexico Health Sciences Center
Visiting Professor: .................................................. Sam Kacew
1997 ..................................................... University of Illinois
Visiting Professor: .................................................. Michael Denison
1998 ........................................................ University of Washington
Visiting Professor: .................................................. Robert Chapin
1998 ...................................................... San Diego State University
Visiting Professor: .................................................. Leigh Ann Burns Naas
1999 ...................................................... San Diego State University
Visiting Professor: .................................................. Narendre Singh
2000 ..................................................... Yale University, School of Medicine
Visiting Professor: .................................................. Robert Chapin
2001 ..................................................... Medical College of Wisconsin
Visiting Professor: .................................................. Garold Yost
2003 ..................................................... Washington State University
Visiting Professor: .................................................. Marc W. Fariss
2004 ...................................................... University of Louisiana at Monroe
Visiting Professor: .................................................. Snorri S. Thorgeirsson
Contributions to Public Awareness of the Importance of Animals in Toxicology Research Award

The Contributions to Public Awareness of the Importance of Animals in Toxicology Research Award is presented annually to an individual (or organization) in recognition of the contributions made to the public understanding of the role and importance of experimental animals in toxicological science. This award may be for either a single seminal piece of work or a longer-term contribution to public understanding of the necessity of the use of animals in toxicological research both to ensure and enhance the quality of human and animal health and the environment. The award consists of a plaque and a cash stipend.

Award Recipients
2000 ......................................................Allegheny-Erie Chapter
2001 ........................................Massachusetts Society for Medical Research
2002 .........................................................George Nethercutt
2003 ....................................................Michael Derelanko
2004 ....................................................Americans for Medical Progress and 
 ..............................................North Carolina Association for Biomedical Research

Distinguished Lifetime Toxicology Scholar Award

The Distinguished Toxicology Scholar Award is presented to a member of SOT who has made substantial and seminal scientific contributions to the discipline of toxicology. The prime consideration for this award is scientific accomplishments and not necessarily service to the Society. This award consists of a plaque and a cash stipend. (This award was formerly known as the Scientific Achievement Award.)

Award Recipients
2003 ..............................................................Henry C. Pitot
2004 ..............................................................Gerald N. Wogan

Award Recipients (Scientific Achievement Award)
2001 ..............................................................James E. Troska

Education Award

The Education Award is presented to an individual who is distinguished by the teaching and training of toxicologists and who has made significant contributions to education in the broad field of toxicology. This award consists of a plaque and a cash stipend.

Award Recipients
1975 ..................................................................................Harold C. Hodge
1976 ..................................................................................Ted A. Loomis
1977 ..................................................................................Robert B. Forney
1979 ..................................................................................Sheldon D. Murphy
1980 ..................................................................................Herbert H. Cornish
1981 ..................................................................................Frederick Sperling
1982 ..................................................................................Lloyd W. Hazleton
1983 ..................................................................................Julius M. Coon
1984 ..................................................................................Frank Guthrie, Ernest Hodgson
1985 ..................................................................................William B. Buck
1986 ..................................................................................Robert I. Krieger
1987 ..................................................................................Gabriel L. Plaa
1988 ..................................................................................John Autian
1989 ..................................................................................Tom S. Miya
1990 ..................................................................................Charles H. Hine
1991 ..................................................................................Hanspeter R. Witschi
1992 ..................................................................................Dean E. Carter
1993 ..................................................................................Curtis D. Klaassen
1994 ..................................................................................Robert A. Neal
1995 ..................................................................................William Carlton
1996 ..................................................................................Robert Snyder
1997 ..................................................................................Albert E. Munson
1998 ..................................................................................David J. Holbrook
1999 ..................................................................................Jules Brodeur
2000 ..................................................................................Gary Carlson
2001 ..................................................................................Harihara Mehendale
2002 ..................................................................................Joseph Borzelleca
2003 ..................................................................................Frederick W. Oehme
2004 ..................................................................................A. Jay Gandolfi
Enhancement of Animal Welfare Award

The Enhancement of Animal Welfare Award is presented annually to a member of the Society in recognition of the contribution made to the advancement of toxicological science through the development and application of methods that replace, refine, or reduce the need for experimental animals. This award recognizes outstanding/significant contributions made by members of the Society of Toxicology to the scientifically sound and responsible use of animals in research. The achievement recognized may be either a seminal piece of work or a long-term contribution to toxicological science and animal welfare. The award consists of a plaque and a cash stipend.

Award Recipients
2000 .........................................................Yves Alarie
2001 ..........................................................Gary Williams
2002 ..........................................................Alan Goldberg
2003 ..........................................................G. Frank Gerberick, Ian Kimber

Graduate Student Fellowship Awards

The Graduate Student Fellowship Awards are provided by generous sponsors and are open to student members of the SOT engaged in full-time graduate study towards a Ph.D. degree in toxicology. The major professor must be a SOT member. The Education Committee's evaluation is based primarily on originality of the dissertation research, research productivity, relevance to toxicology, scholastic achievement, and letters of recommendation. Finalists are interviewed at the Annual Meeting and receive travel support.

Covance Corporation Graduate Fellowship Award Recipients

1984 ..........................................................Patricia Ganey
1985 ..........................................................Kevin Gaido
1986 ..........................................................Lisa Naser
1987 ..........................................................Marjorie Romkes
1988 ..........................................................Caroline J. Decker
1989 ..........................................................Lorraine E. Twerdok
1991 ..........................................................Dale Morris
1993 ..........................................................Michael F. Denny
1995 ..........................................................Michael DiMatteo
1998 ..........................................................Rebecca Laposa
2000 ..........................................................Susan McKarns
2001 ..........................................................Kirsten Fertuck
2002 ..........................................................Edward Williams
2003 ..........................................................Winnie Jeng

Novartis Corporation Graduate Fellowship Award Recipients

1989 ..........................................................Timothy Zacharewski
1990 ..........................................................Mary Suzanne Stefaniak
1991 ..........................................................Donald Bjerke
1992 ..........................................................Lhanoo Gunawardhana
1993 ..........................................................Christopher Martenson
1994 ..........................................................Nyla Harper
1995 ..........................................................Heather E. Kleinert
1996 ..........................................................Russell Thomas
1997 ..........................................................Melva Rios-Blancos
1998 ..........................................................Kent Carlson
1999 ..........................................................Mark Hickman
2000 ..........................................................Jeffrey Moran
2001 ..........................................................Vishal Vaidya
2002 ..........................................................Kartik Shankar
2003 ..........................................................Sachin Devi

(Recipients of Graduate Fellowship Awards no longer offered may be found on the SOT Web site at www.toxicology.org.)
Society of Toxicology Awards (Continued)

Graduate Student Travel Awards

Graduate Student Travel Awards defray expenses for students presenting platform talks or posters at the SOT Annual Meeting. To be eligible, the student must be a SOT member (or have submitted a membership application), who has not previously received a graduate student travel award. Each institution may rank and submit applications from up to three students.

Honorary Membership

The Society of Toxicology recognizes non-members who embody outstanding and sustained achievements in the field of toxicology with the Honorary Member Award. Candidates are nominated by two voting or associate members of the Society. Seconding letters and information regarding career achievements in toxicology should accompany the nomination. A two-thirds vote of Council determines recipients, with not more than two Honorary Members elected during any one term of Council. Nominations should be sent to SOT Headquarters.

Inductees

* Deceased

Bernard B. Brodie*  
Ethem Browning*  
John E. Casida  
Jud Coon  
Gertrude B. Elion*  
Ronald W. Estabrook  
George H. Hitchings*  
Eugene M.K. Geiling*  
Charles S. Lieber  
Michel Mercier  
Herbert Needleman  
Norton Nelson*  
W. F. Von Oettingen*  
Sten G. Orrenius  
Dennis Parke  
Herbert Remmer  
William O. Robertson  
Findlay Russell  
Roger W. Russell*  
Torald H. Sollman*  
Takashi Sugimura  
Wendell W. Weber  
R. Tecwyn Williams*  
Hyman J. Zimmerman*  

Merit Award

The Merit Award is presented to a member of the Society of Toxicology in recognition of a distinguished career in toxicology. This award consists of a plaque and a cash stipend.

Award Recipients

1966 ................................................................. Henry F. Smyth, Jr.
1967 ................................................................. Arnold J. Lehman
1968 ................................................................. R. T. Williams
1969 ................................................................. Harold C. Hodge
1970 ................................................................. Don D. Irish
1971 ................................................................. Kenneth F. DuBois
1972 ................................................................. O. Garth Fitzhugh
1973 ................................................................. Herbert E. Stokinger
1974 ................................................................. William B. Deichmann
1975 ................................................................. Frederick Coulston
1976 ................................................................. Verald K. Rowe
1977 ................................................................. Harry W. Hays
1978 ................................................................. Julius M. Coon
1979 ................................................................. David W. Fassett
1980 ................................................................. Bernard L. Oser
1981 ................................................................. John H. Weisburger
1982 ................................................................. Harold M. Peck
1983 ................................................................. Perry J. Gehring
1984 ................................................................. Tom S. Miya
1985 ................................................................. Carrol S. Weil
1986 ................................................................. Ted A. Loomis
1987 ................................................................. Bo Holmstedt
1988 ................................................................. Seymour L. Friess
1989 ................................................................. Wayland J. Hayes, Jr.
1990 ................................................................. Sheldon D. Murphy
1991 ................................................................. Toshio Narahashi
1992 ................................................................. W. Norman Aldridge
1993 ................................................................. John Doull
1994 ................................................................. Ernest Hodgson
1995 ................................................................. Robert A. Scala
1996 ................................................................. Gabriel L. Plaa
1997 ................................................................. Mary O. Amdur
1998 ................................................................. John A. Thomas
1999 ................................................................. Thomas Clarkson
2000 ................................................................. Philippe Shubik
2001 ................................................................. Donald Reed
2002 ................................................................. Bernard Schwetz
2003 ................................................................. M.W. Anders
2004 ................................................................. Robert Goyer

up-to-date information at www.toxicology.org
Minority Undergraduate Student and Advisor Awards

The Minority Undergraduate Student and Advisor Awards provide support for awardees to participate in the Undergraduate Education Program at the SOT Annual Meeting. This program is an introduction to the discipline of toxicology for undergraduate science majors and includes an orientation, a special poster session with scientists, and activities with a SOT mentor. The travel awards are for those from races and ethnic groups underrepresented in the sciences (African American, American Indian or Hispanic American) and for their advisors. Advisors are eligible regardless of racial or ethnic background. Meeting registration and support for travel, lodging, and meals are provided for students and advisors who are not local to the meeting site. Students and advisors from local institutions receive meeting and program registration and meals. The program is supported in part by NIH-MARC, Pfizer, and Johnson & Johnson.

Public Communications Award

The Public Communications Award is presented by the Society of Toxicology to recognize an individual who has made a major contribution to broadening the awareness of the general public on toxicological issues through any aspect of public communications. The award should reflect accomplishments made over a significant period of time. Examples of qualifying media in which the nominated communication may appear are: books, brochures, continuing education courses, data bases, extension bulletins, magazines, newspapers (local or national), public presentations, public forums, radio and television scripts, and workshops. The award consists of a plaque and a cash stipend.

Awards Recipients

1994 ..............................................................Michael A. Kamrin
1995 ..............................................................Philip Abelson
1996 ..............................................................Bruce N. Ames
1997 ..............................................................Audrey Gotsch
1999 ..............................................................Ann de Peyster
2001 ..............................................................Anna Shvedova
2002 ..............................................................Sam Kacew
2003 ..............................................................Charlene A. McQueen
2004 ..............................................................Kenneth Olden

Regional Chapter Awards

Most SOT Regional Chapters provide awards to recognize outstanding students or scientists. Application requirements and deadlines vary. Visit the Regional Chapter or Awards and Fellowship sections on the SOT Web site for full details.

Robert L. Dixon International Travel Award

The Robert L. Dixon Award, sponsored by the Toxicology Education Foundation, takes applications from graduate students in the area of reproductive toxicology. The award carries a stipend for travel costs to enable a student to attend the International Congress of Toxicology meeting. It is available every three years. (Next application date is October 9, 2006.)

Award Recipients

1989 ..............................................................Kevin L. Stark
1992 ..............................................................Daland Richard Juberg
1995 ..............................................................Xuelin Li
1998 ..............................................................Jeeyeon Bee
2001 ..............................................................Mark Fielden
2004 ..............................................................Julie M. Gohlke

Society of Toxicology/ American Chemistry Council Early Career Award

The American Chemistry Council offers an Early Career Award through the Society of Toxicology. The award is up to $100,000 and is designed to encourage persons beginning their professional careers to conduct research that will improve the scientific basis for risk assessment and decision making with respect to a particular specialty area of potential toxicity of chemicals. Awards have been offered in Inhalation and Neurotoxicology. Full details are available on the SOT Web site.

Award Recipients

2002 ..............................................................Ronald Tjalkens (Neurotoxicology)
2003 ..............................................................Ilona Jaspers (Inhalation)
2004 ..............................................................Nikolay Filipov (Neurotoxicology)
Society of Toxicology Awards (Continued)

Specialty Section Student Awards

Most SOT Specialty Sections provide awards to recognize outstanding student presentations at the SOT Annual Meeting. Application requirements and deadlines vary. For more details refer to the Award descriptions on the SOT Web site at www.toxicology.org, under Specialty Sections or the Awards and Fellowships sections.

SOT Award Nominations On-Line

SOT presents several prestigious awards each year to toxicologists, public communicators, and students. Award recipients receive a plaque and a generous stipend, are listed in the annual Membership Directory, are posted on the SOT Web site, and are honored at a special Awards Ceremony at the SOT Annual Meeting. Information regarding the individual awards and mandatory applications are available at the SOT Web site at www.toxicology.org.

SOT Award nomination has gone on-line! Have you ever considered nominating a distinguished toxicologist for an award, but hesitated because of the work involved? In 2004, SOT automated the award nomination process. Tied to the SOT on-line Directory, the forms self-populate and automatically send an email to the designated seconder. Please take a look at the site, www.toxicology.org, and consider making a nomination for 2005.

The deadline for 2005 award nominations is October 9, 2004.
TOXICOLOGY

Toxicology for the 21st Century

TOXICOLOGICAL SCIENCES
The Official Journal of the Society of Toxicology
Impact Factor of 3.157*

Editor:
Erin D. Lehman-Mckeeown, Ph.D.

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OXFORD UNIVERSITY PRESS

SOT's 43rd Annual Meeting
Toxicology Specialists

The Society of Toxicology has established a Toxicology Specialists Program to assist journalists in identifying or locating expert toxicologists who can provide factual information on issues of public concern. The Toxicology Specialists provide information based on their own credentials and do not represent the views of the Society of Toxicology. Nominations are accepted twice a year: June 1 and December 1. Applications may be found on the SOT Web site (www.toxicology.org). If you require further information, please contact SOT Headquarters at (703) 438-3115.

Specialties:

Carcinogenesis
Jane A. S. Allen
James Bond
Richard Bull
David L. Eaton
James E. Klaunig
Michael McClain
Charlene A. McQueen
Henry Pitot
James Popp
Robert Rubin
Jacqueline H. Smith
Cheryl Lyn Walker

In Vitro
Daniel Acosta, Jr.
Jay Gandolfi
Kenneth S. Ramos
Rick Schnellmann
Jacqueline H. Smith

Inhalation/Pulmonary
Barbara Beck
James Bond
Gary Boorman (pulmonary pathology)
Robert Drew
Roger McClellan
John Morris
Robert Phalen
Gary Yost

Kidney Toxicity
William Berndt
Steven D. Cohen
Mary Davis
Ernest Foulkes
Jay Gandolfi
Robin Goldstein
Lois D. Lehman-McKeeman
Rick Schnellmann

Liver Toxicity
Steven D. Cohen
George B. Corcoran
Mary Davis
Jay Gandolfi
Robin Goldstein
James E. Klaunig
Hari Mehendale

Metabolism/Toxicokinetics
Linda Birnbaum
George B. Corcoran
Lois D. Lehman-McKeeman
Raymond Novak

Mechanisms
Jane A. S. Allen
Daniel Acosta, Jr.
William Berndt
Linda Birnbaum
Gary P. Carlson
George B. Corcoran
Ann de Peyster
Jay Gandolfi
James E. Klaunig
Lois D. Lehman-McKeeman
Jose E. Manautou
Hari Mehendale
James Popp
Kenneth S. Ramos
Stephen Safe
Rick Schnellmann
Ellen Silbergeld
Kendall B. Wallace
Gary Yost

Reproductive/Developmental
Robert Chapin
George Daston
Ann de Peyster
Carole A. Kimmel
James Lamb
Hugh Tilson (developmental neurotoxicology)

Risk Assessment
Barbara Beck
Michael Bolger
James Bond
Richard Bull
John Christopher
Rory Conolly
Michael Dourson
Jay I. Goodman
Carole A. Kimmel
Robert A. Kuna
James Lamb
Roger McClellan
Robert Rubin
Jacqueline H. Smith

Regulatory Toxicology/Regulatory Affairs/Safety Evaluation
Jane A. S. Allen
Daniel Acosta, Jr.
(design) Michael McClain
Gregory Allgood
Richard Bull
Jack Dean (drugs)
Michael Dourson
Robin Goldstein (drugs)
Robert A. Kuna
James Lamb (pesticides and industrial chemicals)
Michael McClain (drugs)
Kathleen Rodgers (drugs)
Robert Rubin

Comparative and Veterinary
Roger McClellan

Epidemiology
Ellen Silbergeld

General Toxicology
Jane A. S. Allen
Linda Birnbaum
David L. Eaton
Sidney Green
James E. Klaunig
Robert Krieger
Michael McClain
Kendall B. Wallace

Genetic Toxicology
Jane A. S. Allen
Sidney Green
James E. Klaunig
Charlene A. McQueen (environmental)
Cheryl Lyn Walker

Immunotoxicology
Scott Burchiel
Jack Dean
Jay Gandolfi (hypersensitivity)
Nancy Kerkvliet
Kathleen Rodgers
Mary Jane Selgrade

Mechanisms
Jane A. S. Allen
Daniel Acosta, Jr.
William Berndt
Linda Birnbaum
Gary P. Carlson
George B. Corcoran
Ann de Peyster
Jay Gandolfi
James E. Klaunig
Lois D. Lehman-McKeeman
Jose E. Manautou
Hari Mehendale
James Popp
Kenneth S. Ramos
Stephen Safe
Rick Schnellmann
Ellen Silbergeld
Kendall B. Wallace
Gary Yost

Molecular
William Greenlee
Henry Pitot
Kenneth S. Ramos
Robert Rubin
Raymond Novak (cell signaling, gene expression)
Kendall B. Wallace
Gary Yost

Neurotoxicity
Robert Krieger
Joel Mattsson
Ellen Silbergeld
William Slikker
Hugh Tilson

Toxicology Specialists

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Toxicology Specialists

Issues:

Air Pollution
James Bond
Robert Drew (air quality standards)
Roger McClellan (air quality standards—environmental and occupational)
John Morris
Robert Phalen
Mary Jane Selgrade

Animal Studies/Animals in Research
Gary Boorman
Stephen DiZio
Robert Phalen

Biotechnology/Biopharmaceutical Toxicology
Scott Burchiel

Chemical-Chemical Interactions
Steven D. Cohen
Jay Gandolfi

Chlorine-Based Compounds
Richard Bull
Rory Conolly
Jay Gandolfi (also fluorine compounds)
James E. Klaunig
H.B. Matthews
Hugh Tilson (PCBs)

Dioxins
Michael Bolger
Rory Conolly
David L. Eaton
William Greenlee
Nancy Kerkvliet
Kenneth S. Ramos
Ellen Silbergeld
Hugh Tilson

Endocrine Disrupters
Linda Birnbaum
Michael Bolger
James S. Bus
Robert Chapin
Rory Conolly
Michael Gallo
Nancy Kerkvliet
James Lamb
Cheryl Lyn Walker

Food Additives/Food Safety/Food Toxins
Gregory Allgood
Michael Dourson
David L. Eaton (especially aflatoxins)
Robert A. Kuna
Robert Rubin

Free Radicals/Oxidative Stress/Antioxidants
Gregory Allgood
James Kehrer
James E. Klaunig
Kendall B. Wallace

Geographical Distribution:

Allegheny-Erie
Mary Davis (WV)

Central States
William Berndt (NE)
Kendall B. Wallace (MN)

Gulf Coast (Texas)
James Kehrer
Kenneth S. Ramos
Stephen Safe
William Slikker
Cheryl Lyn Walker

Industrial Chemical Toxicology
James S. Bus
Robert A. Kuna
Kendall B. Wallace

Michigan
James S. Bus
George B. Corcoran
Jay I. Goodman
Joel Mattsson
Raymond Novak

Mid-Atlantic
Jack Dean (PA)
Michael Gallo (NJ)
Robin Goldstein (NJ)
Robert A. Kuna (NJ)
Michael McClain (NJ)
James Popp (PA)
Jacqueline H. Smith (NJ)

Midwest
James E. Klaunig (IN)
Henry Pitot (WI)

National Capital
Michael Bolger (DC)
Robert Drew (DC)
Marion F. Ehrich (VA)
Sidney Green (DC)
Carole A. Kimmel (DC)
James Lamb (VA)
Robert Rubin (MD)
Ellen Silbergeld (MD)

North Carolina
Jane A. S. Allen
Linda Birnbaum
James Bond
Gary Boorman
Robert Chapin
Rory Conolly
William Greenlee
H.B. Matthews
Mary Jane Selgrade
Hugh Tilson

Ohio Valley
Daniel Acosta, Jr. (OH)
Gregory Allgood (OH)
George Dastont (OH)
Michael Dourson (OH)
Ernest Foulkes (OH)
Lois D. Lehman-McKeeman (OH)

Pacific Northwest
Richard Bull (WA)
David L. Eaton (WA)
Nancy Kerkvliet (OR)

Southern California
Robert Krieger
Robert Phalen

South Central
Hari Mehendale (LA)

Southeastern
Rick Schnellmann (SC)

Solvents
Mary Davis
Kendall B. Wallace

Validation of Alternative Methods
Sidney Green

Water Pollution
Richard Bull

Pesticides
James S. Bus
Marion F. Ehrich
Robert Krieger
James Lamb
H.B. Matthews
Kathleen Rodgers
Stephen Safe

Natural Toxins
Michael Bolger
Joel Mattsson

Radiation
Gary Boorman (EMF exposure)
Mary Jane Selgrade

Sot's 43rd Annual Meeting
Society of Toxicology

44th Annual Meeting

New Orleans

March 6–10, 2005

See you in...

www.toxicology.org

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20 Excellent Reasons To Be a Member of SOT

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13. Eligibility for election as an Officer
14. Eligibility for election or appointment to a committee
15. Eligibility to serve as a Regional Chapter Officer
16. Eligibility to serve as a Specialty Section Officer
17. Eligibility for Awards
18. Legislative and Regulatory Updates
19. Recognition by peers and the wider professional community
20. Promotion of the Science of Toxicology

MEMBERSHIP

For complete information about membership in the Society of Toxicology, visit our Membership Booth in ToxExpo™ at the Annual Meeting or go to the SOT Web site, www.toxicology.org, and select Member Services. Look for the link to Membership Information.

We’ll see you at the 2005 SOT Annual Meeting in New Orleans!