

# Society of Toxicology

25th Anniversary Meeting  
Program

March 3-7, 1986  
Hyatt Regency New Orleans  
New Orleans, Louisiana

## SPECIAL EVENTS

### **JOB APPLICATION, RESOURCE AND INTERVIEW SEMINAR**

sponsored by SOT Placement Committee  
Monday, March 3, 1986  
4:15 p.m. - 5:45 p.m.  
Grand Room  
Open to all registrants

### **SOT RECEPTION**

Monday, March 3, 1986  
6 p.m. - 7:30 p.m.  
Ballroom A-D  
CASH BAR  
Open to all registrants and guests

### **SPECIAL POSTER/DEMONSTRATION SESSION— O'HARE ROOM COMMUNICATING BASIC CONCEPTS IN TOXICOLOGY TO NON-SCIENTISTS**

Tuesday, March 4-Thursday, March 6, 1986  
8:30 a.m.-4:30 p.m.  
Open to all registrants

### **SOT ISSUES SESSION**

Tuesday, March 4, 1986  
12 p.m. - 1:30 p.m.  
Poydras A  
Chaired by SOT President Emil A. Pfitzer  
Bring your lunch and participate in an open forum discussion of  
SOT affairs.  
Open to all registrants

### **SPECIAL SOT RECEPTION AT NEW ORLEANS MUSEUM OF ART**

Tuesday, March 4, 1986  
6 p.m. - 8 p.m.  
(buses leave from Hyatt Regency Hotel at 5:45 p.m. and return  
8:15-8:30 p.m.)  
Open bar, light buffet dinner. \$30/person, includes transportation.  
Tickets required (available at Registration Desk).

### **AMERICAN BOARD OF TOXICOLOGY OPEN MEETING**

Wednesday, March 5, 1986  
12 p.m. - 1:30 p.m.  
Poydras A

### **ANNUAL SOT BUSINESS MEETING**

Wednesday, March 5, 1986  
4 p.m. - 5:30 p.m.  
Ballroom D  
SOT Members Only

### **FIRST BURROUGHS-WELLCOME TOXICOLOGY SCHOLAR AWARD LECTURE**

by Alan P. Poland  
Chaired by Tom S. Miya, SOT President 1979-1980  
Thursday, March 6, 1986  
Poydras A  
Open to all registrants

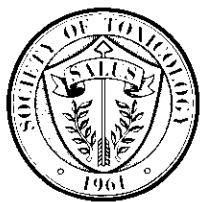
### **25TH ANNIVERSARY SOT BANQUET AND SALUTE TO SOT FOUNDERS**

Thursday, March 6, 1986  
7 p.m.  
Ballroom E-H  
Open to all registrants and guests. \$30/person. Tickets required  
(available at Registration Desk).

## FUTURE SOT MEETINGS

1986	August 17-21	Joint SOT-ASPET Meeting Baltimore, MD
1987	February 23-27*	Washington Hilton Hotel Washington, D.C.
1988	February 14-19	Loews Anatole Hotel Dallas, TX
1989	February 26-March 3	Atlanta Hilton Hotel Atlanta, GA
1990	March 11-16	Adam's Mark Hotel St. Louis, MO

\*Change from previously announced date.



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New Orleans, Louisiana

## GENERAL INFORMATION

### REGISTRATION FEES

	Member or Post-Doctoral in Training	Non-Member	Student Full-time, Pre-Doctoral
Before Feb. 14	\$ 65	\$100	\$ 10
After Feb. 14	80	115	10

Special SOT Reception at New Orleans Museum of Art (includes transportation, cocktails, light buffet) Attendance is limited. \$ 30

Annual Banquet and Special Salute to SOT Founders \$30

### REGISTRATION DESK—REGENCY CONFERENCE CENTER FOYER

Sunday, March 2	4 p.m. - 8 p.m.
Monday, March 3	7 a.m. - 5 p.m.
Tuesday, March 4	7 a.m. - 4 p.m.
Wednesday, March 5	8 a.m. - 4 p.m.
Thursday, March 6	8 a.m. - 4 p.m.

### HOTEL ACCOMMODATIONS

The Hyatt Regency Hotel is the Annual Meeting headquarters hotel. The SOT rates are guaranteed when reservations are made on the hotel postcard enclosed with the preliminary program. For information regarding alternative accommodations, contact the SOT office in Washington, D.C.

### AIR TRANSPORTATION

Delta Air Lines, in cooperation with the Society of Toxicology, is offering a special discount that affords at least a 35 percent discount off of Delta's round trip undiscounted day coach fares for attendees travelling on Delta to the Annual Meeting. Reservations must be made seven days prior to departure. Call Delta at 1-800-241-6760 for reservations, 8:30 a.m. to 8:00 p.m., eastern time, daily. Refer to file R0125. A travel agent may make your reservations for you, but must refer to the file number to take advantage of the SOT discount. If Delta has promotional fares that represent even greater savings, you will be confirmed at the lowest fare applicable to your itinerary.

### AIRPORT TRANSPORTATION SERVICES

Airport limousine service is available between the New Orleans Airport and the Hyatt Regency Hotel.

### CONFERENCE HEADQUARTERS—WAIKIKI ROOM

Sunday, March 2	1 p.m. - 6 p.m.
Monday-Thursday	7 a.m. - 4 p.m.
Friday	7 a.m. - 11 a.m.

### PLACEMENT SERVICE—KENILWORTH/VERSAILLES ROOMS

Monday, March 3	10 a.m. - 3:30 p.m.*
Tuesday-Thursday	9 a.m. - 4 p.m.

\*(registration only)

### PRESS ROOM—THIRD FLOOR PRESS ROOM

Monday-Wednesday	8 a.m. - 5 p.m.
Thursday	8 a.m. - 12 p.m.

### SPOUSE HOSPITALITY—MAUI ROOM

Monday-Wednesday	9 a.m. - 4 p.m.
Thursday-Friday	9 a.m. - 12 p.m.

A representative of the New Orleans Convention and Visitors Bureau will be available on Tuesday and Wednesday, 9 a.m. - 12 p.m., to respond to questions regarding available activities and arrange tours.

### 25th ANNIVERSARY VIDEO HISTORY PRESENTATION— GRAND ROOM

Monday	1 p.m. - 4 p.m.
Tuesday-Thursday	9 a.m. - 4 p.m.

### SPECIAL POSTER/DEMONSTRATION SESSION—O'HARE ROOM COMMUNICATING BASIC CONCEPTS IN TOXICOLOGY TO NON-SCIENTISTS

Tuesday-Thursday	8:30 a.m. - 4:30 p.m.
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The SOT Committee on Public Communications and the Information Handling Committee present a special opportunity for registrants to explore and discuss innovative educational reading materials, slide presentations, and computer-based teaching devices that have been developed by SOT members and other scientists for the purpose of communicating basic concepts in toxicology. Ideas designed to improve communications among non-scientists as well as between professional toxicologists will be described. This session is presented to encourage the participation of SOT members in the production of teaching materials that could be employed by the SOT in the development of toxicology outreach programs, and to provide an opportunity for members to gain information that might enhance individual efforts in this area.

### EXHIBITS—FRENCH MARKET EXHIBIT HALL

Tuesday-Thursday	8:30 a.m. - 5 p.m.
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### THE TOXICOLOGIST—ABSTRACTS OF PAPERS PRESENTED

Distributed without charge to all members of the Society of Toxicology in advance of the meeting. Non-members will be given the abstracts with their registration at the meeting. Additional copies will be available for purchase at the meeting for \$10 each. Following the meeting, copies of the *Toxicologist* will be available from the SOT headquarters office for \$20 each.

### SLIDE PREVIEW ROOM—KUILIMA ROOM

Sunday	1 p.m. - 5 p.m.
Monday-Thursday	8 a.m. - 4 p.m.
Friday	8 a.m. - 9 a.m.

**PHOTOGRAPHER**—Robert Forney, Jr., Medical College of Ohio, Toledo, OH

# PROGRAM SUMMARY

## Continuing Education Courses (Pre-Registration Only)

All courses are held on Monday, March 3, 1986

### 8:00 a.m.-Noon

	Room
1. Quantitative Methodology for Cancer Risk Assessment	Burgundy Room
2. Developmental Toxicology for the General Toxicologist	Ballroom A-C
3. TOXNET System Files (8:00-11:00 a.m.)	Ballroom E

### 1:30-5:30 p.m.

	Room
4. Hematology of Laboratory Animals	Burgundy Room
5. Environmental Toxicology	Ballroom A-C
6. Use of Innovative Methodology in Toxicology	Ballroom E

## Symposia

Day/Time	Topic	Room	Page
Tuesday 8:30 a.m.	The Ovary as a Target Organ for Toxicity	Ballroom A-C	11
Tuesday 8:30 a.m.	In Vitro Methods for the Assessment of Neurotoxicology	Burgundy Room	11
Tuesday 1:30 p.m.	Complex Mixtures and Multiple Agent Interactions	Ballroom A-C	18
Tuesday 1:30 p.m.	Toxicologists and the News Media: Communicating Scientific Information to the Press	Burgundy Room	18
Wednesday 8:30 a.m.	Scientific Accomplishments and Future Prospects	Ballroom D	26
Wednesday 1:30 p.m.	Current Understanding of Metal-Membrane Interactions	Ballroom A-C	33
Wednesday 1:30 p.m.	New Investigators Colloquium	Burgundy Room	34
Thursday 8:30 a.m.	Mechanisms of Cell Injury (EST-SOT Symposium)	Ballroom A-C	41
Thursday 8:30 a.m.	Basic Concepts of Immunotoxicology	Burgundy Room	41
Thursday 1:30 p.m.	Neonatal Toxicology	Ballroom A-C	49
Thursday 1:30 p.m.	Frontiers in the Study of Toxic Lung Damage	Burgundy Room	49
Friday 8:30 a.m.	Cell to Cell Communication: Its Regulation and Role in Toxic Inquiry	Ballroom A-C	56
Friday 8:30 a.m.	The NTP Today—Selected Issues	Burgundy Room	57

## Platform Sessions

Day/Time	Topic/Abstract #	Room	Page
Tuesday 8:30 a.m.	Reactive Intermediates #1-14	Poydras A	11

Day/Time	Topic/Abstract #	Room	Page
Tuesday 8:30 a.m.	Oncogenesis #15-28	Poydras B	12
Tuesday 1:30 p.m.	Inhalation I #29-42	Poydras A	19
Tuesday 1:30 p.m.	Biotransformation/Disposition #43-56	Poydras B	19
Wednesday 8:30 a.m.	Immune System #57-70	Poydras A	26
Wednesday 8:30 a.m.	Nervous System #71-84	Poydras B	26
Wednesday 8:30 a.m.	Pesticides #85-98	Burgundy	27
Wednesday 1:30 p.m.	Aquatic/Environmental #99-108	Poydras A	34
Wednesday 1:30 p.m.	Molecular/Cellular #109-119	Poydras B	34
Thursday 8:30 a.m.	Reproductive/Teratology #120-133	Poydras A	41
Thursday 8:30 a.m.	Inhalation II #134-147	Poydras B	42
Thursday 1:30 p.m.	Genotoxicity #148-161	Poydras A	49
Thursday 1:30 p.m.	Halogenated Hydrocarbons #162-175	Poydras B	50
Friday 8:30 a.m.	Food/Drugs #176-189	Poydras A	57
Friday 8:30 a.m.	Metals #190-203	Poydras B	57

## Poster Sessions

Posters will be displayed from 8:30 a.m. to 11:30 a.m. and from 1:30 p.m. to 4:30 p.m. in the French Market Exhibit Hall. Poster sessions with odd numbers will be attended from 8:30 a.m. to 10:00 a.m. and 1:30 p.m. to 3:00 p.m. Poster sessions with even numbers will be attended from 10:00 a.m. to 11:30 a.m. and 3:00 p.m. to 4:30 p.m.

Day/Time	#	Topic/Abstract #	Page
Tuesday 8:30 a.m.	1	Inhalation I #204-254	12
Tuesday 10:00 a.m.	2	Immunotoxicology I #255-283A	14
Tuesday 8:30 a.m.	3	Neurotoxicology I: Sensory Systems Toxicology/#284-298	15
Tuesday 10:00 a.m.	4	Methyl Isocyanate #299-312	16
Tuesday 8:30 a.m.	5	Pesticides #313-341A	16
Tuesday 10:00 a.m.	6	Endocrine System #342-351	17
Tuesday 1:30 p.m.	7	Reproductive/Teratology I #352-404A	20
Tuesday 3:00 p.m.	8	Metals I #405-446	21
Tuesday 1:30 p.m.	9	Hepatic Toxicology Mechanisms/In-vivo #447-482	23
Tuesday 3:00 p.m.	10	Neurotoxicology II: Electrophysiology & Neuropathology/#483-497	24

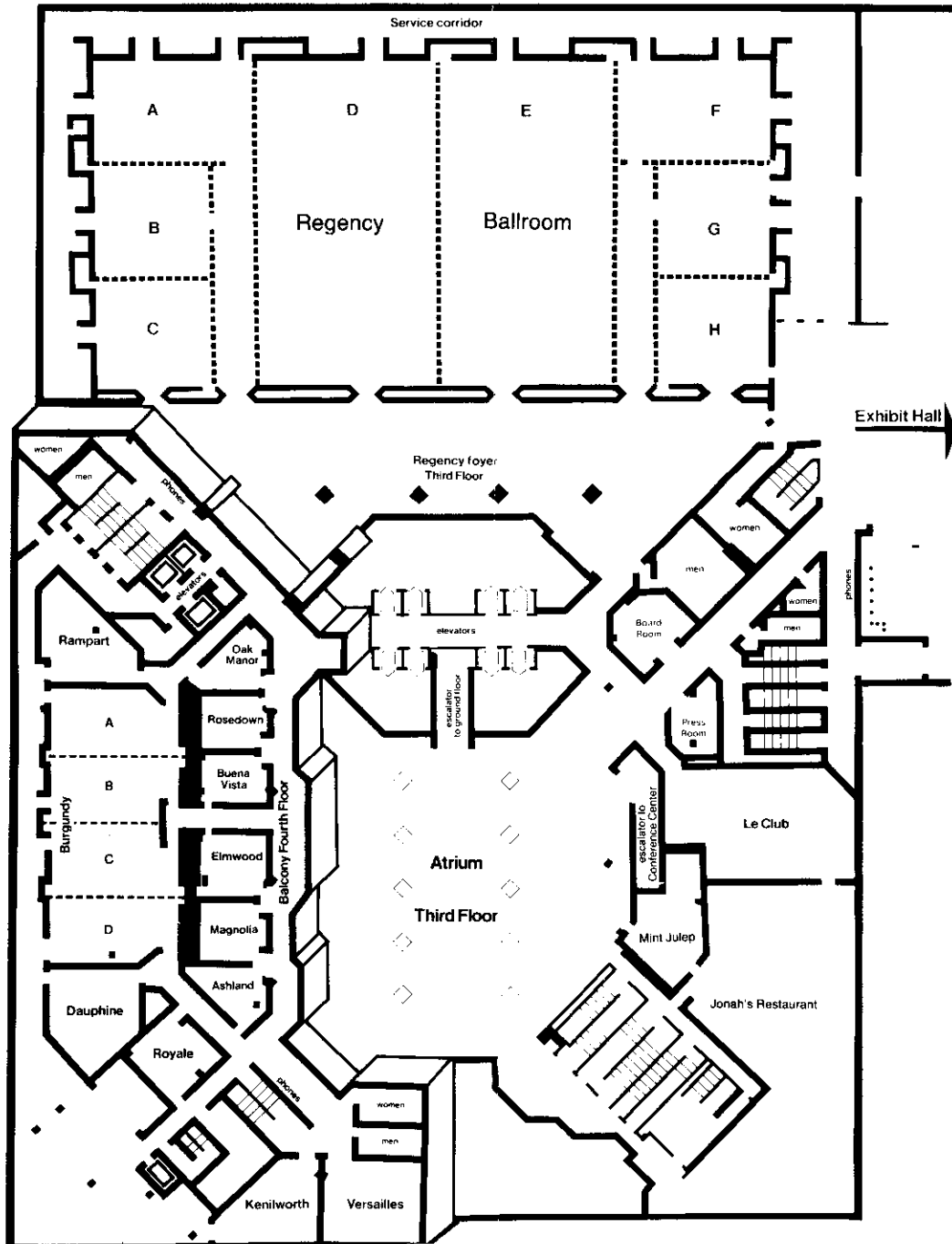
<b>Day/ Time</b>	<b>#</b>	<b>Topic/Abstract #</b>	<b>Page</b>	<b>Day/ Time</b>	<b>#</b>	<b>Topic/Abstract #</b>	<b>Page</b>
Tuesday 1:30 p.m.	11	Food/Drugs #498-511	25	Thursday 8:30 a.m.	23	Neurotoxicology IV: Behavior #863-892	44
Wednesday 10:00 a.m.	12	Inhalation II #512-559A	27	Thursday 10:00 a.m.	24	Genotox/Mutagenesis #893-923	45
Wednesday 8:30 a.m.	13	Biotransformation/Disposition I #560-607A	29	Thursday 8:30 a.m.	25	Oncogenesis #924-954	46
Wednesday 10:00 a.m.	14	Reactive Intermediates #608-634	31	Thursday 10:00 a.m.	26	Dermal/Ocular #955-992	47
Wednesday 8:30 a.m.	15	Aquatic/Environmental #635-651	32	Thursday 1:30 p.m.	27	Biotransformation/Disposition II #993-1050A	51
Wednesday 10:00 a.m.	16	Solvents #652-663	33	Thursday 3:00 p.m.	28	Metals II #1051-1082	53
Wednesday 1:30 p.m.	17	Immunotoxicology II #664-691	35	Thursday 1:30 p.m.	29	Molecular/Cellular #1083-1119A	54
Wednesday 3:00 p.m.	18	Renal Toxicology #692-732A	36	Thursday 3:00 p.m.	30	Risk Assessment/Regulatory Toxicology/#1120-1137	55
Wednesday 1:30 p.m.	19	Hepatotox-GI Toxicology #733-759	37	Thursday 1:30 p.m.	31	Hematologic Toxicology #1138-1150	56
Wednesday 3:00 p.m.	20	Neurotoxicology III: Neurochemistry #760-801	38	Friday 10:00 a.m.	32	Reproductive/Teratology II #1153-1196	58
Wednesday 1:30 p.m.	21	Cardiovascular Toxicology #803-824	40	Friday 8:30 a.m.	33	General II #1197-1234	60
Thursday 10:00 a.m.	22	General I #825-862A	43	Friday 10:00 a.m.	34	Halogenated Hydrocarbons #1235-1277	61

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**Smoking is not permitted in scientific sessions**

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# HYATT REGENCY HOTEL



These rooms are on the **Third Floor**:

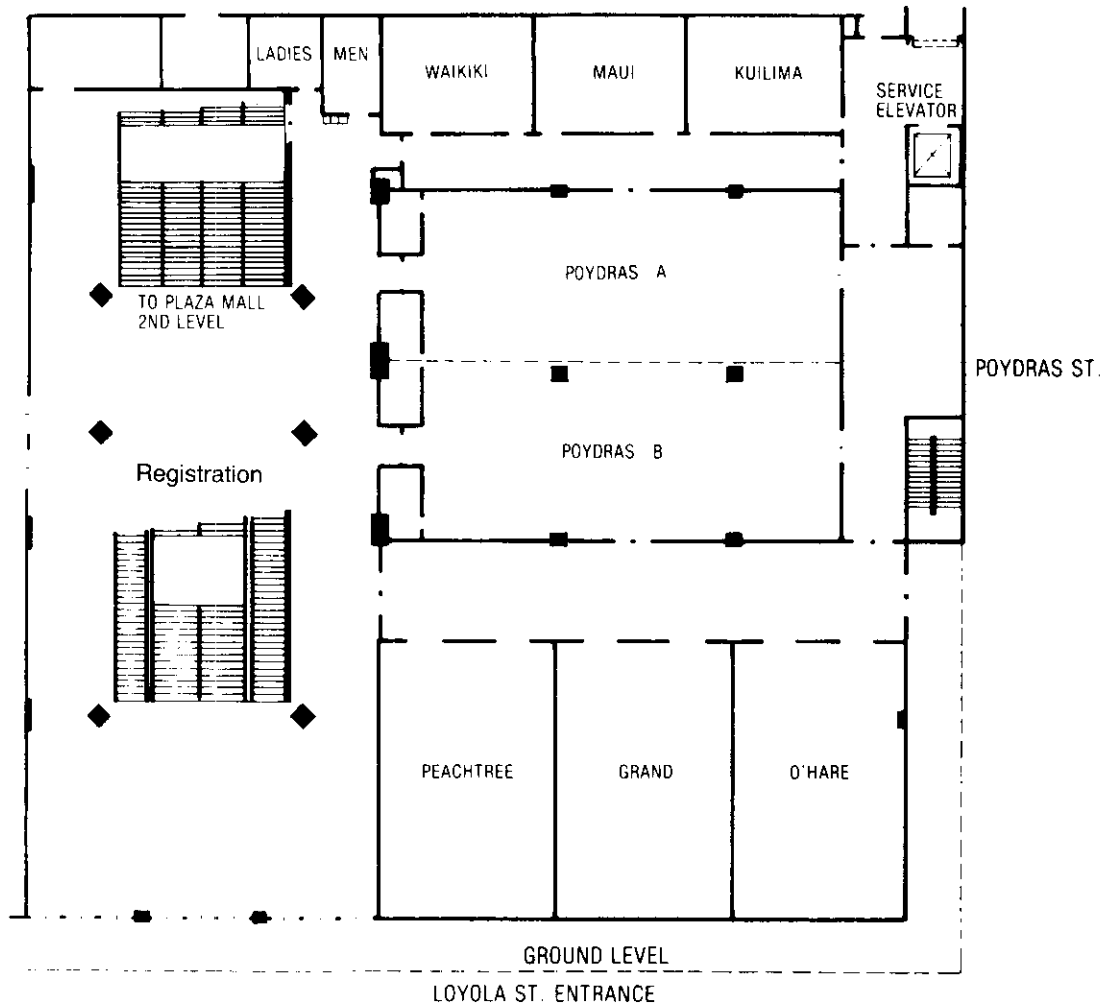
The Regency Ballroom  
 The Regency Foyer  
 French Market Exhibit Hall

These rooms are on the **Fourth Floor**:

Burgundy  
 Royale  
 Dauphine  
 Kenilworth  
 Rampart  
 Oak Manor  
 Rosedown  
 Buena Vista  
 Elmwood  
 Magnolia  
 Ashland  
 Versailles

# THE REGENCY CONFERENCE CENTER

## ACCESS FROM 2ND FLOOR



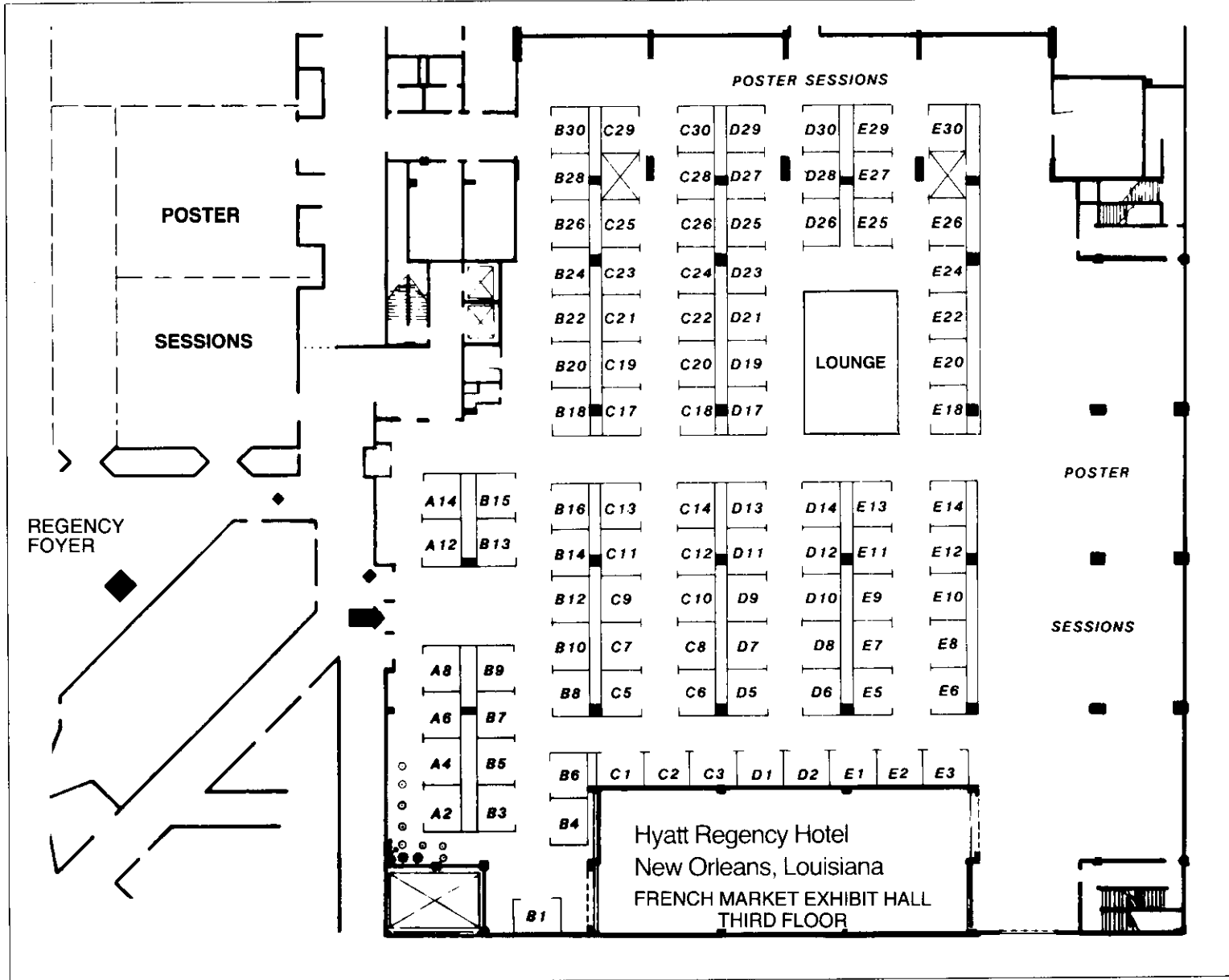
To find the Conference Center, go to the Second Floor, walk back through the Mall, and down the stairs. Meeting Rooms are on your left.

These rooms are in the **Regency Conference Center**:

Poydras	Waikiki
Peachtree	Maui
Grand	Kuilima
O'Hare	



# Floor Plan of Exhibits



# 1986 EXHIBITORS

Company	Booth #	Company	Booth #
Academic Press Inc.	B6	Lab Products, Inc.	Cl, 2, 3,; DI, 2
Agway Inc.	D25	Laboratory Research Enterprises, Inc.	E14
Allentown Caging Equipment Company, Inc.	B16	Life Science Research Ltd.	D11
ALZA Corporation	E6, E8	Alan R. Liss, Inc.	C5
American Biogenics Corporation	D28, D30	Macmillan Publishing Company	C7
Animal Identification and Marking Systems, Inc.	B24	Marshall Farms USA, Inc.	C10
Beckman Instruments, Inc.	D17	Microbiological Associates, Inc.	C18
Bench Ltd.	D13	Mini-Mitter Co., Inc.	D10
Bio - Life Associates, Ltd.	E25	Nalge Company	D12
Bio-Serv Inc.	E9	National Institute of Environmental Health Sciences: Environmental Health Perspectives	E12
Buxco Electronics, Inc.	C26	National Institute of Environmental Health Sciences	C8
Charles River Laboratories, Inc.	B12, B14	Nicolet Biomedical Instruments	D26
Clonetics Corporation	B26	PPM, Inc.	D27
Colorado Pathology Services, Inc. & Colorado Histo-Prep, Inc.	D9	PATHCO, Inc.	C24
Columbus Instruments	B13	Pathology Associates, Inc.	C19
Costar	C9	Primate Research Institute, New Mexico State University	E10
Dawson Research Corp.	C12	Ralston Purina Company, Purina Mills, Inc.	A6, A8
Marcel Dekker, Inc.	B5	Raven Press	A14
Edstrom Industries, Inc.	B9	SAIC	D7
Elsevier Science Publishing Co., Inc.	B18	Scientific and Professional Support Group	D17
Encyclopaedia Britannica, USA	E5	Springborn Life Sciences	B15
Experimental Pathology Laboratories, Inc.	D14	SRI International	D5
FDA/National Center for Toxicological Research	E11	Suburban Surgical Co., Inc.	E2
Granite - Veritas Laboratories	C29	Taconic, Inc.	D23
Hacker Instruments, Inc.	C30	Technicon Instruments Corp., Industrial Systems Div.	C14
Harlan Sprague Dawley, Inc.	C17	Tegeris Laboratories, Inc.	B20, B22
Hazleton Laboratories Corp.	C8	Toxicity Research Laboratories, Ltd.	D19
Hazleton Research Animals, A Div. of Hazleton Research Products, Inc.	C6	Toxicol Laboratories, Ltd.	E3
Health Designs, Inc.	C20	Toxikon Inc.	E30
Hemisphere Publishing Corporation	A12	UBTL, Inc.	B7
Hilltop Lab Animals, Inc.	B8	Unifab Corporation	E18, E20
Hill Top Research, Inc.	E26	Van Nostrand Information Services	C21
Huntingdon Research Centre	E1	White Eagle Toxicology Laboratories, Inc.	E24
IIT Research Institute	C13	Wildlife International Ltd.	C11
Inhausen Research Institute	C22	Frazer Williams Group	E27, E29
Innovative Programming Association	E13	Zeigler Bros., Inc.	B10
Instem Computer Systems	D21		
In - Tox Products, Inc.	D6		
S. Karger Publishers, Inc.	D29		

## CONTINUING EDUCATION COURSES

(PRE-REGISTRATION ONLY—ALL COURSES ARE ON MONDAY, MARCH 3, 1986)

8:30 a.m. - 12 p.m.

### 1. QUANTITATIVE METHODOLOGY FOR CANCER RISK ASSESSMENT

**Burgundy Room**

**Chairman:** R. L. Sielken, Jr., Department of Statistics, Texas A & M University, College Station, TX

In the last ten years several new quantitative techniques have been proposed and utilized in an attempt to quantify the human cancer risk from chemical exposures on the basis of experimental and epidemiological evidence. These techniques are reviewed and then carefully examined and exemplified in order to promote a better understanding of their capabilities, limitations, and pitfalls. Important issues for users and developers of quantitative risk assessments include the carcinogenic response, quantal response models, time to response, competing risks, model shapes, goodness of fit, dose scale, high-to-low dose extrapolation, consistency across different subjects, animal-to-human extrapolation, route-to-route extrapolation, exposure durations and patterns, short-term tests, consistency with human epidemiological data, human exposures, statistical variability, impacts of assumptions and policy decisions and value judgments, risk characterization, upper and lower bounds, experimental designs, and keeping pace with scientific advances.

### 2. DEVELOPMENTAL TOXICOLOGY FOR THE GENERAL TOXICOLOGIST

**Ballroom A-C**

**Chairman:** G.A. Nolen, The Procter & Gamble Company, Miami Valley Laboratories, Cincinnati, OH

The course will provide some basic knowledge of developmental toxicology (teratology) as it relates to safety testing of various substances, for the general toxicologist. The purpose is to provide a review of principles and how they apply to the design, construction, and interpretation of studies for the generalist who is responsible for the overall toxicological profile of various materials.

**Introduction to Teratological Principles and Study Design.** R. M. Hoar, Findley Research, Inc.

**How to Conduct a Developmental Toxicology Study.** J. L. Schardein, International Research and Development Corporation.

**The Interpretation of Developmental Toxicology Data.** E. M. Johnson, Jefferson Medical College.

### 3. TOXNET SYSTEM FILES (8:30 A.M. - 11:00 A.M.)

**Ballroom E**

**Speakers:** C. B. Haberman and J.C. Goshorn, National Library of Medicine, Specialized Information Services

This course will introduce the TOXNET Software and discuss the content and illustrate typical search strategies for the Hazardous Substances Data Bank (HSDB). HSDB is a comprehensive scientifically reviewed data base containing profiles for a select group of approximately 4,000 toxic or potentially toxic chemicals. It provides extensive toxicity, environmental fate, occupation exposure, chemical safety, and waste disposal information.

1:30 p.m. - 5:30 p.m.

### 4. HEMATOLOGY OF LABORATORY ANIMALS

**Burgundy Room**

**Chairman:** F. R. Robinson, Toxicology/Pathology, Animal Disease Diagnostic Laboratory, Purdue University, West Lafayette, IN

**The Erythron.** G. D. Boon, Department of Microbiology, Pathology and Public Health, School of Veterinary Medicine, Purdue University, West Lafayette, IN. An introduction to the morphology and biochemistry of normal and abnormal red blood cells will be presented. The discussion will center on the various mechanisms of anemia with an emphasis on toxicologic phenomena where possible.

**The Leukon.** D. B. DeNicola, Department of Microbiology, Pathology and Public Health, School of Veterinary Medicine, Purdue University, West Lafayette, IN. An introduction to the basic biochemistry, morphology and kinetics of the various peripheral blood leukocytes as well as various pathologic processes seen in both toxic and naturally occurring conditions. Biochemical discussions will deal primarily with the normal metabolism and the biochemistry of "phagocytosis" related to the neutrophil. Morphologic characteristics of both normal and abnormal leukocytes including neutrophils, lymphocytes and monocytes will be presented. As with the biochemistry, discussions of the kinetics of leukocytes will deal principally with neutrophils.

### 5. ENVIRONMENTAL TOXICOLOGY

**Ballroom A-C**

**Chairman:** G. Loewengart, Department of Toxicology, Allied Signal Inc.

An overview of both the effects of chemicals on the environment and the effects of the environment on chemicals, and why both need to be considered in an environmental hazard assessment. Initial discussion of fundamental concepts of populations, communities, and ecosystem functions and processes will lead to a review of specific test strategies, methodologies, and endpoints. Tests to assess aquatic toxicity, bioaccumulation and biodegradation will be specifically covered. Emphasis will be placed on the integration of aquatic toxicity data with environmental chemistry and fate processes.

**Environmental Hazard Assessment: Its Relationship to Ecosystem Processes and Function.** K. L. Dickson, Institute of Applied Sciences, North Texas State University, TX

**Aquatic Toxicity and Bioaccumulation.** J. A. Fava, E.A. Engineering Sciences and Technology

**Biodegradation: Microbial Processes in Water, Soil, and Sediments.** H. Pritchard, USEPA Environmental Research Laboratory, Gulf Breeze, FL

**Environmental Fate Processes and Mathematical Modeling.** D. M. Di Toro, HydroQual Inc.

### 6. USE OF INNOVATIVE METHODOLOGY IN TOXICOLOGY

**Ballroom E**

**Chairman:** D. J. Reed, Director, Environmental Health Sciences Center and Professor of Biochemistry, Oregon State University, Corvallis, OR

The elucidation of mechanisms of action of chemicals includes the qualitative and quantitative analyses of alterations of cellular and organ functions. These analytical measurements range

from metabolites derived from endogenous and exogenous substrates, adducts of macromolecules, to altered hormonal and immune functions. Rapid growth of the field of mass spectrometry is occurring because of new developments that include ionization techniques which allow mass spectral analyses of new classes of molecules such as conjugates, peptides and nucleic acids. These advances, when combined with new developments in nuclear magnetic resonance, have created new frontiers in toxicology. Equally important are new applications of immunochemistry. This course is being offered to acquaint toxicologists with the new developments in these areas with the purpose of showing by example the applications that are being made in the study of mechanisms of toxicity of chemicals.

**An Immunochemical Approach to Investigating the Mechanism of Halothane-Induced Hepatotoxicity.** L.R. Pohl, Chief, Section of Pharmacological Chemistry, National Heart, Lung, and Blood Institute, NIH, Bethesda, MD

**Nuclear Magnetic Resonance.** I.C.P. Smith, Head, Molecular Biophysics Section, National Research Council, Ottawa, Canada

**GC, LC, and Other Techniques in Mass Spectrometry.** M.L. Deinzer, Professor, Department of Agricultural Chemistry, Oregon State University, Corvallis, OR

**MONDAY AFTERNOON, MARCH 3**

**4:15 p.m. - 5:45 p.m.**

**Grand Room**

## **SEMINAR: JOB APPLICATION, RESOURCE AND INTERVIEW**

**Sponsored by SOT Placement Committee**

**Open to all registrants**

This seminar has been designed to help both those who are entering the job market for the first time and those with more experience who are seeking a new position. Information presented should help you find out about job openings, fill out a resume, submit a job application and get to an interview. You will learn what to expect at the interview and who will address what subjects, as well as the type of questions you should be asking. Immediately following the presentations, the panel of speakers will hold a question and answer session.

**Moderator:** M.R. Greenwood, Xerox Corporation

**Initiating the Job Search—How do you Get to an Interview.**

T. Leyden, Career Marketing Associates, Englewood, CO

**The Non-Technical Interview, Compensation, Benefits, You as an Individual—Your Character Profile.** M. Ancorn, Bio-Research, Montreal, Quebec

**The Technical Interview, your Technical Knowledge, Your Experience and Education—Can You Do the Job.** S. Gad, Allied Corporation, Morristown, NJ

**The SOT Placement Service and How We Can Help You.** R. Parent, Consultox, Baton Rouge, LA

**Panel Discussion:** The speakers will be joined for the question and answer session by J. Hixson, Mobay Chemical Company, Stilwell, KS

**TUESDAY MORNING, MARCH 4**

**8:30 a.m. - 12 p.m.**

**Ballroom A-C**

## **SYMPOSIUM: THE OVARY AS A TARGET ORGAN FOR TOXICITY**

Sponsored by SOT Reproductive and Developmental Toxicology Specialty Section

**Cochairs:** B.A. Schwetz, NIEHS, Research Triangle Park, NC  
G.A. Nolen, The Procter & Gamble Company, Cincinnati, OH

**Physiological Principles of Ovarian Structure and Function.** G. Hodgen, Eastern Virginia Medical School, Norfolk, VA

**Animal Models for Detection of Ovarian Toxicity.** D. Mattison, University of Arkansas, Little Rock, AR

**Ovarian Toxicities in Humans.** A.F. Haney, Duke University, Durham, NC

**Mechanistic Approaches to Ovarian Toxicology.** J.A. McLachlan, NIEHS, Research Triangle Park, NC

**TUESDAY MORNING, MARCH 4**

**8:30 a.m. - 12 p.m.**

**Burgundy Room**

## **SYMPOSIUM: IN VITRO METHODS FOR THE ASSESSMENT OF NEUROTOXICOLOGY**

Sponsored by SOT Neurotoxicology Specialty Section

**Chairman:** A.M. Goldberg, Johns Hopkins School of Hygiene, Baltimore, MD

**Introduction.** A.M. Goldberg

**Definitions and In Vitro Approaches to the Assessment of Neurotoxic Insults.** J.G. Pounds, Brookhaven National Laboratory, Upton, NY

**Receptor Alterations as a Monitor of Neurotoxic Exposure.** E. Richelson, Mayo Foundation, Rochester, MN

**Electrophysiological Analyses of CNS Explants Exposed to Neurotoxic Agents in Organotypic Cultures.** S.M. Crain, Albert Einstein College of Medicine, Bronx, NY

**Detection and Assessment of Chronic Neurotoxins in Organotypic Culture.** P.S. Spencer, Albert Einstein College of Medicine, Bronx, NY

**Summary, Analysis, Final Comments.** A.M. Goldberg

**TUESDAY MORNING, MARCH 4**

**8:30 a.m. - 12 p.m.**

**Poydras A**

## **PLATFORM SESSION: REACTIVE INTERMEDIATES**

**Honorary Chairman:** G.L. Plaa, SOT President 1983-1984

**Chairman:** A. Parkinson, University of Kansas Medical Center, Kansas City, KS

- #1 8:30 **INCREASED PROTEIN COVALENT BINDING OF BENZO(A)-PYRENE (BaP) IN BUTHIONINE SULFOXIMINE (BSO) TREATED HUMAN T47D CELLS.** B.A. Merrick and J.K. Selkirk. Biology Division, Oak Ridge Natl. Lab., P.O. Box Y, Oak Ridge, TN 37831. Sponsor: R.C. Schnell.
- #2 8:45 **METABOLIC ACTIVATION OF PHENOL BY HUMAN MYELOPEROXIDASE.** D.A. Eastmond, D. Ross, L.O. Ruzo\* and M.T. Smith, School of Public Health and \*Department of Entomology, University of California, Berkeley, CA.
- #3 9:00 **4-BROMOCATECHOL (CAT) FORMATION FROM BROMOBENZINE IN RATS IN VIVO, IN PERFUSED LIVER, AND IN ISOLATED HEPATOCYTES.** D.A. Dankovic and R.E. Billings. Univ. of Texas Med. School, Pharmacology Dept., P.O. 20708, Houston, TX 77225.
- #4 9:15 **HEME-DERIVED PROTEIN ADDUCTS AS A MECHANISM OF CARBON TETRACHLORIDE AND 2-ISOPROPYL-4-PENTENAMIDE-INDUCED INACTIVATION OF CYTOCHROME P-450.** H.W. Davies, S.G. Britt and L.R. Pohl, Laboratory of Chemical Pharmacology, National Heart, Lung, and Blood Institute, Bethesda, MD 20892.
- #5 9:30 **MECHANISM OF ETHANOL PROTECTION AGAINST ACETAMINOPHEN HEPATOTOXICITY.** K.E. Thummel, J.T. Slattery and S.D. Nelson. Depts. of Pharmaceuticals and Medicinal Chemistry, U. of Washington, Seattle, WA.
- #6 9:45 **PROTECTION OF ACETAMINOPHEN INDUCED HEPATOTOXICITY IN MICE BY ASCORBIC ACID ESTERS.** A. Mitra, S.L. Morris and D.R. Bourcier, Division of Pharmacology and Toxicology, School of Pharmacy, Northeast Louisiana University, Monroe, LA. Sponsor: J.P. Natchman.
- #7 10:00 **STUDIES ON THE MECHANISM OF NITROSOUREA-INDUCED HEPATOTOXICITY: VII - EFFECT OF PHENOBARBITAL ON CCNU [1, -(2-chloroethyl)-3-cyclohexyl-l-l-nitrosourea] BILIARY EXCRETION.** H. Farrish, and A.E. Ahmed, The University of Texas Medical Branch, Galveston, TX 77550.
- #8 10:15 **STUDIES ON THE MECHANISM OF NITROSOUREA-INDUCED HEPATOTOXICITY VI: EFFECT OF GLUTATHIONE TURNOVER ON CCNU-INDUCED ALTERATION OF LIVER FUNCTION IN RATS.** E. Ahmed, S. Haque, and H. Farrish. The University of Texas Medical Branch, Galveston, TX 77550.
- #9 10:30 **UPTAKE OF 2-BROMOHYDROQUINONE-GLUTATHIONE CONJUGATES BY RAT KIDNEY SLICES.** S. Lau, M.G. McMenamin and T.J. Monks. NCI, NIH, Bethesda, MD and Georgetown Univ., Washington, DC. Sponsor: P.J. Wirth.
- #10 10:45 **THE MECHANISM OF 2-BROMOHYDROQUINONE-GLUTATHIONE CONJUGATE MEDIATED NEPHROTOXICITY.** T.J. Monks, J.R. Gillette, K.E. Greene and S.S. Lau. Georgetown U., Wash., DC, NHLBI and NCI, Bethesda, MD.
- #11 11:00 **POSITION OF METABOLISM OF PERILLA KETONE BY LUNG CYTOCHROMES P-450 AND A PROSPECTIVE INHIBITOR.** J.E. Garst and W.C. Wilson, University of Illinois, Urbana. Sponsor: J. Bus.

- #12 11:15 **SPECIES AND ORGAN SELECTIVITY OF 3-METHYLINDOLE BIOACTIVATION.** G.S. Yost, M.R. Nocerini, and J.R. Carlson. College of Pharmacy and Department of Animal Sciences, Washington State University, Pullman, WA.
- #13 11:30 **EFFECT OF OZONE INHALATION ON SUPEROXIDE ANION RADICAL PRODUCTION BY MOUSE ALVEOLAR MACROPHAGES.** J. Ryer, G. Witz, B.D. Goldstein and M. Amoruso, UMDNJ-Rutgers Medical School/Rutgers University, JGPT, Piscataway, NJ 08854.
- #14 11:45 **METABOLIC ACTIVATION OF 1-NITROPYRENE BY LUNG MICROSOMES AND ISOLATED LUNG CELLS.** E. Dybing<sup>1</sup>, J.E. Dahl<sup>1</sup>, F.A. Beland<sup>2</sup>, and S.S. Thorgeirsson<sup>3</sup>. National Institute of Public Health, Oslo, Norway <sup>1</sup>, National Center for Toxicological Research, Jefferson, AR<sup>2</sup>, and National Cancer Institute, Bethesda, MD<sup>3</sup>.

## TUESDAY MORNING, MARCH 4

8:30 a.m. - 12 p.m.

Poydras B

### PLATFORM SESSION: ONCOGENESIS

**Honorary Chairman:** R.A. Scala, SOT President 1976-1977

**Chairman:** J.H. Exon, University of Idaho, Moscow, ID

- #15 8:30 **NEUROENDOCRINE (ECL) CELL HYPERPLASIA AND CARCINOID TUMOURS OF THE GLANDULAR STOMACH OF THE RAT FOLLOWING TREATMENT WITH THE H<sub>2</sub>-RECEPTOR ANTAGONIST.** G.R. Betton, J.H. Harleman and G.K. Salmon. Department of Pathology, Smith Kline and French Research Ltd., The Frythe, Welwyn, Herts., UK. Sponsor: G.B. Leslie.
- #16 8:45 **MODIFICATION OF GASTROINTESTINAL TUMOR DEVELOPMENT BY DIETARY BUTYLATED HYDROXYTOLUENE.** H.P. Witschi and R.C. Lindenschmidt. Biology Divs, Oak Ridge National Laboratory, Oak Ridge, TN.
- #17 9:00 **ALTERED LIVER ENDOPLASMIC RETICULUM FUNCTION DURING EXTRAHEPATIC NEOPLASIA IN THE RAT.** C.J. DiFonzo, J.A. Kellen, R.K. Murray, and G. Feuer. Path. Exp. Tox. Dept., Warner-Lambert/Parke-Davis Pharm. Res., Mississauga, ON; Dept. of Clinical Biochemistry and Biochemistry, University of Toronto, Toronto, ON. Sponsor: F.A. de la Iglesia.
- #18 9:15 **HEPATIC HISTOPATHOLOGY, BIOCHEMISTRY AND ESTROGEN RECEPTOR (ER) OCCUPANCY IN A TWO-STAGE MODEL OF 17 $\alpha$ LESTRADIOL (EE<sub>2</sub>) PROMOTED HEPATOCARCINOGENESIS.** A.E.M. Vickers, D.B. Campen, R. Maronpot, Z. McCoy, and G.W. Lucier. NIEHS, Research Triangle Park, NC.
- #19 9:30 **DEVELOPMENT OF AFLATOXIN B<sub>1</sub>(AFB<sub>1</sub>) INDUCED HEPATIC GAMMA-GLUTAMYL TRANSPEPTIDASE POSITIVE (GGT +) FOCI IN RATS OVER TIME.** G.E. Dunaif and T.C. Campbell, Field of Environmental Toxicology, Cornell University, Ithaca, NY.
- #20 9:45 **STUDIES ON THE MODE OF ACTION OF PHENOBARBITAL THYROID TUMOR PROMOTION IN RATS.** R.M. McClain, R.C. Posch, J.M. Armstrong and T. Bosakowski. Department of Toxicology and Pathology, Hoffmann-La Roche Inc., Nutley, NJ 07110.
- #21 10:00 **PHENOTYPIC CHARACTERIZATION OF 1,3-BUTADIENE (BD)-INDUCED THYMIC LYMPHOMA IN MALE B6C3F1 MICE.** R.D. Irons, W.S. Stillman, R.S. Shah, M.S. Morris and M. Higuchi. Chemical Industry Institute of Toxicology, R.T.P., NC 27709.
- #22 10:15 **CHRONIC & CARCINOGENIC STUDIES OF CELIPROLOL IN RATS.** L.C.K. Wong, B.J. Payne & E.C. Tompkins, Revlon Health Care, R&D, Tuckahoe, NY & Toxicity Research Labs., Muskegon, MI.
- #23 10:30 **SIGNIFICANCE OF MINERAL FIBERS IN MESOTHELIOMA INDUCTION AND V79 CYTOTOXICITY.** L.D. Palekar\* and D.L. Coffin\*\*, \*Northrop Services, Inc. \*\*U.S. Environmental Protection Agency, RTP, NC.
- #24 10:45 **EMBRYOTOXIC AND POTENTIAL TUMORIGENIC EFFECTS IN JAPANESE QUAIL INOCULATED IN OVO BY CHEMICAL CARCINOGENS AND NONCARCINOGENS.** G. Hatch<sup>1</sup>, E. Edens<sup>2</sup>, L. Rogers<sup>1</sup>, B. Most<sup>1</sup>, and E. Berman<sup>3</sup>, Environmental Sciences Toxicology Div., Northrop Services<sup>1</sup>, Experimental Biology Div., U.S. EPA<sup>2</sup>, Research Triangle Park, NC and Poultry Sciences Dept., North Carolina State University<sup>3</sup>, Raleigh, NC. Sponsor: D.E. Gardner.
- #25 11:00 **EXPERIMENTAL LUNG TUMORS AFTER INHALATION OF EMISSIONS OF PYROLISED PITCH AND DIESEL ENGINE.** U. Heinrich, F. Pott<sup>1</sup>, and U. Mohr. Fraunhofer-Institut für Toxikologie und Aerosolforschung, Hannover; \*Medizinisches Institut für Umwelthygiene, Düsseldorf, F.R.G. Sponsor: D.B. Menzel.
- #26 11:15 **DIFFERENTIAL RESPONSE OF LIVER OF VIABLE YELLOW (A<sub>v</sub>/A) AND AGOUTI (A/a) (C3H x VY) F-1 HYBRID MALE MICE TO PHENOBARBITAL.** G.L. Wolff and R.L. Morrissey\*, Division of Comparative Toxicology, National Center for Toxicological Research, and \*Pathology Associates, Inc., Jefferson, AR 72079.
- #27 11:30 **PHYSIOLOGICAL MODELING AND RISK ASSESSMENT: EXAMPLE, METHYLENE CHLORIDE (MEC).** R.H. Reitz, F.A. Smith, \*M.L. Gargas, \*H.J. Clewell, and \*M.E. Andersen. Dow Chemical USA, Midland, MI, and AFAMRL/THB, \*Wright Patterson AFB, OH 45433.
- #28 11:45 **COMPARISON OF SITE-SPECIFIC AND TOTAL TUMORS ANALYSES FOR 81 NATIONAL TOXICOLOGY PROGRAM CARCINOGENICITY STUDIES.** J.K. Haseman, E.C. Tharrington, J.E. Huff, and E.E. McConnell, National Institute of Environmental Health Sciences, Research Triangle Park, NC. Sponsor: J.R. Bucher.

## TUESDAY MORNING, MARCH 4

French Market Exhibit Hall

### POSTER SESSION 1: INHALATION I

**Chairman:** J.D. Sun, Inhalation Toxicology Research Institute, Albuquerque, NM

**Displayed:** 8:30 a.m. - 11:30 a.m.

**Attended:** 8:30 a.m. - 10:00 a.m.

- #204 **LUNG WEIGHT STUDIES INVOLVING AGING FISCHER-344 RATS AND DIFFERENT SHIPMENT GROUPS OF AGE-MATCHED RATS.** J.S. Wilson, S.I. Tillery, and B.E. Lehnert. Los Alamos National Laboratory, Los Alamos, NM. Sponsor: G. Oberdorster.
- #205 **STEREOLOGICAL DESCRIPTION OF ALVEOLO-CAPILLARY LESIONS AFTER EXPERIMENTAL INJURY IN MURINE LUNG.** P.R. Filion, P.A. Coulombe, M.G. Cote, Dept. of Pharmacology, Université de Montreal, Montreal, Que., Canada.
- #206 **A RAT MODEL OF MILD COPD FOR USE IN TOXICOLOGIC STUDIES.** D.L. Costa<sup>1</sup>, J.R. Lehmann<sup>2</sup>, M.A. Stevens<sup>2</sup>, and S. Fitzgerald<sup>2</sup>. <sup>1</sup>U.S.E.P. A., HERRL, RTP, NC; <sup>2</sup>Northrop Services, Inc., RTP, NC. Sponsor: J.S. Tepper.
- #207 **RESPIRATORY EFFECTS OF HYDROGEN CHLORIDE IN THE BABOON.** H.L. Kaplan<sup>1</sup>, A. Anzueto<sup>2</sup>, W.G. Switzer<sup>1</sup>, R.K. Hinderer<sup>3</sup>. <sup>1</sup>Southwest Research Institute, San Antonio, TX; <sup>2</sup>UT Health Science Center, SA, TX; <sup>3</sup>B.F. Goodrich, Akron, OH.

- #208 **CHANGES IN THE MINUTE VENTILATION OF RATS EXPOSED TO THE VAPOR PHASE OF DILUTED CIGARETTE SMOKE.** C.R.E. Coggins and R. Ventrone. Battelle, Centre for Toxicology and Biosciences, 7 route de Drize, CH-1227 Carouge-Geneva, Switzerland.
- #209 **APPROPRIATE LEVEL OF INSPIRED CO<sub>2</sub> FOR EVALUATION OF THE PERFORMANCE OF THE RESPIRATORY SYSTEM IN GUINEA PIGS.** Y. Alarie and M.F. Stock, Dept. of Ind. Env. Hlth. Sci., Grad. Sch. Publ. Hlth., Univ. of Pittsburgh, PA.
- #210 **QUALITATIVE COMPARISONS BETWEEN FLOW-VOLUME LOOPS AND OTHER VENTILATORY PARAMETERS AS OBTAINED IN THE GUINEA PIG AND IN MAN.** M. Schaper and Y. Alarie, University of Pittsburgh, Pittsburgh, PA.
- #211 **CONCENTRATION-DEPENDENT RESPIRATORY RESPONSE OF GUINEA PIGS TO PARAQUAT AEROSOL.** H. Burleigh-Flayer and Y. Alarie, Dept. of Ind. Env. Hlth. Sci., University of Pittsburgh, Pittsburgh, PA 15261.
- #212 **INTERIM RESULTS OF CHRONIC INHALATION TOXICITY OF METHYL BROMIDE IN B6CF<sub>1</sub> MICE.** S.B. Haber<sup>1</sup>, R.T. Drew<sup>1</sup> and R.S.H. Yang<sup>2</sup>. <sup>1</sup>Medical Dept., Brookhaven National Laboratory, Upton, NY and <sup>2</sup>National Toxicology Program, NIEHS, RTP, NC.
- #213 **THE UPTAKE OF METHYL BROMIDE IN THE RAT FOLLOWING INHALATION EXPOSURES.** <sup>1</sup>R.H. Jaskot, <sup>2</sup>E.C. Grose, <sup>1</sup>B.M. Most, <sup>1</sup>M.G. Menache, <sup>3</sup>J.H. Roycroft, and <sup>1</sup>T.B. Williams. <sup>1</sup>Northrop Services Inc., RTP, NC., <sup>2</sup>US E.P.A., RTP, NC., <sup>3</sup>N.I.E.H.S., RTP, NC.
- #214 **PATHOLOGY OF METHYL BROMIDE TOXICITY.** S.L. Eustis<sup>1</sup>, S.B. Haber<sup>2</sup>, R.T. Drew<sup>2</sup>, and R.S.H. Yang<sup>1</sup>. <sup>1</sup>National Toxicology Program, NIEHS, RTP, NC; <sup>2</sup>Medical Department, Brookhaven National Laboratory, Upton, NY.
- #215 **FORMALDEHYDE-INDUCED NEOPLASIA, ACUTE TOXIC RESPONSES AND CELL TURNOVER IN THE NASAL PASSAGES OF F-344 RATS.** E.A. Gross, J.A. Swenberg, and K.T. Morgan. CIIT, Research Triangle Park, NC.
- #216 **ACUTE EFFECTS OF FORMALDEHYDE ON THE RAT NASAL MUCOCILIARY APPARATUS.** E.A. Gross, D.L. Patterson and K.T. Morgan. CIIT, Research Triangle Park, NC. Sponsor: J.E. Gibson.
- #217 **RETENTION OF FORMALDEHYDE GAS BY THE NASAL PASSAGES OF F-344 RATS.** D.L. Patterson, E.A. Gross, M.S. Bogdanffy and K.T. Morgan. CIIT, Res. Tri. Pk., NC. Sponsor: J.A. Swenberg.
- #218 **THE INFLUENCE OF INHALED FORMALDEHYDE ON LUNG CYTOCHROME P-450.** P. Badeaux, C.E. Dallas, J.C. Theiss, and E.J. Fairchild. The University of Texas Health Science Center at Houston, School of Public Health, Houston, TX.
- #219 **DNA-PROTEIN CROSS-LINKING IN THE NASAL MUCOSA BY INHALED ALDEHYDES.** C-W. Lam, M. Casanova and H.d'A. Heck, Chem. Ind. Inst. Toxicol., Res. Tri. Pk., NC.
- #220 **BENZENE LEVELS IN AMBIENT AIR AND BREATH OF SMOKERS AND NONSMOKERS IN URBAN AND PRISTINE ENVIRONMENTS.** R.C. Wester, H.I. Maibach, L.D. Gruenke, and J.C. Craig. University of California, San Francisco, CA.
- #221 **TOXICOLOGIC EFFECTS OF A 4-DAY INHALATION EXPOSURE OF RATS AND MICE TO BROMOBENZENE.** J.H. Roycroft\*, R.A. Miller\*\*, H.A. Ragan\*\*, W.M. Kluwe\*, \*NIEHS, National Toxicology Program, RTP, NC; \*\*Battelle Pacific Northwest Laboratories, Richland, WA. Sponsor: J. Mennear.
- #222 **A TOXICOKINETIC MODEL FOR RAT ERYTHROCYTE (RBC) CHOLINESTERASE DEPRESSION FOLLOWING INHALATION OF EDMP, O-ETHYL-O'-(2-DIISOPROPYLAMINOETHYL) METHYLPHOSPHONITE.** G.W. Jepson, M.E. Andersen, \*C.L. Gaworski, \*H.F. Leahy, and \*E.H. Vernot. AAMRL/THB, Wright-Patterson AFB, Ohio, and \*University of California/THRU, Wright-Patterson AFB, Ohio.
- #223 **SPECIES DIFFERENCES IN THE DISPOSITION AND METABOLISM OF INHALED BUTADIENE.** J.A. Bond, A.R. Dahl, R.F. Henderson, J.S. Dutcher, J.L. Mauderly, and L.S. Birnbaum\*. Lovelace Inhalation Toxicology Research Institute, Albuquerque, NM; \*NIEHS, Research Triangle Park, NC.
- #224 **THE FATE OF INHALED ADODICARBONAMIDE IN RATS.** J.A. Mewhinney, P.H. Ayres, W.E. Bechtold, J.S. Dutcher, Y.S. Cheng, J.A. Bond, M.A. Medinsky, R.F. Henderson, and L.S. Birnbaum\*. Lovelace Inhalation Toxicology Research Institute, Albuquerque, NM, NIEHS, Research Triangle Park, NC.
- #225 **STUDIES OF THE FATE OF INHALED ISOPRENE (2-METHYL-1,3-BUTADIENE) IN RATS MAY PREDICT ITS TOXICITY.** A.R. Dahl, J.A. Bond, and R.F. Henderson. Lovelace Inhalation Toxicology Research Institute, Albuquerque, NM; and L.S. Birnbaum, NIEHS/NTP, Research Triangle Park, NC.
- #226 **SUBCHRONIC INHALATION STUDY OF A VOLATILE GASOLINE HYDROCARBON MIXTURE.** C. Aranyi, W. O'Shea, B.Y. Cockrell\*, C.E. Holdsworth\*\*, and S.C. Lewis. IIT Research Institute, Chicago, IL, Experimental Pathology Laboratories Inc.\*, Herndon, VA, American Petroleum Institute\*\*, Washington, DC and Exxon Corporation, East Millstone, NJ.
- #227 **DISPOSITION OF <sup>14</sup>C-DIBENZO(c,g)CARBAZOLE AEROSOLS IN RATS AFTER INHALATION.** P.H. Ayres, J.A. Bond, M.A. Medinsky, Y.S. Cheng, D. Hirshfield, and R.O. McClellan. Lovelace Inhalation Toxicology Research Institute, Albuquerque, NM.
- #228 **SUBCHRONIC (13-WEEK) INHALATION TOXICITY OF HEXACHLOROCYCLOPENTADIENE (HCCPD) IN F344 RATS AND B6C3F<sub>1</sub> MICE.** K.M. Abdo, C.A. Montgomery, J. Roycroft, H.A. Ragan, \*R.A. Renne, \*W.E. Giddens\*. NIEHS/NTP, NC 27709; \*Battelle Pacific Northwest, Richland WA 99352. Sponsor: R.S.H. Yang.
- #229 **SUBCHRONIC INHALATION TOXICITY OF MONOMETHYLAMINE.** R. Valentine, L.A. Kinney, B.A. Burgess, R.M. Everett and H.C. Chen. E.I. du Pont de Nemours and Co., Haskell Laboratory for Toxicology and Industrial Medicine, Newark, DE 19714.
- #230 **SUBCHRONIC TOXICITY OF 1,2-EPOXYBUTANE IN FISCHER 344/N RATS AND B6C3F<sub>1</sub> MICE.** J.K. Dunnick\*, W.E. Giddens\*\*, M.A. Stedham\*\*\*. \*National Toxicology Program, NIEHS, Research Triangle Park, NC; \*\*Battelle Pacific Northwest Laboratories, Richland, WA; \*\*\*Pathology Associates, Inc., Ijamsville, MD.
- #231 **ACUTE, 9-DAY AND 14-WEEK VAPOR INHALATION STUDIES WITH PRIMARY AMYL ACETATE (PAA) IN RATS.** T.R. Tyler, D.R. Klonne, I.M. Pritts, and W.M. Snellings. Union Carbide Corporation, Bushy Run Research Center, Export, PA.
- #232 **SUBCHRONIC INHALATION TOXICITY OF TETRAMETHOXYSILANE IN RATS.** G.B. Kolesar, W.H. Siddiqui, D. Anderson and E.J. Hobbs. Dow Chemical Corporation, Midland, MI.
- #233 **ACUTE INHALATION TOXICITY OF HYDROGEN CYANIDE.** B.C. Levin, J.L. Gurman\*, M. Paabo, L. Baier, L. Procell\*\*, H.H. Newball\*\* National Bureau of Standards, Gaithersburg, MD and \*\*U.S. Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD.
- #234 **INHALATION TOXICITY OF CARBONYL SULFIDE.** T.J. Long, and M.V. Roloff. Monsanto Company, St. Louis, MO.
- #235 **ACUTE AND SUBCHRONIC INHALATION TOXICOLOGY OF BUTYRALDEHYDE (BA).** B. Ballantyne, D.E. Dodd, W.M. Snellings, and E.H. Fowler, Bushy Run Research Center, Export, PA.
- #236 **SIX MONTH INHALATION TOXICITY OF PROCATEROL AEROSOL.** R.A. Martin, F.A. de la Iglesia, C.E. Ulrich\*, E. Goldenthal\* and N. Tanaka\*\*. Warner-Lambert/Parke-Davis Pharm. Res., Ann Arbor, MI, Inf. Res. & Devel. Corp.\*, Mattawan, MI and Otsuka Pharm. Co.\*\*, Osaka, Japan.
- #237 **ACUTE, 9-DAY, AND 13-WEEK INHALATION STUDIES ON ETHYLENE GLYCOL MONOHEXYL ETHER (EGHE).** D.R. Klonne, D.E. Dodd, I.M. Pritts, C.M. Troup, D. J. Nachreiner, Bushy Run Res. Ctr., Export, PA, and B. Ballantyne, Union Carbide Corp., Danbury, CT.
- #238 **ACUTE AND SUBCHRONIC INHALATION TOXICITY OF ORASOL NAVY BLUE (ONB).** B. Ballantyne, Applied Toxicology Department, Union Carbide Corporation, Danbury, CT.
- #239 **FACTORS CONTROLLING NITROSAMINE FORMATION IN THE LUNG: A UNIQUE AMINE UPTAKE SYSTEM.** C.R. Shoaf and D.B. Menzel. Departments of Pharmacology and Medicine, Comprehensive Cancer Center, Duke University Medical Center, Durham, NC.

- #240 **EFFECT OF CHLORPHENTERMINE ON PULMONARY SYNTHESIS OF <sup>14</sup>C-5-HYDROXYTRYPTAMINE IN ISOLATED PERFUSED RAT AND RABBIT LUNGS.** K.S. Prasada Rao and H.M. Mehendale, Dept. Pharmacol. & Toxicol., Univ. MS Med. Ctr., Jackson, MS 39216.
- #241 **UPTAKE OF PUTRESCINE, SPERMIDINE AND SPERMINE BY ISOLATED, PERFUSED RABBIT LUNGS.** S.B. Rao and H.M. Mehendale, Dept. Pharmacol. & Toxicol., Univ. MS Med. Ctr., Jackson, MS 39216.
- #242 **EFFECT OF EXTERNAL GLUTATHIONE ON THIOL STATUS OF PERFUSED RABBIT LUNGS.** U.M. Joshi, M. Dumas and H.M. Mehendale, Dept. Pharmacol. & Toxicol., Univ. MS Med. Ctr., Jackson, MS 39216.
- #243 **PNEUMOTOXICITY OF N-METHYLTHIOBENZAMIDE (NMTB): INVOLVEMENT OF SEROTONIN (5HT).** L.S. Gibbs and G.J. Traiger, Dept. of Pharmacol. and Toxicol., School of Pharmacy, Univ. of Kansas, Lawrence, KS.
- #244 **ALPHA-1-ANTIPROTEINASE (\*-1-Pi) DEFICIENCY IN RATS TREATED WITH d,1-ETHIONINE (ETH).** S. Fitzgerald<sup>1</sup>, J.R. Lehman<sup>1</sup>, M.A. Stevens<sup>1</sup> and D.L. Costa<sup>2</sup>. <sup>1</sup>Northrop Services, Inc., RTP, NC; <sup>2</sup>U.S.E.P.A., RTP, NC. Sponsor: J. Tepper.
- #245 **EFFECTS OF TRICHLOROETHYLENE EXPOSURE ON TESTOSTERONE LEVELS AND BUTYRYLCHOLINESTERASE ACTIVITY IN MICE.** P. Kjellstrand, M. Bjerkemo, M. Adler-Maihofer, B. Holmquist. Dpt. of Zoofysiology and Mathematics, University of Lund, Sweden. Sponsor: J. Schou.
- #246 **ASSAY OF DIAMINE OXIDASE (DAO) ACTIVITY IN RABBIT AND RAT LUNGS USING ENZYME INHIBITORS.** S.B. Rao, K.S.P. Rao and H.M. Mehendale, Dept. Pharmacol. & Toxicol., Univ. MS Med. Ctr., Jackson, MS 39216.
- #247 **TOXICITY OF AN EXOGENOUS SURFACTANT ADMINISTERED INTRATRACHEALLY TO RATS AND FERRETS.** K.R. Majors, R.E. Dudley, S. Tekeli, B. Buratto and D.R. Patterson. Abbott Laboratories, Drug Safety Evaluation, Abbott Park, IL.
- #248 **ACUTE INHALATION TOXICITY OF AEROSOLS OF T-2 TOXIN IN SOLUTION AND AS A SUSPENSION.** D.A. Creasia, R.W. Wannemacher, Jr., and D.L. Bunner. US Army Medical Research Institute of Infectious Diseases, Fort Detrick, Frederick, MD Sponsor: R.F. Fricke.
- #249 **THROMBOXANE RELEASE BY BLOOD-PERFUSED, ISOLATED LUNGS FROM RATS TREATED WITH MONOCROTALINE PYRROLE (MCTP).** P.E. Ganey and R.A. Roth. Dept. of Pharmacol./Toxicol., Michigan State Univ., E. Lansing, MI 48824.
- #250 **EFFECT OF O<sub>3</sub> ON SERUM CONCENTRATIONS OF VIT. A, C, AND E IN MATURE FEMALE RABBITS.** A.T. Canada, C.K. Chow, G.R. Airriess, E.J. Calabres e. Duke Univ., Durham, NC, Univ. Kentucky, Lexington, KY, Univ. Massachusetts, Amherst, MA.
- #251 **PREVENTION OF OZONE- AND OF OZONE + ACID AEROSOL-INDUCED LUNG DAMAGE IN RATS BY DIMETHYLTHIOUREA.** D.L. Warren, D.J. Guth and J.A. Last. CPRC, Univ. of Ca., Davis, CA 95616.
- #252 **ANALYSIS OF RECOVERED MAN-MADE FIBERS FROM LONG-TERM INHALATION STUDIES.** N.F. Johnson, L.W. Ortiz, A. Yarwood and D.M. Smith. Los Alamos National Laboratory, Los Alamos, NM. Sponsor: R.F. Henderson.
- #253 **TOXIC DAMAGE TO THE TRACHEA ASSESSED BY MULTIPARAMETER FLOW CYTOMETRY.** N.F. Johnson and J.S. Wilson. Los Alamos National Laboratory, Los Alamos, NM. Sponsor: R.F. Henderson.
- #254 **CYSTEAMINE-PRETREATMENT PROTECTION FROM OXYGEN TOXICITY IN THE RAT: THE ROLE OF SULFHYDRYL OXIDATION.** D.T. Kirkpatrick and R.D. Mavis, Division of Toxicology, University of Rochester Medical Center, Rochester, NY 14642.

**TUESDAY MORNING, MARCH 4**  
**French Market Exhibit Hall**

**POSTER SESSION 2: IMMUNOTOXICOLOGY I**

Chairman: M.P. Holsapple, Medical College of Virginia, Richmond, VA

Displayed: 8:30 a.m. - 11:30 a.m.

Attended: 10:00 a.m. - 11:30 a.m.

- #255 **CORRELATION OF HISTOPATHOLOGIC LESIONS WITH FUNCTIONAL IMMUNE RESPONSE EFFECTS.** J. Cavagnaro, C. Slabik, R. Alsaker and F. Reno, Hazleton Laboratories Corporation, Vienna, VA.
- #256 **TECHNIQUES FOR ASSESSING CANINE MONONUCLEAR PHAGOCYTE FUNCTION IN THE INVESTIGATIVE TOXICOLOGY LABORATORY.** P. Thiem, L. Knittweis and J. Bloom, Smith Kline & French Laboratories, Philadelphia, PA. Sponsor: W. Hewitt.
- #257 **MACROPHAGE FUNCTIONAL ACTIVITIES VERSUS CELLULAR PARAMETERS UPON SUBLETHAL PESTICIDE EXPOSURE.** K. Krzystyniak, P. Jolicœur, M. Samson, J. Dulinski and M. Fournier. Departement des Sciences Biologiques, Université du Québec a Montreal, Quebec, Canada, H3C 3P8. Sponsor: J. Brodeur.
- #258 **EFFECT OF CARRAGEENAN ON THE IMMUNOREGULATORY CAPACITY OF MACROPHAGES.** S. Nicklin, K. Baker and K. Miller. BIBRA, Carshalton, Surrey UK. Sponsor: D.M. Conning.
- #259 **IMMUNOPOTENTIATION BY VERRUCARIN A, IN CD-1 MICE.** B.J. Hughes, M.J. Taylor, R.P. Sharma, Toxicology Program, Utah State University, Logan, UT.
- #260 **LACK OF IMMUNOSUPPRESSIVE EFFECTS OF ACUTE AND SUBACUTE ADMINISTRATION OF MALATHION ON MURINE IMMUNE RESPONSES.** K.E. Rodgers, N. Leung, C.F. Ware, B.H. Devens and T. Imamura. Division of Biomedical Sciences and Toxicology and Physiology, University of California, Riverside, CA 92521-0121.
- #261 **RELATIONSHIP BETWEEN DEPRESSED CYTOCHROME P-450 LEVELS OBSERVED DURING MURINE CYTOMEGALOVIRUS INFECTION AND VIRUS INDUCED INTERFERON RESPONSE.** J.C. Catignani,<sup>2</sup> and G.R. Bureson <sup>2</sup> and M.J.K. Selgrade,<sup>1</sup>. <sup>1</sup>U.S.E.P.A., HERL, RTP, NC 27711; NSI, RTP, NC 27709. Sponsor: E.C. Grose.
- #262 **EFFECTS ON ALVEOLAR MACROPHAGES OF RATS INHALING RED PHOSPHORUS BUTYL RUBBER (RP/BR) COMBUSTION PRODUCTS.** C. Aranyi, J. N. Bradof, and R.L. Sherwood. IIT Research Institute, Chicago, IL 60616.
- #263 **STUDIES ON MACROPHAGE TRANSFERRIN RECEPTOR EXPRESSION AND TUMORSTATIC ACTIVITY.** C.S. Dickens, M.H. Myers, and L.B. Schook. Medical College of Virginia Richmond, VA. Sponsor: P.H. Bick.
- #264 **IMMUNOLOGICAL RESPONSES OF GUINEA PIGS TO SUBCHRONIC INHALATION OF DETERGENT DUSTS CONTAINING VARIOUS LEVELS OF ENZYME ANTIGENS.** D.A. McNeill<sup>1</sup>, H.L. Ritz<sup>2</sup>, B.L.B. Evans<sup>2</sup>, R. Deskin<sup>1</sup>, J.L. Russell<sup>2</sup>, and G.L. Fisher<sup>1</sup>. <sup>1</sup>Battelle Columbus Laboratories, Columbus, OH and <sup>2</sup>The Procter & Gamble Company, Miami Valley Laboratories, Cincinnati, OH.
- #265 **DETECTION OF HALOTHANE INDUCED ANTIGEN USING SPECIFIC ANTI-HALOTHANE METABOLITE ANTIBODIES.** T.P. Roth, A.H. Callis, and A.J. Gandolfi, Dept. of Anesthesiology, Univ. of AZ, Tucson, AZ.
- #266 **EXPERIMENTAL CONTACT-SENSITIZATION BY ISOCYANATES.** P.S. Thorne, J.A. Hillebrand, G.R. Lewis, and M.H. Karol, Dept. Ind. Env. Hlth. Sci., Univ. of Pittsburgh, Pittsburgh, PA 15261.
- #267 **COMPARISON OF THE POTENCY OF 52 DERMAL SENSITIZERS IN THE MOUSE EAR SWELLING TEST (MEST).** S.C. Gad, R.W. Darr, D.W. Dobbs, B.J. Dunn, C. Reilly and R.D. Walsh. Department of Toxicology, Allied Corporation, Morristown, NJ.
- #268 **CHARACTERIZATION OF ETHYLENEDIAMINE-INDUCED HYPERSENSITIVITY IN THE GUINEA PIG.** C. Babiuk, K. Hastings and J. Dean. CIIT, RTP, NC.



- #269 **ALLERGENIC POTENTIAL OF SOLVENT-REFINED PETROLEUM BASE OILS IN GUINEA PIGS AND HUMANS.** <sup>1</sup>D.E. Strother, <sup>1</sup>R.W. Mast, <sup>2</sup>V.T. Mallory, <sup>3</sup>R.W. Shanahan. <sup>1</sup>Standard Oil Co. (Ohio), Cleveland, OH; <sup>2</sup>Pharmakon Research International, Waverly, PA; <sup>3</sup>Essex Testing Clinic, Verona, NJ.
- #270 **ALTERED T-CELL RESPONSES IN C57BL/6J MICE FOLLOWING SUB-CHRONIC BENZENE INHALATION.** G.J. Rosenthal and C.A. Snyder. New York Univ. Med. Cts., Institute of Environmental Medicine, NY, NY.
- #271 **IMMUNOLOGICAL ASSESSMENT OF ETHANOL TREATED MICE.** M.J. Taylor, B. Srisuchart, and R.P. Sharma, Center for Environmental Toxicology, Utah State University, Logan, UT.
- #272 **IMMUNOLOGIC EFFECTS OF PERINATAL EXPOSURE TO DIOCTYL TIN DICHLORIDE.** R.J. Smialowicz, D.G. Rowe, R.R. Rogers, M.M. Riddle, R.W. Luebke, and L. Fogeson. U.S. EPA, Research Triangle Park, NC.
- #273 **POLY (I): POLY (C) ENHANCED PHAGOCYTOSIS OF RAT ALVEOLAR AND PERITONEAL MACROPHAGES AS A MODEL FOR LOCAL PULMONARY AND SYSTEMIC IMMUNOTOXICOLOGY.** L.B. Fuller<sup>1</sup>, G.R. Bureson<sup>1</sup>, and J.A. Graham<sup>2</sup>. <sup>1</sup>Northrop Services, Inc., Environmental Sciences, <sup>2</sup>HERL, U.S.E.P.A., Research Triangle Park, NC 27709.
- #274 **COPPER DEFICIENCY INDUCES IMMUNE DYSFUNCTION IN RATS.** J.R. Williams, J.M. Arnzen, L.D. Koller and J.H. Exon. Veterinary Medicine, University of Idaho, Moscow, ID.
- #275 **SUPPRESSION OF NK CELLS BY ENDOGENOUS OPIATES (END-ENK) IN VITRO.** J.H. Exon. University of Idaho, Moscow, ID 83843.
- #276 **IMMUNOTOXICITY OF ANITBIOTICS IN RATS.** M.G. Stevens, J.H. Exon and L.D. Koller. Vet Med., University of Idaho, Moscow, ID 83843.
- #277 **RESPONSE OF T CELL DEFICIENT MICE TO OZONE EXPOSURE.** D. Dziedzic and H.J. White. Biomedical Science Dept., General Motors Research Labs, Warren, MI. Sponsor: E.W. Lee.
- #278 **EFFECTS OF MURINE CYTOMEGALOVIRUS (MCMV) AND POLY I:C ON SENSITIVITY TO PARATHION POISONING.** M.J.K. Selgrade<sup>1</sup>, J.C. Catignani<sup>2</sup> and G. R. Bureson<sup>2</sup>. <sup>1</sup>U.S.E.P.A., HERL, RTP, NC 27711; <sup>2</sup>Northrop Services Inc., RTP, NC 27709. Sponsor: E.C. Grose.
- #279 **HOST RESISTANCE TO PLASMODIUM YOELII IN IMMUNOTOXICOLOGY STUDIES.** M.M. Fouant, S.G. Bradley and K.L. White, Jr. Depts. of Microbiology and Immunology, and Biostatistics. Medical College of Virginia/Virginia Commonwealth University, Richmond, VA.
- #280 **REGULATION OF LYMPHOCYTE ACTIVATION BY THE TUMOR PROMOTOR PHORBOL MYRISTATE ACETATE.** D.R. Germolec, G. Clark, M.I. Luster. NIEHS, RTP, NC 27709.
- #281 **EFFECTS OF ETHYLENE DICHLORIDE ON LYMPHOCYTE BLASTOGENESIS.** D.A. Nigro, M.B. Richard, D.S. Fleischacker, R.J. Francovitch, L.E. White, and W.J. George. Tulane University, Departments of Pharmacology and Environmental Health Sciences, New Orleans, LA. Sponsor: R.F. Ochillo.
- #282 **PRELIMINARY TOXICOLOGIC EVALUATION OF CI-922, AN ANTIALLERGIC AND ANTI-ASTHMATIC AGENT** L. Paradiso, C. McGhee, E. McGuire, J. Anderson. Pathology & Experimental Toxicology. Warner-Lambert/Parke-Davis Pharmaceutical Research, Ann Arbor, MI. Sponsor: F. de la Iglesia.
- #283 **PSEUDOMONAS IMMUNE GLOBULIN INTRAVENOUS SAFETY EVALUATION STUDIES IN RATS, RABBITS & CYNOMOLGUS MONKEYS.** L.C.K. Wong, B.S. Brar, R. Chau, J. Guba, R.M. Everett, Department of Drug Safety Evaluation, Revlon Health Care R&D, Tuckahoe, NY.
- #283A **ACUTE INTRAVASCULAR HEMOLYSIS FOLLOWING THERMAL INJURY. EVIDENCE OF A ROLE FOR NEUTROPHIL-DERIVED OXYGEN RADICALS.** J.R. Hatherill, G.O. Till, L.H. Bruner, and P.A. Ward. Dept. of Pathol., University of Mich. Med. Sch., Ann Arbor, MI. Sponsor: I. Bernstein.

**TUESDAY MORNING, MARCH 4**  
**French Market Exhibit Hall**

## **POSTER SESSION 3: NEUROTOXICOLOGY I: SENSORY SYSTEMS TOXICOLOGY**

**Chairman:** H.L. Evans, NYU Medical Center, New York, NY

**Displayed:** 8:30 - 11:30 a.m.

**Attended:** 8:30 a.m. - 10:00 a.m.

- #284 **PERMANENT LOSS OF RHODOPSIN AND ROD RETINAL SENSITIVITY FOLLOWING LOW-LEVEL DEVELOPMENTAL PB EXPOSURE.** D.A. Fox and S.D. Rubinstein. Coll. of Optometry, Univ. Houston, Houston, TX.
- #285 **WHICH FUNCTIONAL MEASURES OF THE RETINOCOLLICULAR PATHWAY ARE CORRELATED WITH 2,5-HEXANEDIONE EXPOSURE PARAMETERS IN HOODED RATS?** D.A. Fox, R.D. Wilson and D. Impelman, College of Optometry, Univ. Houston, Houston, TX.
- #286 **VISUAL TOXICITY OF 2,5-HEXANEDIONE: ARE EFFECTS DIFFERENT IN FELINES AND PRIMATES?** J.J. Lynch, T.A. Eskin, and W.H. Merigan, Envir. Health Sci. Ctr., Univ. Roch. Med. Ctr., Rochester, NY 14642.
- #287 **ALTERATIONS IN EVOKED POTENTIALS AND FAST AXONAL TRANSPORT INDUCED BY INTRAOCULAR INJECTIONS OF TUNICAMYCIN.** W.K. Boyes and S. Padilla. Neurotoxicology Division, USEPA, MD-74B, Research Triangle Park, NC. Sponsor: R.S. Dyer.
- #288 **METHYLMERCURY (MeHg): ITS EFFECTS ON PROTEIN SYNTHESIS AND AXONAL TRANSPORT IN THE RAT VISUAL SYSTEM.** M. Aschner, P.M. Rodier and J.N. Finkelstein. Departments of Anatomy and Pediatrics. University of Rochester, Rochester, NY. Sponsor: T.W. Clarkson.
- #289 **DOSE-EFFECT RELATIONSHIP AND DISTRIBUTION OF METHYLMERCURY (MeHg) IN THE RAT VISUAL SYSTEM.** M. Aschner, P.M. Rodier and J.N. Finkelstein. Departments of Anatomy and Pediatrics, University of Rochester, Rochester, NY. Sponsor: T.W. Clarkson.
- #290 **VISUAL RECOVERY FOLLOWING DIISOPROPYL FLUOROPHOSPHATE.** A.W. Kirby, A.T. Townsend, T.H. Harding, R.G. Stafford, and C.D. Pope. USAARL, Ft. Rucker, AL. Sponsor: I.K. Ho.
- #291 **ACUTE NEUROTOXICITY OF TRIADIMEFON.** R.S. Dyer and G.C. Rigdon. Neurophysiology Branch, USEPA, Research Triangle Park, NC.
- #292 **EFFECT OF CONCURRENT EXPOSURE TO NOISE AND TOLUENE ON HEARING IN SPRAGUE-DAWLEY RATS.** M.J. Sullivan<sup>1,2</sup> and R.B. Conolly<sup>2</sup>. <sup>1</sup>Kresge Hearing Research Institute, <sup>2</sup>Toxicology Program, School of Public Health, The University of Michigan, Ann Arbor, MI 48109.
- #293 **SUBCHRONIC NEUROTOXICITY IN RATS OF THE STRUCTURAL FUMIGANT, SULFURYL FLUORIDE.** J.L. Mattsson, R.R. Albee, D.L. Eisenbrandt, L.W. Chang\*. Dow Chemical U.S.A., Mammalian and Environmental Toxicology Research Laboratory, 1803 Building, Midland, MI, and \*University of Arkansas, College of Medicine, Little Rock, AR.

- #294 **METHODOLOGICAL CONSIDERATIONS FOR THE RAPID ASSESSMENT OF SENSORY DYSFUNCTION BY REFLEX MODIFICATION.** J.R. Wecker, J.A. Foss, and J.R. Ison, Department of Psychology, University of Rochester, Rochester, NY. Sponsor: R.W. Wood.
- #295 **ONTOGENY OF THE RAT'S AUDITORY STARTLE RESPONSE WITH EVIDENCE OF SEROTONERGIC INVOLVEMENT.** L. Sheets\* and L.W. Reiter. Neurotoxicology Div., EPA, Research Triangle Park, NC 27711.
- #296 **CARBON MONOXIDE POTENTIATES NOISE-INDUCED HEARING LOSS.** J. Young, M. Upchurch, M. Kaufman and L. Fechter. The Johns Hopkins University, Baltimore, MD.
- #297 **PRENATAL N<sub>2</sub>O EXPOSURE ALTERS STARTLE REFLEX IN ADULT MICE.** S.A. Rice. Departments of Anesthesia, Stanford University School of Medicine and VA Medical Center, Palo Alto, CA.
- #298 **DIFFERENTIAL EFFECTS OF TYPE I AND II PYRETHROIDS ON MOTOR ACTIVITY AND THE ACOUSTIC STARTLE RESPONSE.** K.M. Crofton and L.W. Reiter. Curriculum in Toxicology, U.N.C., Chapel Hill, NC 27514 and Neurotoxicology Division, H.E.R.L., U.S.E.P.A., R.T.P., NC 27711.

**TUESDAY MORNING, MARCH 4**  
**French Market Exhibit Hall**

## **POSTER SESSION 4: METHYL ISOCYANATE**

**Chairman:** A.P. Leber, PPG Industries, Inc., Barberton, OH

**Displayed:** 8:30 - 11:30 a.m.

**Attended:** 10:00 a.m. - 11:30 a.m.

- #299 **GENERATION, MONITORING AND SAFETY CONSIDERATIONS EMPLOYED IN ACUTE AND REPEATED DOSE TOXICITY STUDIES WITH INHALED METHYL ISOCYANATE.** B. Adkins, Jr., R.W. O'Connor, and J.M. Dement. Northrop Services, Inc., and National Toxicology Program and NIEHS, Research Triangle Park, NC. Sponsor: J.R. Bucher.
- #300 **LACK OF EVIDENCE FOR INVOLVEMENT OF CYANIDE IN METHYL ISOCYANATE (MIC) TOXICITY.** C.W. Jameson, B.A. Schwetz, T.J. Goehl, C.R. Moorman,<sup>1</sup> B.J. Collins,<sup>2</sup> National Toxicology Program, N.I.E.H.S.; <sup>1</sup>Northrop Services, Inc., and <sup>2</sup>Radian, Inc., Research Triangle Park, NC.
- #301 **INITIAL EFFECTS OF METHYL ISOCYANATE ON SMALL AIRWAYS IN RATS.** A.R. Brody and L.H. Hill. Natl. Inst. of Environ. Hlth. Sci., Research Triangle Park, NC. Sponsor: J. Bucher.
- #302 **RESPIRATORY EFFECTS OF METHYL ISOCYANATE VAPOR INHALATION IN GUINEA PIGS.** J.S. Ferguson, M.F. Stock, and Y. Alarie, Dept. Ind. Env. Hlth. Sci., Univ. of Pittsburgh, Pittsburgh, PA 15261.
- #303 **FUNCTIONAL AIRWAY OBSTRUCTION IN MALE F-344 RATS EXPOSED TO METHYL ISOCYANATE (MIC).** M.A. Stevens, S. Fitzgerald, M.G. Menache,<sup>a</sup> J.A. Graham, D.L. Costa<sup>b</sup> and J.R. Bucher<sup>c</sup>. <sup>a</sup>Northrop Services, Inc. <sup>b</sup>U.S.E.P.A., H.E.R.L., <sup>c</sup>NIEHS/NTP, Research Triangle Park, NC.
- #304 **REPRODUCTIVE TOXICITY OF METHYL ISOCYANATE (MIC) IN MICE.** D.R. Varma, J.S. Ferguson and Y. Alarie, Dept. Pharm. and Ther., McGill Univ., Montreal, Canada and Dept. Ind. Env. Hlth. Sci., Univ. of Pittsburgh, Pittsburgh, PA.
- #306 **METHYL ISOCYANATE: REPRODUCTIVE AND DEVELOPMENTAL TOXICITY STUDIES.** B.A. Schwetz, B. Adkins, M. Harris, M. Moorman, R. Sloane, J. Allen and E. Haskins, National Institute of Environmental Health Sciences and Northrop Environmental Sciences, Research Triangle Park, NC.
- #307 **PATHOLOGIC CHANGES IN F344 RATS FOLLOWING METHYL ISOCYANATE (MIC) INHALATION.** B.N. Gupta, J.R. Bucher, L.C. Uriah, L.B. Hall, G.A. Boorman. NIEHS/NTP, Research Triangle Park, NC.
- #308 **EFFECT OF METHYL ISOCYANATE (MIC) VAPOR ON THE EYES OF F344/N RATS.** B.N. Gupta, S.A. Stefanski and J.R. Bucher. National Toxicology Program, National Institute of Environmental Health Sciences, Research Triangle Park, NC.
- #309 **TOXICITY OF INHALED METHYL ISOCYANATE (MIC) IN F344/N RATS AND B6C3F<sub>1</sub> MICE.** J.R. Bucher, B.N. Gupta, B.A. Schwetz, M. Thompson, B. Adkins, Jr. NIEHS/NTP, and Northrop Services, Inc., Research Triangle Park, NC.
- #310 **EXPERIMENTAL AND CLINICAL IMMUNOLOGIC RESPONSE TO METHYL ISOCYANATE.** M.H. Karol, B. Rubanoff, S. Gangal, S. Taskar and S.R. Kamat. Dept. Ind. Env. Hlth. Sci., Univ. of Pittsburgh, Pittsburgh, PA, K.E.M. Hospital, Cancer Research Inst., Bombay, India.
- #311 **IMMUNOTOXICOLOGY OF METHYL ISOCYANATE IN MICE.** M. Silver, D. Germolec, S. Vore, A. Tucker, and M. Luster, NIEHS, Research Triangle Park, NC.
- #312 **GENETIC TOXICITY OF METHYL ISOCYANATE (MIC).** M. Shelby, E. Zeiger, W. Caspary, J. Mason and R. Tice. National Toxicology Program, NIEHS, Research Triangle Park, NC and Brookhaven National Laboratory, Upton, NY. Sponsor: J. Bucher.

**TUESDAY MORNING, MARCH 4**  
**French Market Exhibit Hall**

## **POSTER SESSION 5: PESTICIDES**

**Chairman:** J.C. Killeen, Jr., SDS Biotech Corporation, Painesville, OH

**Displayed:** 8:30 a.m. - 11:30 a.m.

**Attended:** 8:30 a.m. - 10:00 a.m.

- #313 **AVOIDANCE OF ETHYL PARATHION-CONTAMINATED FEED BY 14-DAY-OLD MALLARDS AND NORTHERN BOBWHITE.** J.R. Hochstein, D.W. Kononen, and R.K. Ringer, Dept. Animal Science and Center for Environmental Toxicology, Michigan State University, East Lansing, MI. Sponsor: D. Polin.
- #314 **ORGANOPHOSPHATE INSECTICIDE DETOXICATION IN BOVINE AND RODENT TISSUES.** S.D. Cohen, R.A. Williams, J.M. Killinger and R.I. Freudenthal, Stauffer Chemical Co., Farmington, CT 06032 and Toxicol. Program, Sect. Pharmacol. and Toxicol., Sch. Pharmacy, Univ. of Connecticut, Storrs, CT 06268.
- #315 **DIETARY HYPERCHOLESTEREMIA (HCHOL) AND SUSCEPTIBILITY TO DIAZINON® (DZ).** J.R. Hazelette, R.M. Loria, and G.E. Madge, Depts. of Microbiology, Immunology, and Pathology, Medical College of VA, Richmond, Va. Sponsor: E.T. Yau.
- #316 **SIMILARITY OF ISOZYME PATTERN OF SERUM LACTATE DEHYDROGENASE (LDH) FOLLOWING TREATMENTS WITH O,O,S-TRIMETHYL PHOSPHOROTHIOATE (OOS-TMP) AND PARAQUAT IN RATS.** A. Koizumi, V. Tada, L. Hasegawa and T. Imamura. Division of Toxicology and Physiology, University of California, Riverside, CA.
- #317 **COLLAGEN SYNTHESIS FOLLOWING ACUTE LUNG DAMAGE INDUCED BY O,O,S-TRIMETHYL PHOSPHOROTHIOATE IN RATS.** R.J. Richardson II, D.D. Ellefson, I.K. Thomas, A. Koizumi, and T. Imamura. University of California, Riverside, CA.

- #318 **CHOLINESTERASE ACTIVITIES IN BEAGLE DOGS USING AN AUTOMATED ENZYME ANALYZER.** B.J. Quinn, T.E. Shellenberger and A.S. Tegeris. Tegeris Laboratories, Inc., Laurel, MD.
- #319 **ANALYSIS OF METHYL PARATHION METABOLITES WITH REVERSE-PHASE ION-PAIR HIGH-PERFORMANCE LIQUID CHROMATOGRAPHY.** P.N. Anderson, D.L. Eaton and S.D. Murphy. Dept. Environmental Health, University of Washington, Seattle, WA.
- #320 **EFFECTS OF THREE ORGANOPHOSPHATE INSECTICIDES ON NTE, ACHE, AND GAIT IN CHICKS.** M.F. El-Awar, B.B. Francis. Institute for Environmental Studies, University of Illinois, Urbana, IL.
- #321 **BLOOD CHOLINESTERASE AND RESPIRATORY SINUS ARRHYTHMIA (RSA) RESPONSES TO FENTHION AND ATROPINE SULFATE IN DOGS.** M.S. Mostrom and J.A. Dellinger. University of Illinois, Department of Veterinary Biosciences, Urbana, IL.
- #322 **ENHANCED LEVELS OF LIPID PEROXIDATION AND XANTHINE OXIDASE (XO) ACTIVITY IN THE LUNG IN MALE SPRAGUE-DAWLEY RATS FOLLOWING AFTER TREATMENT WITH O,O,S-TRIMETHYLPHOSPHOROTHIOATE (OOS).** L. Hasegawa, A. Koizumi, and T. Imamura. Division of Toxicology and Physiology, University of California, Riverside, CA.
- #323 **PULMONARY LESIONS AND DELAYED MORTALITY CAUSED BY O,O,S-TRIMETHYL PHOSPHOROTHIOATE (OOS-TMP) IN COMPLEMENT C5 SUFFICIENT (C5-:B10.D2/nSn) AND DEFICIENT (C5-:B10.D2/oSn) MICE.** A. Koizumi, D.D. Ellefson, L. Hasegawa, I.K. Thomas and T. Imamura. Division of Toxicology and Physiology, University of California, Riverside, CA.
- #324 **INHIBITION OF E-C COUPLING DURING SKELETAL MUSCLE CONTRACTIONS BY THE FORMAMIDINE INSECTICIDE METABOLITE U-40481.** V.C. Ravikumar<sup>1</sup>, J.A. Rieger and Y.S. Reddy<sup>2</sup>. Departments of Pharmacodynamics & Toxicology and <sup>2</sup>Physiology, University of Oklahoma, Oklahoma City, OK 73190. <sup>1</sup>Present Address: School of Pharmacy, Northeast Louisiana University, Monroe, Louisiana 71209-0470.
- #325 **EFFECT OF TOXAPHENE (TOX) AND PARATHION (PA) MIXTURE ON THE MIXED FUNCTION OXYGENASES (MFO).** D.J. Kuntz, N.G.S. Rao, and A.K. Chaturvedi, Dept. of Pharm. Sci./Tox., Coll. of Pharmacy, N.D. State Univ., Fargo, ND.
- #326 **EFFECTS OF ENDRIN AND ENDRIN DERIVATIVES ON CC1<sub>4</sub>-HEPATOTOXICITY AND HEPATOBILIARY FUNCTION IN RATS.** R.A. Young and H.M. Mehendale, Dept. Pharmacol. & Toxicology, University MS Med. Ctr., Jackson, MS 39216.
- #327 **LINDANE-INDUCED ALVEOLAR BRONCHIOLIZATION AND ALVEOLAR CELL TUMORS IN YELLOW ANS PSEUDOAGOUTI Aay/a MICE.** R.L. Morrissey<sup>\*</sup> and G.L. Wolff, <sup>\*</sup>Pathology Associates, Inc., Ijamsville, Maryland and National Center for Toxicological Research, Jefferson, AR.
- #328 **TOXICITY OF TOXAPHENE IN THE BEAGLE DOG AND RAT.** I. Chu, D.C. Villeneuve, C.W. Sun, V. Secours, B. Procter, E. Arnold, D. Clegg, L. Reynolds, and V.E. Valli, Health Protection Branch, Tunney's Pasture, Ottawa, Ontario K1A 0L2 Canada.
- #329 **TIME COURSE OF VISUAL EVOKED POTENTIAL EFFECTS OF ACUTE AMITRAZ EXPOSURE IN RATS.** W.K. Boyes and V.C. Moser. Neurotoxicology Division, USEPA, MD-74B, Research Triangle Park, N.C. Sponsor: R.S. Dyer.
- #330 **PROLONGED BEHAVIORAL AND NEUROCHEMICAL EFFECTS OF ACUTE AMITRAZ EXPOSURES IN RATS.** V.C. Moser and R.C. MacPhail, Neurotoxicology Division, U.S. EPA, Research Triangle Park, NC. Sponsor: L.W. Reiter.
- #331 **PICLORAM: A TWO-YEAR CHRONIC TOXICITY AND ONCOGENICITY STUDY IN FISCHER 344 RATS.** K.A. Johnson, T.D. Landry, S.J. Gorzinski, F.S. Ciesziak, B.E. Kropscott, and E.L. Wolfe. Dow Chemical U.S.A., Mammalian and Environmental Toxicology Research Laboratory, 1803 Building, Midland, MI 48674.
- #332 **TRIDIPHANE: 2-YEAR DIETARY CHRONIC TOXICITY-ONCOGENICITY STUDIES IN RATS AND MICE.** J.T. Young, J.F. Quast, D.L. Eisenbrandt, and J.T. Tollett. Dow Chemical USA, Mammalian and Environmental Toxicology Research Laboratory, Midland, MI. Sponsor: R.J. Kociba.
- #333 **BEHAVIORAL AND AUTONOMIC THERMOREGULATION IN THE RAT FOLLOWING CHLORDECONE EXPOSURE.** L.L. Cook<sup>1</sup>, C.J. Gordon<sup>2</sup>, and F.W. Edens<sup>2</sup>. <sup>1</sup>Toxicology Program and <sup>2</sup>Poultry Science Dept., N.C. State Univ., Raleigh, NC; <sup>3</sup>Exper. Bio. Div. U.S. EPA, RTP, NC. Sponsor: H.A. Tilson.
- #334 **VARIABLE INHIBITION OF MICROSOMAL MIXED FUNCTION OXIDASE ACTIVITIES BY PARAQUAT AND DIQUAT.** M.R. Montgomery, L. Zychinski, P. Raska-Emery. University of South Florida, College of Public Health and VA Hospital Research Service, Tampa, FL.
- #335 **DIFOLATAN TECHNICAL DUST INHALATION IN RATS AND GUINEA PIGS FOR 13 WEEKS.** L.C. Griffis, <sup>\*</sup>D.K. Craig, J.B. Leary, <sup>W</sup>. Loeb, <sup>M.G.</sup> Valerio, and <sup>J.</sup> Fitzgerald. Chevron Environmental Health Center, Inc., Richmond, CA and <sup>Litton</sup> Bionetics, Inc., Kensington, MD.
- #336 **CHARACTERIZATION OF THE INDUCTION OF HEPATIC MICROSOMAL METABOLISM PRODUCED BY DICOFOL IN RATS.** B.A. Narloch, M.P. Lawton, D.E. Moody, B. D. Hammock, and L.R. Shull. Departments of Environmental Toxicology and of Entomology, Univ. of California, Davis, CA.
- #337 **DINOCAP: DEVELOPMENTAL TOXICITY STUDIES IN RABBITS.** R.D. Costlow, M.F. Lutz, W.W. Kane, S.S. Hurt, G.P. O'Hara. Toxicology Department, Rohm and Haas Company, Spring Huse, PA 19477. Sponsor: S.L. Longacre.
- #338 **DINOCAP PHARMACOKINETIC STUDY IN FEMALE RABBITS.** S.L. Longacre, L.J. DiDonato, S.S. Hurt, R.D. Costlow, and H.E. Scribner. Toxicology Department, Rohm and Haas Company, Spring House, PA 19477.
- #339 **QSAR OF 2-BENZOYL-1,3-INDANDIONE ANTICOAGULANT RODENTICIDES: SYNTHESIS, CHROMATOGRAPHY AND SPECTROSCOPIC PROPERTIES.** K. Opong-Mensah and W.R. Porter. School of Pharmacy, University of Wisconsin, Madison, WI.
- #340 **QSAR OF 2-BENZOYL-1,3-INDANDIONE ANTICOAGULANT RODENTICIDES: PHYSICO-CHEMICAL PROPERTIES AND LETHALITY TO MICE.** K. Opong-Mensah and W.R. Porter. School of Pharmacy, University of Wisconsin, Madison, WI.
- #341 **NON-PROTEINSULFHYDRYL CONTENT IN RATS FOLLOWING ACUTE INHALATION EXPOSURE TO L,3-DICHLOROPROPENE.** G.D. Fisher and W.W. Kilgore. Department of Environmental Toxicology, University of California, Davis, CA.
- #341A **ANTIDOTE STUDIES WITH RATS OVER-EXPOSED TO SULFURYL FLUORIDE.** D.K. Nitschke, R.R. Albee, J.L. Mattsson and R.R. Miller. Mammalian and Environmental Toxicology Research Laboratory, Dow Chemical U.S.A., 1803 Building, Midland, MI.

**TUESDAY MORNING, MARCH 4**  
**French Market Exhibit Hall**

## **POSTER SESSION 6: ENDOCRINE SYSTEM**

**Chairman:** G.L. Fisher, Battelle Columbus Labs, Columbus, OH

**Displayed:** 8:30 a.m. - 11:30 a.m.

**Attended:** 10:00 a.m. - 11:30 a.m.

- #342 **DEXAMETHASONE-INDUCED SUPPRESSION OF RAT TESTICULAR HEME, CYTOCHROME P-450, 17-HYDROXYLASE AND 17,20-LYASE.** R.V. Reddy, C.A. Mebus, D.C. Lorenz, W.R. Christenson and W.N. Piper. Dept of Pharmacology, Univ. of Nebr. Med. Ctr., Omaha, NE.

- #343 **SULFASALAZINE-MEDIATED ALTERATIONS IN RAT TESTICULAR HEME AND CYTOCHROME P-450.** J.W. West and W.N. Piper. Dept. of Pharmacology, Univ. of Nebraska Med. Ctr., Omaha, NE.
- #344 **LEYDIG CELL FUNCTION IN VITRO FOLLOWING METAL CATION TREATMENT.** J.W. Laskey, P.V. Phelps, and S.D. Laws. Reproductive Toxicology Branch, DBD, HERL, EPA, RTP, NC. Sponsor: N. Chernoff.
- #345 **INFLUENCE OF DIET ON METABOLISM AND ELIMINATION OF ESTRADIOL IN MICE.** F.R. Fullerton and D.L. Greenman, National Center for Toxicological Research, Jefferson, AR. Sponsor: W.T. Allaben.
- #346 **HYPOPHYSIS-MEDIATED EFFECTS OF ALCOHOL ON PEROXIDASE ACTIVITY OF RAT LIVER AND OVARIES.** S.Ray and S. Ji. Dept. Pharmacol. Toxicol., Rutgers University, Piscataway, NJ.
- #347 **ROLE OF THYROXINE (T<sub>4</sub>) IN PERFLUORO-n-DECANOIC ACID (PFDA)-INDUCED HYPOPHAGIA, BODY WEIGHT LOSS, AND HYPOTHERMIA.** D.M. Gutshall, G.D. Pilcher\* and A.E. Langley. Dept. of Pharm. and Tox., Wright State Univ., Dayton, OH and \*School of Pharmacy, Univ. Wisconsin, Madison, WI. Sponsor: R.L. Koerker.
- #348 **EFFECTS OF PERINATAL EXPOSURE TO ETHYLENTHIOUREA ON THE THYROID OF RATS AND MICE EXPOSED AS ADULTS: 9- AND 24-MONTH SACRIFICES.** G.E. Wilkinson, B.D. Carlton, P.J. Kurtz, and R.S. Chhabra, Battelle Columbus Labs, Columbus, OH, and National Toxicology Program, NIEHS, Research Triangle Park, NC.
- #349 **CHARACTERIZATION OF THYROID HOMEOSTASIS IN TCDD-TREATED RATS.** J.R. Gorski and K. Rozman. Dept. of Pharmacol., Toxicol. & Therap., Univ. of Kansas Med. Ctr., Kansas City, KS U.S.A. and Abt. fur Toxikol., Gesellschaft fur Strahlen- und Umweltforschung mbH Munchen, Neuherberg, F.R.G.
- #350 **AN IN VIVO METHOD FOR DETERMINING INHIBITION OF IODIDE (I<sup>-</sup>) ORGANIFICATION IN THE RAT THYROID GLAND.** R.M. Harrington<sup>1,2</sup>, H.G. Shertzer<sup>2</sup>, and J.P. Bercz<sup>1</sup>. <sup>1</sup>Toxicology and Microbiology Division, HERL, USEPA, Cincinnati, OH and <sup>2</sup>Department of Environmental Health, University of Cincinnati, Cincinnati, OH.
- #351 **TOXICITY OF IODINATED NUTRIENTS FORMED IN THE ALIMENTARY TRACT FOLLOWING INGESTION OF CHLORINE-BASED DISINFECTANTS VIA DRINKING WATER.** J.P. Bercz<sup>1</sup>, L.W. Condie<sup>1</sup>, R.M. Harrington<sup>1</sup>, and H. Zimmer<sup>2</sup>. <sup>1</sup>Toxicology and Microbiology Division, HERL, USEPA, Cincinnati, OH and <sup>2</sup>Department of Chemistry, University of Cincinnati, Cincinnati, OH.

**TUESDAY NOON, MARCH 4**

## **SOT ISSUES SESSION**

**12 p.m. - 1:30 p.m.**

**Poydras A**

Chaired by SOT President Emil A. Pflizer

Bring your lunch and participate in an open forum discussion of SOT affairs.

**TUESDAY AFTERNOON, MARCH 4**

**1:30 p.m. - 5:00 p.m.**

**Ballroom A-C**

## **SYMPOSIUM: COMPLEX MIXTURES AND MULTIPLE AGENT INTERACTION**

**Honorary Chairman:** P.S. Larson, SOT Founder

**Cochairs:** J.F. Borzelleca, SOT President 1973-1974

R.A. Carchman, Medical College of Virginia, Richmond, VA

**Introduction.** E. Bingham, University of Cincinnati, Cincinnati, OH

**Motor Gasoline Toxicology—An Example of Complex Mixture Technology Problems.** R.A. Scala, Exxon Corporation, East Millstone, NJ

**Experimental Evaluation of Haloalkanes and Liver Injury.** G.L. Plaa, Universite de Montreal, Montreal, Canada

**Genotoxicity in Complex Mixtures.** J.E. Lewtas, U.S. Environmental Protection Agency, Washington, DC

**Mathematical and Biostatistical Methods for Designing and Analyzing Complex Chemical Interactions.** H. Carter, Medical College of Virginia, Richmond, VA

**Use of Response Surface Modeling for Evaluating Organophosphate Toxicity and Therapy.** D. Jones, US Army Institute of Chemical Defense, Edgewood, MD

**Concluding Remarks.** R.A. Carchman

**TUESDAY AFTERNOON, MARCH 4**

**1:30 p.m. - 5:00 p.m.**

**Burgundy Room**

## **SYMPOSIUM: TOXICOLOGISTS AND THE NEWS MEDIA: COMMUNICATING SCIENTIFIC INFORMATION TO THE PRESS**

**Sponsored by SOT Committee on Public Communications**

**Honorary Chairman:** C.B. Shaffer, SOT Founder

**Chairman:** J.S. Woods, Battelle Seattle Research Center

**Opening Remarks.** J.S. Woods

**Communicating Scientific Uncertainty and Toxicological Risk.** C. Wilkinson, Cornell University, Ithaca, NY

**Getting the Message Across: Problems in Communicating and Ways of Overcoming Them.** F. Rowan, Center for Communication Dynamics, Washington, DC

Perspectives on Local and Regional Reporting of Toxicologic Issues. M. Schiefstein, New Orleans Times Picayune/States Item, New Orleans, LA

Credible Sources of Scientific Information. F. Jerome, Scientists' Institute for Public Information, New York, NY

Communicating with the Press: an Industrial Viewpoint. D.H. Hughes, American Industrial Health Council, Cincinnati, OH

Open Discussion. Audience Interaction with Symposium Participants.

Conclusion.

## TUESDAY AFTERNOON, MARCH 4

1:30 p.m. - 5:00 p.m.

Poydras A

### PLATFORM SESSION: INHALATION I

Honorary Chairman: P.J. Gehring, SOT President 1980-1981

Chairman: R.A. Roth, Michigan State University, East Lansing, MI

- #29 1:30 REGIONAL EFFECTS OF INHALED NO<sub>2</sub>. D.G. Cavanagh and J.B. Morris, School of Pharmacy, University of Connecticut, Storrs, CT.
- #30 1:45 BI-PHASIC DEVELOPMENT OF PULMONARY EDEMA FOLLOWING NO<sub>2</sub> INHALATION G.F.S. Hiatt, C.H. Hine, R.F. Phalen, F.H. Meyers. University of California at San Francisco and Irvine.
- #31 2:00 ABSENCE OF CHANGE IN SENSITIVITY TO INHALED METHACHOLINE IN ASTHMATICS EXPOSED TO NO<sub>2</sub>. L.J. Roger, D.H. Horstman, and H.R. Kehrl. Environ. Monitoring and Serv., and Clinical Studies Branch, US EPA, Chapel Hill, NC 27514.
- #32 2:15 ELECTROCHEMICALLY ACTIVE SUBSTANCES IN LAVAGE FLUID AND CELLS OF RATS AND HUMANS. G.E. Hatch, H. Koren, R. Slade. Toxicology and Clinical Research Branches, Inhalation Toxicology Div., HERL, U.S. E.P.A., Res. Tri. Park, NC. Sponsor: E.J. Massaro.
- #33 2:30 NASAL EFFECTS OF AIR POLLUTANTS STUDIED IN RAT BY MUCOSAL PERMEABILITY CHANGES, HISTOPATHOLOGY & SEM. D.K. Bhalla, T.R. McClure, T. Nguyen & T.T. Crocker. Comm. & Env. Med., Univ. of California, Irvine, CA 92717. Sponsor: R.F. Phalen.
- #34 2:45 EFFECT OF INDOMETHACIN ON OZONE INDUCED CHANGES IN PULMONARY FUNCTIONS. P. Doherty Miller, H.F. Lam, D. Ainsworth and M.O. Amdur. Department of Applied Biological Sciences, Massachusetts Institute of Technology, Cambridge, MA.
- #35 3:00 ADAPTATION TO OZONE IN F-344 RATS. J.S. Tepper,<sup>1</sup> M.J. Wiester,<sup>2</sup> D.L. Costa,<sup>2</sup> M.F. Weber,<sup>1</sup> M.E. King,<sup>1</sup> Northrop Services Inc., RTP, NC 27709; <sup>2</sup>U.S.E.P.A., HERL, RTP, NC 27711.
- #36 3:15 VITAMIN E AND LUNG POLYAMINE METABOLISM OF OZONE-EXPOSED RATS. N.M. Elsayed, Pulmonary Division, Department of Medicine, University of California, Los Angeles.
- #37 3:30 INHIBITION OF LUNG TUMOR FORMATION BY HYPEROXIA. R.C. Lindenschmidt and H.P. Witschi. Biology Divs., Oak Ridge National Laboratory, Oak Ridge, TN.
- #38 3:45 RESPIRATORY DOSIMETRY OF OZONE (O<sub>3</sub>) IN AWAKE SPRAGUE DAWLEY RATS. M.J. Wiester, T.B. Williams,\* M.E. King,\* M.G. Menache\* and F.J. Miller. U.S. E.P.A., RTP, NC; \*NSI RTP, NC 27709. Sponsor: J.S. Tepper.
- #39 4:00 ESCAPE PERFORMANCE EVALUATION UNDER INTOXICATING GASES. D.E. Malek, M.F. Stock and Y. Alarie, Dept. of Ind. Env. Hlth. Sci., Univ. of Pittsburgh, PA 15261.
- #40 4:15 A COMPARATIVE COMBUSTION TOXICITY STUDY OF WOOD AND SOME FILLING MATERIALS USED IN UPHOLSTERED FURNITURES. S.C. Sahu, K.C. Gupta, D.K. Lowther, and S.L. Jones. Health Sciences Laboratory, Consumer Product Safety Commission, Washington, DC.
- #41 4:30 9-DAY AND 14-WEEK 2,4-PENTANEDIONE (2,4-PD) VAPOR INHALATION STUDIES WITH FISCHER 344 RATS. D.E. Dodd, R.H. Garman, I.M. Pritts, C.M. Troup, W.M. Snellings, and B. Ballantyne. Bushy Run Research Center/Union Carbide Corporation, Export, PA.
- #42 4:45 SUBCHRONIC MULTISPECIES INHALATION TOXICITY STUDIES OF BENZYL CHLORIDE VAPOR. M.V. Roloff, D.C. Thake, E.C. Robinson, and S.V. Becker\*. Monsanto Co., St. Louis, MO and \*Amer. Biogenics, Decatur, IL, Sponsor: W.E. Ribelin.

## TUESDAY AFTERNOON, MARCH 4

1:30 p.m. - 5:00 p.m.

Poydras B

### PLATFORM SESSION: BIOTRANSFORMATION/DISPOSITION

- #43 1:30 THE EFFECT OF REDUCED HEPATIC ENERGY STATE ON ACETAMINOPHEN CONJUGATION IN RATS. R.L. Dills and C.D. Klaassen. Dept. Pharmacol., Toxicol. & Therap., Univ. Kansas Med. Ctr., Kansas City, KS.
- #44 1:45 EFFECTS OF ENZYME INDUCERS ON THE BILIARY EXCRETION OF ACETAMINOPHEN AND VALPROIC ACID. C.-P. Siegers, K. Haase, R. Pentz, and M. Younes. Institute of Toxicology, Medical University of Lubeck, FRG.
- #45 2:00 METABOLISM IN VITRO OF 2,6-DICHLORO-4-NITROANILINE (DCNA) IN MICROSOMES FROM FEMALE RATS. L.A. Basting, C.M. Witmer and M.A. Gallo. Joint Program of Toxicology, UMDNJ-Rutgers Medical School/Rutgers Univ. Piscataway, NJ.
- #46 2:15 ISOLATION AND PARTIAL CHARACTERIZATION OF AN ETHANOL-INDUCED UDP-GLUCURONYLTRANSFERASE FROM RABBIT HEPATIC MICROSOMES. B.L. Finley and G.S. Yost. Pharmacology/Toxicology Program, Washington State University, Pullman, WA.
- #47 2:30 SUICIDE INACTIVATION OF MICROSOMAL OXIDATION BY CIS- AND TRANS-DICHLOROETHYLENE (C-DCE AND T-DCE) IN MALE FISCHER RATS IN VIVO. M.E. Andersen, M.L. Gargas, and H.J. Clewell III, AAMRL/THB, Wright-Patterson AFB, OH.
- #48 2:45 THE INHIBITION OF MICROSOMAL CYTOCHROME C REDUCTASE ACTIVITY BY A SERIES OF  $\alpha,\beta$  UNSATURATED ALDEHYDES. K.O. Cooper, C. Witmer and G. Witz. The Joint Graduate Program in Toxicology, Rutgers University, Piscataway, NJ.
- #49 3:00 IMMUNOCHEMICAL EVIDENCE FOR MULTIPLE STEROID-INDUCIBLE HEPATIC CYTOCHROMES P-450 IN THE RAT. K.A. Hostetler, S.A. Wrighton, & P.S. Guzelian. Departments of Medicine and Pharmacology, Virginia Commonwealth University, Richmond, VA.
- #50 3:15 TERT-BUTYL HYDROPEROXIDE METABOLISM AND STIMULATION OF THE PENTOSE PHOSPHATE PATHWAY IN ISOLATED RAT HEPATOCYTES. G.F. Rush and D. Alberts, Department of Investigative Toxicology, Smith Kline and French Laboratories, Philadelphia, PA.

- #51 3:30 **INFLUENCE OF HUMAN LIPOPROTEINS ON THE DISPOSITION OF 2,2',4,4',5,5'-HEXABROMOBIPHENYL IN 3T3L1 ADIPOCYTES AND PSEUDO BLOOD.** A.L. Krause\* and I.A. Bernstein. Toxicology Program, The University of Michigan, Ann Arbor, MI 48109-2029.
- #52 3:45 **ROLE OF FLAVIN MONOOXYGENASE IN THE METABOLISM OF PYRROLIZIDINE ALKALOIDS TO THEIR N-OXIDES.** D.R. Buhler, B. Kedzierski, B.S.S. Masters\*, and D.E. Williams\*. Oregon State University, Corvallis, OR and \*Medical College of Wisconsin, Milwaukee, WI.
- #53 4:00 **N-METHYL-N'-OXONICOTINIUM ION — A NEW METABOLITE OF R-(+)-NICOTINE.** W.F. Pool and P.A. Crooks. College of Pharmacy and Graduate Center for Toxicology, University of Kentucky, Lexington, KY. Sponsor: M. Vore.
- #54 4:15 **EFFECT OF STREPTOZOTOCIN (STZ) ON THE BILIARY EXCRETION OF CHOLEPHILIC ANIONS.** J.B. Watkins and H. Noda. Medical Sciences Program, Indiana University School of Medicine, Bloomington, IN.
- #55 4:30 **TISSUE DISTRIBUTION OF <sup>14</sup>C-2,4,5,2',4',5'-HEXACHLOROBIPHENYL (6CB) OR <sup>14</sup>C-KEPONE IN RATS FOLLOWING 4-AMINO-PYRAZOLOPYRIMIDINE (4APP) TREATMENT.** L.A. Rau, B.J. Ring, M.J. Vodick. Medical College of Wisconsin, Milwaukee, WI.
- #56 4:45 **EFFECT OF CCl<sub>4</sub> ON PROGESTERONE BINDING AND CYTOCHROME P-450 IN RAT LIVER MICROSOMES.** M.W. Roomi, R.G. Cameron, and G. Feuer. Depts. of Pathology and Clinical Biochemistry, University of Toronto, Toronto, Ontario.

## TUESDAY AFTERNOON, MARCH 4

### French Market Exhibit Hall

## POSTER SESSION 7: REPRODUCTIVE/TERATOLOGY I

Chairman: F. Welsch, Chemical Industry Institute of Toxicology, Research Triangle Park, NC

Displayed: 1:30 p.m. - 4:30 p.m.

Attended: 1:30 p.m. - 3:00 p.m.

- #352 **DEVELOPMENTAL TOXICITY EVALUATION OF SARIN (AGENT GB) IN NEW ZEALAND WHITE RABBITS.** H.K. Bates and J.B. LaBorde. Pathology Associates, Inc. and Division of Reproductive and Developmental Toxicology, National Center for Toxicological Research, Jefferson, AR. Sponsor: D. Sheehan.
- #353 **ABSENCE OF POTENTIATION OF DEVELOPMENTAL EFFECTS OF ASPIRIN OR ACETAMINOPHEN WHEN COADMINISTERED WITH AN OPIATE AGONIST.** M.S. Christian, A.M. Hoberman, G.E. Dearlove and L.E. Arthaud\*. Argus Research Labs, Inc., Horsham, PA, and \*E.I. du Pont de Nemours and Co., Inc., Newark, DE.
- #354 **EXPERIMENTAL ASSESSMENTS OF THE DEVELOPMENTAL TOXICITY OF AFLATOXINS IN THE RAT.** E.A. Maull, S. Geerling, and T.D. Phillips. Veterinary Public Health and Medical Pathology and Laboratory Medicine, Texas A&M University, College Station, TX 77843.
- #355 **DEVELOPMENTAL TOXICITY OF ESTROGENS AND ANTIESTROGENS IN THE RAT UTERUS.** W.S. Branham, M.L. Leamons, D.R. Zehr, J.J. Chen, and D.M. Sheehan, Division of Reproductive and Developmental Toxicology, National Center for Toxicological Research, Jefferson, AR, and Dept. of Biology, Univ. of Central Arkansas, Conway, AR.
- #356 **EFFECTS OF RHODAMINE DYES ON MOUSE DEVELOPMENT.** R.D. Hood, S. Ranganathan, P. Ranganathan, and C.L. Jones. Biology Department, The University of Alabama, Tuscaloosa, AL. Sponsor: R.S. Filler.
- #357 **DEVELOPMENTAL TOXICITY EVALUATION OF INHALED NITROBENZENE (NB) IN CD\* RATS.** R.W. Tyl<sup>a</sup>, K.A. France<sup>a</sup>, L.C. Fisher<sup>a</sup>, D.E. Dodd<sup>a</sup>, I.M. Pritts<sup>a</sup>, J.P. Lyon<sup>b</sup>, F.O. O'Neal<sup>c</sup>, and G. Kimmerle<sup>d</sup>. <sup>a</sup>Bushy Run Research Center, Export, PA; <sup>b</sup>ICI Americas, Wilmington, DE; <sup>c</sup>E.I. duPont de Nemours and Co., Inc., Newark, DE; <sup>d</sup>Bayer AG, Wuppertal, West Germany.
- #358 **DEVELOPMENTAL TOXICITY ASSOCIATED WITH ACRYLAMIDE (ACR) EXPOSURE IN LONG-EVANS RATS.** E.L. George, M.K. Smith, H. Zenick\*, and L. Hastings. U.S. EPA, Cincinnati, OH and Washington, DC\*, Dept. of Environ. Health, University of Cincinnati, Cincinnati, OH.
- #359 **DEVELOPMENTAL TOXICITY OF HYDROCHLOROTHIAZIDE (HCTZ) IN RATS AND MICE.** J.D. George, C.J. Price, R.W. Tyl, M.C. Marr and C.A. Kimmel\*, Research Triangle Institute, Research Triangle Park, NC 27709 and \*NTP/Reproductive Effects Assessment Group, U.S. Environmental Protection Agency, Washington, D.C. 20460.
- #360 **METHOXYACETIC ACID (MAA) TERATOGENICITY AND DISPOSITION IN PREGNANT CD-1 MICE SHOW ROUTE OF ADMINISTRATION SPECIFICITY.** R.B. Sleet, J.A. John-Greene and F. Welsch. C.I.I.T., R.T.P., N.C.
- #361 **TERATOLOGIC EVALUATION OF CHLORPROMAZINE (CPZ) IN CD-1 MICE AND F344 RATS.** C.J. Price, R.W. Tyl, M.C. Marr and \*C.A. Kimmel. Center for Life Sciences and Toxicology, Research Triangle Institute, Research Triangle Park, NC and \*NTP/Reproductive Effects Assessment Group, U.S.-E.P.A., Washington, DC.
- #362 **TERATOLOGIC EVALUATION OF OXYTETRACYCLINE-HCL (OXT) IN CD-1 MICE AND CD RATS.** R.E. Morrissey, R.W. Tyl\*, C.J. Price\*, T.A. Ledoux\*, J.R. Reel\*, L.L. Paschke\*, M.C. Marr\* and C.A. Kimmel.\*\* NIEHS-NTP and \*Research Triangle Institute, Research Triangle Park, NC 27709 and \*\*U.S. E.P.A., Washington, DC 20460.
- #363 **TERATOGENIC EFFECTS OF THE FUNGICIDE DINOCAP IN THE MOUSE.** J.M. Rogers, B. Carver, L.E. Gray, J.A. Gray, and R.J. Kavlock. U.S. EPA, Research Triangle Park, NC. Sponsor: E.J. Massaro.
- #364 **THE TERATOGENIC EFFECTS OF TWO BENZIDINE-BASED DYES ON THE TESTES OF THE MOUSE.** J.S. Ostby and L.E. Gray, Jr. Reproductive Toxicology Branch, DBD HERL, USEPA, RTP, NC. Sponsor: P.V. Shah.
- #365 **TERATOGENIC EVALUATION OF OXO OCTYL ACETATE IN RATS.** W.C. Daughtrey, P.J. Wier, K.A. Traul and R.W. Biles, Exxon Corporation, East Millstone, New Jersey. Sponsor: R.A. Kuna.
- #366 **EMBRYO-FETAL TOXICITY AND TERATOGENIC POTENTIAL OF ACETONITRILE IN THE RABBIT.** R.W. Mast<sup>1</sup>, G.R. Krautter<sup>1</sup>, R.D. Short<sup>2</sup>, A.M. Kaplan<sup>3</sup>, and M.S. Christian<sup>4</sup>. <sup>1</sup>The Standard Oil Company (Ohio), Cleveland, Ohio; <sup>2</sup>Monsanto Co., St. Louis, MO; <sup>3</sup>E.I. DuPont de Nemours and Co., Wilmington, DE; and <sup>4</sup>Argus Research Laboratories, Inc., Horsham, PA.
- #367 **TERATOGENIC EFFECTS OF 6-AMINONICOTINAMIDE IN NEW ZEALAND WHITE ALBINO RABBITS.** C.M. Salamon, C.K. Borders, P.V. Enloe, S.H. Smith, D.A. Mayhew. American Biogenics Corporation, Decatur, IL. Sponsor: D.W. Arnold.
- #368 **TERATOLOGICAL EVALUATIONS OF ATRAZINE TECHNICAL, A TRIAZINE HERBICIDE, IN RATS AND RABBITS.** R. Infurna, B. Levy, A. Arthur and V. Traina. CIBA-GEIGY Corporation, Pharmaceuticals Division Research Department, Safety Evaluation Facility, Summit, NJ and G. Rolofson and J. Stevens, CIBA-GEIGY Corporation, Agricultural Chemical Division, Greensboro, NC.
- #369 **TERATOGENICITY EVALUATION OF BIS(2-DIMETHYLAMINO-ETHYL)ETHER AFTER DERMAL APPLICATION IN NEW ZEALAND WHITE RABBITS.** L.C. Fisher<sup>a</sup>, R.W. Tyl<sup>a</sup>, K.A. France<sup>a</sup>, R.H. Garman<sup>a</sup> and B. Ballantyne<sup>b</sup>. <sup>a</sup>Bushy Run Research Center, Export, PA and <sup>b</sup>Union Carbide Corporation, Danbury, CT.
- #370 **TERATOGENICITY OF ALCIDE ALLAY IN RABBITS.** M. Abdel-Rahman, S. Gerges, G. Skowronski, R. Turkall, and S. Von Hagen. Pharmacology Depart., NJ Medical School, Newark, NJ.

- #371 **INHALATION TERATOLOGY STUDY OF PROCATEROL AEROSOL IN RATS.** R.A. Martin, F.A. de la Iglesia, J.L. Schardein\*, E. Goldenthal\* and N. Tanaka\*\*. Warner-Lambert/Parke-Davis Pharm. Res., Ann Arbor, MI, Int. Res. & Devel. Co.\* Mattawan, MI, and Otsuka Pharm. Co.\*\*, Osaka, Japan.
- #372 **AN INHALATION TERATOLOGY STUDY IN THE RABBIT WITH NITROBENZENE.** R.E. Schroeder<sup>1</sup>, J.B. Terrill<sup>1</sup>, J.P. Lyon<sup>2</sup>, A.M. Kaplan,<sup>3</sup> and G. Kimmerle<sup>4</sup> Bio/dynamics, Inc.,<sup>1</sup>East Millstone, NJ; ICI Americas, Inc.,<sup>2</sup>Wilmington, DE, E.I. duPont de Nemours and Co., Inc., Haskell Laboratory,<sup>3</sup>Newark, DE, Bayer AG,<sup>4</sup>Wuppertal, West Germany.
- #373 **TERATOGENIC EFFECTS OF ETHYLENE GLYCOL MONOMETHYL ETHER FOLLOWING DERMAL EXPOSURE IN RATS.** J.R. Cooper, D.W. Hobson\*, C.T. Olson. \*NMEI/TD, AAMRL, Wright-Patterson AFB, OH. Sponsor: B.O. Stuart.
- #374 **TERATOGENICITY STUDY OF 4-NITRO-N-METHYLPHTHALIMIDE (4-NPI).** G.A. Burdock, R.H. Cox, S.L. Morseth, and L.W. Smith. Hazleton Laboratories America, Vienna, VA and General Electric Company, Pittsfield, MA.
- #375 **TERATOGENIC RESPONSE OF THE RAT AND MOUSE TO A COAL LIQUID AFTER DERMAL ADMINISTRATION.** D.D. Mahlum, and D.L. Springer. Pacific Northwest Laboratory, Richland, WA.
- #376 **TERATOLOGY OF ALL-TRANS RETINOIC ACID IN TWO RAT STRAINS.** J.W. Henck, Y.S. Sochanek, S.L. Mudgett and R.G. Skalko. Toxicity Research Laboratories, Ltd., Muskegon, MI and East Tennessee State University, Johnson City, TN.
- #377 **ALTERATION OF RETINOIC ACID MOLECULAR STRUCTURE AND TERATOGENICITY IN HAMSTERS.** W.B. Howard, C.C. Willhite, and R.P. Sharma, Center for Environmental Toxicology, Utah State University, Logan, UT.
- #379 **BIOCHEMICAL STUDIES ON THE ROLE OF BIOTRANSFORMATION IN MYCOTOXIN-INDUCED EMBRYOTOXICITY IN VITRO.** F. Geissler, D. Eaton and E. Faustman-Watts. Department of Environment Health, University of Washington, Seattle, WA.
- #380 **BIOCHEMICAL INDICATORS OF THYROID HORMONE ACTIVITY IN RAT MATERNAL AND FETAL TISSUES FOLLOWING EXPOSURE TO NITROFEN.** C.I. Tellone and J.M. Manson, Department of Reproductive and Developmental Toxicology, Smith Kline and French Laboratories, Philadelphia, PA.
- #381 **ESTRADIOL (E2), ESTRIOL (E3) AND TAMOXIFEN (TAM) INDUCTION OF AN ORNITHINE DECARBOXYLASE (ODC) ACTIVITY REFRACTORY PERIOD IN THE RAT UTERUS.** M.A. Smith, K.L. Medlock, W.S. Branham, and D.M. Sheehan, Division of Reproductive and Developmental Toxicology, National Center for Toxicological Research, Jefferson, AR and University of Arkansas for Medical Sciences, Little Rock, AR.
- #382 **INHIBITION OF UTERINE GROWTH, ORNITHINE DECARBOXYLASE (ODC) ACTIVITY, AND DNA ACCUMULATION IN THE IMMATURE RAT.** W.S. Branham, K.L. Medlock, M.L. Leamons, P.J. Webb, and D.M. Sheehan, Division of Reproductive and Developmental Toxicology, National Center for Toxicological Research, Jefferson, AR.
- #383 **DETECTION OF DNA DAMAGE IN RODENT EMBRYOS EXPOSED TO ALKYLATING AGENTS IN VITRO: CORRELATIONS WITH DEVELOPMENTAL TOXICITY.** E. Faustman-Watts, S. Little, Z. Kirby and P. Mirkes Depts. of Environmental Health and Pediatrics, Univ. of Washington, Seattle, WA.
- #384 **IN VITRO CULTURE OF POST-IMPLANTATION HAMSTER EMBRYOS - A SECOND APPROACH.** M.T. Ebron, P.E. Beyer, L.A. Oglesby, R.J. Kavlock. U.S. EPA, and Northrop Services, Inc., Research Triangle Park, NC. Sponsor: R.W. Chadwick.
- #385 **THE REGULATION OF GLUTATHIONE IN RAT EMBRYOS AND VISCERAL YOLK SACS IN THE EMBRYO CULTURE SYSTEM AND ITS EFFECTS ON NITROSOFLUORENE-INDUCED MALFORMATIONS.** C. Harris, M.J. Namkung, A.G. Fantel, and M.R. Juchau. Departments of Pharmacology and Pediatrics, School of Medicine, University of Washington, Seattle, WA 98195.
- #386 **METABOLIC ACTIVATION OF AFLATOXIN B<sub>1</sub> IN VIVO BY FETAL AND MATERNAL TISSUES OF THE C57/B6 MOUSE.** D.J. Post and T.R. Irvin, Lab of Toxicology, Dept. of Vet Anatomy, Texas A&M Univ. College Station, TX 77843. Sponsor: T.D. Phillips.
- #387 **DISPOSITION OF [<sup>14</sup>C]ACRYLAMIDE IN MALE AND PREGNANT MICE.** C. Marlowe, M.J. Clark, M.A. Friedman, and W.J. Waddell. Department of Pharmacology & Toxicology, University of Louisville. Louisville, KY.
- #388 **FETAL-PLACENTAL UPTAKE OF ALUMINUM IN MICE FOLLOWING MATERNAL EXPOSURE.** D.J. Cannon, J.M. Cranmer\*, L. Smith and J.D. Wilkins\*. Department of Biochemistry and Pediatrics\*, University of Arkansas for Medical Sciences and VA Medical Center, Little Rock, AR.
- #389 **APPLICATION OF VARIOUS EXPOSURE MODELS TO ASSESS THE REPRODUCTIVE EFFECTS OF INDUSTRIAL WASTES ON MALE WORKERS.** G.K. Lemasters, H. Zenick\*, K. Hansen, C. Meyer, V. Hertzberg, S. Clark, Dept. Environ. Hlth, Univ. Cincinnati, US EPA, Washington, D.C.\*
- #390 **FAILURE OF FERTILIZATION AS A CAUSE OF METHYL CHLORIDE-INDUCED PREIMPLANTATION LOSS IN F-344 RATS.** P.K. Working, J.S. Bus and R.M. Norton. Chem. Ind. Inst. of Toxicol., Research Triangle Park, NC 27709.
- #391 **ROLE OF EPIDIDYMAL INFLAMMATION IN THE INDUCTION OF POSTIMPLANTATION LOSS IN F-344 RATS BY METHYL CHLORIDE.** G.J. Chellman, J.S. Bus, and P.K. Working. Chem. Indus. Inst. of Toxicol., Research Triangle Park, NC.
- #400 **IMPRINTING OF HEPATIC MONOOXYGENASE ACTIVITY BY NEONATAL POLYCHLORINATED BIPHENYLS (AROCHLOR 1254) EXPOSURE.** E.M.K. Lui. Dept. of Pharmacology and Toxicology, University of Western Ontario, London, Ontario, Canada.
- #401 **SECRETION OF AROCLOR AND DDE INTO MATERNAL MILK PRODUCES ENHANCEMENT OF THE DNA REPAIR-INDUCING ACTIVITY OF CHEMICALS IN NEONATAL LIVER.** D. Kornbrust, NIEHS and D. Dietz, Research Triangle Institute, Research Triangle Park, NC.
- #402 **A SCANNING ELECTRON MICROSCOPIC STUDY OF CRANIOFACIAL DYSMORPHIA INDUCED BY ISOTRETINOIN.** D.W. Irving and C.C. Willhite, WRRRC, USDA, Berkeley, CA and Hazard Evaluation Section, Dept. Health Services, State of California, Berkeley, CA.
- #403 **DISRUPTION OF THE REPRODUCTIVE PROCESS IN FEMALE RATS RESULTING FROM CONSTANT EXPOSURE TO LIGHT.** L.S. Tutak\* and A.T. Arthur, CIBA-GEIGY Pharmaceuticals, Summit, NJ. \*Present Address: Stuart Pharmaceuticals, Wilmington, DE. Sponsor: L.E. Gongwer.
- #404 **TERATOLOGY OF HI-6 IN THE RAT.** K. Robinson and C.E. Mendoza, Defense Research Establishment, Ralston, AB, Canada.
- #404A **DEVELOPMENTAL AND SEX SPECIFIC EXPRESSION OF CYTOCHROMES P-450b AND P-450e IN RAT LIVER.** C.M. Giachelli and C.J. Omiecinski. Depts. of Pharmacology and Environmental Health, University of Washington, Seattle, WA. Sponsor: D.L. Eaton.

**TUESDAY AFTERNOON, MARCH 4**  
**French Market Exhibit Hall**

**POSTER SESSION 8: METALS I**

**Chairman:** L.L. Hall, U.S. Environmental Protection Agency, Chapel Hill, NC

**Displayed:** 1:30 p.m. - 4:30 p.m.

**Attended:** 3:00 p.m. - 4:30 p.m.

- #405 **THE PROFILE OF Pb FALLOFF IN THE BLOOD OF RATS ADMINISTERED TRIMETHYLLEAD (TMPb).** J. Caldwell-Kenkel, W. Wargin, M.R. Krigman. University of North Carolina, Chapel Hill, NC.

- #406 **EFFECT OF LEAD ON PENTYLENETETRAZOL SEIZURE THRESHOLD IN DEVELOPING MICE.** B.D. Davis<sup>1</sup>, H.J. Kupferberg<sup>2</sup> and T.C. Rains<sup>3</sup>. <sup>1</sup>Environmental Protection Agency, Washington, D.C.; <sup>2</sup>National Institutes of Health, Bethesda, MD; <sup>3</sup>National Bureau of Standards, Gaithersburg, MD.
- #407 **MOBILIZATION AND REDISTRIBUTION OF LEAD OVER THE COURSE OF CAEDTA CHELATION.** D.A. Cory-Slechta, Division of Toxicology, University of Rochester School of Medicine and Dentistry, Rochester, NY.
- #408 **HYDROPHOBIC INTERACTION CHROMATOGRAPHY OF RAT KIDNEY LEAD-BINDING PROTEIN (PbBP) AND METALLOTHIONEIN.** G. DuVal, P.L. Goering, and B.A. Fowler, NIEHS, Research Triangle Park, NC.
- #409 **REGULATION OF Pb-INHIBITION OF  $\delta$ -AMINOLEVULINIC ACID DEHYDRATASE (ALAD) BY A LOW MOLECULAR WEIGHT Pb-BINDING PROTEIN (PbBP) IN BRAIN: COMPARISON WITH A KIDNEY PbBP.** P.L. Goering and B.A. Fowler, NIEHS, Research Triangle Park, NC.
- #410 **CHRONIC LEAD EXPOSURE AND LATENT LEARNING PERFORMANCE IN THE YOUNG ADULT RAT.** T.F. Massaro, CAES, Fenske Lab., Penn. State Univ., Univ. Pk., PA. Sponsor: E.J. Massaro.
- #411 **COMPARATIVE EFFECTS OF FOUR CHELATING AGENTS AND ONE NON-CHELATING AGENT ON THE EXCRETION AND DISTRIBUTION OF ORALLY ADMINISTERED LEAD IN MICE.** J.B. Meldrum. College of Vet. Med., Virginia Tech., Blacksburg, VA. Sponsor: M. Ehrich.
- #412 **LEAD PERTURBS CALCIUM HOMEOSTASIS IN CULTURED OSTEOCLASTIC BONE CELLS.** J.F. Rosen and J.G. Pounds. Albert Einstein College of Medicine, Bronx, NY and Brookhaven National Laboratory, Upton, NY.
- #413 **BLOOD LEAD LEVELS AND STATURE IN THE NHAMES II SURVEY.** C.R. Angle, J. Schwartz, and H. Pitcher. Dept. of Pediatrics, Univ of Neb Med Center, Omaha, NE; U.S. Environmental Protection Agency, Washington, D.C.
- #414 **EFFECTS OF LEAD ON HEME SYNTHESIS IN MAN: COMPARTMENTAL MODELS AND DOSE-EFFECT CURVES.** A.H. Marcus, Department of Mathematics, and A. Rashid, Pharmacology-Toxicology Program, Washington State University, Pullman, WA. Sponsor: R. Bull.
- #415 **EFFECT OF THE CALMODULIN INHIBITOR W-13 ON THE CELLULAR METABOLISM OF CALCIUM AND LEAD.** A.C. Nye, Natl. Chr. Tox. Res., Jefferson, AR and Univ of Ark. for Med. Sci., Little Rock, AR and J.G. Pounds, Brookhaven Natl. Lab., Long Island, NY.
- #416 **EFFECTS OF ZINC ON LEAD UPTAKE IN CULTURED ASTROGLIA.** T. Rowles, C. Womac, G.R. Bratton, E. Tiffany-Castiglioni. Dept. Veterinary Anatomy, Texas A&M University, College Station, TX. Sponsor: T.D. Phillips.
- #418 **ZINC-INDUCED RESISTANCE TO ALKYLATING AGENT TOXICITY.** M.E. Shackelford, E. Bain, and R.A. Tobey. Los Alamos National Laboratory, Los Alamos, NM. Sponsor: G. Oberdorster.
- #419 **EFFECT OF CADMIUM ON PENTOSE CYCLE OF ADULT AND NEONATAL RAT TISSUES.** A.K. Agarwal. John Jay College of the City University of New York, New York, NY. Sponsor: H.M. Mehendale.
- #420 **CADMIUM CARDIOTOXICITY: EFFECTS ON CYTOPLASMIC AND MITOCHONDRIAL ANTIOXIDANT DEFENSE SYSTEMS IN PRESENCE OF HIGH DIETARY COPPER.** J.J. Sprowls and I.S. Jamall, Toxicology Program, St. John's University, NY.
- #421 **INDUCTION OF METALLOTHIONEIN IN RAT HEPATOCYTE CULTURES BY STEROIDS.** W.M. Bracken and C.D. Klaassen. Dept. Pharmacol., Toxicol. & Therap. Univ. Kansas Med. Ctr., Kansas City, KS.
- #422 **INDUCTION OF HEPATIC METALLOTHIONEIN (MT) FOLLOWING ADMINISTRATION OF URETHANE.** E.A. Brzeznicza, L.D. Lehman, and C.D. Klaassen. Dept. of Pharmacol., Toxicol. & Therap., Univ. of Kansas Med. Ctr., Kansas City, KS.
- #423 **SEPARATION AND QUANTITATION OF METALLOTHIONEINS BY HIGH-PERFORMANCE LIQUID CHROMATOGRAPHY (HPLC) COUPLED WITH ATOMIC ABSORPTION SPECTROPHOTOMETRY (AAS).** L.D. Lehman and C.D. Klaassen. Dept. of Pharmacol., Toxicol. & Therap., Univ. of Kansas Medical Center, Kansas City, KS.
- #424 **INDUCTION OF HEPATIC METALLOTHIONEIN (MT) BY ALCOHOLS.** W.M. Bracken and C.D. Klaassen. Dept. of Pharmacol., Toxicol. & Therap., Univ. of Kansas Medical Center, Kansas City, KS.
- #425 **METAL BINDING PROTEINS IN THE BLUE CRAB, CALLINECTES SAPIDUS.** J.M. Frazier. The Johns Hopkins University, Baltimore, Maryland 21205.
- #426 **ROLE OF CALMODULIN IN THE MECHANISM OF CADMIUM INDUCED CELL INJURY.** B.A. Perrino and I.N. Chou. Dept. of Microbiology, Boston University School of Medicine, Boston, MA. Sponsor: A.E. Rogers.
- #427 **DRAMATIC CYTOSKELETAL PERTURBATION INDUCED BY EPIGENETIC CARCINOGENIC METALS.** I.N. Chou. Department of Microbiology, Boston University School of Medicine, Boston, MA. Sponsor: A.E. Rogers.
- #428 **ESTIMATION OF METALLOTHIONEIN BY SILVER AND CADMIUM BINDING ASSAYS.** T. Gauthier, A.M. Scheuhammer, and M.G. Cherian. Department of Pathology, University of Western Ontario, London, Ontario, Canada.
- #429 **INFLUENCE OF CADMIUM, MERCURY AND VANADATE ON THE GLUTATHIONE-CONJUGATING ENZYME SYSTEM IN LIVER, KIDNEY, LUNG AND BRAIN OF MICE.** C.-P. Siegers, M. Schenke, and M. Younes. Institute of Toxicology, Medical University of Lubeck, FRG.
- #430 **DEOXYAZACYTIDINE PRETREATMENT REDUCES CADMIUM-INDUCED CYTOTOXICITY IN RAT LIVER CELLS THROUGH INCREASED SYNTHETIC CAPACITY FOR METALLOTHIONEIN.** M.P. Waalkes, M.J. Wilson and L.A. Poirier. National Cancer Institute-FCRF, Frederick, MD.
- #431 **REDUCED TISSUE CADMIUM LOAD AND REVERSAL OF CADMIUM INDUCED STRUCTURAL AND BIOCHEMICAL CHANGES IN CALVES BY ZINC.** C.S. Reddy, F.K. Mohammad, V.K. Ganjam and E.M. Brown. Department of Veterinary Biomedical Sciences, Univ. of Missouri, Columbia, MO. Sponsor: M.F. Raisbeck.
- #432 **SUPERFICIAL BINDING AND INFLUX OF CADMIUM AND CALCIUM USING CULTURED HEPATOCYTES.** E.M.B. Sorensen. Department of Pharmacology and Toxicology, The University of Texas, Austin, TX.
- #433 **EFFECT OF CADMIUM AND SELENIUM INTERACTION ON  $\delta$ -AMINOLEVULINIC ACID SYNTHETASE IN MALE RATS.** M.B. Iszard and J.L. Early, College of Pharmacy and Pharmaceutical Sciences, Florida A&M Univ., Tallahassee, FL 32307. Sponsor: R.C. Schnell.
- #434 **EFFECT OF ORAL CADMIUM OF KIDNEY AND URINE OF NONPREGNANT AND PREGNANT/LACTATING MICE.** M.H. Bhattacharyya\*, B.D. Whelton\*, D.P. Peterson\*, and E.S. Moretti\*, Argonne National Laboratory\*, Argonne, IL and Eastern Washington University\*, Cheney, WA. Sponsor: F.W. Sunderman, Jr.
- #435 **EFFECTS OF ZINC, N-ACETYLSTEINE AND SODIUM SULFATE ON TISSUE CADMIUM AND ZINC LEVELS IN MICE PRETREATED WITH CADMIUM.** M.A. Martino, F.K. Mohamad and C.S. Reddy. Department of Veterinary Biomedical Sciences, Univ. of Missouri, Columbia, MO. Sponsor: M.F. Raisbeck.
- #436 **TESTOSTERONE AS A POTENTIATOR OF RENAL TOXICITY OF MERCURY IN RATS.** S. Nishiyama and Z.A. Shaikh. University of Rhode Island, Kingston, RI.
- #437 **TIME-DEPENDENT TISSUE DISTRIBUTION OF METHYL-MERCURY IN THE BALB/C MOUSE AND ITS HAIRLESS HOMOLOG, THE HRS/J MOUSE.** E.J. Massaro. USEPA, HERL, DBD, PTB, RTP, NC.
- #438 **CHROMOSOMAL EFFECTS OF NITRILOTRIACETIC ACID (NTA) AND HEAVY METALS.** A. Montaldi, L. Zentilin, E. Clonfero, and A.G. Levis. Dept. of Biology and Inst. of Environmental Health, Padua, Italy. Sponsor: M. Lotti.



- #439 **STRAIN COMPARISON OF RAT RENAL EPOXIDE HYDROLASE (EH) ELEVATION BY HgCl<sub>2</sub>.** D.J. Kroll, M.E. Graichen, and T.B. Leonard. Smith Kline & French Labs., Philadelphia, PA.
- #440 **REAGGREGATION OF DISSOCIATED MOUSE CEREBELLAR CELLS FOLLOWING EXPOSURE TO METHYLMERCURY.** A.J. Jacobs<sup>1</sup>, W.M. Maniscalco<sup>2</sup> and J.N. Finkelstein<sup>1,2</sup>. Division of Toxicology<sup>1</sup> and Division of Neonatology<sup>2</sup>, University of Rochester School of Medicine, Rochester, NY. Sponsor: V.G. Laties.
- #441 **INTERACTIONS OF MITOCHONDRIAL INHIBITORS AND METHYLMERCURY (MeHg) ON SPONTANEOUS RELEASE OF ACETYLCHOLINE (ACh).** P. Levesque and W. Atchison. Dept. Pharm./Tox., and Ctr. for Environ. Tox., Mich. State Univ., E. Lansing, MI 48824.
- #442 **PRIMARY CULTURES OF RENAL PROXIMAL TUBULE CELLS AS AN IN VITRO MODEL OF MERCURY NEPHROTOXICITY.** M.D. Aleo, M.L. Taub, J.R. Olson, P.A. Nickerson and P.J. Kostyniak. Toxicology Research Center, University at Buffalo School of Medicine, Buffalo, NY 14214.
- #443 **A CHARACTERIZATION OF MERCURY VAPOR OXIDATION BY RAT BRAIN HOMOGENATE.** S.P. Sichak, R.D. Mavis, J.N. Finkelstein, and T.W. Clarkson. Division of Toxicology, University of Rochester School of Medicine, Rochester, NY.
- #444 **SPECIES VARIATIONS IN BILIARY EXCRETION OF GLUTATHIONE-RELATED SULFHYDRYLS AND METHYLMERCURY (MM).** A.F. Stein, Z. Gregus, and C.D. Klaassen. Dept. Pharmacol., Toxicol. & Therap., Univ. Kansas Med. Ctr., Kansas City, KS.
- #445 **GENETIC FACTORS AFFECTING METHYLMERCURY METABOLISM AND EXCRETION.** R.A. Doherty. University of Rochester Medical Center, Rochester, NY. Sponsor: R. Wood.
- #446 **ORAL ADMINISTRATION OF ORGANOTIN COMPOUNDS: TISSUE SPECIFIC ACTION OF n-BUTYL TIN DERIVATIVES ON CYTOCHROME P-450.** D.W. Rosenberg and A. Kappas. The Rockefeller University Hospital, New York, NY.

**TUESDAY AFTERNOON, MARCH 4**  
**French Market Exhibit Hall**

## **POSTER SESSION 9: HEPATIC TOXICOLOGY MECHANISMS/IN VIVO**

Chairman: V.J. Piccirillo, Borriston Labs, Temple Hills, MD

Displayed: 1:30 p.m. - 4:30 p.m.

Attended: 1:30 p.m. - 3:00 p.m.

- #447 **INFLUENCE OF SUBCHRONIC EXPOSURE TO STYRENE ON THE HEPATOTOXICITY AND METABOLIC DISPOSITION OF ACETAMINOPHEN IN RATS.** P. Colin<sup>a</sup>, G. Sirois<sup>a</sup> and S. Chakarbarti<sup>b</sup>, Fac. de Pharmacie<sup>a</sup> and Dept. Med. Trav. Hyg. Mil., Fac. Med.<sup>b</sup> Univ. of Montreal, Montreal, Canada.
- #448 **CELIPROLOL'S INTERACTION WITH CARBON TETRACHLORIDE (CCl<sub>4</sub>)-INDUCED HEPATOTOXICITY IN SPRAGUE-DAWLEY RATS.** L.J. Slaughter<sup>1</sup>, E.F. Erker<sup>1</sup>, L.C.K. Wong<sup>2</sup>, Depts. of Path. & Pharmacol., Howard Univ. Med. Coll., Wash., D.C.<sup>1</sup> & Drug Safety Eval., Revlon Health Care R&D, Tuckahoe, NY<sup>2</sup>.
- #449 **POTENTIATION OF NECROGENIC AND CHOLESTATIC LIVER INJURY BY METABOLITES OF METHYL ISOBUTYL KETONE.** M. Vezina and G.L. Plaa. Departement de pharmacologie, Universite de Montreal, Montreal.
- #450 **VITAMIN A POTENTIATES THE HEPATOTOXICITY OF CARBON TETRACHLORIDE AND ALLYL ALCOHOL.** A.E. ElSisi, D. Earnest, I.G. Sipes, Department of Pharmacology and Toxicology, University of Arizona, Tucson, AZ.
- #451 **METHOXYFLURANE-INDUCED ENHANCEMENT OF ALLYL ALCOHOL HEPATOTOXICITY AND METABOLISM.** W.C. Kershaw, D.A. Barsotti, T.B. Leonard, G.L. Lage and J.G. Dent. Phila. College of Pharmacy & Science and SKF Labs., Phila., PA.
- #452 **COPPER MODIFIES METABOLISM AND TOXICITY OF DIETHYLNITROSAMINE.** L. Brooks, K.R. Cooper and M.A. Gallo. UMDNJ-Rutgers University Joint Graduate Program in Toxicology. Piscataway, NJ.
- #453 **EVIDENCE FOR THE INVOLVEMENT OF MITOCHONDRIA AND LYSOSOMES IN CHLORDECONE POTENTIATION OF CHCl<sub>3</sub> HEPATOTOXICITY IN THE RAT.** L.A. Hewitt, S. Masson and G.L. Plaa, Dep. de Pharmacologie, Universite de Montreal, Montreal, Quebec, Canada.
- #454 **INFLUENCE OF ACETONE ON THE SEVERITY OF THE LIVER INJURY INDUCED BY HALOALKANE MIXTURES.** M. Charbonneau, J. Brodeur and G.L. Plaa. Dep. de Pharmacologie et Dep. de Medecine du Travail et d'Hygiene du Milieu, Universite de Montreal, Montreal, Quebec, Canada, H3C 3J7.
- #455 **A PROTOCOL FOR EVALUATING HEPATIC PEROXISOME PROLIFERATION IN THE RAT.** T.J.B. Gray, B.G. Lake, J.G. Evans, G.P. Ford, E.J. Moran\* and B.D. Astill\*. BIBRA, Carshalton, Surrey, England and \*Chemical Manufacturers Assn., Washington, DC.
- #456 **INDUCTION OF PEROXISOMAL ENZYMES AND INCREASED LIPID PEROXIDATION IN RAT LIVER AFTER PROLONGED ADMINISTRATION OF CLOFIBRIC ACID (CA) AND DI-(2-ETHYLHEXYL) PHTHALATE (DEHP).** B.G. Lake, S.L. Kozlen, T.J.B. Gray, J.G. Evans, P.J. Young and S.D. Gangolli. BIBRA, Carshalton, Surrey, England.
- #457 **STRUCTURE ACTIVITY REQUIREMENTS FOR INDUCTION OF PEROXISOMAL ENZYME ACTIVITIES IN PRIMARY RAT HEPATOCYTE CULTURES.** B.G. Lake, D.F.V. Lewis\*, T.J.B. Gray, K.D. Hodder, J.A. Beaman and S.D. Gangolli. BIBRA, Carshalton, Surrey, England and \*Dept. of Biochemistry, University of Surrey, Guildford, Surrey, England.
- #458 **PEROXISOME PROLIFERATOR-ELICITED MITOGENESIS IN PRIMARY RAT HEPATOCYTE CULTURES.** C.R. Elcombe, A.M. Mitchell, and J.A. Styles. Imperial Chemical Industries PLC, Central Toxicology Laboratory, Alderley Park, Macclesfield, Cheshire, SK10 4TJ, U.K. Sponsor: E.A. Lock.
- #459 **SPECIES SENSITIVITY TO THE INDUCTION OF PEROXISOME PROLIFERATION BY TRICHLOROETHYLENE AND ITS METABOLITES.** A.B. DeAngelo<sup>1</sup>, S. Herren-Freund<sup>1</sup>, M.A. Pereira<sup>1</sup>, N.E. Schults<sup>2</sup> and J.E. Klaunig<sup>2</sup>. <sup>1</sup>U.S. Environmental Protection Agency, Cincinnati, OH and <sup>2</sup>Medical College of Ohio, Toledo, OH.
- #460 **INDUCTION OF LIVER CARNITINE ACETYLTRANSFERASE BY VALPROIC ACID.** Y. Singh, G. Liu, V. Shirhatti and G. Krishna, NHLBI, Bethesda, MD. Sponsor: J.R. Gillette.
- #461 **IN VIVO AND IN VITRO INDUCTION OF RAT HEPATIC PEROXISOMAL B-OXIDATION BY A SERIES OF TETRAZOLE-SUBSTITUTED ACETOPHENONES.** P.I. Eacho and P.S. Foxworthy. Lilly Research Labhs., Toxicol. Div., Greenfield, IN. Sponsor: J.L. Emmerson.
- #462 **INDUCTION OF HEPATIC PEROXISOMAL ENZYMES IN F344 RATS TREATED WITH DI-(2-ETHYLHEXYL)PHTHALATE (DEHP).** K.E. Tomaszewski, M.C. Derks, and R.L. Melnick. NIEHS, NTP, Research Triangle Park, NC 27709. Sponsor: J.R. Bucher.
- #463 **METABOLISM AND BIOCHEMICAL EFFECTS OF DI-(2-ETHYLHEXYL)ADIPATE (DEHA) IN RATS.** J.C. Lhuguenot and C.R. Elcombe, University of Dijon, ENSBANA, 21100 Dijon, France, and Imperial Chemical Industries PLC, Central Toxicology Laboratory, Alderley Park, Macclesfield, Cheshire, SK10 4TJ, U.K. Sponsor: E.A. Lock.

- #464 **INHIBITION OF HEPATIC KETOGENESIS BY METABOLITES OF PLASTICIZERS: STUDIES WITH 2-ETHYLHEXANOL AND STRUCTURALLY SIMILAR COMPOUNDS IN THE ISOLATED PERFUSED LIVER.** M.Z. Badr and R.G. Thurman, Dept. of Pharmacology, University of North Carolina, Chapel Hill, North Carolina.
- #465 **CYTOLOGICAL COMPARISONS OF LIVER REGENERATION, HYPERPLASIA AND NEOPLASIA IN THE RAT.** J.A. Styles and C.R. Elcombe. ICI Central Toxicology Lab, Alderley Park, Macclesfield, Cheshire SK10 4TJ. U.K. Sponsor: E.A. Lock
- #466 **DETECTING TOXICITY USING PRIMARY HEPATOCYTE CULTURES.** J.E. Simmons and J. Lewtas. National Research Council Resident Research Associate, Environmental Protection Agency, Research Triangle Park, NC. Sponsor: W.F. Durham.
- #467 **IN VITRO HEPATOTOXICITY STUDY OF CHLORPROMAZINE AND ERYTHROMYCIN ANALOGS.** K.C. Norbury<sup>1</sup>, P. Carthage<sup>1</sup>, E.M.B. Sorensen<sup>2</sup>, D. Acosta<sup>2</sup>, and G.J. Davis<sup>1</sup>. Ortho Pharmaceutical Corporation, Raritan, NJ and <sup>2</sup>The University of Texas, Austin, TX.
- #468 **THE EFFECT OF CELLULAR GLUTATHIONE (GSH) LEVELS ON CYTOTOXICITY OF T-2 MYCOTOXIN (T-2) IN RAT HEPATOCYTES.** W.L. Thompson and R.F. Fricke, US Army Medical Research Institute of Infectious Diseases, Fort Detrick, Frederick, MD.
- #469 **KINETIC EVALUATION OF CARRIER-MEDIATED TRANSPORT OF OUABAIN AND TAUROCHOLIC ACID IN ISOLATED RAT HEPATOCYTES. EVIDENCE FOR INDEPENDENT TRANSPORT SYSTEMS.** D.L. Eaton and J.A. Richards, Dept. Environmental Health, University of Washington, Seattle, WA.
- #470 **INFLUENCE OF CHLORINATED HYDROCARBONS ON CULTURED HEPATOCYTE FUNCTION.** R.G. Lamb, J.B. Coleman, L.W. Condie\* and J.F. Borzelleca. Depts. of Pharmacology/Toxicology and Internal Medicine, Medical College of VA, Richmond, VA 23298 and U.S.E.P.A., Cincinnati, OH 45268.
- #471 **EFFECT OF VOLATILE ANESTHETICS ON PROTEIN SYNTHESIS AND SECRETION IN RAT HEPATOCYTE SUSPENSIONS.** A.B. DiRenzo, A.J. Gandolfi, K. Brendel, G. Krack, Arizona Health Sciences Center, University of Arizona, Tucson, AZ.
- #472 **TOXICITY OF VARIOUS HISTAMINE H<sub>2</sub>-RECEPTOR ANTAGONISTS TO SUSPENSIONS OF ISOLATED HEPATOCYTES: STRUCTURE-ACTIVITY RELATIONSHIPS.** G.F. Rush, D. Alberts, S. Lupo, L.A. Yodis, T.H. Brown and G.J. Durant. Department of Investigative Toxicology, Smith Kline and French Laboratories, Philadelphia, PA and Department of Medicinal Chemistry, SK&F Research Ltd., Welwyn, Hertfordshire, England AL6 9AR.
- #473 **INFLUENCE OF CULTURE MEDIUM COMPOSITION ON GLUTATHIONE LEVELS AND TOXICITY OF ALLYL ALCOHOL AND HYDROGEN PEROXIDE IN RAT HEPATOCYTES.** T.J.B. Gray, B.G. Lake, J.A. Beamand, K.D. Hodder and S.D. Gangolli. BBRa, Carshalton, Surrey, England.
- #474 **HEPATOTOXINS ELEVATE CYTOPLASMIC Ca<sup>++</sup>: STUDIES WITH QUIN2.** R.M. Long and L. Moore. Dept. of Pharmacology, Uniformed Services University, Bethesda, MD 20814. Sponsor: A.P. Alvares.
- #475 **AN IN VIVO/IN VITRO MODEL FOR ASSESSING HEPATOTOXIN-INDUCED CELL INJURY.** J.R. MacDonald and E.A. Smuckler, Department of Pathology, UCSF, San Francisco, CA 94143.
- #476 **CHLOROBENZENE, CARBON TETRACHLORIDE AND TRICHLOROETHYLENE INHIBIT METABOLIC FUNCTIONS IN ISOLATED RAT HEPATOCYTES BEFORE DETECTABLE MEMBRANE DAMAGE.** S. Matheson, G. Krack and I.G. Sipes. Department of Pharmacology and Toxicology, University of Arizona, Tucson, AZ.
- #477 **BROMOBENZENE AND ALLYL ALCOHOL HEPATOTOXICITY IN CULTURED RAT LIVER SLICES: II. INHIBITION OF TOXICITY BY SELECTIVE ENZYME INHIBITORS.** P.F. Smith, R. Fisher, G. Krack, A.J. Gandolfi, and K. Brendel, Dept. Pharmacology, Univ. AZ, Tucson, AZ.
- #478 **HEPATOTOXICITY OF THREE DICHLOROBENZENE ISOMERS IN HUMAN LIVER ORGAN CULTURE.** R. Fisher, J. Barr, C.F. Zukoski, C.W. Putnam, A.J. Gandolfi, I.G. Sipes and K. Brendel. Center of Toxicology, University of Arizona, Tucson, AZ.
- #479 **TOXICITY OF THE DICHLOROBENZENES IN ISOLATED RAT HEPATOCYTES.** J. Barr, E.R. Stine, S. Matheson and I.G. Sipes. Dept. of Pharmacology and Toxicology, Col. of Pharmacy, University of Arizona, Tucson, AZ.
- #480 **HEPATOTOXICITY OF THE THREE ISOMERS OF DICHLOROBENZENE AS A FUNCTION OF CHLORINE POSITION.** E.R. Stine, J. Barr, D.E. Carter and I.G. Sipes. Dept. of Pharm/Tox., Col. of Pharmacy, University of Arizona, Tucson, AZ.
- #481 **HEPATOTOXICITY OF DICHLOROBENZENE ISOMERS IN SPRAGUE DAWLEY RAT LIVER ORGAN EXPLANTS.** R. Fisher, P.F. Smith, A.J. Gandolfi, I.G. Sipes and K. Brendel. Center of Toxicology, University of Arizona, Tucson, AZ.
- #482 **ULTRASTRUCTURAL EFFECTS OF CARBON TETRACHLORIDE (CCl<sub>4</sub>) AND DIGITONIN ON ISOLATED RAT HEPATOCYTES.** J.M. Walsh, Y-P. Feng, P. Simms, J. Eveland, D-C Wang and M.A. Evans. Department of Pharmacology, University of Illinois College of Medicine, Chicago, Illinois 60612.

**TUESDAY AFTERNOON, MARCH 4**  
**French Market Exhibit Hall**

## **POSTER SESSION 10: NEUROTOXICOLOGY II: ELECTROPHYSIOLOGY & NEUROPATHOLOGY**

**Chairman:** D.G. Graham, Duke University, Durham, NC

**Displayed:** 1:30 p.m. - 4:30 p.m.

**Attended:** 3:00 p.m. - 4:30 p.m.

- #483 **TRALOMETHRIN HAS INTRINSIC ACTIVITY ON NERVE MEMBRANE SODIUM CHANNELS.** L.D. Brown and T. Narahashi. Department of Pharmacology, Northwestern University Medical School, Chicago, IL.
- #484 **PYRETHROIDS INCREASE NEUROTRANSMITTER RELEASE IN THE GUINEA PIG OLFACTORY CORTEX IN VITRO.** N. Ogata, J.T. Eells, S. Watabe, and T. Narahashi. Dept. of Pharmacol., Northwestern Univ. Med. Sch., Chicago, IL. Sponsor: P.F. Hollenberg.
- #485 **ELECTROPHYSIOLOGIC CORRELATES OF OPIDN IN HEN.** D.G. Robertson B.W. Schwab, R.J. Richardson and R.J. Anderson, Univ. Mich. Tox. Program and Warner-Lambert/Parke-Davis Pharm. Res., Ann Arbor, MI.
- #486 **REFRACTORINESS TO THE NEUROMUSCULAR TOXICITY OF DITHIOBIURET IN RATS.** K.D. Williams and R.E. Peterson. School of Pharmacy, University of Wisconsin, Madison, WI 53706.
- #487 **FUNCTIONAL AND MORPHOLOGICAL CHARACTERIZATION OF DITHIOBIURET NEUROTOXICITY IN RATS.** K.D. Williams, B.G. Boysen, and R.E. Peterson, School of Pharmacy, University of Wisconsin and Hazleton Laboratories of America, Inc., Madison, WI.
- #488 **ACUTE EFFECTS OF PHYSOSTIGMINE IN RATS: BEHAVIORAL ACTIVITY AND POWER SPECTRAL ANALYSIS OF CORTICAL EEG.** M.L. Abercrombie, E.U. Eccles, and G.A. Young. Univ. of Maryland, Baltimore, MD and U.S. Army Forensic Toxicology Drug Testing Laboratory, Ft. Meade, MD. Sponsor: Z. Annau.
- #489 **PATHOLOGY OF TRIMETHYLIN IN NONHUMAN PRIMATES.** \*K.R. Reuhl, P.J. Bushnell, and H.L. Evans. \*Div. Biol. Sci., Nat. Res. Council, Ottawa, Canada, and Inst. Environm. Med., N.Y. Med. Ctr.

- #490 **MODULATION OF TRIMETHYLtin-INDUCED NEURONAL NECROSIS BY EXCITATORY PATHWAYS.** Y. Theoret, D.A. Lindemann and M.R. Krigman, University of North Carolina, Chapel Hill, NC.
- #491 **THE ROLE OF NEURONAL METABOLIC INSULT IN ORGANOMETAL NEUROTOXICITY.** Y. Theoret, J. Caldwell-Kenkel, and M.R. Krigman. University of North Carolina, Chapel Hill, NC.
- #492 **EFFECTS OF MATERNAL EXPOSURE TO TRICHLOROETHYLENE ON HIPPOCAMPAL DEVELOPMENT IN RAT PUPS.** M.E. Strain, R.J. Pfohl, D.H. Taylor and \*D. Laurie. Miami University, Oxford, OH and \*Health Effects Research Laboratory, U.S. EPA, Cincinnati, OH. Sponsor: P.T. McCauley.
- #493 **TRIPHENYL PHOSPHITE (TPP) DOES NOT PRODUCE ORGANOPHOSPHORUS-INDUCED DELAYED NEUROPATHY (OPIDN) IN RATS.** B. Veronesi, S. Padilla and C.L. Dvergsten. U.S. Environmental Protection Agency, Research Triangle Park, N.C. Sponsor: R.S. Dyer.
- #494 **EFFECT OF SUPPLEMENTAL CORTICOSTERONE AND SOCIAL STRESS ON ORGANOPHOSPHORUS-INDUCED DELAYED NEUROPATHY (OPIDN) IN CHICKENS.** M. Ehrich and W.B. Gross, Virginia-Maryland Regional College of Veterinary Medicine, Blacksburg, VA.
- #495 **USE OF VITAMIN E AND SELENIUM AS POSSIBLE TREATMENTS FOR ORGANOPHOSPHATE INDUCED DELAYED NEUROPATHY (OPIDN) IN CHICKENS.** C. Brown, L. Force, B.S. Jortner and M. Ehrich, Virginia-Maryland Regional College of Veterinary Medicine, Blacksburg, VA.
- #496 **EFFECTS OF METHYLMERCURY ON THE CYTOSKELETON OF EMBRYONAL CARCINOMA-DERIVED NEUROECTODERM.** M. Cadrin, \*K.R. Reuhl, and D.L. Brown. \*Div. Biol. Sci., Nat. Res. Council of Canada and Dept. Biol., Univ. Ottawa, Ottawa, Canada. Sponsor: J.G. Pounds.
- #497 **ALTERATIONS IN THE PATTERN OF SEROTONIN PROJECTIONS FOLLOWING NEONATAL EXPOSURE TO 5,7-DIHYDROXY-TRYPTAMINE.** K. Jensen, NTD, USEPA, Research Triangle Park, NC. Sponsor: R.S. Dyer.

## TUESDAY AFTERNOON, MARCH 4

French Market Exhibit Hall

### POSTER SESSION 11: FOOD/DRUGS

Chairman: J.G. Dent, Smith Kline & French, Philadelphia, PA

Displayed: 1:30 p.m. - 4:30 p.m.

Attended: 1:30 p.m. - 3:00 p.m.

- #498 **PHENYTOIN SUPPRESSES IMMUNE FUNCTIONS AND CAUSES DAMAGE TO DNA IN VITRO AND IN VIVO.** N.C. Margaretten, J.R. Hincks, R.P. Warren, and R.A. Coulombe, Jr., Center for Environmental Toxicology, Utah State University, Logan, UT. Sponsor: R.P. Sharma.
- #499 **PRELIMINARY RANGE-FINDING STUDIES ON THEOPHYLLINE TOXICITY IN RATS AND MICE.** C. Lindamood III, J.C. Lamb IV,\* D.W. Bristol\*, J.J. Collins, \* and J.E. Heath. Southern Research Institute. Birmingham, AL and \*National Toxicology Program, Research Triangle Park, NC.
- #500 **SUBACUTE TOXICITY OF A PHENYLENE(OXY)-BIS 2,2-DIMETHYLPENTANOIC ACID, A LIPID REGULATING AGENT.** E.J. McGuire, J.A. Anderson, C.C. McGhee, and L.K. Andrews. Path. & Exp. Tox., Warner-Lambert/Parke-Davis Pharm. Res., and Env. Ind. Health, University of Michigan, Ann Arbor, MI. Sponsor: F.A. de la Iglesia.
- #501 **CHRONIC TOXICITY AND CARCINOGENICITY EVALUATION OF VIDARABINE IN WISTAR RATS.** S.I. Gracon, D.S.B. Watson, C.J. DiFonzo, G.S. Smith, N.J. Barsour, and J.M. Sturgess. Path. Exp. Tox. Dept., Warner-Lambert/Parke-Davis Pharm. Res., Mississauga, ON and Ann Arbor, MI. Sponsor: F.A. de la Iglesia.
- #502 **INTERSTITIAL PNEUMONIA INDUCED BY TRIETHYLENE-TETRAMINE DIHYDROCHLORIDE (TRIEN) IN B6C3F1 MICE FED AIN-76A DIET.** D.L. Greenman and R.L. Morrissey\*, National Center for Toxicological Research, Jefferson, AR and \*Pathology Associates Inc., Ijamsville, MD. Sponsor: G.L. Wolff.
- #503 **MORPHOMETRIC ANALYSIS OF CULTURED HEPATOCYTES EXPOSED TO BENOXAPROFEN.** E.M.B. Sorensen. Department of Pharmacology and Toxicology, The University of Texas, Austin, TX.
- #504 **POLY (N-ACRYLOYL-BETA-ALANINE-N'-METHYL HYDROXAMIC ACID) (PA-11) INDUCED RENAL LESIONS IN RATS.** J.C. Siglin<sup>1</sup>, W.D. Johnson<sup>1</sup>, A. Winston<sup>2</sup>, P.J. Becci<sup>1</sup>, <sup>1</sup>Food and Drug Research Laboratories, Inc., Waverly, NY. <sup>2</sup>Dept. of Chemistry, West Virginia University, Morgantown, WV.
- #505 **TOXICITY AND CARCINOGENICITY STUDIES OF CAMEL COLOR (IV) IN F344 RATS AND B6C3F1 MICE.** K.M. MacKenzie<sup>1</sup>, B.G. Boysen<sup>1</sup>, W.E. Field<sup>1</sup>, S.R.W. Petsel<sup>1</sup>, C.I. Chappel<sup>2</sup>, J.L. Emerson<sup>3</sup>, and S. Molinary<sup>4</sup>; <sup>1</sup>Hazleton Laboratories America, Inc., Madison, WI; <sup>2</sup>F.D.C. Consultants, Inc., Oakville, Ontario, Canada; <sup>3</sup>The Coca-Cola Company, Atlanta, GA; <sup>4</sup>PepsiCo Research and Technical Services, Valhalla, NY.
- #506 **SUBCHRONIC TOXICITY STUDIES IN DOGS AND IN UTERO-EXPOSED RATS FED DIETS CONTAINING ALPHA-AMYLASE FROM A NATURAL OR RECOMBINANT DNA ORGANISM.** R.H. Weltman<sup>1</sup>, B.C. Dickie<sup>1</sup>, N.J. Albrecht<sup>1</sup>, K.M. MacKenzie<sup>1</sup>, N.W. Zeman<sup>2</sup>, and H.C. Grice<sup>3</sup>; <sup>1</sup>Hazleton Laboratories America, Inc., Madison, WI; <sup>2</sup>CPC International, Inc., Summit-Argo, IL; <sup>3</sup>F.D.C. Consultants, Inc., Ottawa, Ontario, Canada.
- #507 **EVALUATION OF CYCLAMATE FOR CARCINOGENICITY.** F.E. Ahmed, V.H. Laukaran, and S. Palmer. National Research Council, Washington, DC.
- #508 **CHRONIC TOXICITY AND CARCINOGENESIS STUDIES OF GENTIAN VIOLET IN RATS.** N.A. Littlefield, D.W. Gaylor, B.N. Blackwell. National Center for Toxicological Research, Jefferson, AR. Sponsor: W.T. Allaben.
- #509 **DIETARY SELENIUM FROM CATTLE AND ITS TOXICOLOGICAL SIGNIFICANCE IN HUMANS.** A.M. Fan, California Dept Health Services, Berkeley, CA. B.B. Norman and D.J. Wilson, Univ. California, Davis, CA. Sponsor: A. Furst.
- #510 **RADIOIMMUNOASSAY SCREENING FOR ETORPHINE IN RACING HORSES.** W.E. Woods, T. Weckman, T. Wood, S-L Chang, J.W. Blake and T. Tobin. Kentucky Equine Drug Testing and Research Programs, Department of Veterinary Science, 102 Animal Pathology Bldg., University of Kentucky, Lexington, KY 40546-0076. Sponsor: M. Vore.
- #511 **ESTROGENIC POTENCIES OF RESORCYLIC ACID LACTONES AND 17β-ESTRADIOL IN FEMALE RATS.** D.J. Everett, C.J. Perry, K.A. Scott, B.W. Martin and M. K. Terry, Inveresk Research International, Musselburgh, Scotland, and International Minerals and Chemical Ltd., London, England. Sponsor: D.B. McGregor.

**WEDNESDAY MORNING, MARCH 5**

**8:30 a.m. - 12 p.m.**

**Ballroom D**

## **SYMPOSIUM: SCIENTIFIC ACCOMPLISHMENTS AND THE FUTURE 25th Anniversary Symposium**

**Honorary Chairman:** L. Golberg, SOT President 1978-1979

**Chairman:** H. Remmer, Institute of Toxicology, Tübingen, Federal Republic of Germany

**Introduction:** L. Golberg

**Biotransformation and Bioactivation Studies: What Do They Tell Us About Toxicity?** M.W. Anders, University of Rochester, Rochester, NY

**Human Motor Neuronotoxins: New Discoveries in Unusual Places.** P.S. Spencer, Albert Einstein College of Medicine, Bronx, NY

**Issues of "Unorthodox" Carcinogenesis.** P. Grasso, University of Surrey, Guildford, Surrey, U.K.

**Directions of Future Advances.** L. Golberg, Duke University Medical Center, Durham, NC

**WEDNESDAY MORNING, MARCH 5**

**8:30 a.m. - 12 p.m.**

**Poydras A**

## **PLATFORM SESSION: IMMUNE SYSTEM**

**Honorary Chairman:** S.L. Friess, SOT President 1975-1976

**Chairman:** J.H. Dean, Chemical Industry Institute of Toxicology, Research Triangle Park, NC

- #57 8:30 **IMMUNOLOGIC DEFINITION OF TRIMELLITIC ANHYDRIDE-INDUCED LUNG INJURY.** C.L. Leach, N.S. Hatoum, H.V. Ratajczak, R.L. Sherwood, J.C. Roger, and P.J. Garvin, IIT Research Institute and Amoco Corporation, Chicago, IL.
- #58 8:45 **PULMONARY IRRITATION AND HYPERSENSITIVITY IN GUINEA PIGS EXPOSED TO 4,4'-DIPHENYLMETHANE DIISOCYANATE (MDI) AEROSOL.** P.S. Thorne, J.A. Hillebrand and M.H. Karol, Dept. Ind. Env. Hlth. Sci., Univ. of Pittsburgh, Pittsburgh, PA.
- #59 9:00 **THE FATE OF INHALED <sup>14</sup>C-TOLUENE DIISOCYANATE IN SENSITIZED GUINEA PIGS.** B.L. Hill, M.H. Karol, and W.E. Brown, Dept. Biol. Sci., Carnegie-Mellon University, Pittsburgh, PA and Dept. Ind. Env. Hlth., Univ. of Pittsburgh, Pittsburgh, PA 15261.
- #60 9:15 **DETECTION OF TDI-SPECIFIC LYMPHOCYTES IN ANIMALS SENSITIZED WITH TOLUENE DIISOCYANATE (TDI).** M.H. Karol, A. Koros, C.M. Magreni and B. Rubanoff, Dept. Ind. Env. Hlth. Sci., Univ. of Pittsburgh, Pittsburgh, PA 15261.
- #61 9:30 **Ah RECEPTOR MEDIATED SUPPRESSION OF THE ANTIBODY RESPONSE IN MICE IS DEPENDENT ON THE Ah GENOTYPE OF LYMPHOID TISSUE.** J.B. Silkworth and L. Antrim, Wadsworth Center for Labs and Research, NY State Dept. of Health, Albany, NY. Sponsor: L. Kaminsky.
- #62 9:45 **CELLULAR TARGETS OF DIOXIN-INDUCED HUMORAL IMMUNE SUPPRESSION.** N.I. Kerkvliet and J.A. Brauner, College of Veterinary Medicine and Environmental Health Sciences Center, Oregon State University, Corvallis, OR.
- #63 10:00 **IMMUNOTOXICOLOGICAL STUDIES OF HEXACHLORINATED DIOXINS.** M.P. Holsapple, K.L. White, Jr., S.G. Bradley, and A.E. Munson, Medical College of Virginia/VCU, Richmond, VA.
- #64 10:15 **THE B LYMPHOCYTE AS A TARGET FOR DIMETHYLNITROSAMINE-INDUCED IMMUNOSUPPRESSION.** K.W. Johnson, A.E. Munson, and M.P. Holsapple, Dept. of Pharmacol. & Toxicol., Med. Coll. VA/VCU, Richmond, VA.
- #65 10:30 **IMMUNOMODULATION OF LOCAL AND SYSTEMIC IMMUNITY AFTER SUBCHRONIC PULMONARY EXPOSURE OF MICE TO BENZO(A)PYRENE.** C.T. Schnitzlein, A.E. Munson, and R.A. Rhoades, Department of Physiology and Biophysics, Indiana University School of Medicine, Indianapolis, IN and Department of Pharmacology and Toxicology, Medical College of Virginia, Richmond, VA.
- #66 10:45 **POLY (I): POLY (C)-MEDIATED ABROGATION OF INHALED OZONE-IMPAIRED PHAGOCYTOSIS.** G.R. Burleson<sup>1</sup>, L.B. Fuller<sup>1</sup>, and J.A. Graham<sup>2</sup>, <sup>1</sup>Northrop Services, Inc., Environmental Sciences, <sup>2</sup>HERL, U.S.E.P.A., Research Triangle Park, NC 27709.
- #67 11:00 **EFFECTS OF ANTIBIOTICS ON NEUTROPHIL CHEMOTAXIS IN THE RAT.** P. Tachon, H.I.F.T., l'Arbresle, France, A. Eyraud, J.Y. Lombard, J. Descote s, Alexis Carrel Medical Faculty, Lyon, France, A. Laschi-Loquerie, C. Veysseyre, Pasteur Institute, Lyon, France.
- #68 11:15 **ALTERATION OF HUMORAL AND CELLULAR IMMUNITY IN MANGANESE CHLORIDE TREATED MICE.** B. Srisuchart, M.J. Taylor and R.P. Sharma, Center for Environmental Toxicology, Utah State University, Logan, UT 84322.
- #69 11:30 **EFFECT OF PROCAINAMIDE TREATMENT ON THE MITOGENIC RESPONSE OF DOG LYMPHOCYTES.** F. Daguiard, S. Mulhern, C. Robinson and T. Balazs, FDA, Washington, DC 20204.
- #70 11:45 **DETERMINATION OF APPROPRIATE DOSE TO ASSESS IN VIVO IMMUNOTOXICITY.** J. Cavagnaro, C. Slabik, R. Cox, and F. Reno, Hazleton Laboratories Corporation, Vienna, VA.

**WEDNESDAY MORNING, MARCH 5**

**8:30 a.m. - 11:45 a.m.**

**Poydras B**

## **PLATFORM SESSION: NERVOUS SYSTEM**

**Honorary Chairman:** J.A. Zapp, SOT President 1967-1968

**Chairman:** L. Reiter, US Environmental Protection Agency, Research Triangle Park, NC

- #71 8:30 **SUBCHRONIC EXPOSURE OF CHICKENS TO ORGANOPHOSPHORUS ESTERS.** B.W. Wilson, J. Henderson, T. Kellner, R. Higgins and M. Goldman, University of California, Davis, CA 95616.
- #72 8:45 **SUBACUTE EFFECTS OF SOMAN (SM), SARIN (SR) AND TABUN (TB) ON MUSCARINIC RECEPTORS OF RAT BRAIN.** J.C. Fernando, B. Hoskins and I.K. Ho, Dept. Pharmacol. & Toxicol., Univ. MS Med. Ctr., Jackson, MS 39216.
- #73 9:00 **REVERSAL OF IN VIVO PROTEIN SYNTHESIS INHIBITION DURING PROLONGED DFP ADMINISTRATION.** R.C. Gupta and W-D. Dettbarn, Department of Pharmacology and Neuromuscular Disease Research Center, Vanderbilt University, Nashville, TN. Sponsor: B.V.R. Sastry.

- #74 9:15 **A COMPARISON OF IN VITRO AND IN VIVO NEUROTOXIC ESTERASE INHIBITION BY TRIPHENYL PHOSPHITE (TPP).** S. Padilla<sup>1</sup>, T. Grizzle<sup>2</sup>, and D. Lyerly<sup>2</sup> (<sup>1</sup>US EPA, RTP, NC; <sup>2</sup>Northrop Services, RTP, NC). Sponsor: L.W. Rieter.
- #75 9:30 **PURIFIED MAMMALIAN ACETYLCHOLINESTERASE AND OXIME TREATMENT OF ORGANOPHOSPHOROUS POISONING.** D.W. Hanke and M.S. Beckett, US Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD. Sponsor: W.E. Sultan.
- #76 9:45 **COMPARATIVE ENZYME ACTIVITIES IN HEN NEURAL TISSUES AFTER TREATMENT WITH ORGANOPHOSPHATES.** N.A. Mansour, E.A. El-Feel, and S.M. Sherby. Pesticide Chemistry Div., Faculty of Agriculture, University of Alexandria, Egypt. Sponsor: Z. Annau.
- #78 10:00 **THE ROLE OF PHOSPHOLIPIDS ON THE INTERACTION OF ORGANOPHOSPHATE AND CARBAMATES WITH ACETYLCHOLINE RECEPTOR.** N.A. Mansour, J.J. Valdes\*, A. Shamoo\*\*, and Z. Annau. The Johns Hopkins University, \*U.S. Army Armament, Munitions and Chemical Command, APG, and \*\*University of Maryland School of Medicine, Baltimore, MD.
- #79 10:15 **CONVULSANT AND ANTICONVULSANT INDUCED PERTURBATIONS IN MEMBRANE COMPOSITION AND FUNCTION.** M.W. Gill, M.R. Connors and R.A. Schatz. Northeastern University, Toxicology Program, Boston, MA 02115.
- #80 10:30 **EFFECT OF MANGANESE EXPOSURE ON REGIONAL BRAIN BIOGENIC AMINES IN MICE.** B. Srisuchart, and R.P. Sharma, Center for Environmental Toxicology Utah State University, Logan, UT 84322.
- #81 10:45 **ALTERATIONS IN REGIONAL BRAIN NEUROTRANSMITTER CONCENTRATIONS INDUCED BY THE ARTIFICIAL SWEETENER ASPARTAME—A TIME STUDY.** R.A. Coulombe, Jr., R.P. Sharma and J.M. Huie, Center for Environmental Toxicology, Utah State University, Logan, UT.
- #82 11:00 **EFFECT OF REPEATED DAILY EXPOSURE OF ASPARTAME (NUTRASWEET) ON REGIONAL BRAIN NEUROTRANSMITTERS.** R.P. Sharma and R.A. Coulombe, Jr., Center for Environmental Toxicology, Utah State University, Logan, UT.
- #83 11:15 **ACUTE EFFECTS OF ORGANOPHOSPHATES ON Ca<sup>++</sup> AND Mg<sup>++</sup> CONTENTS IN RAT BRAIN.** H.K. Watanabe, D.D. Liu, B. Hoskins and I.K. Ho, Dept. Pharmacol. & Toxicol., Univ. MS Med. Ctr., Jackson, MS 39216.
- #84 11:30 **ALUMINUM DISTRIBUTION AND GLDH ACTIVITY IN PRIMARY HIPPOCAMPAL, ASTROCYTE, AND CEREBELLAR CULTURES TREATED WITH ALCl<sub>3</sub>·6H<sub>2</sub>O.** G. Kisby and D. Acosta. Department of Pharmacology/Toxicology, University of Texas, Austin, TX.

## WEDNESDAY MORNING, MARCH 5

8:30 a.m. - 11:45 a.m.

Burgundy Room

### PLATFORM SESSION: PESTICIDES

**Honorary Chairman:** W.J. Hayes, SOT President 1971-1972

**Chairman:** K.K. Rozman, University of Kansas Medical Center, Kansas City, KS

- #85 8:30 **TRANSDERMAL ABSORPTION OF ORGANOPHOSPHATE INSECTICIDES.** R.D. Gokhale, D.R. Bourcier, A. Mitra, and S.L. Morris. School of Pharmacy, Northeast Louisiana Univ., Monroe, LA. Sponsor: R.P. Sharma.
- #86 8:45 **ORGANOPHOSPHATE INDUCED DELAYED POLYNEUROPATHY (OPIDP) BY CHLORPYRIFOS IN MAN AND HENS.** M. Lotti, D. Bertoncin, and A. Moretto. Istitutede Medicina del Lavoro, Universita' di Padova, Italy.
- #87 9:00 **SUBCHRONIC (13-WK) EVALUATION IN LAYING CHICKEN HENS OF CHLORPYRIFOS-METHYL FOR DELAYED-NEUROTOXICITY.** T. Barna-Lloyd, G.C. Jersey, and J.T. Young. H&ES, Dow Chemical USA, Freeport, TX 77566. Sponsor: R.J. Kociba.
- #88 9:15 **RESPONSE OF SALIVARY CHOLINESTERASE TO ACUTE DIISOPROPYL FLUOROPHOSPHATE (DFP) INTOXICATION.** R.A. Miller, C.E. Whalley, and J.A. Chepanonis. U.S. Army Institute of Dental Research, Washington, DC. Sponsor: G.P. Carlson.
- #89 9:30 **2-PAM REACTIVATION OF CHOLINESTERASE FOR DETECTION OF ORGANOPHOSPHATE POISONING.** M.J. Hooper, S. Smucker, and B.W. Wilson. University of California, Davis, CA.
- #90 9:45 **ACTIVE METABOLITES OF ISOFENPHOS AND TOXICITY.** E.Chow and B.W. Wilson. University of California, Davis, CA.
- #91 10:00 **DIETARY TOXICITY AND ANTICHOLINESTERASE EFFECT OF DYFONATE \* IN MICE.** J.S. Hicks, G.M. Zwicker and G.L. Sprague, Stauffer Chemical Company, Toxicology Department, Farmington, CT.
- #92 10:15 **ALDICARB FOOD POISONING EPIDEMIC FROM CONTAMINATED CALIFORNIA WATERMELONS.** P.E. Berteau, and G.A. Pollock, California Department of Health Services, Berkeley, CA.
- #93 10:30 **WORKER EXPOSURE TO AND ABSORPTION OF CYPERMETHRIN DURING AERIAL APPLICATION OF AN 'ULTRA LOW VOLUME' FORMULATION TO COTTON.** G.M. Rand, D.E. Nye & G. Chester. FMC Corp. Princeton, NJ & ICI, Surrey, UK.
- #94 10:45 **CHEMICAL MODIFICATION OF CHOLINESTERASE (ChE) CARBAMYLATION KINETICS BY PERIPHERAL SITE LIGANDS.** J.K. Marquis and C.R. Cyr. Boston University School of Medicine, Boston, MA.
- #96 11:00 **COMPARATIVE METABOLISM AND FATE OF FENVALERATE IN JAPANESE QUAIL AND RATS.** M.M. Mumtaz and R.E. Menzer. Insecticide Toxicology Lab., Dept. of Entomology, Univ. of Maryland, College Park, MD 20742.
- #97 11:15 **FENVALERATE EFFECTS ON THE PICROTOXIN SEIZURE THRESHOLD AND LOCOMOTOR ACTIVITY IN THE RAT.** K.M. Tolson, W.M. Bourn, and F.O. Risinger. School of Pharmacy, Northeast Louisiana University, Monroe, LA. Sponsor: T.H. Eickholt.
- #98 11:30 **EARLY RESPONSE OF THE ALKALINE PHOSPHATASE FOLLOWING LUNG INJURY BY PARAQUAT.** J. Boudreau, D. Nadeau. Laboratoire de Biochimie et de Toxicologie Pulmonaire, Dep. Biologie, Universite de Sherbrooke, Quebec, Canada, J1K 2R1. Sponsor: G.L. Plaa.

## WEDNESDAY MORNING, MARCH 5

French Market Exhibit Hall

### POSTER SESSION 12: INHALATION II

**Chairman:** J.T. Stevens, Ciba-Geigy Corp., Greensboro, NC

**Displayed:** 8:30 a.m. - 11:30 a.m.

**Attended:** 10:00 a.m. - 11:30 a.m.

- #512 **EFFECTS OF ACUTE AND SUBCHRONIC OZONE EXPOSURE ON FUNCTIONAL PROPERTIES OF RABBIT ALVEOLAR MACROPHAGES.** K.E. Driscoll, T.A. Vollmuth, R.B. Schliesinger. Dept. of Environmental Medicine, New York University Med. Cntr. New York, NY.

- #513 **EFFECT OF OZONE EXPOSURE ON DNA SYNTHESIS IN PULMONARY ALVEOLAR MACROPHAGES.** E.S. Wright. Biomedical Science Dept., General Motors Research Labs, Warren, MI. Sponsor: E.W. Lee.
- #514 **OZONE (O<sub>3</sub>) INHIBITS CYCLOOXYGENASE (C) ACTIVITY IN CULTURED PULMONARY ENDOTHELIAL CELLS (EC).** M.C. Maddey, T.E. Elling, G.C. White II, and M. Friedman. Center for Environ. Medicine and Curr. in Toxicology, Univ. of North Carolina, Chapel Hill, NC and NIEHS, Research Triangle Park, NC. Sponsor: T.S. Miya.
- #515 **POSSIBLE PROTECTIVE ROLE OF GLUTATHIONE IN OZONE-INDUCED PULMONARY FIBROSIS.** J.D. Sun, S.I. McLaughlin, J.A. Pickrell, F.F. Hahn, and R.F. Henderson. Lovelace Inhalation Toxicology Research Institute, Albuquerque, NM.
- #516 **AN APPROACH FOR PROVIDING COMPREHENSIVE ANALYSES OF O<sub>3</sub> AND NO<sub>2</sub> HEALTH EFFECTS DATA.** E.D. Smolko<sup>1</sup>, R.L. Wolpert<sup>1</sup>, D.J. McKee<sup>2</sup>, and D.B. Menzel<sup>1</sup>. Depts. of Pharmacology and Medicine, Comprehensive Cancer Center, Duke Medical Center, Durham, NC<sup>1</sup> and OAQPS, USEPA, Research Triangle Park, NC<sup>2</sup>.
- #517 **EFFECTS OF BUTHIONINE SULFOXIMINE (BSO) TREATMENT OR OF ASCORBIC ACID (AA) DEFICIENCY ON THE EDEMA-GENIC EFFECT OF INHALED O<sub>3</sub>, NO<sub>2</sub>, AND PHOSGENE.** R. Slade and G.E. Hatch, Toxicol. Branch, Inhal. Toxicol. Div., HERL, U.S. E.P.A., Res. Tri. Park, NC. Sponsor: E.J. Massaro.
- #518 **NITROGEN DIOXIDE PEROXIDATION OF LIPOSOMES AND VITAMIN E PROTECTION.** C.R. Shoaf, J.R. Sandy, and D.B. Menzel. Departments of Pharmacology and Medicine, Comprehensive Cancer Center, Duke University Medical Center, Durham, NC.
- #519 **DIABETES DECREASES SUSCEPTIBILITY TO OXYGEN TOXICITY IN MICE BUT NOT RATS.** W.M. Haschek, J.E. Rutherford, R.S. Shimkus and K.H. Elstein, Department of Veterinary Pathobiology, University of Illinois, Urbana, IL 61801.
- #520 **PULMONARY O<sub>2</sub> TOXICITY AND ENDOGENOUS PROSTAGLANDINS.** L.M. Patton, R.A. Henderson and M.D. Fairman, Dept. of Pharmacol. and Toxicol., Univ. of Kansas, Lawrence, KS 66045, & Armed Forces Inst. Pathol., Wash., DC 20036.
- #521 **SULFURIC ACID-INDUCED AIRWAY HYPERREACTIVITY.** J.M. Gearhart and R.B. Schlesinger. New York University Medical Center, Institute of Environmental Medicine, New York, NY.
- #522 **EXTRAPOLATION OF INHALED PARTICULATE TOXICITY DATA FROM EXPERIMENTAL ANIMALS TO HUMANS.** D.L. Morgan, V.E. Steele, J.C. Nixon, J.E. Humphreys, Pulmonary Carcinogenesis Laboratory, In Vitro Toxicology Program, Northrop Services, Inc., and G.E. Hatch, Toxicology Branch, HERL, USEPA, Res. Tri. Pk., NC 27709. Sponsor: D.E. Gardner.
- #523 **PULMONARY FUNCTION CHANGES IN GUINEA PIGS EXPOSED TO HIGH PEAK LEVELS OF FRESHLY GENERATED ULTRAFINE ZnO.** H.F. Lam, D. Ainsworth, S. Peoples and M.O. Amdur. Department of Applied Biological Sciences, M.I.T., Cambridge, MA 02139.
- #524 **CHANGES IN PULMONARY LAVAGE FLUID AND LUNG STRUCTURE CAUSED BY REPEATED EXPOSURES TO ULTRAFINE ZINC OXIDE PARTICLES.** M.W. Conner, W.H. Flood, A.E. Rogers and M.O. Amdur. Boston University School of Medicine, Boston, MA and Massachusetts Institute of Technology, Cambridge, MA.
- #525 **EFFECTS OF A 4-WEEK INHALATION EXPOSURE OF F344/N RATS TO GA<sub>2</sub>O<sub>3</sub>.** R.K. Wolff, R.F. Henderson, and F.F. Hahn. Lovelace Inhalation Toxicology Research Institute, Albuquerque, NM.
- #526 **INHALATION TOXICITY OF NICKEL SULFATE TO F344/N RATS AND B6C3F, MICE EXPOSED FOR TWELVE DAYS.** C.H. Hobbs, J.M. Benson, D.G. Burt, R.L. Carpenter, F.F. Hahn, R.L. Hanson, and J.A. Pickrell. Lovelace Inhalation Toxicology Research Institute, Albuquerque, NM; J.K. Dunnick NIEHS/NTP, Research Triangle Park, NC.
- #527 **INHALATION TOXICITY OF NICKEL SUBSULFIDE TO F344/N RATS AND B6C3F, MICE EXPOSED FOR TWELVE DAYS.** J.M. Benson, R.L. Carpenter, F.F. Hahn, R.L. Hanson, C.H. Hobbs, and J.A. Pickrell, Lovelace Inhalation Toxicology Research Institute, Albuquerque, NM; J.K. Dunnick NIEHS/NTP, Research Triangle Park, NC.
- #528 **MODELING NICKEL DOSIMETRY FROM KINETIC MEASUREMENTS IN RATS.** R.J. Francovitch, C.R. Shoaf, M.I. Tayyeb and D.B. Menzel. Departments of Pharmacology and Medicine, Comprehensive Cancer Center, Duke University Medical Center, Durham, NC.
- #529 **CHRONIC COTTON DUST INHALATION IN GUINEA PIGS: STEREOLOGICAL STUDY OF LUNG PARENCHYMA RESPONSE.** P.A. Coulombe, P.R. Filion, and M.G. Cote, Dept. of Pharmacology, Fac. Medicine, Universite de Montreal, Montreal, Que., Canada.
- #530 **CHRONIC COTTON DUST INHALATION IN GUINEA PIGS: STEREOLOGICAL STUDY OF WHOLE LUNG AND AIRWAYS RESPONSES.** P.A. Coulombe, P.R. Filion, and M.G. Cote, Dept. of Pharmacology, Fac. Medicine, Universite de Montreal, Montreal, Que., Canada.
- #531 **EFFECT OF S(IV) AEROSOL AND ITS IMPLICATION ON THE INHALATION OF COAL COMBUSTION PRODUCTS.** L.C. Chen, S.M. Peoples, J.F. McCarthy and M.O. Amdur. Department of Applied Biological Sciences, Massachusetts Institute of Technology, Cambridge, MA.
- #532 **CHRONIC INHALATION TOXICITY AND CARCINOGENICITY STUDY OF SRC-1 (SOLVENT REFINED COAL) SOLID IN RATS--RESULTS FROM THE 6- AND 12-MONTH INTERIM SACRIFICES.** B.Z. Drozdowicz<sup>1</sup>, C.E. Ulrich<sup>2</sup>, A.D. Boothe<sup>2</sup>, J.E. Proctor<sup>3</sup>, and L. Golberg<sup>4</sup>. Air Products and Chemicals, Inc.<sup>1</sup>, Allentown, PA; International Research and Development Co.<sup>2</sup>, Mattawan, MI; Experimental Pathology Laboratories<sup>3</sup>, Cincinnati, OH; Duke University Medical Center<sup>4</sup>, Durham, NC.
- #533 **THE PROPHYLACTIC EFFICACY OF α-KETOGLUTARATE IN THE REDUCTION OF LETHALITY DUE TO THE INHALATION OF GASEOUS PYROLYSIS PRODUCTS OF POLYACRYLONITRILE.** W.J. Moore and A.S. Hume, Dept. Pharmacol. & Toxicol., Univ. MS Med. Ctr., Jackson, MS.
- #534 **PATHOLOGICAL RESPONSES OF RATS TO ACUTE INHALATION EXPOSURE TO PYROLYSIS PRODUCTS.** G.V. Alexeef, D. Thorning\*, M.L. Howard\*, L.D. Hudson\* and Y.C. Lee. Weyerhaeuser Company; Longview, WA; \*\*University of Washington, \*VA Medical Center, \*Harborview Medical Center; Seattle, WA.
- #535 **SUBCHRONIC INHALATION TOXICITY STUDY OF AN ACRYLIC POWDER IN RATS.** R.C. Baldin, J.V. Hagan, G.T. Burger\*, and H.E. Scribner. Rohm and Haas Co., Spring House, PA and \*R.J. Reynolds Co., Winston-Salem, NC. Sponsor: S.L. Longacre.
- #536 **RESPONSES OF ALVEOLAR MACROPHAGES TO INHALATION OF α-QUARTZ DUST + .** R.S. Anderson, L.L. Gutshall, Jr., and S.A. Thomson. Chemical Research and Development Center, Aberdeen Proving Ground, MD.
- #537 **PULMONARY RESPONSE OF MICE TO THE INTRATRACHEAL INSTALLATION OF MINERAL FIBERS.** B.A. Corsino, M. Van Ert, A.H. Callis. Dept. Microbiology and Industrial Hygiene, Univ. AZ, Tucson, AZ. Sponsor: A.J. Gandolfi.
- #538 **ANGIOTENSIN CONVERTING ENZYME ACTIVITY IN RATS WITH SILICA-INDUCED PULMONARY FIBROSIS.** J.M. Firriolo, and \*R.N. Shiotsuka. Brookhaven National Laboratory, Upton, NY, and \*Mobay Chemical Company, Stilwell, KA. Sponsor: R.T. Drew.
- #539 **SILICA-INDUCED PROLIFERATION OF ALVEOLAR TYPE II CELLS: QUANTITATION BY ALKALINE PHOSPHATASE HISTOCHEMISTRY.** B.E. Miller\*, R.E. Chapin, L.B. Gilmore, K.E. Pinkerton, G.E.R. Hook. NIEHS/NIH, Research Triangle Park, NC and Curriculum in Toxicology, University of North Carolina at Chapel Hill, Chapel Hill, NC. Sponsor: D.J. Holbrook, Jr.
- #540 **SILICA-INDUCED CHANGES IN THE METABOLISM OF PULMONARY SURFACTANT.** \*L.A. Dethloff, L.B. Gilmore, and G.E.R. Hook. National Institute of Environmental Health Sciences. Research Triangle Park, NC. Sponsor: D.J. Holbrook, Jr.
- #541 **EFFECTS OF ORAL PIRFENIDONE ON CHRYSOTILE ASBESTOS-INDUCED PULMONARY FIBROSIS IN HAMSTERS.** S.W. Grimm, D.A. Wiersma, J.W. Clayton, S.E. Wilson. Dept. of Pharmacology and Toxicology, Col. of Pharmacy, University of Arizona, Tucson, AZ.
- #542 **BRONCHOALVEOLAR RESPONSES OF RATS TO ACUTE INHALATION OF QUARTZ.** S.A. Thomson, D. Burnett, R.J. Hilaski, C. Hixson, Chemical Research and Development Center, Toxicology Division, Aberdeen Proving Ground, MD. Sponsor: J.T. Weimmer.

- #543 **THE INFLUENCE OF DISULFIRAM OR ETHANOL ON 1,2-DICHLOROETHANE CARCINOGENICITY.** J.M. Cholakis, K.L. Cheever, R.M. Kovach, and E.K. Weisberger. MRI, Kansas City, MO; NIOSH, Cincinnati, OH; PAI, Ijamsville, MD; and NCI, Bethesda, MD.
- #544 **TOXICOLOGY AND CARCINOGENICITY STUDIES OF INHALED TETRACHLOROETHYLENE (PERC) IN MALE AND FEMALE F344 RATS AND B6C3F<sub>1</sub> MICE.** J.H. Mennear, W. Clarke,\* H. Ragan,\* and R. Miller\*. NIEHS/NTP, Res. Tri. Park, NC 27709 and \*Battelle Pacific Northwest Labs., Richland, WA 99352.
- #545 **CHRONIC INHALATION TOXICITY/CARCINOGENICITY STUDY IN RATS EXPOSED TO FLUOROCARBON 113 (FC-113).** H.J. Trochimowicz, C.K. Wood, T. Chiu, and \*G.M. Rusch. E.I. du Pont de Nemours & Co., Haskell Laboratory for Toxicology and Industrial Medicine Newark, DE and \*Allied Corporation, Department of Toxicology, Morristown, NJ.
- #546 **INHALATION EXPERIMENTS IN RODENTS FOR TESTING THE CARCINOGENICITY OF CADMIUM COMPOUNDS.** U. Heinrich, U. Mohr, C. Dasenbrock, F. Pott†. Fraunhofer-Institut für Toxikologie und Aerosolforschung, Hannover; †Medizinisches Institut für Umwelthygiene, Dusseldorf, F.R.G. Sponsor: D.B. Menzel.
- #547 **EFFECT OF CIGARETTE SMOKE EXPOSURE ON THE CLEARANCE AND METASTASIS OF TUMOR CELLS IN MICE.** C. Gairola and A.M. Kaplan, Tobacco and Health Research Institute, and Department of Medical Microbiology and Immunology, University of Kentucky, Lexington, KY 40546.
- #548 **IN VITRO EVALUATION OF THE BIODEGRADABILITY AND CYTOTOXICITY OF CALCIUM SODIUM METAPHOSPHATE FIBER: A NOVEL MANMADE FIBER.** A.P. Li, C.A. Myers, L.J. Flowers, R.D. Short, Jr. and D. Hines. Monsanto Company, St. Louis, Missouri 63167.
- #549 **GLUTATHIONE S-SULFONATE FORMATION AND DISRUPTION OF GLUTATHIONE STATUS IN A549 CELLS BY SULFITE.** D.A. Keller and D.B. Menzel. Depts. of Pharmacology and Medicine, Comprehensive Cancer Center, Duke Univ. Medical Center, Durham, NC.
- #550 **SECRETION OF LOW MOLECULAR WEIGHT PROTEIN BY ISOLATED PULMONARY CLARA CELLS.** S.E. Patton, R.P. Gupta, A.M. Jetten, P. Nettesheim, and G.E.R. Hook. National Institute of Environmental Health Sciences, Research Triangle Park, NC. Sponsor: H.B. Matthews.
- #551 **NINETY-DAY INHALATION TOXICITY, REPRODUCTION, AND TERATOLOGY STUDIES WITH DIBASIC ESTERS.** D.P. Kelly, C.M. Keenan, and L. Alvarez. E.I. du Pont de Nemours and Co., Haskell Laboratory for Toxicology and Industrial Medicine, P.O. Box 50, Newark, DE. Sponsor: G.L. Kennedy, Jr.
- #552 **SUBACUTE AND SUBCHRONIC INHALATION TOXICITY OF CHLOROTRIFLUOROETHYLENE (CTFE).** S.C. Gad, G.M. Rusch, K.S. Reigle, J.C. Peckham, G. Hoffman and R.W. Darr. Department of Toxicology, Allied Corporation, Morristown, NJ.
- #553 **INHALATION TOXICITY OF RIBAVIRIN IN SUCKLING FERRETS.** D.K. Craig and S.H. Hoffman, Hazleton Laboratories America, Inc., Rockville, MD and Viratek, Inc., Costa Mesa, CA.
- #554 **THE FIRST (FO) GENERATION OF A TWO-GENERATION REPRODUCTION STUDY IN CD\* RATS EXPOSED TO METHYL BROMIDE VIA INHALATION.** C.M. Salamon, P.V. Enloe, C.K. Borders, D.A. Mayhew, B.R. Dudek, American Biogenics Corporation, Decatur, IL., S.V. Becker, Experimental Pathology Laboratories, Decatur, IL., M. Pinkerton, Ethyl Corporation, Baton Rouge, LA.
- #555 **APPEARANCE OF A PREVIOUSLY UNEXPRESSED ANTIGEN ON ALVEOLAR MACROPHAGES FOLLOWING PARTICLE DEPOSITION IN THE LUNG.** G.C. Saunders, A. Martinez, C. Tech, and B.E. Lehnert. Los Alamos National Laboratory, Los Alamos, NM. Sponsor: G. Oberdorster.
- #556 **RESPIRATORY AND IMMUNOLOGICAL RESPONSES OF GUINEA PIGS TO REPEATED INTRATRACHEAL ADMINISTRATION OF ENZYME-DETERGENT SOLUTIONS: A COMPARISON OF INTRATRACHEAL AND INHALATION MODES OF EXPOSURE.** H.L. Ritz and G.G. Bond. The Procter & Gamble Company, Miami Valley Laboratories, Cincinnati, OH 45247.
- #557 **CONTINUOUS REMOTE TEMPERATURE MONITORING OF UNRESTRAINED GUINEA PIGS.** P.S. Thorne, C. Yeske and M.H. Karol, Dept. Ind. Env. Hlth. Sci., Univ. of Pittsburgh, Pittsburgh, PA and Carneige-Mellon University, Pittsburgh, PA.
- #558 **AN IMPROVED GAS CHROMATOGRAPHIC METHOD FOR THE MEASUREMENT OF BLOOD CYANIDE.** J.L. Gurman, \*M. Paabo, and B.C. Levin. National Bureau of Standards, Gaithersburg, MD.
- #559 **HPLC ANALYSES OF LAVAGE FLUID CONSTITUENTS FOLLOWING ENVIRONMENTAL INSULTS.** B.E. Lehnert, J.E. London, A.J. Vanderkogel, J.G. Valdez and L. R. Gurley. Los Alamos National Laboratory, Los Alamos, NM. Sponsor: R.D. Mavis.
- #559A **RESPIRATORY PATTERNS OF GUINEA PIGS FOLLOWING CHRONIC COTTON DUST EXPOSURE.** M.A. Ellakkani, Y. Alarie, D. Weyel, and M.H. Karol, Dept. Ind. Env. Hlth. Sci., University of Pittsburgh, Pittsburgh, PA 15261.

## WEDNESDAY MORNING, MARCH 5

French Market Exhibit Hall

## POSTER SESSION 13: BIOTRANSFORMATION/DISPOSITION I

Chairman: R.E. Peterson, University of Wisconsin, Madison, WI

Displayed: 8:30 a.m. - 11:30 a.m.

Attended: 8:30 a.m. - 10:00 a.m.

- #560 **METABOLISM OF 7-ETHOXYRESORUFIN BY PHENOBARBITAL OR AROCLOR 1254 PRETREATED MICE.** S.J. Glass and R.B.L. van Lier. Toxicology Division, Lilly Research Laboratories, Greenfield, Indiana 46140. Sponsor: J.L. Emmerson.
- #561 **METABOLISM OF PARATHION BY PERFUSED MOUSE LIVERS FOLLOWING PHENOBARBITAL PRETREATMENT.** L.G. Sultatos. Dept. of Pharmacol., Louisiana State Univ. Med. Ctr., New Orleans, LA 70112.
- #562 **EFFECTS OF INDUCERS AND INHIBITORS OF OXIDATIVE METABOLISM ON THE IRREVERSIBLE BINDING OF [<sup>3</sup>H]DES TO HAMSTER RENAL CORTICAL PROTEIN.** S.P. Adams, R.R. Denton, and A.C. Notides. Dept. of Radiation Biology and Biophysics, Univ. of Rochester, Rochester, NY. Sponsor: T.A. Gasiewicz.
- #563 **INFLUENCE OF A CYTOSOLIC FACTOR AND INDUCTION WITH 3-METHYLCHOLANTHRENE OR PHENOBARBITAL ON THEO-BROMINE BIOTRANSFORMATION IN THE RAT.** C.A. Shively and E.S. Vesell, The Pennsylvania State University College of Medicine, Hershey, PA.
- #564 **EFFECTS OF IMIDAZOLE INDUCTION ON DIMETHYLNITROSAMINE TOXICITY IN VIVO.** B. Kennick and R.F. Novak, Depts. Pharmacology and Anesthesia, Northwestern University Medical and Dental Schools, Chicago, IL.
- #565 **SPECIFIC BINDING OF INDUCERS TO P450d.** R. Voorman and S.D. Aust, Department of Biochemistry and Center for Environmental Toxicology, Michigan State University, East Lansing, MI.
- #567 **TREATMENT WITH POLY I.C. ENHANCES LIPID PEROXIDATION, ACTIVITY OF XANTHINE OXIDASE AND DECREASES HEPATIC P-450 SYSTEM IN MICE AND RATS.** A. Koizumi, L. Hasegawa and T. Imamura. Division of Toxicology and Physiology, University of California, Riverside, CA.

- #568 **HEPATIC ENZYME INDUCTION FOLLOWING PRETREATMENT WITH THE NEPHROTOXIN N-(3,5-DICHLOROPHENYL)SUCCINIMIDE (NDPS).** M.A. Valentovic, C. Elliott, D. Yang, V. Teets, G.O. Rankin. Dept. of Pharmacology, School of Med., Marshall Univ., Huntington, WV.
- #569 **EFFECT OF T-2 TOXIN ON ACTIVITIES OF Trans-STILBENE OXIDE-INDUCED HEPATIC MICROSOMAL ENZYMES.** R.F. Fricke, Pathophysiology Division, US Army Medical Research Institute of Infectious Diseases, Ft. Detrick, Frederick, MD.
- #570 **HEPATIC MICROSOMAL METABOLISM OF LEUKOTRIENE B<sub>4</sub> (LTB<sub>4</sub>) AND LAURIC ACID (LA):EFFECT OF INDUCERS.** M.C. Romano, R.D. Eckardt, P.E. Bender, T.B. Leonard, K.M. Straub, and J.F. Newton. Departments of Drug Metabolism and Medicinal Chemistry, Smith Kline and French Labs., Philadelphia, PA 19101.
- #571 **BIOCHEMICAL ALTERATIONS IN HEPATIC MICROSOMES FROM FEMALE RATS TREATED WITH 2,6-DICHLORO-p-PHENYLENEDIAMINE (DCPD).** L.A. Basting, M.S. Feldstein, E.J. Hesse, T.H. Umbreit and M.A. Gallo. Dept. of Environ. Med. UMDNJ-Rutgers Med. Sch., Piscataway, NJ.
- #572 **INTERACTIONS OF DIETHYLPHENYLPHOSPHINE WITH PURIFIED, RECONSTITUTED MOUSE LIVER CYTOCHROME P-450 MONOOXYGENASE SYSTEM.** B.P. Smyser, P.E. Levi and E. Hodgson. North Carolina State University, Toxicology Program, Box 7633, Raleigh, NC.
- #573 **STEREOSPECIFICITY IN THE OXIDATION OF PHORATE AND PHORATE SULFOXIDE BY PURIFIED FAD-CONTAINING AND CYTOCHROME P-450 ISOZYMES.** P.E. Levi, P.J. Sabourin and E. Hodgson. North Carolina State University, Toxicology Program, Box 7633, Raleigh, NC.
- #574 **IN VITRO ALTERATIONS IN CYT-P450 BY TRANS-4-HYDROXY-2-HEXENAL (t-4HN), TRANS-4-HYDROXY-2-NONENAL (t-4HH), AND TRANS-2-HEXENAL (t-2H).** M.W. Lame and H.J. Segall. VM/Pharmacology and Toxicology, University of California, Davis, CA.
- #575 **THE REGULATION OF CYTOSOLIC EPOXIDE HYDROLASE IN MICE.** S.S. Gill and M.M. Pichare. Division of Toxicology and Physiology, University of California, Riverside, CA 92521.
- #576 **AGE-RELATED CHANGES IN THE ACTIVITIES OF EPOXIDE HYDROLASES IN DIFFERENT TISSUES OF MICE.** S. Kaur and S.S. Gill. Division of Toxicology and Physiology, University of California, Riverside, CA 92521.
- #577 **HEPATIC DRUG METABOLISM IN QUAIL, DUCKS, GEESE, CHICKENS, TURKEYS AND RATS.** R.R. Dalvi and V.A. Nunn. School of Veterinary Medicine, Tuskegee University, Tuskegee, AL.
- #578 **METABOLISM OF CYCLODIENE INSECTICIDES BY CONSTITUTIVE FORMS OF CYTOCHROME P-450 FROM FOUR VERTEBRATE SPECIES.** M.J.J. Ronis and C.H. Walker. North Carolina State University, Toxicology Program, Box 7633, Raleigh, NC and Reading University, Dept. of Physiology and Biochemistry, Whiteknights, Reading, Berks., England. Sponsor: E. Hodgson.
- #579 **RELATIVE CONTRIBUTION OF THE FAD-CONTAINING MONOOXYGENASE AND THE CYTOCHROME P-450 MONOOXYGENASE SYSTEM IN THE MICROSOMAL OXIDATION OF PHORATE.** S. Kinsler and E. Hodgson. North Carolina State University, Toxicology Program, Box 7633, Raleigh, NC.
- #580 **THE ROLE OF DESACETYLATION IN THE DETOXIFICATION OF CEPHALOTHIN.** P.D. Williams, G.H. Hottendorf and D.A. Laska. Department of Experimental Toxicology, Bristol-Myers Company, Syracuse, NY. Sponsor: H. Madissoon.
- #581 **PARTIAL PURIFICATION OF HUMAN TERM PLACENTAL PEROXIDASE BY AFFINITY CHROMATOGRAPHY.** J.L. Nelson and A.P. Kulkarni, Toxicology Program, The University of Michigan, Ann Arbor, MI 48109.
- #582 **PARTIAL PURIFICATION AND CHARACTERIZATION OF A PEROXIDASE ACTIVITY FROM NEONATAL RAT SKIN.** B.H. Strohm, A.P. Kulkarni, Toxicology Program, The University of Michigan, Ann Arbor, MI 48109.
- #583 **MODULATION OF THE FORMATION OF DNA ADDUCTS WITH BENZO(a)PYRENE(BP) AND ITS METABOLITES.** F.C. Lee, J.K. Park, J.H. Ko, J.S. Lee and K.Y. Kim, Korea Ginseng & Tobacco Res. Inst., Daejeon, Korea. Sponsor: K.H. Yang.
- #584 **EFFECT OF HORMONAL STATUS ON THE HEPATIC METABOLISM OF 7,12-DIMETHYLBENZ(A)ANTHRACENE (DMBA) IN THE SPRAGUE-DAWLEY RAT.** S.T. Vater, D.M. Baldwin and D. Warshawsky, Depts. of Env. Hlth. and Physiology, Univ. of Cincinnati College of Medicine, Cincinnati, OH. Sponsor: H.G. Shertzer.
- #585 **HISTOCHEMICAL AND BIOCHEMICAL DETECTION OF CARBOXYLESTERASE ACTIVITY IN THE RAT NASAL PASSAGES.** M. S. Bogdanffy, H.W. Randall, and K.T. Morgan. Chem Ind. Inst. Toxicol., Res. Tri. Park, NC. Sponsor: J. Swenberg.
- #586 **POSSIBLE EFFECT OF GOLD ON MICROSOMAL METABOLISM IN THE AMELIORATION OF ACETAMINOPHEN (AAP)-INDUCED HEPATOTOXICITY.** A. Blacker and R.C. Schnell, Dept. Pharmacodyn. Tox., Univ. Neb. Med. Ctr., Omaha, NE 68105.
- #587 **EFFECT OF SELENIUM ON ACETAMINOPHEN (AAP)-INDUCED HEPATOTOXICITY IN MALE HAMSTERS.** A. Blacker and R.C. Schnell, Dept. Pharmacodyn. Toxicology, Univ. Neb. Med. Ctr., Omaha, NE 68105.
- #588 **OLTIPRAZ (OTP)-INDUCED CHANGES IN ACETAMINOPHEN (AAP) DISPOSITION IN MALE HAMSTERS.** M.H. Davies, A. Pour, S.J. Weir and R.C. Schnell, Dept. Pharmacodyn-Toxicology, Univ. NE Med. Ctr., Omaha, NE 68105.
- #589 **HEPATIC UDP-GLUCURONIC ACID REGULATION DURING ACETAMINOPHEN BIOTRANSFORMATION IN RATS.** J.J. Hjelle and N.G. Shipp. School of Veterinary Medicine and the Environmental Toxicology Center, University of Wisconsin, Madison, WI.
- #590 **INHIBITION OF ACETAMINOPHEN GLUCURONIDATION BY DIAZEPAM: SPECIES DIFFERENCES IN VIVO.** A.A. Levin, Department of Toxicology and Pathology, Hoffmann-La Roche Inc., Nutley, New Jersey 07110. Sponsor: R.M. McClain.
- #591 **EFFECTS OF RANITIDINE (RA) AND CIMETIDINE (CM) ON THE INHIBITION OF UDP-GLUCURONYLTRANSFERASE (UDPGT) AND SULFOTRANSFERASE (ST) IN VITRO.** S.A. Rogers, K.A. Toy, K.C. Gale, J.G. Dent, and T.B. Leonard, Dept. of Drug Metabolism, Smith Kline & French Labs., Philadelphia, PA.
- #592 **PHARMACOKINETICS OF ACETAMINOPHEN (APAP), VANCOMYCIN (VAN) AND ANTIPYRINE (AN) IN THE HANFORD MINIATURE SWINE.** M.B. Bailie, D.A. Federowicz, S. Wixson, K. Dolce, C. Kahn, M.S. Landi, and B.A. Mico, Departments of Laboratory Animal Sciences and Drug Metabolism, Smith Kline and French Laboratories, Philadelphia, PA 19101. Sponsor: T.B. Leonard.
- #593 **RADIOMETRIC DETERMINATION OF HEPATIC UDP-GLUCURONIC ACID AND UDP-GLUCOSE SYNTHESIS IN VIVO.** S.R. Howell, R.L. Dills, and C.D. Klaassen. Dept. of Pharmacol., Toxicol., & Therap., Univ. of Kansas Medical Center, Kansas City, KS.
- #594 **ALTERATIONS IN GLUCURONIDATION WITH AGE IN VIVO AND IN VITRO USING 4-4'-THIOBIS(6-t-butyl-m-cresol) AS A MODEL COMPOUND.** S.J. Borghoff and L.S. Birnbaum, NIEHS, Research Triangle Park, NC.
- #595 **THE USE OF A MODEL SUBSTRATE (LINDANE) TO DETERMINE THE ONTOGENY OF METABOLISM IN THE DEVELOPING RAT.** M.F. Copeland, R.W. Chadwick, N. Cooke, D.A. Whitehouse, and D.M. Hill. U.S. EPA, Research Triangle Park, NC.
- #596 **BILINARY EXCRETION OF GLUTATHIONE (GSH) AND RELATED THIOLS IN RATS: AGE-DEPENDENCE AND RESPONSIVENESS TO ACIVICIN, AN INHIBITOR OF  $\gamma$ -GLUTAMYLTRANSFERASE (GGT).** Z. Gregus, A.F. Stein, and C.D. Klaassen. Dept. Pharmacol., Toxicol. & Therap., Univ. Kansas Med. Ctr., Kansas City, KS.
- #597 **HIGH-PERFORMANCE LIQUID CHROMATOGRAPHIC (HPLC) ANALYSIS OF GLUTATHIONE (GSH) AND ITS SULFHYDRYL (SH) DEGRADATION PRODUCTS.** A.F. Stein, R.L. Dills, and C.D. Klaassen. Dept. Pharmacol., Toxicol. & Therap., Univ. Kansas Med. Ctr., Kansas City, KS.
- #598 **A PHYSIOLOGICAL PHARMACOKINETIC MODEL FOR HEPATIC GLUTATHIONE (GSH) DEPLETION BY INHALED HALOGENATED HYDROCARBONS.** M.E. Anderson, H.J. Clewell III, M.L. Gargas, and \*R.B. Conolly, AAMRL/THB, Wright-Patterson AFB, OH, and \*University of Michigan, Ann Arbor, MI.



- #599 **THE STEREOSELECTIVITY OF PURIFIED HUMAN GLUTATHIONE S-TRANSFERASES (GST)  $\pi$ ,  $\mu$ , AND  $\alpha$ -E VARIES MARKEDLY WITH ARENE AND ALKENE OXIDE SUBSTRATES.** L.A. Dostal, C. Dostal, C. Guthenburg, B. Mannervik, and J.R. Bend. NIEHS, P.O. Box 12233, Research Triangle Park, NC 27709 and University of Stockholm, S-106 91, Stockholm, Sweden.
- #600 **INHIBITION OF HUMAN GLUTATHIONE S-TRANSFERASES BY 2,4-DICHLOROPHENOXYACETATE (2,4-D) AND 2,4,5-TRICHLOROPHENOXYACETATE (2,4,5-T).** S.V. Singh, Y.C. Awasthi, University of Texas Medical Branch, Galveston, TX 77550. Sponsor: J.P. Saunders.
- #601 **COMPARISON OF ADENOSINE 3'-PHOSPHATE 5'-PHOSPHOSULFATE (PAPS) CONCENTRATIONS IN TISSUES FROM DIFFERENT LABORATORY ANIMALS.** E.A. Brzezniacka, G.A. Hazellon, and C.D. Klaassen. Dept. of Pharmacol., Toxicol. & Therap., Univ. Kansas Medical Center, Kansas City, KS.
- #602 **STUDIES ON THE CONJUGATIVE CAPABILITIES OF  $\alpha,\beta$ -UNSATURATED CHEMICALS.** I.S. Silver and W.C. Dauterman. North Carolina State University, Toxicology Program, Box 7633, Raleigh, NC.
- #603 **NEPHROTOXICITY OF S-(2-CHLOROETHYL)-GSH (CEG), AND S-(2-BROMOHYDROQUINONE)-GSH (BHQQ): EVIDENCE FOR MULTIPLE GSH CONJUGATE TRANSPORT SYSTEM S IN THE KIDNEY.** R.A. Kramer, K. Greene, National Cancer Institute, Bethesda, MD., and G.L. Foureman and D.J. Reed. Oregon State University, Corvallis, OR.
- #604 **ISOMER-DEPENDENT INDUCTION OF METHEMOGLOBINEMIA BY DINITROBENZENES: ROLE OF CONJUGATION WITH GLUTATHIONE.** P.A. Cossum and D.E. Rickert, CIIT, Research Triangle Park, NC 27709.
- #605 **EFFECTS OF GLLUTATHIONE DEPLETION BY BUTHIONINE SULFOXIMINE (BSO) AND DIETHYL MALEATE (DEM) ON BILIARY EXCRETION OF AFLATOXIN B1 (AFB) CONJUGATES AND COVALENT AFB-DNA BINDING.** C.J. Holeski and D.L. Eaton, Dept. of Environmental Health, University of Washington, WA.
- #606 **DIFFERENTIAL RESPONSES OF HEPATIC EPOXIDE HYDROLASES AND GLUTATHIONE-S-TRANSFERASE ACTIVITIES TO DI-(2-ETHYLHEXYL)PHTHALATE (DEHP) TREATMENT IN VARIOUS STRAINS OF MICE.** S. Kaur, and S.S. Gill. Division of Toxicology and Physiology, University of California, Riverside, CA.
- #607 **EFFECT OF INHIBITION OF  $\gamma$ -GLUTAMYL TRANSPEPTIDASE (GGT) ON BILIARY AND URINARY EXCRETION OF ENDOGENOUS THIOLSE AND METHYLMERCURY (MM) IN RATS.** Z. Gregus, A.F. Stein, and C.D. Klaassen. Dept. of Pharmacol., Toxicol. & Therap., Univ. of Kansas Medical Center, Kansas City, KS.
- #607A **FURTHER STUDIES ON PHARMACOKINETIC MODEL FOR THE STEADY-STATE CONCENTRATION OF REACTIVE METABOLITES.** R.Chen and J.R. Gillette. NHLBI, Bethesda, MD.

**WEDNESDAY MORNING, MARCH 5**  
**French Market Exhibit Hall**

**POSTER SESSION 14: REACTIVE INTERMEDIATES**

Chairman: G.A. Wright, Stephen Company, Northfield, IL

Displayed: 8:30 a.m. - 11:30 a.m.

Attended: 10:00 a.m. - 11:30 a.m.

- #608 **PROOXIDANT AND ANTIOXIDANT EFFECTS OF GLUTATHIONE AND ASCORBIC ACID ON  $Fe^{2+}/H_2O_2$ -INDUCED PEROXIDATION OF LIPOSOMES CONTAINING  $\alpha$ -TOCOPHEROL.** D.C. Liebler, D.S. Kling, and D.J. Reed. Oregon State University, Corvallis, OR.
- #609  **$\alpha$ -TOCOPHEROL AND GLUTATHIONE DEPENDENT INHIBITION OF NADPH-INDUCED PEROXIDATION OF ISOLATED RAT LIVER NUCLEI.** M.A. Tirmenstein and D.J. Reed. Oregon State University, Corvallis, OR.
- #610 **AGE-DEPENDENT CHANGES IN ANTIOXIDANT ENZYME ACTIVITIES IN FOUR TISSUES OF NORMAL AND MUSCULAR DYSTROPHIC CHICKENS.** M.E. Murphy, and J.P. Kehrer. Division of Pharmacology and Toxicology, College of Pharmacy, The University of Texas at Austin, Austin, TX 78712.
- #611 **PARAQUAT TOXICITY IN OBLIGATELY THERMOPHILIC BACTERIA.** G.S. Allgood and J.J. Perry. Toxicology Program and Department of Microbiology, NC State University, Raleigh, NC.
- #612 **RADICAL MEDIATED RELEASE OF IRON FROM FERRITIN.** C.E. Thomas and S.D. Aust, Department of Biochemistry and Center for Environmental Toxicology, Michigan State University, East Lansing, MI.
- #613 **IN VITRO COVALENT BINDING OF  $^{14}CCL_4$  TO NEUTRAL LIPIDS.** B.S. Kaphalia and G.A.S. Ansari, Division of Chemical Pathology, The University of Texas Medical Branch, Galveston, TX 77550. Sponsor: A.E. Ahmed.
- #614 **IN VITRO COVALENT BINDING OF 1,2-DIBROMOETHANE WITH PLASMA PROTEINS.** J.C. Gan and G.A.S. Ansari, Div. of Biochemistry, The University of Texas Medical Branch, Galveston, Texas 77550. Sponsor: M.T. Moslen.
- #615 **REACTIVE METABOLITES OF O-DIBROMOBENZENE (DBB). IN VITRO TRAPPING WITH N-ACETYL CYSTEINE (NAC).** N. Narasimhan, J.A. Buben, and R.P. Hanzlik. Dept. of Medicinal Chemistry, Univ. of Kansas, Lawrence, KS.
- #616 **MECHANISM OF BROMOBENZENE COVALENT BINDING.** J.A. Buben, N. Narasimhan, and R.P. Hanzlik. Dept. of Medicinal Chemistry, Univ. of Kansas, Lawrence, KS.
- #617 **EFFECT OF L-2-OXOTHIAZOLIDINE-4-CARBOXYLIC ACID (OTCA) ON THE ASSESSMENT OF INTERNAL EXPOSURE TO REACTIVE INTERMEDIATES AFTER REPEATED BROMOBENZENE (BB) TREATMENTS.** R. Goyal and J. Brodeur. Dep. med. trav. hyg. mil., Faculte de medecine, Universite de Montreal, Quebec, Canada.
- #618 **FORMATION OF MUCONALDEHYDE FROM  $^{14}C$ -BENZENE IN MOUSE LIVER MICROSOMES.** L. Latriano, B.D. Goldstein, G. Witz. Joint Graduate Program. Toxicology, UMDNJ-RMS Rutgers Univ., Piscataway, NJ.
- #619 **THE ROLE OF N-HYDROXYPHENETIDINE IN PHENACETIN-INDUCED HEMOLYTIC ANEMIA.** C.B. Jensen, S.A. McLees, V.F. Price and D.J. Jollow, Department of Pharmacology, Medical University of South Carolina, Charleston, SC.
- #620 **THE ROLE OF ALCOHOL-INDUCED CYTOCHROME P-450 IN CARBON DISULFIDE ( $CS_2$ ) METABOLISM TO A REACTIVE METABOLITE.** E.C.G. Snyderwine, R. Kroll and R.J. Rubin. Johns Hopkins University, Baltimore, MD 21205.
- #621 **THE HEPATOTOXIC EFFECTS OF A COMBINATION OF BCNU AND ACETAMINOPHEN IN MICE.** Robin D. Smith and J.P. Kehrer, Division of Pharmacology and Toxicology, College of Pharmacy, University of Texas at Austin, Austin, TX 78712.
- #622 **MECHANISM OF DIABETES-INDUCED ENHANCEMENT OF UDPGA SYNTHESIS FOR ACETAMINOPHEN GLUCURONIDATION IN RATS.** V.F. Price, B.P. Hildreth & D.J. Jollow, Dept. Pharmacol., Med. U. of SC, Charleston, SC.
- #623 **HELENALIN: MECHANISM OF TOXIC ACTION.** J. Merrill, H.L. Kim and S.H. Safe, Veterinary Physiology and Pharmacology, Texas A&M University, College Station, TX 77843.
- #624 **ORGAN SENSITIVITY TO NAPHTHALENE-INDUCED PEROXIDATIVE INJURY: ROLE OF GLUTATHIONE PEROXIDASE.** M. Gernansky and I.S. Jamall. Toxicology Program, St. John's University, NY.

- #625 **IN VIVO INHIBITION OF CYTOCHROME P-450 MEDIATED METABOLISM BY SUICIDE SUBSTRATE 1-AMINOBENZOTRIAZOLE (ABTZ).** J.E. Swagzdis, D.A. Federowicz, E. Burak, and B.A. Mico, Department of Drug Metabolism, Smith Kline & French Laboratories, Philadelphia, PA. Sponsor: J.G. Dent.
- #626 **INHIBITION OF CYTOCHROME P-450-MEDIATED ARYL HYDROCARBON HYDROXYLASE (AHH) AND ETHOXYRESO-RUFIN O-DEETHYLASE (ERD) BY DIHYDROSAFROLE.** L.R. Kao and C.F. Wilkinson. Institute for Comparative and Environmental Toxicology, Cornell University, Ithaca, NY.
- #627 **MONOOXYGENASE INDUCTION BY METHYLENEDIOXYPHENYL (MDP) COMPOUNDS; DEPENDENCE ON THEIR PLANAR STRUCTURE.** L.R. Kao, H. Hetnarski, and C.F. Wilkinson. Institute for Comparative and Environmental Toxicology, Cornell University, Ithaca, NY.
- #628 **IN VITRO ACTIVATION OF 2-AMINOBENZYL ALCOHOL (2ABA)c, A METABOLITE OF THE GENOTOXICANT 2-NITROTOLUENE (2NT).** J.P. Chism, M. Casanova, and D.E. Rickert. CIIT, Res. Tri. Park, NC 27709.
- #629 **MUTAGENICITY AND NEPHROTOXICITY OF SPECIFICALLY METHYLATED ANALOGS OF TRIS-BP AND BIS-BP.** J.G. Omichinski<sup>a</sup>, E.J. Soderlund<sup>b</sup>, E. Dybing<sup>b</sup> and S.D. Nelson<sup>a</sup>. Univ. of Washington, Dept. of Medicinal Chemistry, Seattle, WA<sup>a</sup> and National Institute of Public Health, Oslo, Norway<sup>b</sup>.
- #630 **EFFECT OF SULFITE ON THE COVALENT BINDING OF BENZO(A)PYRENE METABOLITES TO DNA IN VITRO.** K.H. Leung and D.B. Menzel. Departments of Pharmacology and Medicine, Comprehensive Cancer Center, Duke Univ. Medical Center, Durham, NC.
- #631 **FORMATION AND FATE OF S-[2-(N<sup>7</sup>-GUANYL)ETHYL]-GLUTATHIONE IN DNA FROM ETHYLENE DIHALIDES.** N. Koga, P. Inskeep, M.J. Meredith, T.M. Harris, and F.P. Guengerich. Departments of Biochemistry and Chemistry and Center in Molecular Toxicology, Vanderbilt University, Nashville, TN 37232.
- #632 **PROSTAGLANDIN H SYNTHASE ACTIVATION OF AFLATOXINS B<sub>1</sub> AND M<sub>1</sub> TO MUTAGENS.** H.E. Olsen, D.P.H. Hsieh, and N.Y. Kado. Dept. Environmental Toxicology, University of Calif., Davis, CA and Calif. Air Resources Board, Sacramento, CA.
- #633 **NEUTROPHIL-DERIVED OXIDANTS AS MEDIATORS OF CHEMICAL TOXICITY IN BONE MARROW.** L.E. Cathers and M.A. Trush. Dept. Env. Health Sci., Johns Hopkins Univ., Baltimore, MD. Sponsor: T.W. Kensler.
- #634 **ENHANCEMENT OF BUTYLATED HYDROXYTOLUENE (BHT)-INDUCED MOUSE LUNG TOXICITY BY BUTYLATED HYDROXYANISOLE (BHA).** D.C. Thompson and M.A. Trush, Dept. Env. Health Sci., Johns Hopkins Univ., Baltimore, MD. Sponsor: R.J. Rubin.

**WEDNESDAY MORNING, MARCH 5**  
**French Market Exhibit Hall**

**POSTER SESSION 15: AQUATIC/ENVIRONMENTAL**

Chairman: L.R. Curtis, Oregon State University, Corvallis, OR

Displayed: 8:30 a.m. - 11:30 a.m.

Attended: 8:30 a.m. - 10:00 a.m.

- #635 **CADMIUM AND COPPER INTERACTIONS IN KIDNEYS OF THE SCALLOP, PLACOPECTEN MAGELLANICUS.** B.A. Fowler<sup>1</sup>, D.W. Engle<sup>2</sup>, E. Gould<sup>3</sup>, NIEHS, Res. Triangle Park, NC 27709; <sup>2</sup>NMFS/NOAA, Beaufort, NC 28516; <sup>3</sup>NMFS/NOAA, Milford, CT 06460
- #636 **INDUCTION OF CADMIUM TOLERANCE IN EARLY LIFE-CYCLE STAGES OF FISH.** W.H. Benson and W.J. Birge.\* Division of Pharmacology, Toxicology and Nuclear Pharmacy, School of Pharmacy, Northeast Louisiana University, Monroe, LA and \*Graduate Center for Toxicology, University of Kentucky, Lexington, KY.
- #637 **CADMIUM-BINDING LIGANDS IN GREAT SALT LAKE BRINE SHRIMP (ARTEMIA SALINA).** S. Jayasekara, D.B. Drown and R.P. Sharma, Toxicology Program, Utah State University, Logan, UT.
- #638 **HISTOPATHOLOGICAL DAMAGE IN TELEOSTS RESULTING FROM ENVIRONMENTAL SELENIUM EXPOSURE.** E.M.B. Sorensen. Department of Pharmacology and Toxicology, The University of Texas, Austin, TX.
- #639 **SLOW BILIARY ELIMINATION OF METHYLMERCURY IN THE MARINE ELASMOBRANCHS, RAJA ERINACEA AND SQUALUS ACANTHIAS.** N. Ballatori and J.L. Boyer. Liver Center, Yale Univ. School of Medicine, New Haven, CT, and Mount Desert Island Biological Laboratory, Salsbury Cove, ME. Sponsor: T.W. Clarkson.
- #640 **ACUTE TOXICITY AND METABOLISM OF 2,3,7,8-TETRACHLORODIBENZO-p-DIOXIN (TCDD) IN SIX SPECIES OF FRESHWATER FISH.** J.M. Kleeman, J.R. Olson<sup>\*</sup>, and R.E. Peterson. University of Wisconsin, Madison, WI 53706 and <sup>\*</sup>SUNY, Buffalo, NY 14214.
- #641 **CYTOCHROME P-450 ISOZYMES IN THE ENGLISH SOLE (Parophrys vetulus).** U. Varanasi, T.K. Collier, D.E. Williams, and D.R. Buhler. NOAA, NMFS, NWAFC, Seattle, WA 98112; Medical College of Wisconsin, Milwaukee, WI 53226; Oregon State University, Corvallis, OR 97331.
- #642 **COMPARATIVE INDUCTION OF CYTOCHROME P-450 ISOZYMES BY 2,4,5,2',4',5'-PCB; 3,4,5,3',4',5'-PCB; PHENOBARBITAL (PB) AND B NAPHTHOFILAVONE (BNF) IN RAT AND RAINBOW TROUT.** K.M. Kleinow, M.L. Haasch, D.E. Williams and J.J. Lech. Medical College of Wisconsin, Milwaukee, WI.
- #643 **INFLUENCE OF DIETARY β-NAPHTHOFILAVONE (BNF) AND INCUBATION TEMPERATURE ON BENZO(A)PYRENE (BP) METABOLISM AND EPOXIDE HYDROLASE (EH) ACTIVITY IN TROUT LIVER MICROSOMES.** C.L. Miranda, M.C. Henderson, J.-L. Wang, A. Eshleman and D.R. Buhler. Environ. Health Sci. Ctr. and Dept. of Agric. Chem., Oregon State Univ., Corvallis, OR.
- #644 **THE EFFECT OF β-NAPHTHOFILAVONE AND PIPERONYL BUTOXIDE ON HEPATIC MONOOXYGENASE ACTIVITY AND THE TOXICITY OF ROTENONE TO RAINBOW TROUT, SALMOGAIARDNERI.** D.A. Erickson, M.S. Goodrich, and J.J. Lech. Dept. of Pharmacology and Toxicology, Medical College of Wisconsin, Milwaukee, WI.
- #645 **THE EFFECT OF TRICIAINE ANESTHESIA ON SELECT P-450 DEPENDENT MONOOXYGENASE ACTIVITIES IN RAINBOW TROUT (Salmo gairdneri).** K.M. Kleinow, M. L. Haasch, and J.J. Lech. Medical College of Wisconsin, Milwaukee, WI.
- #646 **CONTROL OF TOXIC CHEMICALS IN NUCLEAR SUBMARINE ATMOSPHERES, A HISTORY.** R.C. Wands and H.W. Carhart. Ralph C. Wands & Assoc., Inc., Burke, VA and U.S. Naval Research Laboratory, Washington, DC.
- #647 **A NOVEL BIOLOGICAL WATER PURIFICATION RECYCLING SYSTEM FOR USE IN FISH TOXICOLOGY STUDIES.** A.J. Verlangieri, R.M. Lewis and M. C. Wilson, Department of Pharmacology, School of Pharmacy, Univ. of Mississippi, University, MS 38677. Sponsor: W.M. Davis.
- #648 **A METHOD FOR ESTABLISHING ACCEPTABLE EXPOSURE LEVELS (AELs) FOR UN-REGULATED WATER CONTAMINANTS.** S.H. Lamm<sup>1</sup>, P.J. Rugen<sup>1</sup>, C.D. Stern<sup>2</sup>, Consultants in Epidemiology and Occupational Health, Inc. (CEOH), Washington, DC<sup>1</sup> and Carlos Stern Associates, Arlington, VA<sup>2</sup>. Sponsor: D.R. Brown.
- #649 **SELENIUM: AN INVESTIGATION OF ENVIRONMENTAL CONTAMINATION IN THE CENTRAL VALLEY OF CALIFORNIA.** A.M. Fan, S.A. Book R.R. Neutra, and D.M. Epstein. California Dept. Health Services, Berkeley, CA. Sponsor: A. Furst.

- #650 **COMPARISON OF SUBACUTE TOXICITIES OF DICHLOROACETATE AND TRICHLOROACETATE IN FEMALE RATS.** M.E. Davis, Dept. of Pharmacology and Toxicology, W Va Univ. Med. Ctr., Morgantown, WV 26506.
- #651 **LEAD POISONING IN SWANS IN THE LOWER COEUR D'ALENE RIVER VALLEY.** R. Krieger, D. Krieger, K. Tomson and W. Warner, Washington Animal Disease Diagnostic Laboratory, University of Idaho, and J. Homan and D. Stone, Washington State University, Washington-Oregon-Idaho Regional Program in Veterinary Medical Education.

**WEDNESDAY MORNING, MARCH 5**  
**French Market Exhibit Hall**  
**POSTER SESSION 16: SOLVENTS**

**Chairman:** R. Jones, Jr., SCS Biotech Corp., Painesville, OH

**Displayed:** 8:30 a.m. - 11:30 a.m.

**Attended:** 10:00 a.m. - 11:30 a.m.

- #652 **ABSORPTION OF STYRENE VAPOURS ADMINISTERED BY INHALATION IN HUMANS UNDER EXPERIMENTAL CONDITIONS.** H. Wieczorek, J.K. Piotrowski. Radiation Biology and Biophysics, University of Rochester NY. Sponsor: G. Oberdorster.
- #653 **COMPARISON OF BLOOD TOLUENE LEVELS AFTER ORAL AND INHALATION ROUTES OF EXPOSURE.** M.J. Sullivan<sup>1,2</sup> and R.B. Conolly<sup>2</sup>. <sup>1</sup>Kresge Hearing Research Institute, <sup>2</sup>Toxicology Program, School of Public Health, The University of Michigan, Ann Arbor, MI 48109.
- #654 **NONLINEAR PHARMACOKINETICS OF INHALED PROPYLENE GLYCOL MONOMETHYL ETHER (PGME) IN FISCHER 344 RATS.** D.A. Morgott and R.J. Nolan. H&ES, Dow Chemical USA, Midland, MI. Sponsor: A.M. Schumann.
- #655 **EFFECT OF DOSE ON ABSORPTION AND EXCRETION OF <sup>14</sup>C BENZENE ADMINISTERED ORALLY OR BY INHALATION.** P.J. Sabourin, B.T. Chen, R.F. Henderson, G. Lucier and L.S. Birnbaum, Lovelace Inhalation Toxicology Research Institute, Albuquerque, NM, \*NIEHS, Research Triangle Park, NC.
- #656 **METABOLIC STUDIES WITH DIETHYLENE GLYCOL MONOBUTYL ETHER ACETATE (DGBA) IN THE RAT.** P.J. Deisinger, D. Guest and G.D. DiVincenzo, Health and Environment Laboratories, Eastman Kodak Co., Rochester, NY.
- #657 **MODIFICATION OF 2,5-HEXANEDIONE URINARY EXCRETION BY MEK FOLLOWING ACUTE EXPOSURE TO MnBK IN RATS.** D. Pilon, S. Oleskevich, J. Brodeur, and G.L. Plaa. Dep. de Pharmacologie et Dep. de Medecine du travail et d'hygiene du milieu, Université de Montreal, Montreal, Quebec, Canada.
- #658 **ROLE OF THE DOSE-METAMETER IN THE CALCULATION OF DOSE-RESPONSE PARAMETER ESTIMATES.** T.J. Breen, D.C. Rees, Departments of Biostatistics and Pharmacology and Toxicology, Virginia Commonwealth Univ., Med. Coll. of VA, Richmond, VA 23298. Sponsor: J.F. Borzelleca.
- #659 **EVALUATION OF THE SUBCHRONIC TOXICITY OF DIETHYLENE GLYCOL MONOBUTYL ETHER ADMINISTERED ORALLY TO RATS.** D.W. Hobson, J.F. Wyman, L.H. Lee, R.H. Bruner, and D.E. Uddin. Naval Medical Research Institute/Toxicology Detachment, Wright-Patterson Air Force Base, OH. Sponsor: E.H. Vernot.
- #660 **HYALINE DROPLET NEPHROSIS IN MALE FISCHER 344 RATS RECEIVING 9 EXPOSURES OF DIISOBUTYL KETONE (DIBK) VAPOR.** T.R. Tyler, D.E. Dodd, and P. E. Losco. Union Carbide Corporation, Bushy Run Research Center, Export, PA.
- #661 **TOXICITY OF POLYETHYLENE GLYCOL 400.** L.C.K. Wong, B.S. Brar and R. Chau. Department of Drug Safety Evaluation, Research and Development Division, Revlon Health Care, Tuckahoe, NY.
- #662 **ACUTE TOXICITY OF METHYLENE CHLORIDE: TUMORIGENIC IMPLICATIONS FOR B6C3F1 MICE.** D.L. Eisenbrandt and R.H. Reitz. Mammalian and Environmental Toxicology Research Laboratory, Dow Chemical U.S.A., Midland, MI 48674.
- #663 **TIME COURSE OF p-XYLENE'S EFFECT ON RAT LUNG CYTOCHROME P450, NADPH CYTOCHROME C REDUCTASE ACTIVITY AND BaP METABOLISM.** A.E. Roberts, D.R. Brown, R.A.Schatz and D. Silverman. Northeastern University, Toxicology Program, Boston, MA.

**WEDNESDAY AFTERNOON, MARCH 5**  
**1:30 p.m. - 5:00 p.m.**  
**Ballroom A-C**

**SYMPOSIUM: CURRENT UNDERSTANDING OF METAL-MEMBRANE INTERACTIONS**

**Sponsored by SOT Metals Specialty Section**

**Cochairs:** B.J. Kelman, Battelle Pacific Northwest Laboratories, Richland, WA  
E. Foulkes, University of Cincinnati College of Medicine, Cincinnati, OH

**Introduction.** B.J. Kelman

**Uptake of Metals by Hepatocytes.** M.J. Ettinger, State University of New York, Buffalo, NY

**Chemical Effects of Metals on Membranes.** M. Brouwer, Marine Biomedical Center, Duke University, Beaufort, NC

**Intestinal Absorption of Metals.** E. Foulkes

**Interactions of Metals with Renal Membranes.** W. Victory, NIEHS, Research Triangle, Park, NC

## WEDNESDAY AFTERNOON, MARCH 5

1:30 p.m. - 5:00 p.m.

Burgundy Room

### SYMPOSIUM: NEW INVESTIGATORS COLLOQUIUM

Sponsored by SOT Education Committee

Chairman: A. Blacker, Rhone-Poulenc, Inc., Mammouth Junction, NJ

Welcome and Introduction. R.C. Schnell, University of Nebraska Medical Center, Omaha, NE, and A. Blacker

Inhibition of Mitochondrial Respiration by Acetaminophen. R. Esterline, Rutgers University, Piscataway, NJ, 1985 Procter and Gamble Fellow

A Mechanism of 2-Bromohydroquinone-Induced Toxicity to Rabbit Renal Proximal Tubules and the Role of Glutathione. R.G. Schnellman, Duke University Medical Center, Durham, NC

Mechanisms of Benzene Myelotoxicity: Hydroquinone-induced Prostaglandin E<sub>2</sub> Production by Bone Marrow Stromal Cells. K.W. Gaido, West Virginia University, Morgantown, WV, 1985 Hazelton Laboratories Graduate Fellow

Human Thymic Epithelial Cells in Culture: An In Vitro Model for Studying the Actions of Halogenated Aromatic Compounds on Human Thymic Function and T-Lymphocyte Maturation. J. Cook, Chemical Industry Institute of Toxicology, Research Triangle Park, NC

Role of c-Ha-ras Gene Activation in the Neoplastic Transformation of Rodent Epidermal Cells. R. Storer, Merck Sharp and Dohme Research Laboratories, West Point, PA

Conclusion. A. Blacker

## WEDNESDAY AFTERNOON, MARCH 5

1:30 p.m. - 4:00 p.m.

Poydras A

### PLATFORM SESSION: AQUATIC/ENVIRONMENTAL

Honorary Chairman: F.W. Oehme, SOT President 1984-1985

Chairman: W.H. Benson, Northeast Louisiana University, Monroe, LA

- #99 1:30 BIODEGRADATION OF DDT BY THE WHITE ROT FUNGUS PHANEROCHAETE CHRYSOSPORIUM. J.A. Bumpus and S.D. Aust, Department of Biochemistry, Michigan State University, East Lansing, MI.
- #100 1:45 MECHANISTIC STUDIES ON THE INHIBITION OF SUPEROXIDE ANION RADICAL PRODUCTION IN PHAGOCYtic CELLS BY REACTIVE ALDEHYDES. G. Witz, N.J. Lawrie, M.A. Amoroso and B.D. Goldstein. UMDNJ-Rutgers Medical School/Rutgers University, Joint Graduate Program in Toxicology, Piscataway, NJ.
- #101 2:00 TEMPERATURE DEPENDENCE OF DIETHYLHEXYL PHTHALATE (DEHP) DISPOSITION IN RAINBOW TROUT. M.G. Barron, B.D. Tarr, and W.L. Hayton. College of Pharmacy, Washington State University, Pullman, WA.
- #102 2:15 THE TOXICITY AND METABOLISM OF TRICLOPYR BUTOXETHYL ESTER: COHO SALMON. M.A. Mayes, P.G. Murphy, D.L. Hopkins, F.M. Gersich, F.A. Blanchard, Mammalian & Environmental Toxicology Research Laboratory, Dow Chemical U.S.A., Midland, MI. Sponsor: P.G. Watanabe.
- #103 2:30 PHARMACOKINETICS AND BIOAVAILABILITY OF <sup>3</sup>H-TETRACYCLINE IN CHANNEL CATFISH. A.M. Guarino, S.M. Plakas and T.L. Deardorff. Fishery Research Branch/FDA, P.O. Box 158, Dauphin Island, AL 36528.
- #104 2:45 SEX DIFFERENCES IN CYTOCHROME P-450 ISOZYME COMPOSITION AND ACTIVITY IN MATURE RAINBOW TROUT. D.E. Williams, B.S.S. Masters, J.J. Lech and D.R. Buhler. Departments of Biochemistry (D.E.W. and B.S.S.M.) and Pharmacology and Toxicology (J.J.L.), The Medical College of Wisconsin, Milwaukee, WI and Department of Ag. Chem. (D.R.B.), Oregon State University, Corvallis, OR.
- #105 3:00 EFFECT OF DIETHYLNITROSAMINE ON DEVELOPMENT OF PIMEPHALES PROMELAS EMBRYOS. T.L. Holliday and D.E. Hinton. West Virginia University Medical Center, Morgantown, WV.
- #106 3:15 ENZYME ALTERED FOCI IN MEDAKA (ORYZIAS LATIPES) LIVER CARCINOGENESIS. D.E. Hinton. West Virginia University Medical Center, Morgantown, WV.
- #107 3:30 CHEMICAL INTERACTION OF HALOGENATED HYDROCARBON MIXTURES ON LETHAL AND SUBLETHAL PARAMETERS IN THE JAPANESE MEDAKA (ORYZIAS LATIPES). J.D. Schell, K.R. Cooper, Joint Graduate Program in Toxicology, Rutgers University, Piscataway, NJ. Sponsor: R. Snyder.
- #108 3:45 THE EFFECTS OF 2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD) ON THE DEVELOPMENT AND SURVIVAL OF THE JAPANESE MEDAKA (ORYZIAS LATIPES). K.R. Cooper, J. Schell, P. Khan and M. Gallo, Joint Graduate Program in Toxicology, Rutgers/UMDNJ, Piscataway, NJ.

## WEDNESDAY AFTERNOON, MARCH 5

1:30 p.m. - 4:15 p.m.

Poydras B

### PLATFORM SESSION: MOLECULAR/CELLULAR

Honorary Chairman: L. Golberg, SOT President 1978-1979

Chairman: M. Steinberg, Hazelton Laboratories Corporation, Vienna, VA

- #109 1:30 FREE-RADICAL INDUCED ALTERATIONS OF MEMBRANE STRUCTURE. A. Sevanian, Institute for Toxicology, University of Southern California, Los Angeles, CA.
- #110 1:45 A GENERAL THEORY OF CHEMICAL CYTOTOXICITY. S. Ji, Dept. of Pharmacol. Toxicol., Rutgers University, Piscataway, NJ 08854.
- #111 2:00 IMPORTANCE OF THE RATIO OF VITAMIN E (E) TO POLYUNSATURATED FATTY ACIDS (PUFA) IN LIPID PEROXIDATION (LP). R.A. Leedle and S.D. Aust, Center for Environmental Toxicology and the Departments of Pathology and Biochemistry, Michigan State University, East Lansing, MI.

- #112 2:15 **ENHANCED GLUTATHIONE BIOSYNTHESIS IN ISOLATED HEPATOCYTES BY VITAMIN E: INHIBITION OF EFFLUX OF PRECURSOR POOLS.** G.A. Pascoe, K. Olafsdottir, and D.J. Reed. Environmental Health Sciences Center, Oregon State University, Corvallis, OR.
- #113 2:30 **ACTIVATION OF LIVER MACROPHAGES MAY CONTRIBUTE TO ACETAMINOPHEN HEPATOTOXICITY.** A.M. Pilaro, S. Ji and D.L. Laskin. Graduate Program in Toxicology, Rutgers University, Piscataway, NJ.
- #114 2:45 **INTERACTION OF TRANSITION METALS AND ACTIVE OXYGEN IN DIQUAT CYTOTOXICITY.** M.S. Sandy, P. Moldeus, D. Ross, P. Doane and M.T. Smith. School of Public Health, University of California, Berkeley, CA.
- #115 3:00 **CALCIUM TRANSPORT AND HEPATOTOXICITY FOLLOWING N-NITROSODEMETHYLAMINE EXPOSURE IN MICE.** F.A. Reitman and H.G. Shertzer, Dept. Environ Hlth, Univ. Cincinnati Med. Ctr., Cincinnati, OH 45267.
- #116 3:15 **PERTURBATION OF HEPATOCELLULAR CALCIUM HOMEOSTASIS BY BROMOTRICHLOROMETHANE IN CHLORDECONE PRETREATED RATS.** A.K. Agarwal and H.M. Mehendale. Univ. MS Med. Ctr., Jackson, MS.
- #117 3:30 **CHANGES IN HEPATIC PROTEIN PHOSPHORYLATION AFTER CARBON TETRACHLORIDE TREATMENT.** Sanford W. Bigelow and Leon Moore, Uniformed Services University of the Health Sciences, Bethesda, MD 20814. Sponsor: T.-H. Ueng.
- #118 3:45 **HEPATIC cAMP-DEPENDENT PROTEIN KINASE (cAMP-PK) LEVELS AFTER MIREX (MX) AND DIETHYLNITROSAMINE (DEN) EXPOSURE IN NEONATAL RATS.** C. Timchalk and A.K. Charles. Dept. of Pharmacol. & Toxicol., Albany Medical College, Albany, New York.
- #119 4:00 **MODULATION BY HEPATIC CARCINOGENS OF CYTOSOLIC cAMP-DEPENDENT PROTEIN KINASE IN RAT LIVER.** C. Timchalk and A.K. Charles. Department of Pharmacology & Toxicology, Albany Medical College, Albany, New York.

## WEDNESDAY AFTERNOON, MARCH 5

French Market Exhibit Hall

### POSTER SESSION 17: IMMUNOTOXICOLOGY II

Chairman: J.J. Bucher, National Toxicology Program, Research Triangle Park, NC

Displayed: 1:30 p.m. - 4:30 p.m.

Attended: 1:30 p.m. - 3 p.m.

- #664 **EFFECTS OF INHALED HEXACHLORO BENZENE (HCB) AEROSOLS ON PULMONARY HOST DEFENSES.** R.L. Sherwood, P.T. Thomas, W.J. O'Shea, H. Ratajczak and C. Aranyi, IIT Research Institute, Chicago, IL 60616.
- #665 **MACROPHAGE UPTAKE OF A LIPOPROTEIN-SEQUESTERED TOXICANT.** N.E. Kaminski, D.S. Wells, J.F. Roberts, W.C. Dauterman and F.E. Guthrie. Toxicology Program, North Carolina State University, Raleigh, NC.
- #666 **IMMUNOSUPPRESSION INDUCED BY CHEMICALS REQUIRING METABOLIC ACTIVATION IN MIXED CULTURES OF RAT HEPATOCYTES AND MURINE SPLENOCYTES.** K.H. Yang\*, B.S. Kim\*, A.E. Munson and M.P. Holsapple. Korea Advanced Institute of Science and Technology, Seoul, Korea\*, and Medical College of Virginia/VCU, Richmond, VA.
- #667 **DEFINITION OF THE CELLULAR TARGETS OF BENZO-(A)-PYRENE IMMUNOTOXICITY.** R.H. Blanton, M.J. Myers and P.H. Bick. Dept. of Microbiology/Immunology, Med. Coll. of Va./VCU, Richmond, VA.
- #668 **BENZO-(A)-PYRENE INDUCED MODULATION OF INTERLEUKIN 1, 2 AND 3 PRODUCTION.** M. Lyte, M.J. Myers and P.H. Bick. Dept. of Microbiology/Immunology, Med. Coll. of Va./VCU, Richmond, VA.
- #669 **BENZO(A)PYRENE-INDUCED DOWN-REGULATION OF INTERLEUKIN-2 RESPONSIVENESS.** M.J. Myers, L.B. Schook, and P.H. Bick. Dept. of Microbiology/Immunology, Med. Coll. of Virginia/VCU, Richmond, VA.
- #670 **MODULATION OF INTERLEUKIN PRODUCTION BY DIMETHYLNITROSAMINE.** M.J. Myers, C.S. Dickens, L.B. Schook. Medical College of Virginia/VCU Richmond, VA. Sponsor: P.H. Bick.
- #671 **EFFECTS OF O,S,S-TRIMETHYL PHOSPHORODITHIOATE ON IMMUNE FUNCTION.** K.E. Rodgers, N. Leung, C.F. Ware and T. Imamura. Divisions of Biomedical Sciences and Toxicology and Physiology, University of California, Riverside, CA 92521.
- #672 **IN VITRO AND IN VIVO EFFECTS OF STYRENE OXIDE ON NATURAL KILLER CELL ACTIVITY IN C57BL/6 SPLENOCYTES.** M.H. Grayson and S.S. Gill, Division of Toxicology and Physiology, University of California, Riverside, CA 92521.
- #673 **EFFECTS OF EXPOSURE TO 2,3,7,8-TETRACHLORODIBENZO-p-DIOXIN (TCDD) ON PROTEIN PHOSPHORYLATION IN B LYMPHOCYTES.** G.C. Clark, D. Germolec, and M.I. Luster. National Institute of Environmental Health Sciences, Research Triangle Park, NC.
- #674 **SYSTEMIC IMMUNOTOXICITY FOLLOWING DERMAL APPLICATION OF VINYL CYCLOHEXENE DIEPOXIDE (VCH).** P. Thomas, H. Ratajczak, C. Aranyi, R. Sherwood, J. Bradof, P. Barbera, R. Fugmann and J. Fenters, IIT Research Institute, Chicago, IL 60616.
- #675 **ABSENCE OF INFLUENCE OF Ah GENOTYPE ON IMMUNOSUPPRESSION BY 7,12-DIMETHYLBENZ[A]-ANTHRACENE (DMBA) IN MICE.** L.M. Thurmond, L.D. Lauer, R.V. House, and J.H. Dean. CIIT, Research Triangle Park, NC 27709.
- #676 **COMPARISON OF MULTIPARAMETER FLOW CYTOMETRY AND FUNCTIONAL TESTS FOR THE ASSESSMENT OF 7,12-DIMETHYLBENZ(A)ANTHRACENE (DMBA) IMMUNOTOXICITY IN B6C3F1 MICE.** S.W. Burchiel<sup>1</sup>, S.L. Barton<sup>1</sup>, R.F. Fincher<sup>1</sup>, T-W Lim<sup>1</sup>, W.M. Hadley<sup>1</sup>, and J.H. Dean<sup>2</sup>. <sup>1</sup>The University of New Mexico College of Pharmacy, Albuquerque, NM 87131, and <sup>2</sup>The Chemical Industry Institute of Toxicology, Research Triangle Park, NC 27709.
- #677 **PROTECTION FROM ORGANOPHOSPHATE IMMUNOSUPPRESSION.** K.E. Rodgers, D.L. Haviland, T. Imamura and C.F. Ware. Division of Biomedical Sciences and Toxicology and Physiology, University of California, Riverside, California 92521.
- #678 **INVOLVEMENT OF THE COMPLEMENT COMPONENT C5 IN O,O,S-TRIMETHYL PHOSPHOROTHIOATE INDUCED LUNG INJURY.** D.D. Ellefson, I.K. Thomas, and T. Imamura. Division of Toxicology and Physiology, University of California, Riverside, CA.
- #679 **IMMUNOSUPPRESSIVE EFFECT OF AN IMPURITY OF MALATHION: INHIBITION OF MURINE T- AND B-LYMPHOCYTE RESPONSES BY O,O,S-TRIMETHYL PHOSPHOROTHIOATE.** I.K. Thomas, T. Imamura. Division of Toxicology and Physiology, University of California, Riverside, CA.
- #680 **MODULATION OF CELLULAR AND IMMUNE HUMORAL RESPONSES BY O,O,S-TRIMETHYL PHOSPHOROTHIOATE, AN IMPURITY OF COMMERCIAL MALATHION.** I.K. Thomas, T. Imamura. Division of Toxicology and Physiology, University of California, Riverside, CA.
- #681 **EFFECT OF DIOCTYL TIN DICHLORIDE (DOTC) ON MURINE IMMUNECOMPETENCE.** K. Miller, J. Maisey and S. Nicklin. BIBRA, Carshalton, Surrey. UK. Sponsor: D.M. Conning.
- #682 **HYDROQUINONE (HQ) INHIBITS BONE MARROW PRE-B CELL MATURATION IN VITRO.** A.G. King, K.S. Landreth, D. Wierda. Dept. of Pharmacology/Toxicology and Dept. of Microbiology, West Virginia Univ. Med. Ctr., Morgantown, WV 26506.
- #683 **RAT LUNG IMMUNE FUNCTION FOLLOWING INHALATION EXPOSURE TO 1-NITROPYRENE IN COMBINATION WITH Ga<sub>2</sub>O<sub>3</sub> PARTICLES AND SO<sub>2</sub>.** G.M. Shopp, D.E. Bice, A.G. Harmsen, M.A. Jarpe, and R.K. Wolff. Lovelace Inhalation Toxicology Research Institute, Albuquerque, NM.

- #684 **IN VITRO IMMUNOSUPPRESSION BY GAMMA-CHLORDANE.** K.W. Johnson, N.E. Kaminski, and A.E. Munson, Department of Pharmacology and Toxicology, Medical College of Virginia/VCU, Richmond, VA.
- #685 **EFFECTS OF 5-CHLORO- AND 5-FLUOROURACIL ON IMMUNE FUNCTION.** R.W. Luebke, L.D. Lawson, R.R. Rogers, M.M. Riddle, D.G. Rowe, and R.J. Smialowicz. Developmental Biology Division, US EPA, Research Triangle Park, NC.
- #686 **THE EFFECT OF 2,3,7,8-TCDD ON PROTEIN KINASE C ACTIVITY IN EL4 CELLS** . C.M. Kramer, J.J. Sando and M.P. Holsapple\*, University of Virginia, Charlottesville, VA and \*Medical College of Virginia, Richmond, VA.
- #686A **EFFECTS OF NAPHTHALENE (NA) METABOLITES ON THE IN VITRO HUMORAL IMMUNE RESPONSE.** T.T. Kawabata and K.L. White, Jr. Depts. of Pharmacology and Toxicology, and Biostatistics. Medical College of Virginia/Virginia Commonwealth University, Richmond, VA. Sponsor: A.E. Munson.
- #687 **INCREASED SUSCEPTIBILITY TO STREPTOCOCCUS PNEUMONIAE (STREP) BY EXPOSURE TO DIMETHYLNITROSAMINE (DMN).** M.P. Holsapple, K.L. White, Jr., S.G. Bradley, and K.W. Johnson, Medical College of Virginia/VCU, Richmond, VA.
- #687A **EFFECTS OF SECALONIC ACID D ON THE IMMUNE RESPONSE OF INFLUENZA-INFECTED MICE.** D.S. Fleischhacker, M.S. Palmgren, S.P. Katz, and T.G. Akers. Tulane Univ. School of Public Health and Tropical Medicine, Departments of Environmental Health Sciences and Tropical Medicine, New Orleans, LA.
- #688 **A STRUCTURE ACTIVITY RELATIONSHIP OF DIOXIN SUPPRESSION OF COMPLEMENT ACTIVITY AND SEGREGATION WITH THE Ah LOCUS.** H.H. Lysy, J.A. McCay, and K.L. White, Jr. Depts. of Biostatistics, and Pharmacology & Toxicology, Medical College of VA/VCU Richmond, VA. Sponsor: M.P. Holsapple.
- #689 **TOXICITY STUDY WITH NITROFURANTOIN (NF) IN 14 STRAINS OF INBRED MICE.** X. Joseph, C.J.G. Robinson, A.A. Abraham, and T. Balazs. FDA and G. W. Univ. Med. Ctr., Washington, DC.
- #691 **EVIDENCE THAT HUMAN THYMIC EPITHELIAL (HuTE) CELLS ARE A TARGET FOR 2,3,7,8,-TETRACHLORODIBENZO-p-DIOXIN (TCDD).** J.C. Cook, K.M. Dold, and W.F. Greenlee. Chem. Ind. Inst. Toxicol., Res. Tri. Pk., NC 27709.

**WEDNESDAY AFTERNOON, MARCH 5**  
**French Market Exhibit Hall**

**POSTER SESSION 18: RENAL TOXICOLOGY**

Chairman: G.O. Rankin, Marshall University, Huntington, WV

Displayed: 1:30 p.m. - 4:30 p.m.

Attended: 3:00 p.m. - 4:30 p.m.

- #692 **DOSE RESPONSE STUDIES OF 2,2,4-TRIMETHYLPENTANE (TMP)-INDUCED NEPHROTOXICITY AND RETENTION IN THE MALE RAT.** B. Short, V. Burnett, M. Cox, J. Bus, and J. Swenberg. Chemical Industry Institute of Toxicology, RTP, NC 27709.
- #693 **EVIDENCE OF [<sup>14</sup>C-4,5]-2,2,4-TRIMETHYLPENTANE BINDING IN URINE AND SERUM OF F-344 RATS.** M.W. Kloss,<sup>1</sup> M.G. Cox,<sup>2</sup> R.M. Norton,<sup>2</sup> and J.S. Bus.<sup>2</sup> <sup>1</sup>Merck Sharp & Dohme Research Labs, West Point, PA and <sup>2</sup>Chemical Industry Institute of Toxicology, Research Triangle Park, NC.
- #694 **EFFECT OF CASTRATION ON THE DEVELOPMENT OF 2,3,4-TRIMETHYLPENTANE-INDUCED HYDROCARBON NEPHROPATHY IN THE MALE F-344 RAT.** D.W. Hobson, D.R. Mattie\*, R.H. Bruner, D.E. Uddin, T. Eurell\*\* and C.T. Olson\*. Naval Medical Research Institute/TD, \*AAMRL, Wright-Patterson AFB, OH, \*\*Hahnemann University, Philadelphia, PA. Sponsor: B.O. Stuart.
- #695 **METABOLISM OF 2,2,4-TRIMETHYLPENTANE (ISOOCTANE), A NEPHROTOXIN IN MALE RATS.** C.T. Olson, K.O. Yu, D.W. Hobson\*, M.P. Serve. Harry G. Armstrong Aerospace Medical Research Laboratory, \*NMRI/TD, Wright-Patterson AFB, OH. Sponsor: B.O. Stuart.
- #696 **HYDROCARBON NEPHROPATHY INDUCTION IN MALE RATS BY CRUDE TRICYANOHEXANE.** J.W. Barnett, Jr., F.R. Johannsen, and G.J. Levinskas, Monsanto Company, St. Louis, MO; A.D. Boothe and D.E. Johnson, International Research & Development Corporation, Mattawan, MI.
- #697 **EFFECT OF 2,2,4-TRIMETHYLPENTANE ON PROTEIN AND DNA SYNTHESIS IN MALE FISCHER 344 RATS.** D.R. Peterson, N.M. Halleck, R.D. Phillips. EXXON Corp., East Millstone, NJ. Sponsor: G.F. Egan.
- #698 **CHARACTERIZATION OF MALE RAT HYDROCARBON NEPHROTOXICITY.** G.M. Ridder, C.L. Alden, R.L. Kanerva, L.C. Stone. Procter & Gamble, (MV), Cincinnati, OH. Sponsor: G.P. Daston
- #699 **DIFFERENTIAL TOXICITY OF ISCHEMIA AND HgCl<sub>2</sub> IN RABBIT RENAL CORTICAL SLICES.** C.E. Ruegg, A.J. Gandolfi, K. Brendel, R.B. Nagle. Arizona Health Sciences Center, Univ. AZ, Tucson, AZ.
- #700 **AGE-RELATED DIFFERENCES IN SUSCEPTIBILITY TO RENAL ISCHEMIA.** R.S. Goldstein, K. Miura, D.A. Pasino, D.G. Morgan, and J.B. Hook. Smith Kline & French Laboratories, Dept. Invest. Tox. & Exp. Path., Phila., PA.
- #701 **RABBIT PROXIMAL TUBULE SUSPENSIONS FOR THE STUDY OF EARLY NEPHROTOXIC EVENTS.** L.A. Rylander, J.S. Phelps, K. Brendel, and A.J. Gandolfi. Dept Pharmacology and Toxicology, Univ. AZ, Tucson, AZ.
- #702 **CYTOTOXICITY OF HALOGENATED HYDROCARBONS TO ISOLATED RENAL PROXIMAL TUBULES.** C.E. Green, J.E. Dabbs, and C.A. Tyson. SRI International, Menlo Park, CA.
- #703 **VANCOMYCIN (VAN)-INDUCED NEPHROTOXICITY IN FEMALE C57BL MICE.** W.R. Hewitt, P.J. Bugelski, A.C. Silver, A. Klinkner, and D.G. Morgan. Smith Kline & French Labs., Philadelphia, PA.
- #704 **NEPHROTOXICITY OF VANCOMYCIN IN FEMALE SPRAGUE-DAWLEY RATS.** M.A. Smith, A.C. Silver, G.L. Lage, and W.R. Hewitt. Dept. of Invest. Toxicol. Smith Kline and French Laboratories, and Phil. Coll. Pharm. & Sci. Philadelphia, PA.
- #705 **GENTAMICIN NEPHROTOXICITY IN NORMAL AND SUBTOTAL NEPHRECTOMIZED DOGS WITH IDENTICAL SERUM DRUG CONCENTRATION PROFILES.** D. Frazier, L. Dix, K. Bowman, T. Brown, J. Riviere. Lab. Toxicokinetics, Sch. Vet. Med., N.C. State Univ., Raleigh, NC.
- #706 **IDENTIFICATION OF A SUBGROUP OF SPRAGUE-DAWLEY RATS HIGHLY SENSITIVE TO DRUG-INDUCED RENAL TOXICITY.** L.P. Dix, M.P. Carver, D.L. Frazier, and J.E. Riviere. Lab. Toxicokinetics, Sch. Vet. Med. and Toxicology Program, N.C. State Univ., Raleigh, NC.
- #707 **NEPHROTOXICITY IN SUBTOTALLY NEPHRECTOMIZED RATS RECEIVING GENTAMICIN FOR DIFFERENT PERIODS AND DOSAGE REDUCTION REGIMENS.** R. Rogers, T. Brown, A. Hanna and J. Riviere. Lab. Toxicokinetics, Sch. Vet. Med., NC State Univ., Raleigh, NC.
- #708 **A MECHANISM OF S-(1,1,2,3,4-PENTACHLORO-1:3-BUTADIENYL)-L-CYSTEINE (PCBC) TOXICITY TO RABBIT PROXIMAL TUBULES (RPT)** R.G. Schnellmann, E.A. Lock, and L.J. Mandel. Dept. Physiol., Duke Univ., Durham, NC and Central Toxicol. Lab., Imperial Chemical Ind., Macclesfield, Cheshire, UK.

- #709 **GLUTATHIONURIA INDUCED BY MERCURIC CHLORIDE AND HEXACHLOROBUTADIENE.** P.M. Silber, A.J. Gandolfi, K. Brendel, Dept Pharmacology, University of Arizona, Tucson, AZ.
- #710 **EFFECT OF UNILATERAL NEPHRECTOMY ON RENAL ACCUMULATION OF MERCURY IN THE RAT.** R.K. Zalups and G.L. Diamond. Dept. of Pharmacology, Univ. of Rochester Med. Ctr., Rochester, NY 14642. Sponsor: M.W. Anders.
- #711 **THE EFFECTS OF CHROMATE ON CITRININ-INDUCED RENAL DYSFUNCTION IN THE RAT.** P. Haberman, J. Baggett and W.O. Berndt, Dept. Pharmacol., Univ. NE Med. Ctr., Omaha, NE.
- #712 **EFFECTS OF SOMAN AND DIISOPROPYLFLUOROPHOSPHATE (DFP) ON RENAL ATPase IN FISCHER 344 (F) AND SPRAGUE-DAWLEY (SD) RATS.** J. McC. Baggett and W.O. Berndt, Dept. Pharmacol., Col. Med., Univ. NE Med. Ctr., Omaha, NE.
- #713 **EFFECT OF PROBENECID ON ACUTE N-(3,5-DICHLOROPHENYL)SUCINIMIDE (NDPS)-INDUCED NEPHROTOXICITY.** G.O. Rankin, D.J. Yang, V.J. Teets, H.H. Lo, and P.I. Brown. Depts. of Pharmacology and Anatomy, Marshall University School of Medicine, Huntington, WV.
- #714 **STUDIES OF NEPHROTOXICITY DUE TO MIXED INHALATION EXPOSURE TO STYRENE AND TOLUENE IN RATS.** L. Dahlstrom-King<sup>a</sup>, S. Chakrabarti<sup>a</sup>, J. Brodeur<sup>a</sup>, and B. Tuchweber<sup>b</sup>. Dep. Med. Trav. Hyg. mil.<sup>a</sup> and Dep. Nutrition<sup>b</sup>, Fac. Med., Universite de Montreal, Quebec, Canada.
- #715 **STUDIES OF ACUTE NEPHROTOXIC POTENTIAL OF TRICHLOROETHYLENE IN FISCHER-344 RATS.** S. Chakrabarti<sup>a</sup> and B. Tuchweber<sup>b</sup>. Dep. Med. Trav. Hyg. mil.<sup>a</sup> and Dep. Nutrition<sup>b</sup>, Fac. Med., Univ. Montreal, Quebec, Canada.
- #716 **STUDIES OF ACUTE NEPHROTOXIC POTENTIAL OF CARBON DISULFIDE IN RATS.** S. Caron and S. Chakrabarti. Dep. Med. Trav. Hyg. mil., Fac. Med., Universite de Montreal, Quebec, Canada.
- #717 **INFLUENCE OF HYPERTENSION ON THE HEPATORENAL TOXICITY OF STYRENE.** S. Decarie and S. Chakrabarti. Dep. Med. Trav. Hyg. mil., Univ. de Montreal, Quebec, Canada.
- #718 **STUDIES OF HEPATORENAL TOXICITY DUE TO MIXED EXPOSURE TO STYRENE AND TOLUENE.** S. Chakrabarti<sup>a</sup> and B. Tuchweber<sup>b</sup>. Dep. Med. Trav. Hyg. mil.<sup>a</sup>, Dep. Nutrition<sup>b</sup>, Univ. de Montreal, Quebec, Canada.
- #719 **INFLUENCE OF CONSUMPTION OF ALCOHOL ON THE NEPHROTOXIC POTENTIAL OF TOLUENE.** M. Trottier and S. Chakrabarti, Dep. Med. Trav. Hyg. mil., Fac. Med., Universite de Montreal, Quebec, Canada.
- #720 **ETHANOL INDUCED PROTECTION AGAINST ACUTE NEPHROTOXICITY DUE TO ASPIRIN.** S. Chakrabarti and S. Yamaguchi. Dep. Med. Trav. Hyg. mil., Fac. Med., Universite de Montreal, Quebec, Canada.
- #721 **PROTECTION OF ACUTE HEPATORENAL TOXICITY OF BROMOBENZENE DUE TO PRIOR SUBCHRONIC EXPOSURE.** S. Chakrabarti and S. Yamaguchi. Dep. Med. Trav. Hyg. mil., Fac. Med., Univ. Montreal, Quebec, Canada.
- #722 **INHIBITION OF THE ACUTE RENAL TOXICITY OF METHYL CHLORIDE IN MICE BY GLUTATHIONE (GSH) DEPLETION.** G.J. Cheliman, R.M. Norton, and J.S. Bus. Chemical Industry Institute of Toxicology, Research Triangle Park, NC.
- #723 **NEPHROTOXIC POTENTIAL OF ACRYLONITRILE IN FISCHER-344 RATS.** L. Rouisse<sup>a</sup>, S. Chakrabarti<sup>a</sup> and B. Tuchweber<sup>b</sup>. Dep. Med. Trav. Hyg. mil.<sup>a</sup> and Dep. Nutrition<sup>b</sup>, Fac. Med., Universite de Montreal, Quebec, Canada.
- #724 **STEREOSPECIFICITY OF LYSINE NEPHROTOXICITY IN RATS.** J.M. Andress, C.D. Port, C.P. Chengelis, and F.N. Kotsonis. G.D. Searle & Co., Skokie, IL.
- #725 **ACUTE TOXICITY OF BIOPTERIN IN MICE.** A.B. Combs, Y.-J. Park, and \*K. Folkers. Div. of Pharmacol. and Tox., College of Pharmacy and \*Inst. for Biomed. Res., Univ. of Texas, Austin, TX 78712.
- #726 **ACUTE TOXICITY OF RUBRATOXIN B IN THE SYRIAN HAMSTER.** J.A. Engelhardt, W.W. Carlton, A.W. Hayes and J.J. Turek. Dept. of Vet. Microbiol., Pathol. and Pub. Hlth. and Electron Microscopy Laboratory, Purdue University, West Lafayette, IN and R.J. Reynolds Industries, Inc., Winston-Salem, NC.
- #727 **CHRONIC TOXICITY OF OCHRATOXIN A IN F344 RATS.** M. Hejtmancik, K. Pavkov,<sup>1</sup> A.C. Peters, R. Persing, and G. Boorman<sup>2</sup>. Battelle, Columbus, OH; <sup>1</sup>Presently Stauffer Chem. Co., Farmington, CT and <sup>2</sup>NTP, RTP, NC.
- #728 **INFLUENCE OF Zn ON Pb INCLUSION BODY FORMATION IN RAT KIDNEY.** Peter L. Goering, Prakash Mistry, and B.A. Fowler, NIEHS, Research Triangle Park, NC.
- #729 **CHRONIC TOXICITY EVALUATION OF THE NONSULFHYDRYL ANGIOTENSIN CONVERTING ENZYME INHIBITOR QUINAPRIL.** L.K. Andrews, J.A. Anderson, S.N. Kim and M.U. Jayasekara. Warner-Lambert/Parke-Davis, Pharm. Res., Ann Arbor, MI 48106. Sponsor: F.A. de la Iglesia.
- #730 **RENAL FUNCTION IN THE RAT AFTER PRENATAL ETHYLENETHIOUREA EXPOSURE.** G.P. Daston. Dept. Biol. Sci., Univ. Wisconsin, Milwaukee, WI.
- #731 **DIET-INDUCED NEPHROCALCINOSIS IN THE RAT: CALCIUM AND PHOSPHORUS METABOLISM.** J.C. Phillips, C. Bex, D. Mendis and S.D. Gangolli. BIBRA, Carshalton, Surrey, UK.
- #732 **NEPHROCALCINOSIS AND CALCIUM METABOLISM IN MALE AND FEMALE RATS: A PHARMACOKINETIC INVESTIGATION.** J.C. Phillips, C. Bex and S.D. Gangolli. BIBRA, Carshalton, Surrey UK.
- #732A **A NEW TECHNIQUE FOR THE ISOLATION AND PURIFICATION OF URINARY ALPHA-2U GLOBULIN FROM FISCHER 344 RATS.** T.E. Eurell, C.T. Olson\*, and D.W. Hobson\*. Department of Anatomy, Hahnemann University, Philadelphia, PA and \*Toxic Hazards Division, Toxicology Branch, AMRL, Wright-Patterson AFB, OH. Sponsor: B. Calesnick. (See Abstract #821 in Toxicologist.)

**WEDNESDAY AFTERNOON, MARCH 5**  
**French Market Exhibit Hall**

**POSTER SESSION 19: HEPATOTOX-GI TOXICOLOGY**

Chairman: R.L. Mull, Shell Oil Company, Houston, TX

Displayed: 1:30 p.m. - 4:30 p.m.

Attended: 1:30 p.m. - 3:00 p.m.

- #733 **EFFECT OF CORN OIL VEHICLE ON SUBCHRONIC HEPATOTOXICITY OF CARBON TETRACHLORIDE (CT) IN CD-1 MICE.** L.W. Condie, R.D. Laurie, M. Robinson, and J.P. Bercz. Toxicology and Microbiology Division, HERL, USEPA, Cincinnati, OH.
- #734 **CARBON TETRACHLORIDE (CCl<sub>4</sub>)-INDUCED TOXICITY: A COMPARISON IN THE MOUSE, RAT AND AND GUINEA PIG.** L.J. Slaughter<sup>1</sup>, E.F. Erker<sup>1</sup>, and L.C.K. Wong<sup>2</sup>. Depts. of Path. and Pharmacol., Howard Univ. Med. Coll., Wash., D.C.<sup>1</sup> & Drug Safety Eval., Revlon Health Care R&D, Tuckahoe, NY<sup>2</sup>.
- #735 **THE ROLE OF THE BILIRUBIN COMPONENT IN MANGANESE-BILIRUBIN INDUCED CHOLESTASIS.** P. Ayotte and G.L. Plaa, Dep. de Pharmacologie, Universite de Montreal, Montreal, Quebec, Canada, H3C 3J7.

- #736 **EVALUATION OF THE HEPATORENAL TOXIC POTENTIAL OF 1,2-DICHLOROPROPANE (DCP): ACUTE, SUBACUTE AND SUBCHRONIC ORAL EXPOSURES IN RATS.** R. Ramanathan, S. Muralidhara, C.E. Dallas, H.J. Kim and J.V. Bruckner. Department of Pharmacology and Toxicology, College of Pharmacy, University of Georgia, Athens, GA.
- #737 **ASSESSMENT OF THE EFFECTS OF 3,4,3',4'-TETRABROMOBIPHENYL (3,4-TBB) ON HEPATIC GLUTATHIONE (GSH) CONCENTRATIONS IN RATS.** D. Dixon, S.D. Sleight, S.D. Aust, and K. Marushige. Depts. of Pathol., Biochem., and Ctr. for Env. Toxicol., Michigan State University, East Lansing, MI.
- #738 **POLYBROMINATED BIPHENYL-INDUCED ULTRASTRUCTURAL LESIONS IN MOUSE LIVER.** M.E. Placke, B.D. Carlton and R. Chhabra. Battelle, Columbus, OH, and NIEHS, RTP, NC.
- #739 **HEPATIC TOXICITY OF BUTYLATED HYDROXYTOLUENE (BHT) TO RATS.** Y. Nakagawa, K. Tayama and K. Hiraga. NCI, NIH, Bethesda, MD, U.S.A. and Tokyo Metro. Res. Lab. of Pub. Health, Tokyo, Japan. Sponsor: C.L. Litterst.
- #740 **ONE MONTH ORAL TOXICITY OF A TRIZOLOPYRIMIDINE IN BEAGLE DOGS.** P. Tham, V. Cubberley, W. Dougherty, M. Iatropoulos, J. Noble, American Cyanamid Company, Medical Research Division, Pearl River, NY.
- #741 **EFFECT OF MONOETHYL GLUTATHIONE ESTER (GEE) ON TOTAL INTRACELLULAR GLUTATHIONE (GSH) LEVELS OF ACETAMINOPHEN (ApAp) AND BUTHIONINE SULFOXIMINE (BSO)-TREATED RAT HEPATOCYTES.** R.F. Fricke and J. Jorge, Pathophysiology Division, US Army Medical Research Institute of Infectious Disease, Ft. Detrick, Frederick, MD. (See Abstract #962 in Toxicologist.)
- #742 **SERUM ALANINE AMINOTRANSFERASE (ALT) AS A QUANTITATIVE INDICATOR OF HEPATOCYTE NECROSIS.** T.B. Leonard, W.R. Hewitt, J.G. Dent and D.G. Morgan, Depts. of Drug Metabolism, Pathology, and Toxicology, Smith Kline & French Labs., Philadelphia, PA 19101.
- #743 **INFLUENCE OF EXTRACELLULAR CALCIUM ON THE TOXIC EFFECTS OF ALLYL ALCOHOL IN THE PERFUSED RAT LIVER.** O. Strubelt, M. Younes, and R. Pentz. Institute of Toxicology, Medical University of Lubeck, D-2400 Lubeck, FRG.
- #744 **GLUCOSE-6-PHOSPHATASE AS A MARKER OF FREE RADICAL INJURY IN DIFFERENT REGIONS OF THE LIVER.** M.T. Smith, H.J.C. Wirt and S. Thompson, School of Public Health, University of California, Berkeley, CA.
- #745 **EFFLUX OF OXIDIZED (GSSG) AND REDUCED (GSH) GLUTATHIONE FROM PERFUSED LIVER FROM NAFENOPIN (N)-TREATED RATS.** J.G. Conway, L.K. Garvey, D.A. Naptun, and J.A. Popp. CIIT, P.O. Box 12137, Research Triangle Park, NC. Sponsor: D.E. Rickert.
- #746 **HEPATOTOXIC RESPONSE OF RATS TO BROMOBENZENE, CARBON TETRACHLORIDE AND ETHIONINE.** R.R. Maronpot, R. Wilson, D.M. Lariviere, and H.J. Esber. NTP, NIEHS, Research Triangle Park, NC and EG&G Mason Research Institute, Worcester, MA.
- #747 **METABOLIC PROFILE OF DANTROLENE SODIUM IN ISOLATED PERFUSED RAT AND HAMSTER LIVERS WITH AND WITHOUT PRETREATMENT.** K.W. Obrosky, A.E. Arfman, P.W. Rulon, and E.P. Denine, Norwich Eaton Pharmaceuticals, Inc., a Procter & Gamble Co., Norwich, NY 13815.
- #748 **EFFECTS OF DANTRIUM ADMINISTRATION IN THE HAMSTER.** K.P. Baran, E.J. Gorgacz, R.A. Levin and J.P. Andrews. Norwich Eaton Pharmaceuticals, Inc. a Procter & Gamble Company, Norwich, NY. Sponsor: E.P. Denine.
- #749 **COMPARATIVE SUBCHRONIC ORAL EFFECTS OF TRI- AND TETRACHLOROPROPENE.** F.R. Johannsen, G.J. Levinskas, Monsanto Co., St. Louis, MO; E.I. Goidenthal, International Research and Development Corp., Mattawan, MI.
- #750 **REVERSAL OF SULFAMERAZINE INHIBITION OF RAT HEPATIC UROPORPHYRINOGEN SYNTHESIS BY FOLIC ACID.** W.R. Christenson, R.V. Reddy, and W.N. Piper. Dept. of Pharmacology, Univ. of Nebr. Med. Cntr., Omaha, NE.
- #751 **EXTRACELLULAR Ca<sup>++</sup>-DEPENDENT AND INDEPENDENT MECHANISMS OF ACETAMINOPHEN HEPATOTOXICITY.** S. Ray and S. Ji., Dept of Pharmacol. & Toxicol. Rutgers Univ. Piscataway, NJ 08854.
- #752 **EVIDENCE FOR POLYMORPHONUCLEAR LEUKOCYTE INVOLVEMENT IN ACETAMINOPHEN HEPATOTOXICITY.** S. Ji, S. Ray, A. Pilaro and D. Laskin. Dept. of Pharmacol. & Toxicol., Rutgers University, Piscataway, NJ 08854.
- #753 **INHIBITION OF MITOCHONDRIAL RESPIRATION BY ACETAMINOPHEN AS A POSSIBLE MECHANISM FOR GLYCOGEN DEPLETION IN THE PERFUSED RAT LIVER.** R. Esterline, and S. Ji. Joint Graduate Program in Toxicology, Rutgers University, Piscataway, NJ.
- #754 **HEPATOTOXICITY OF 2,4- AND 2,6-DIMETHYLANILINE IN THE DOG AND RAT.** M.L. Hardy, C.R. Short, H.W. Taylor. Department of Veterinary Physiology, Pharmacology, Toxicology, LSU School of Veterinary Medicine. Baton Rouge, LA.
- #755 **TOXICITY OF ETHYLENE DICHLORIDE (EDC) FOLLOWING INHALATION EXPOSURE.** R.J. Francovitch, P.D. Siegel, C.J. George, N.A. Schor, and W.J. George. Tulane University School of Medicine, New Orleans, LA. Sponsor: R.F. Ochillo.
- #756 **CONCENTRATION DEPENDENCE AND REVERSIBILITY OF GASTIC LESIONS INDUCED BY REPEATED GAVAGE OF ACRYLIC MONOMERS.** R.A. Davis<sup>1</sup>, J.C. Siglin<sup>2</sup>, P.J. Becci<sup>2</sup>, M.A. Friedman<sup>1</sup>, American Cyanamid Company<sup>1</sup>, Wayne, NJ. Food and Drug Research Laboratories,<sup>2</sup> Inc., Waverly, NY.
- #757 **ACUTE TOXIC EFFECTS OF ACRYLIC MONOMERS ON THE RAT FORESTOMACH WITH GAVAGE ADMINISTRATION.** R.A. Davis<sup>1</sup>, J.C. Siglin<sup>2</sup>, P.J. Becci<sup>2</sup>, M.A. Friedman<sup>1</sup>, American Cyanamid Company<sup>1</sup>, Wayne, NJ, Food and Drug Research Laboratories, Inc.<sup>2</sup>, Waverly, NY.
- #758 **HYPERPLASIA OF THE GASTRIC GLANDULAR EPITHELIUM IN B<sub>2</sub>C<sub>3</sub>F<sub>1</sub> MICE TREATED WITH 15(R)-15-METHYL PGE<sub>2</sub>.** D.G. Branstetter and R.C. Piper, Pathology and Toxicology Research, The Upjohn Co., Kalamazoo, MI 49001.
- #759 **EARLY FORESTOMACH CELL PROLIFERATION MAY BE A COMMON EFFECT OF FORESTOMACH CARCINOGENS.** B.I. Ghanayem, R.R. Maronpot and H.B. Matthews. NIH/NIEHS, Research Triangle Park, NC.

## WEDNESDAY AFTERNOON, MARCH 5

French Market Exhibit Hall

## POSTER SESSION 20: NEUROTOXICOLOGY III: NEUROCHEMISTRY

Chairman: D.A. Fox, University of Houston, Houston, TX

Displayed: 1:30 p.m. - 4:30 p.m.

Attended: 3:00 p.m. - 4:30 p.m.

- #760 **EVIDENCE THAT PYRROLE FORMATION IS A PATHOGENETIC STEP IN  $\gamma$ -DIKETONE NEUROPATHY.** M.B. Genter, Gy. S. Quin, C.W. Anderson, D.C. Anthony and D.G. Graham. Duke University Medical Center, Durham, NC.
- #761 **MECHANISMS OF PYRROLE AUTOXIDATION IN 2,5-HEXANEDIONE-TREATED PROTEIN.** A.P. DeCaprio, Wadsworth Center for Laboratories and Research, New York State Department of Health, Albany, NY. Sponsor: L.S. Kaminsky.
- #762 **MONOCLONAL ANTIBODY DETECTION OF IN VIVO NEUROFILAMENT CROSSLINKING IN RATS TREATED WITH 2,5-HEXANEDIONE (2,5-HD).** D.M. Lapadula, R. Irwin\*, E. Suwita, and M.B. Abou-Donia. Duke Univ. Med. Ctr. Durham, NC. \*NIEHS, RTP, NC.



- #763 **RAT MICROTUBULE ASSEMBLY PROPERTIES ARE ALTERED FOLLOWING IN VITRO AND IN VIVO MODIFICATION BY 2,5-HEXANEDIONE.** K. Boekelheide. Department of Pathology and Laboratory Medicine, Division of Biology and Medicine, Brown University, Providence, RI 02912.
- #764 **ENHANCE IN VITRO PHOSPHORYLATION OF CHICKEN BRAIN MICROTUBULE AND SPINAL CORD NEUROFILAMENT TRIPLET PROTEINS AFTER A SINGLE ORAL DOES OF TRI-O-CRESYL PHOSPHATE (TOCP).** E. Suwitz, D.M. Lapadula and M.B. Abou-Donia. Duke University Medical Center, Durham, NC.
- #765 **X-RAY MICROPROBE ANALYSIS OF RAT SCIATIC NERVE UNDER NORMAL AND NEUROTOXIC CONDITIONS.** R.M. LoPachin, A.J. Saubermann and J.B. Kirkpatrick. University of Houston, Houston, TX.
- #766 **EFFECTS OF ACRYLAMIDE ON NERVOUS TISSUE CALCIUM CONCENTRATIONS.** R.M. LoPachin, N. Chherawala, and J.B. Kirkpatrick. University of Houston, Houston, TX.
- #767 **BRAIN DIALYSIS ALTERS LOCAL CEREBRAL GLUCOSE USE WHEN USED TO MEASURE BRAIN EXTRACELLULAR POTASSIUM IN AWAKE RATS TREATED WITH KAINIC ACID.** J.E. Chastain and T.L. Pazdernik. Dept. Pharm., Tox., & Therap., University of Kansas Medical Center, Kansas City, KS. Sponsor: J. Doull.
- #768 **INHIBITION OF KAINIC ACID NEURONAL RECEPTOR BINDING BY DIVALENT CATIONS.** D.J. Braitman, R. Zaczek and J.T. Coyle. The Johns Hopkins University, Baltimore, MD. Sponsor: Z. Annau.
- #769 **THE EFFECTS OF DFP ON SYNAPTOSOMAL UPTAKE OF  $^{45}\text{Ca}^{2+}$ .** J.A. Wisler and R.B. Forney. Department of Pharmacology and Toxicology, Indiana University School of Medicine, Indianapolis, IN.
- #770 **PYRETHROID EFFECTS ON NOREPINEPHRINE RELEASE AND  $\text{Ca}^{2+}$  METABOLISM IN RAT BRAIN IN VITRO.** J.D. Doherty<sup>1</sup>, K. Nishimura<sup>2</sup>, N. Kurihara<sup>2</sup>, N. Salem, Jr.<sup>3</sup>, and T. Fujita<sup>2</sup>. <sup>1</sup>EPA Washington, D.C. 20460, <sup>2</sup>Kyoto University, Kyoto Japan, and <sup>3</sup>LCS, NIAAA Bethesda, MD 20892. Sponsor: O.E. Paynter.
- #771 **THE EFFECT OF LEAD EXPOSURE ON ALKALINE PHOSPHATASE AND CARBONIC ANHYDRASE ACTIVITY IN THE NEONATAL RAT.** G.D. Miller and T.F. Massaro, CAES, Fenske Lab., Penn. State Univ., Univ. Pk., PA. Sponsor: E.J. Massaro.
- #772 **DEVELOPMENT OF  $\text{Na}^{+}$ ,  $\text{K}^{+}$ -ATPASE MOLECULAR FORMS IN RAT BRAIN IN VIVO AND IN VITRO.** C.K. Atterwill and P. Collins, Dept. Toxicology, Smith Kline & French Research Ltd., The Frythe, Welwyn, Herts, U.K. Sponsor: G.B. Leslie.
- #773 **EFFECT OF AMIODARONE ON  $\text{Na}^{+}$ ,  $\text{K}^{+}$ -ATPase AND  $\text{Mg}^{2+}$ -ATPase ACTIVITIES IN RAT BRAIN SYNAPTOSOMES.** K.S. Prasada Rao, S.B. Rao, Ph. Camus and H.M. Mehendale, Dept. Pharmacol. & Toxicol., Univ. MS Med. Ctr., Jackson, MS 39216.
- #774 **SENSITIVITY OF SYNAPTOSOMAL  $\text{Ca}^{2+}$ -ATPase TO CYCLODIENE PESTICIDES.** B.D. Mehrotra, S.R. McElroy and D. Desaiyah. Department of Chemistry Tougaloo College, Tougaloo, MS. Department of Neurology, Univ. Miss. Med. Ctr., Jackson, MS.
- #775 **EFFECT OF REPEATED ORGANOPHOSPHATE EXPOSURE ON PHOSPHOINOSITIDE METABOLISM IN RAT BRAIN.** L.G. Costa, G. Kaylor and S.D. Murphy, Dept. of Environmental Health, University of Washington, Seattle, WA 98195.
- #776 **INHIBITION OF PROTEIN SYNTHESIS BY TRIMETHYLTIN.** L.G. Costa and R. Sulaiman. Dept. of Environmental Health, University of Washington, Seattle, WA 98195.
- #777 **EFFECT OF  $\text{C}_{10}$  ON CELL PROLIFERATION AND PROTEIN SYNTHESIS IN DEVELOPING RAT BRAIN.** G.P. Toth and M.K. Smith. U.S. EPA, HERL Cincinnati, OH 45268.
- #778 **TRIMETHYLTIN (TMT) & TRIETHYLTIN (TET) INDUCED BIOCHEMICAL CHANGES IN THE RAT CNS.** G.P. Rose, J.M. Taylor and J. Kemp. Shell Research PLC, Sittingbourne Research Centre, Kent, England.
- #779 **DELAYED NEUROTOXICITY OF TRIPHENYL PHOSPHITE (TPP) IN THE HEN.** C.D. Carrington and M.B. Abou-Donia. Duke University Medical Center, Durham, NC 27710.
- #780 **HEAT INACTIVATION OF PHENYL VALERATE HYDROLASES FROM HEN AND RAT BRAIN.** E. Reiner, C.S. Davis, B.W. Schwab, L.M. Schopfer\*, and R.J. Richardson. Toxicology Program and Department of Biological Chemistry\*, University of Michigan, Ann Arbor, MI.
- #781 **THE EFFECTS OF SOMAN AND SARIN ON PHOSPHATIDYL-CHOLINE DISTRIBUTION IN THE ELECTROPLAX FROM ELECTROPHORUS ELECTRICUS.** C. Supernovich and P. Rosenberg. Univ. of Connecticut, School of Pharmacy, Section of Pharmacology and Toxicology, Storrs, CT.
- #781A **EFFECT OF SOMAN ON AMINOPHOSPHOLIPID ORIENTATION IN ELECTROPLAX PLASMA MEMBRANES: USE OF 2,4,6-TRINITROBENZENESULFONIC ACID (TNBS).** B.A. Weber and P. Rosenberg. Univ. of CT., Sch. of Pharm./Tox. Sch. of Pharm., Storrs, CT. (See Abstract #77 in Toxicologist.)
- #782 **SPINAL CORD CHOLINESTERASE ACTIVITY PREDICTS BRAIN REGIONAL CHOLINESTERASE ACTIVITY IN SOMAN (GD)-POISONED RATS.** V. Jimmerson, T-M Shih, M. Pannella, T. Koviak, O. Smith, F. Cowan, and R. Mailman. USAMRICD, APG, MD 21010 and University of North Carolina, Chapel Hill, NC 27514.
- #783 **MULTIPLE ORGANOFUOROPHOSPHATE HYDROLASES IN THE PROTOZOAN TETRAHYMENA THERMOPHILA.** W.G. Landis, H.D. Durst, R.E. Savage, Jr., D.M. Haley, M.V. Haley, D.W. Johnson, R.M. Tauber, Chemical Research and Development Center, Toxicology Division, Aberdeen Proving Ground, MD. Sponsor: J.T. Weimer.
- #784 **THE USE OF CHOLINESTERASE INHIBITORS, ETHOPROPazine AND BW284C51, TO DISSOCIATE THE ACTIVITIES OF ACETYLCHOLINESTERASE (AChE) AND BUTYRYLCHOLINESTERASE (BuChE) OF MUSCULARIS MUSCLE OF BUFO MARINUS.** K. Bui and R.F. Ochillo. Laboratories of Pharmacology and Toxicology, Xavier University of Louisiana, New Orleans, LA 70125.
- #785 **EFFECTS OF ALUMINUM NITRILIOTRIACETIC ACID (AL-NTA) IP INJECTION OF RATS ON NEUROTRANSMITTERS AND THE cAMP SYSTEM IN BRAIN.** S.A. Khatib, D. W. Allmann, T. Lovan, and P.A. Shea, Depts. of Biochemistry and Psychiatry, Indiana University School of Medicine, Indianapolis, IN. Sponsor: R.B. Forney.
- #786 **EFFECTS OF MERCURY ( $\text{Hg}^{2+}$ ) ON NEUROTRANSMITTER RELEASE (NTR) IN RAT STRIATAL SYNAPTOSOMES & FROG SKELETAL NEUROMUSCULAR JUNCTION (NMJ).** M. Hare, G. Cooper and D. Minnema, Dept. Environ. Hlth. U. Cinti., Cinti., OH. Sponsor: P.B. Hammond.
- #787 **THE ALTERATION OF BRAIN MONOAMINES BY REDUCING AGENTS.** A.E. Chester, F.H. Meyers, University of California at San Francisco, San Francisco, CA. Sponsor: H. Hodge.
- #788 **CYCLIC ALTERATION OF BIOGENIC AMINES AND METABOLITES IN SPECIFIC BRAIN REGIONS IN MICE.** J.M. Huie, R.A. Coulombe, Jr., and R.P. Sharma, Center for Environmental Toxicology, Utah State University, Logan, UT.
- #789 **QUIPazine (QP) - METOCLOPRAMIDE (MET) EFFECTS ON PROLACTIN (PRO) AND BRAIN CATECHOLAMINE METABOLITES IN THE RAT.** J.K. Porter, L.B. Lipham, W.P. Norred, N.H. Booth, and J.D. Robbins, Russell Research Center, ARS/USDA and Coll. of Vet. Med., University of Georgia, Athens, GA.
- #790 **PRIMATE POSTRADIATION PLASMA NEUROTENSIN AND HISTAMINE LEVELS.** L.G. Cockerham, E.L. Pautler, R.E. Carraway, D.E. Cochrane and J.D. Hampton. Armed Forces Radiobiology Research Institute, Bethesda, MD 20814-5145; University of Massachusetts Medical School, Worcester, MA 01605; Tufts University, Medford, MA 02155
- #791 **NEUROTOXICITY OF A NEW STRUCTURAL ANALOG OF MPTP.** M.V. Kindt, S.K. Youngster, P.K. Sonsalla and R.E. Heikkila. Department of Neurology, UM DNJ-Rutgers Medical School, Piscataway, NJ. Sponsor: G. Witz.

- #792 **INTERACTIVE EFFECTS OF LEAD (Pb<sup>2+</sup>) AND δ-AMINO-LEVULINIC ACID (ALA) IN VITRO ON SYNAPTOSOMAL γ-AMINOBU- TYRIC ACID (GABA) RELEASE.** D.J. Minnema and I.A. Michaelson, Dept. Envir. Hlth., Univ. Cinti., Cinti., OH. Sponsor: P.B. Hammond.
- #793 **PYRETHROID INSECTICIDES AND RADIOLIGAND DISPLACEMENT FROM THE GABA RECEPTOR CHLORIDE IONOPHORE COMPLEX.** K.M. Crofton, L.W. Reiter, and R. B. Mailman, Curriculum in Toxicology, U.N.C., Chapel Hill, NC 27514; Neurotoxicology Division, H.E.R.L., U.S.E.P.A., R.T.P., NC 27711; and B.S.R.C., U.N.C., Chapel Hill, NC 27514.
- #794 **RELATIONSHIP BETWEEN cAMP-DEPENDENT PROTEIN KINASE AND SYNAPTOSOMAL UPTAKE OF GABA IN MOUSE BRAIN REGIONS: EFFECT OF MIREX.** J.F. Leach, A.K. Charles and C. Timchalk. Dept. of Pharmacology & Toxicology, Albany Medical College, Albany, N.Y.
- #795 **ALTERATIONS IN SYNAPTIC VESICLE GLUTAMATE UPTAKE BY AMPHETAMINE AND ANTIPSYCHOTIC AGENTS.** P.E. Kish, T. Ueda, and S.Y. Kim, Mental Health Research Institute, University of Michigan, Ann Arbor, MI 48109. Sponsor: R.B. Conolly.
- #796 **LACK OF INDUCTION OF BRAIN SYNAPTOSOMAL RELEASE OF ACETYLCHOLINE AND GLUTAMATE BY CHLORINATED ALICYCLIC COMPOUNDS.** J.E. Chambers, Mississippi State University, Mississippi State MS.
- #797 **DIFFERENTIAL EFFECTS OF LINDANE ON PHARMACOLOGICALLY INDUCED SEIZURES.** B.E. Fishman and G. Gianutsos, Toxicology Program, Section of Pharm. and Tox., Univ. of Connecticut, Storrs, CT.
- #798 **EARLY NEUROCHEMICAL AND BEHAVIORAL EFFECTS OF PRENATAL EXPOSURE TO CLONIDINE AND LOFEXIDINE IN THE RAT.** S.F. Ali, W. Pizzi, R. Holson, P. Webb, G.D. Newport and W. Slikker, Jr., Division of Reproductive and Developmental Toxicology, National Center for Toxicological Research, Jefferson, AR 72079.
- #799 **COMPARISON OF THE EFFECTS OF CYANIDE (CN) ON CYTOCHROME OXIDASE (CYT OX) ACTIVITY AND RESPIRATION IN MOUSE BRAIN MITOCHONDRIA (MITO).** J.C. Pettersen and S.D. Cohen, Univ. of CT., Sch. of Phar., Sec. Pharmacol. Toxicol., Toxicology Program, Storrs, CT 06268.
- #800 **BLOOD-BRAIN BARRIER (BBB) DAMAGE FOLLOWING TREATMENT WITH MONOCHLOROACETIC ACID (MCA) IN MICE.** M.R. Berardi, K.R. Cooper and R. Snyder, Joint Graduate Program in Toxicology, Rutgers University, Piscataway, NJ.
- #801 **DIETHYLDITHIOCARBAMATE (DDC) NEUROTOXICITY: A MECHANISTIC APPROACH.** M. Toulon, L.D. Trombetta, I. Jamall, Department of Pharmaceutical Sciences, St. John's University, Jamaica, NY.

## WEDNESDAY AFTERNOON, MARCH 5

French Market Exhibit Hall

## POSTER SESSION 21: CARDIOVASCULAR TOXICOLOGY

Chairman: R.W. Mast, The Standard Oil Company (Ohio), Cleveland, OH

Displayed: 1:30 p.m. - 4:30 p.m.

Attended: 1:30 p.m. - 3:00 p.m.

- #803 **ASSESSMENT OF METHODOLOGY FOR DETERMINING ACUTE CARDIOTOXIC POTENTIAL OF ANTICANCER DRUGS.** I.C. Figueroa, D.G. Pegg, S.N. Kim and F.A. de la Iglesia. Warner-Lambert/Parke-Davis Pharm. Res., Ann Arbor, MI and Env. Ind. Health, University of Michigan, Ann Arbor, MI.
- #804 **EFFECTS OF COMPLEX MIXTURES OF COAL LIQUID ON CARDIOVASCULAR FUNCTION IN THE RAT.** L.B. Sasser, R.C. Zangar, D.L. Springer, and D.D. Mahlum. Pacific Northwest Laboratory, Richland, WA.
- #805 **COCARBOXYLASE IN CYANIDE POISONING.** J.A. Vick, A.J. Larrieu, J. Silver and R. Mhatre, Albert Einstein, Philadelphia, PA.
- #806 **THE PYRROLIZIDINE ALKALOID, MONOCROTALINE, AND THE CONTRACTILE RESPONSES OF RAT PULMONARY ARTERY.** P.J. Shubat, W. Banner and R.J. Huxtable. Dept. of Pharmacology, Univ. of Arizona, Tucson, AZ. Sponsor: I.G. Sipes.
- #807 **CYTOTOXICITY INDUCED BY ACUTE ACROLEIN EXPOSURE IN PRIMARY CULTURES OF RAT AORTIC ENDOTHELIAL AND SMOOTH MUSCLE CELLS.** L.R. Cox and K. Ramos. Dept. of Pharmacology and Toxicology, Phila. Coll. Pharm. Sci., Philadelphia, PA.
- #808 **ALLYLAMINE TOXICITY IN PERFUSED RAT HEARTS.** P.J. Boor, J.L. Sklar, P.G. Anderson, Department of Pathology, University of Texas Medical Branch, Galveston, TX. Sponsor: A.E. Ahmed.
- #809 **PREVENTION OF ALLYLAMINE (AAM)-INDUCED VASCULAR CELL INJURY BY BENZYLAMINE OXIDASE INHIBITORS (BZAOI).** S.L. Grossman, M.S. Stefaniak, K. Ramos, Dept. of Pharmacology and Toxicology, Philadelphia College of Pharmacy and Science, Philadelphia, PA.
- #810 **ORNITHINE DECARBOXYLASE ACTIVITY IN CULTURED HEART CELLS FROM NEONATAL RATS.** M. Toraason, E. Turner and B. Dames. NIOSH, DBBS, Cincinnati, OH. Sponsor: T.R. Lewis.
- #811 **SPONTANEOUS DISSEMINATED PANARTERITIS IN LABORATORY BEAGLE DOGS USED IN TOXICITY STUDIES.** Z. Ruben, P. Deslex, G. Nash, N.I. Redmond and D.C. Dodd. G.D. Searle & Co., Skokie, IL and Searle R&D, Sophia-Antipolis.
- #812 **INOTROPIC EFFECT OF CYCLOPIAZONIC ACID (CPA) ON SMOOTH, STRIATED AND CARDIAC MUSCLES.** K. Nishie, R.J. Cole and J.W. Dorner. U.S. Dept. of Agriculture, Athens, GA and Dawson, GA.
- #813 **THE EFFECT OF SK&F 94120, A NOVEL INOTROPIC/VASODILATING COMPOUND ON THE DOG HEART AT TOXICOLOGICAL DOSES.** E.C. Joseph, R.J. Eden, J.H. Harleman and P. Batham, Smith Kline & French Research Ltd., Herts, England and Bio-Research Laboratories Ltd., Montreal, Canada. Sponsor: G.B. Leslie.
- #814 **DELAYED CARDIAC DAMAGE IN DOGS FOLLOWING CHRONIC TREATMENT WITH OXAGRELATE (PHTHALAZINOL).** J.L. Allen, C.D. Port, D.K. Detweiler, J.R. Means, and F.N. Kotsonis, G.D. Searle & Co., Skokie, IL.
- #815 **CARDIOMYOPATHY IN RATS AND DOGS INDUCED BY CGS 15337.** D.W. Schiavo, I. Zaidi, E.T. Yau, J.D. Green, and V.M. Traina, Research Dept., Pharmaceuticals Div., CIBA-GEIGY Corp., Summit, NJ.
- #816 **CARDIOVASCULAR EFFECTS OF PRENATAL RESERPINE EXPOSURE IN RATS.** C.A. Kimmel\*, P.A. Sullivan and G.L. Kimmel\*. Division of Reproductive and Developmental Toxicology, National Center for Toxicological Research, Jefferson, AR, and \*Reproductive Effects Assessment Group, U.S. Environmental Protection Agency, Washington, DC.
- #817 **EFFECT OF PRENATAL EXPOSURE TO ISOPROTERENOL, PROPRANOLOL OR RESERPINE ON beta-ADRENERGIC RECEPTORS IN RATS.** G.L. Johnson, F.R. Alleva, S.J. Ehrreich, X. Joseph, P.K. Seth and T. Balazs. CDB, FDA, Washington, DC.
- #818 **SUBCHRONIC TOXICITY OF CI-930, A NOVEL CARDIOTONIC AGENT, IN RATS AND DOGS.** M.U. Jayasekara, R.H. DeWit, G.K. Peter, and J.E. Fitzgerald. Path. and Exp. Toxicol., Warner-Lambert/Parke-Davis Pharm. Res., Ann Arbor, MI.
- #819 **EVALUATION OF ANTIDOTES FOR THE TREATMENT OF LETHAL NIFEDIPINE OVERDOSAGE.** O. Strubelt, and K.-W. Diederich. Institute of Toxicology and Clinic of Cardiology, Medical University of Lubeck, D-2400 Lubeck, FRG.
- #820 **INTOXICATIONS WITH BETA-ADRENERGIC BLOCKERS IN HUMANS.** J.R. Weiser, and I. Gerling. Department of Internal Medicine and Department of Forensic Medicine, Medical University of Lubeck, FRG. Sponsor: C.-P. Siegers.

- #822 **APPETITE SUPPRESSION, BEHAVIORAL, AND CARDIOVASCULAR EFFECTS OF PHENYLPROPANOLAMINE (PAA) IN DOGS.** L.R. Weiss, R.H. Brown, and J.A. Vick. Food and Drug Administration, Washington, DC.
- #823 **THE OCULOCARDIAC REFLEX: ITS POTENTIAL DIAGNOSTIC VALUE IN TOXICOLOGY.** J.W. Richig, J.C. Kapeghian, D.M. Schiavo, J.D. Green, and V.M. Traina, Subdivision of Toxicology, Research Dept., Pharma. Div., CIBA-GEIGY Corp., Summit, NJ 07901.
- #824 **IN VIVO AND IN VITRO SAFETY EVALUATION STUDIES OF FACTOR VIII:C.** C.R. Chau, B.S. Brar and L.C.K. Wong, Department of Drug Safety Evaluation, Research and Development Division, Revlon Health Care, Tuckahoe, NY.

## WEDNESDAY AFTERNOON, MARCH 5

4 p.m. - 5:30 p.m.

Ballroom D

### ANNUAL SOT BUSINESS MEETING

President Emil A. Pfitzer, Presiding  
SOT Members Only

## THURSDAY MORNING, MARCH 6

8:30 a.m. - 12 p.m.

Ballroom A-C

### SYMPOSIUM: MECHANISMS OF CELL INJURY

Sponsored jointly by the Society of Toxicology and the European Society of Toxicology

Honorary Chairman: E.A. Pfitzer, SOT President 1985-1986

Chairman: W.N. Aldridge, Medical Research Council Laboratory-Toxicology, Carshalton, Surrey, U.K.

Cultured Liver Explants as a Tool for Studying Biotransformation and Tissue Injury. I.G. Sipes, University of Arizona, Tucson, AZ

Recent Studies on the Role of Calcium in Chemical Toxicity. S. Orrenius, Karolinska Institute, Stockholm, Sweden

Cell Defense Mechanisms of Glutathione and Vitamine E During Cell Injury. D.J. Reed, Oregon State University, Corvallis, OR

Apoptosis: Cell Death Under Homeostatic Control. A.H. Wyllie, University of Edinburgh, Edinburgh, Scotland

## THURSDAY MORNING, MARCH 6

8:30 a.m. - 12 p.m.

Burgundy Room

### SYMPOSIUM: BASIC CONCEPTS OF IMMUNOTOXICOLOGY

Sponsored by SOT Immunotoxicology Specialty Section

Cochairs: D.E. Gardner, Northrop Corporation, Research Triangle Park, NC  
J. Dean, CHIT, Research Triangle Park, NC

Introduction. D.E. Gardner

Histology and Pathology of the Immune System. J.G. Vos, National Institute of Public Health, Bilthoven, Netherlands

Drug-Induced Immunomodulation. B. Ryffel, Sandoz Ltd., Basle, Switzerland, and R. Stoll, Sandoz, Inc., Handover, NJ

Chemical and Drug Induced Auto Immunity. M. Fischbach, University of Texas Health Science Center, San Antonio, TX

Problems in Predicting and Assessing Sensitization of the Airway by Chemicals. R. Patterson, Northwestern University, Evanston, IL

Summary. J. Dean

## THURSDAY MORNING, MARCH 6

8:30 a.m. - 12 p.m.

Poydras A

### PLATFORM SESSION: REPRODUCTIVE/TERATOLOGY

Honorary Chairman: R.L. Dixon, SOT President 1982-1983

Chairman: H. Zenick, University of Cincinnati, Kettering Laboratory, Cincinnati, OH

- #120 8:30 **CYTOCHROME P-450-MEDIATED METABOLISM OF 2-ACETYL-AMINOFLOURENE (AAF) IN EARLY MOUSE EMBRYONIC DEVELOPMENT.** M.J. DiBartolomeis, J.J. Meneses, and Roger A. Pedersen. Lab. of Radiobiol., Univ. of Calif., San Francisco, CA. Sponsor: B.N. Ames.
- #121 8:45 **INHIBITION OF HEPATIC UDP-GLUCURONYL TRANSFERASE (UDP-GT) ACTIVITY COINCIDENT WITH ELEVATED PLASMA SEX STEROID CONCENTRATIONS DURING GONADAL MATURATION IN CARP.** F.D. Sikoki, R.A. Tubb, and L.R. Curtis. Oak Creek Laboratory of Biology, Department of Fisheries and Wildlife, Oregon State University, Corvallis, OR.
- #122 9:00 **EFFECTS OF METHYLMERCURY ON SPERM O<sub>2</sub> CONSUMPTION.** M.K. Mohamed, T.C. Evans, N.R. Mottet and T.M. Burbacher. Department of Pathology, University of Washington, Seattle, WA.
- #123 9:15 **ISSUES IN MALE REPRODUCTIVE RISK ASSESSMENT.** E.D. Clegg and H. Zenick. U.S. EPA. Washington, DC.

- #124 9:30 **EFFECTS OF CHRONIC ORAL ADMINISTRATION OF COBALTOUS CHLORIDE (CO) ON REPRODUCTION IN MALE MICE.** N.G. Pedigo, M.B. Anderson, and W.J. George, Departments of Pharmacology and Anatomy, Tulane University School of Medicine, New Orleans, LA. Sponsor: R.F. Ochillo.
- #125 9:45 **FERTILITY AND GENERAL REPRODUCTION IN RATS WITH THE NEW ANTICONVULSANT AGENT ZONISAMIDE.** J.A. Anderson, J.A. Petreire, J.L. Schardein\*. Warner-Lambert/Parke-Davis Pharm. Res., Ann Arbor, MI and \*International Res. and Dev. Corp., Mattawan, MI.
- #126 10:00 **POSSIBLE MECHANISM AND LOCUS OF ETHYLENE DIBROMIDE (EDB)-INDUCED STERILITY IN MALE FISCHER 344 RATS.** F.K. Adatsi, R.C. James, and R.D. Harbison. Univ. of Ark. for Med. Sci., Div. of Inter. Toxicology, Little Rock, AR.
- #127 10:15 **METABOLISM OF A TESTICULAR TOXIN, BIS(2-METHOXYETHYL) ETHER, IN THE RAT.** K.L. Cheever, D.E. Richards, W.W. Weigel, J.B. Lal, A.M. Dinsmore, F.B. Daniel, Nat. Inst. for Occupational Safety and Health, Cincinnati, OH. Sponsor: T.R. Lewis.
- #128 10:30 **A PROPOSED SCHEME FOR TERATOGENICITY SCREENING OF INDUSTRIAL RESEARCH AND DEVELOPMENT MATERIALS.** G.H.Y. Lin, Xerox Corporation, Rochester, NY.
- #129 10:45 **EVALUATION OF THE EFFECTS OF NITRAPYRIN ON FETAL DEVELOPMENT IN THE RABBIT.** T.R. Hanley, Jr., N.M. Berdasco, L.G. Lomax and K.S. Rao, Mammalian and Environmental Toxicology Research Laboratory, Dow Chemical USA, Midland, MI 48674.
- #130 11:00 **REPRODUCTION AND FERTILITY EVALUATIONS IN RATS FOLLOWING NITROBENZENE (NB) INHALATION.** D.E. Dodd\*, E.H. Fowler\*, W.M. Snellings\*, I.M. Pritts\*, R.W. Tyle\*, J.P. Lyon\*, F.O. O'Neal\*, and G. Kimmerle\*. \*Bushy Run Res. Ctr., Export, PA; \*ICI Americas, Wilmington, DE; \*E.I. duPont de Nemours Co., Newark, DE; \*Bayer AG, Wuppertal, West Germany.
- #131 11:15 **A DIETARY TWO-GENERATION REPRODUCTION STUDY IN FISCHER 344 RATS WITH 2,4-DICHLORO-PHENOXYACETIC ACID.** D.E. Rodwell, R.D. Wilson<sup>1</sup>, M.D. Nemece, E.J. Tasker and G. Adam, WIL Research Laboratories, Inc., Ashland, OH., Consultant,<sup>1</sup> 2,4-D Task Force.
- #132 11:30 **REPRODUCTIVE TOXICOLOGY STUDIES IN RATS ON THE NEW HYPOTENSIVE AGENT LOSULAZINE.** T.A. Marks and D.F. Morris, Reproductive and Developmental Toxicology, The Upjohn Co., Kalamazoo, MI 49001.
- #133 11:45 **HYPERPROLACTINEMIA AND ANESTRUS IN RATS TREATED WITH AN ANTIHYPERTENSIVE AGENT (Losulazine).** G.M. Mesfin, M.J. Higgins, D.F. Morris, G.A. Johnson, T.A. Marks. Pathology & Toxicology Research, The Upjohn Company, Kalamazoo, MI 49001.

## THURSDAY MORNING, MARCH 6

8:30 a.m. - 12 p.m.

Poydras B

### PLATFORM SESSION: INHALATION II

Honorary Chairman: S.D. Murphy, SOT President 1974-1975

Chairman: R.A. Parent, Consultox Ltd., Baton Rouge, LA

- #134 8:30 **THE IMPORTANCE OF RAT RESPIRABLE AEROSOLS IN PERFORMING QUANTITATIVE INHALATION TOXICOLOGY.** D.M. Bernstein and A.I. Nikiforov. Battelle, Centre for Toxicology and Biosciences, 7 route de Drize, 1227 Carouge/Geneva, Switzerland.
- #135 8:45 **PREDICTED NASAL AND TRACHEOBRONCHIAL PARTICLE DEPOSITION IN CHILDREN.** R.F. Phalen and M.J. Oldham, Community & Environmental Medicine, University of California, Irvine, CA 92717.
- #136 9:00 **THE FATE OF PARTICLES DEPOSITED IN THE PLEURAL SPACE.** B.E. Lehnert and Y.E. Valdez, Los Alamos National Laboratory, Los Alamos, NM. Sponsor: G. Oberdorster.
- #137 9:15 **STRAIN DIFFERENCES IN NASAL DEPOSITION OF ACETONE AND ETHANOL VAPORS.** J.B. Morris, R.J. Clay and D.G. Cavanagh, School of Pharmacy, University of Connecticut, Storrs, CT.
- #138 9:30 **CROSS-VENTILATING RAT MODEL FOR DETERMINATION OF THE DEPOSITION, UPTAKE, DISTRIBUTION AND ELIMINATION KINETICS OF INHALED SUBSTANCES.** B.E. Lehnert, D.M. Stavert, D.C. Archuleta. Los Alamos National Laboratory, Los Alamos, NM. Sponsor: G. Oberdorster.
- #139 9:45 **MORPHOMETRIC ANALYSES OF THE PULMONARY DISTRIBUTION OF PARTICLES GIVEN BY NOSE-ONLY AEROSOL INHALATION (AI) OR ENDOTRACHEAL NEBULIZATION (EN) OR INSTILLATION (EI).** B.K.J. Leong, J.K. Coombs, M.M. Imlay and C.P. Sabaitis, The Upjohn Company, Kalamazoo, MI.
- #140 10:00 **PULMONARY PARTICULATE RETENTION IN RATS AND GUINEA PIGS CHRONICALLY EXPOSED TO LOW CONCENTRATION OF DIESEL EXHAUST.** K.A. Strom, J.T. Johnson and J.B. D'Arcy. Biomedical Science Dept., General Motors Research Labs, Warren, MI. Sponsor: E.W. Lee.
- #141 10:15 **BIOLOGICAL FATE OF 1-NITROPYRENE ADSORBED ONTO DIESEL EXHAUST PARTICLES.** J.A. Bond, J.D. Sun, M.A. Medinsky, R.K. Jones, H.C. Yeh, and R.O. McClellan. Lovelace Inhalation Toxicology Research Institute, Albuquerque, NM.
- #142 10:30 **PULMONARY AND HEPATIC HEALTH EFFECTS OF INHALATION OF PETROLEUM SMOKE.** <sup>1</sup>E.C. Grose, <sup>2</sup>M.A. Stevens, <sup>1</sup>J.W. Illing, <sup>2</sup>R.H. Jaskot, <sup>3</sup>J. Hardisty, <sup>1</sup>A. Stead. <sup>1</sup>U.S.E.P.A., HERL, RTP, NC 27711; <sup>2</sup>Northrop Services, Inc., RTP, NC 27709; and <sup>3</sup>Exp. Path. Lab., RTP, NC 27709.
- #143 10:45 **DOSE-DEPENDENT CLEARANCE OF ANTIMONY FROM RAT LUNGS.** R.T. Drew<sup>a</sup>, J.B. Terrill<sup>b</sup>, I.W. Daly<sup>b</sup>, and A. Sheldon<sup>c</sup>. <sup>a</sup>Brookhaven National Laboratory, Upton, NY; <sup>b</sup>Bio/Dynamics, Inc., E. Millstone, NJ; <sup>c</sup>M and T Chemicals, Inc., Rahway, NJ.
- #144 11:00 **COMPARATIVE EFFECTS OF INHALED IRRITANTS ON LUNG CLEARANCE SYSTEMS.** R.B. Schlesinger, K.E. Driscoll, J.M. Gearhart and T.A. Vollmuth. Institute of Environmental Medicine, New York University Medical Center, New York, NY.
- #145 11:15 **EFFECT OF COAL ON SILICA AND KAOLIN CYTOTOXICITY.** V. Vallyathan, D. Schwegler, L. Steller, and F.H.Y. Green. National Institute for Occupational Safety and Health, Morgantown, WV. Sponsor: V. Castronova.
- #146 11:30 **COMMON ACUTE CELLULAR RESPONSES TO INHALED FIBERS AND PARTICULATES: MECHANISM OF PARTICLE RECOGNITION.** D.B. Warheit, L.H. Hill, and A.R. Brody. Lab. Pulm. Pathobiol. NIEHS, RTP, NC. Sponsor: C.F. Reinhardt.
- #147 11:45 **INTERSPECIES COMPARISONS OF LUNG RESPONSES TO INHALED DUSTS.** D.B. Warheit, DuPont Haskell Lab., Newark, DE. Sponsor: C.F. Reinhardt.

**POSTER SESSION 22: GENERAL I**

Chairman: R.J. Fabian, Sterling-Winthrop Research Institute, Rensselaer, NY

Displayed: 8:30 a.m. - 11:30 a.m.

Attended: 10:00 a.m. - 11:30 a.m.

- #825 **INTERACTION OF DIETARY PROTEIN LEVEL ON DOSE RESPONSE RELATIONSHIPS DURING AFLATOXICOSIS IN YOUNG CHICKENS.** K.E. Richardson, L.A. Nelson, and P.B. Hamilton. Depts. of Poultry Science and Statistics, North Carolina State University, Raleigh, NC.
- #826 **INHIBITION OF URIDINE UPTAKE IN CULTURED VASCULAR SMOOTH MUSCLE CELLS AS A RAPID, SUBLETHAL CYTOTOXICITY ASSAY FOR CARDIOVASCULAR TOXINS.** R.M. Hysmith, T.K. Welch and P.J. Boor. Chemical Pathology Division, The University of Texas Medical Branch, Galveston, TX 77550. Sponsor: A.E. Ahmed.
- #827 **AN EVALUATION OF BLOOD SAMPLING METHODS FOR RAT TOXICITY STUDIES - I. TOXICOLOGY APPRAISAL.** R.B. Stow, L.M. Litwa, and P.J. DeBaecke. Stuart Pharmaceuticals, Division of ICI Americas, Inc., Wilmington, DE. 19897 Sponsor: L.E. Gongwer.
- #828 **AN EVALUATION OF BLOOD SAMPLING METHODS FOR RAT TOXICITY STUDIES - II. CLINICAL PATHOLOGY.** L.J. Ziemba, W.C. Wenger, B.A. Flynn, P.A.G. Malya. Stuart Pharmaceuticals, Division of ICI Americas Inc., Wilmington, DE. Sponsor: L.E. Gongwer.
- #829 **DEVELOPMENT OF AN ENZYME-LINKED IMMUNOSORBENT ASSAY (ELISA) FOR PESTICIDES.** S.J. Gee, D. Buster, T. Miyamoto and B.D. Hammock. Departments of Entomology and Environmental Toxicology, University of California, Davis, CA.
- #830 **BEAGLE PAIN SYNDROME: A LATENT DISEASE OF DOGS POTENTIALLY COMPLICATING TOXICITY STUDIES.** T.J. Hayes, G.K.S. Roberts, and R.M. McClain. Department of Toxicology and Pathology, Hoffmann-La Roche Inc., Nutley, NJ 07110.
- #831 **CONTROL OF SPILLAGE FROM MOUSE FEEDERS CONTAINING GROUND FOOD.** A. Davidovich, K.D. Dammers, R. Wolf. Department of Toxicology and Pathology, Hoffmann-La Roche Inc., Nutley, NJ. Sponsor: R.M. McClain.
- #832 **COMPARATIVE DOSED FEED AND GAVAGE SUBCHRONIC STUDIES OF TRICRESYL PHOSPHATE (TCP) IN F344 RATS AND B6C3F1 MICE.** M. Hejtmancik, R. Deskin, M. Ryan, B. Carlton, G. Haggerty, A. Peters, and R. Irwin\*. Battelle, Columbus, OH and \*National Toxicology Program, Research Triangle Park, NC.
- #833 **METABOLISM OF PALMITIC ACID IN TCDD-TREATED RATS.** K. Rozman and H. Greim. Abt. fur Toxikologie der Gesellschaft fur Strahlen- und Umweltforschung mbH Munchen, Neuherberg, F.R.G. and Dept. of Pharmacology, Toxicology & Therapeutics, Univ. of Kansas Medical Center, Kansas City, KS U.S.A.
- #834 **HISTOPATHOLOGY OF LIVER AND INTERSCAPULAR BROWN ADIPOSE TISSUE (IBAT) IN TCDD-TREATED RATS ADAPTED TO TWO AMBIENT TEMPERATURES.** K. Rozman, D. Pereira and M.J. Iatropoulos. Dept. of Pharmacol. Toxicol. & Therap., Univ. of Kansas Med. Ctr., Kansas City, KS; Abt. fur Toxicol. der GSF Munchen mbH, Neuherberg, F.R.G. and W.G. Malcolm Toxicol. Lab., Med. Res. Div., American Cyanamid Co., Pearl River, NY.
- #835 **BAP METABOLISM IN THE PRESENCE OF SIMPLE AND COMPLEX ORGANIC MIXTURES.** D.L. Springer, D.A. Dankovic, B.L. Thomas, and R.E. Bean. Pacific Northwest Laboratory, Richland, WA.
- #836 **ACUTE AND NEUROTOXICITY OF 5,7,11-DODECATRIEN-1-OL (COMPOUND A) AND 5,7,11,13-OCTADECATETRAYNE-1,18-DIOL (COMPOUND B).** S.C. Gad, B.J. Dunn, F.A. Gavigan, and J.C. Peckham. Department of Toxicology, Allied Corporation, Morristown, NJ.
- #837 **ACUTE TOXICITY AND PRIMARY IRRITANCY STUDIES ON 2,4-PENTANEDIONE (PD).** B. Ballantyne, D.E. Dodd, R.C. Myers, and D.J. Nachreiner. Bushy Run Research Center/Mellon Institute-Union Carbide Corporation, Export, PA.
- #838 **28-DAY ORAL TOXICITY OF TRIS-(2-ETHYLHEXYL)TRIMELLITATE (TOTM) IN THE RAT.** G.P. Ford, B.G. Lake, J.G. Evans, D. Grant, and J.R. Hodgson. British Industrial Biological Research Association, Surrey, England and Nuodex, Inc., Piscataway, NJ.
- #839 **APPLICATION OF SYNCHROTRON RADIATION-INDUCED X-RAY FLUORESCENCE TO TRACE ELEMENT TOXICOLOGY.\*** J.G. Pounds, G.J. Long, W. Kwiatek, K.R. Reuhl, A.L. Hanson, B.M. Gordon, and K.W. Jones. Brookhaven National Laboratory, Upton, NY.
- #840 **IN-VIVO DETERMINATION OF LEAD IN THE TIBIA USING <sup>109</sup>Cd GAMMA RAYS.\*** G. Schidlovsky, F. Williams, and K.W. Jones. Brookhaven National Laboratory, Upton, NY, and R.P. Wedeen and V. Batuman. VA Medical Center, East Orange, NJ. Sponsor: J.G. Pounds.
- #841 **SYNCHROTRON X-RAY MICROPROBE FOR TRACE ELEMENT DETERMINATIONS: A NEW NIH BIOTECHNOLOGY RESEARCH RESOURCE.\*** K.W. Jones, B.M. Gordon, A.L. Hanson, J.G. Pounds, and G. Schidlovsky. Brookhaven National Laboratory, Upton, NY.
- #842 **BIOEVALUATION OF FOUR STEREOSPECIFIC ESTERS OF (R)-1-(PHENYLETHYL)-IMIDAZOLE-5-CARBOXYLIC ACID IN THE RAT.** G.C. Haggerty, A.E. Chin, H.P. Benecke and J.W. King. Battelle Mem. Inst., Columbus, OH and U.S. Army Chem. Res. and Dev. Ctr., Aberdeen Proving Ground, MD 21010. Sponsor: M. Hejtmancik.
- #843 **A QUANTITATIVE, AUTOMATED COLORIMETRIC ASSAY TO DETERMINE CELL VIABILITY FOLLOWING IN VITRO EXPOSURE TO TOXICANTS.** K.E. Rodgers and C.F. Ware, Division of Biomedical Sciences, University of California, Riverside, CA 92521.
- #844 **CONTROL DATA FROM 7-YEAR CONTRACEPTIVE STUDIES IN FEMALE BEAGLE DOGS.** F.X. Wazeter and D.E. Johnson. International Research and Development Corporation, Mattawan, MI.
- #845 **CONTROL DATA FROM 10-YEAR CONTRACEPTIVE STUDIES IN FEMALE RHESUS MONKEYS.** F.X. Wazeter and D.E. Johnson. International Research and Development Corporation, Mattawan, MI.
- #846 **ALTERATIONS IN CAROTENOID METABOLISM DURING OCHRATOXICOSIS IN YOUNG BROILER CHICKENS.** J.L. Schaeffer, J.K. Tyczkowski, and P.B. Hamilton. Dept. of Poultry Science, North Carolina State University, Raleigh, NC. Sponsor: E. Hodgson.
- #847 **LACK OF TOXICITY OF A REFINED LUBRICANT BASE OIL IN AN EXTENSIVE TEST BATTERY.** J.M. Gerhart, N.S. Hatoum, C.L. Leach, C.A. Halder, T. M. Warne, and P.J. Garvin. IIT Research Institute and Amoco Corporation, Chicago, IL.
- #848 **IN VIVO PERCUTANEOUS ABSORPTION OF AROMATIC SOLVENTS IN HAIRLESS MICE.** A.S. Susten, B.L. Dames, and R.W. Niemeier, National Institute for Occupational Safety and Health (NIOSH), DBBS, Cincinnati, OH. Sponsor: T.R. Lewis.
- #849 **CONTINUOUS INTRAVENOUS INFUSION STUDY WITH PIBENZIMOL (NSC-322921) IN BEAGLE DOGS.** J.G. Page<sup>1</sup>, L. Malspeis<sup>2</sup>, C.K. Grieshaber<sup>3</sup>, and M.D. Castello<sup>1</sup>. Battelle Columbus Laboratories<sup>1</sup>, Columbus, OH; Ohio State University<sup>2</sup>, Columbus, OH; and National Cancer Institute<sup>3</sup>, Bethesda, MD (NCI Contract No. NO1-CM-17365).
- #850 **LONG-TERM INTRATRACHEAL CATHETERIZATION AS A METHOD FOR REPEATED ADMINISTRATION OF COMPOUNDS TO THE LUNG.** R.E. Dudley, M.C. Heigen and E.S. Johnson. Abbott Laboratories, Drug Safety Evaluation, Abbott Park, IL.
- #851 **DIETARY INDUCED PERIODONTITIS AND ORO-NASAL FISTULATION IN THE RAT.** M. Robinson. Imperial Chemical Industries PLC, Central Toxicology Laboratory, Macclesfield, Cheshire, SK10 4TJ, UK. Sponsor: I.F.H. Purchase.
- #852 **QUANTITATION OF HYMENOXON IN BITTERWEED BY HPLC.** H.L. Kim, Department of Veterinary Physiology and Pharmacology, College Station, TX 77843. Sponsor: S.H. Safe.

- #853 **ULTRASTRUCTURAL CHANGES IN ISOLATED HEARTS ASSOCIATED WITH ETHANOL AND TWEEN 80 INFUSION.** A.T. Watson, B.R. Manno, R.P. Misra, M.R. Fowler, C.A. Dempsey and J.E. Manno. La. State Univ. Med.Ctr., Depts. of Pharmacology, (Sec. Toxicology) and Pathology, Shreveport, LA.
- #854 **UPTAKE OF MERCURY COMPOUNDS IN MOUSE BRAIN.** M. Aihara and R.P. Sharma, Center for Environmental Toxicology, Utah State University, Logan, UT and Institute of Whole Body Metabolism, Shiroy, Inba, Chiba, Japan.
- #855 **BLOOD VOLUME IN ORGANS OF CD-1 MICE DETERMINED BY <sup>51</sup>CHROMIUM LABELING OF ERYTHROCYTES.** M. Aihara and R.P. Sharma, Center for Environmental Toxicology, Utah State University, Logan, UT and Institute of Whole Body Metabolism, Inba, Chiba, Japan.
- #856 **ACUTE TOXICITY OF O-ETHYL-O'-(2-DIISOPROPYLAMINOETHYL)METHYLPHOSPHONITE (QL).** E.H. Vernot, E.R. Kinkead, J.D. MacEwen, and E.J. Olajos. University of California, Irvine, Dayton, OH and U.S. Army Chemical Research Development Center, Aberdeen Proving Ground, MD.
- #857 **TOXICITY EVALUATION OF CHEMICALS USED BY THE U.S. ARMY.** K.J. Falahee, A.C. Jacobs, J.W. Warner, and W.D. Theriault. Carltech Associates, Inc., Rockville, MD. Sponsor: H.E. Seifried.
- #858 **AN EVALUATION OF THE DECISION TREE APPROACH FOR ASSESSING PRIORITIES FOR SAFETY TESTING OF FOOD ADDITIVES.** J.C. Phillips, R. Purchase, P. Watts and S.D. Gangolli. BIBRA, Carshalton, Surrey, UK.
- #859 **A SIMPLE METHOD FOR RAT TAIL VENOPUNCTURE AND USE IN PHARMACOKINETICS AND BIOAVAILABILITY STUDIES.** S.T. Omaye, J.H. Skaia, M.D. Gretz., E.E. Schaus, and C.E. Wade. Western Human Nutrition Research Center, USDA and Letterman Army Institute of Research, Presidio of San Francisco, California.
- #860 **A METHOD FOR THE SERIAL DETERMINATION OF THE STOMACH CONTENT pH IN THE CONSCIOUS RAT.** R.A. Saatman, R.B. Stow, P.J. DeBaecke. Stuart Pharmaceuticals, Division of ICI Americas Inc., Wilmington, DE. Sponsor: S.A. Kutz.
- #861 **A METHOD TO ASSESS ACUTE ORAL TOXICITY AND ESTIMATE AND APPROXIMATE LD<sub>50</sub> IN RATS.** D.J. Bail, M. Evans, M.H. Davies, and R.E. Stoll. Sandoz Research Institute, E. Hanover, NJ.
- #862 **CONTROVERSY OVER THE ETIOLOGICAL ROLE OF AFLATOXINS IN HUMAN CANCER.** D.P.H. Hsieh. Department of Environmental Toxicology, University of California, Davis, CA.
- #862A **THE EFFECT OF SOFTWOOD OR HARDWOOD BEDDING MATERIALS ON INDUCTION OF DRUG METABOLIZING ENZYMES IN CD-1 MICE.** J.C. Colley and A.R. Waller. Huntingdon Research Centre Ltd., Huntingdon, Cambs., England. Sponsor: P.A. Johns.

## THURSDAY MORNING, MARCH 6

French Market Exhibit Hall

### POSTER SESSION 23: NEUROTOXICOLOGY IV: BEHAVIOR

Chairman: W.H. Merigan, University of Rochester, Rochester, NY

Displayed: 8:30 a.m. - 11:30 a.m.

Attended: 8:30 a.m. - 10:00 a.m.

- #863 **COGNITIVE DYSFUNCTION AND NEUROPATHOLOGICAL CHANGES IN MACAQUE MONKEYS INDUCED BY TRIMETHYLITIN (TMT).** H.L. Evans, P.J. Bushnell, K.R. Reuhl, and J.F. Graefe. NYU Medical Ctr., New York, N.Y. and Nat. Research Council of Canada, Ottawa, Ontario.
- #864 **BEHAVIORAL EFFECTS OF NICOTINE IN THREE MODELS OF MEMORY AND LEARNING IN RATS.** W.R. Mundy and E.T. Iwamoto, Toxicology and Pharmacology, Univ. of Kentucky, Lexington, KY 40546. Sponsor: M. Vore.
- #865 **PYRETHROID EFFECTS ON SCHEDULE-CONTROLLED BEHAVIOR: TIME AND DOSAGE RELATIONSHIPS.** D.B. Peele and K.M. Crofton. Northrop Services, Inc., RTP, NC 27709, and Neurotoxicology Division, U.S. EPA, RTP, NC 27711. Sponsor: L.W. Reiter.
- #868 **EFFECTS OF OXOTREMORINE ON TREMOR AND OPERANT BEHAVIOR IN SQUIRREL MONKEYS.** M.C. Newland and B. Weiss, University of Rochester School of Medicine and Dentistry, Div. of Toxicology, Rochester, NY 14642.
- #869 **DISCRIMINATIVE STIMULUS EFFECTS OF INJECTED TOLUENE IN RATS.** J.S. Knisely, D.C. Rees, R.L. Balster, Dept. of Pharmacol. and Toxicol., Virginia Commonwealth Univ., Med. Coll. of VA, Richmond, VA 23298. Sponsor: J.F. Borzelleca.
- #870 **ABUSED INHALANTS PRODUCE PENTOBARBITAL-LIKE DISCRIMINATIVE STIMULUS EFFECTS IN MICE.** D.C. Rees, J.S. Knisely, R.L. Balster, Dept. of Pharmacol. and Toxicol., Virginia Commonwealth Univ., Med. Coll. of VA, Richmond, VA 23298. Sponsor: J.F. Borzelleca.
- #871 **CHRONIC HALOPERIDOL EFFECTS ON ORAL MOVEMENTS AND 8-ARM MAZE PERFORMANCE IN RATS.** E.D. Levin, D. Galen, B. Katz, and G.D. Ellison. Psych Dept., UCLA, Los Angeles, CA. Sponsor: D.E. Woolley.
- #872 **BEHAVIORAL EFFECTS OF AN IRREVERSIBLE CHOLINE ACETYLTRANSFERASE INHIBITOR.** J.E. Sweeney, G.L. Wenk, D.S. Olton. Departments of Environmental Health Sciences and Psychology, The Johns Hopkins University, Baltimore MD. Sponsor: Z. Annau.
- #873 **PERFORMANCE IN A COMPLEX MAZE DURING CARBON MONOXIDE EXPOSURE.** Z. Annau. The Johns Hopkins University, Baltimore, MD.
- #874 **LONG TERM BEHAVIORAL CHANGES IN RATS FOLLOWING ACUTE ORGANOPHOSPHATE EXPOSURE.** K. Raffaele, D. Hughey, G. Wenk, D. Olton, H. Modrow, and J. McDonough. The Johns Hopkins University, Baltimore, MD and the U.S. Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, MD Sponsor: Z. Annau.
- #875 **ACUTE BEHAVIORAL TOXICITY OF CYCLOTRIMETHYLENE-TRINITRAMINE (RDX).** R.C. MacPhail, Q.D. Walker and L.L. Cook, Neurotoxicology Division, U.S. EPA, and Northrop Services, Inc., Research Triangle Park, NC. Sponsor: R.S. Dyer.
- #876 **INFLUENCE OF PERINATAL EXPOSURE ON THE BEHAVIORAL EFFECTS OF POLYBROMINATED BIPHENYLS (PBB) IN ADULT RATS AND MICE.** G.C. Haggerty, P.J. Kurtz, B.D. Carlton, A.C. Peters and R.S. Chhabra\*. Battelle, Columbus, OH and \*National Toxicology Program, NIEHS, RTP, NC.
- #877 **CORRELATIONS OF EARLY POSTNATAL BEHAVIORS IN RATS EXPOSED TO MORPHINE IN UTERO.** S. Norton. University of Kansas College of Health Sciences, Kansas City, KS 66103.
- #878 **BEHAVIORAL, BIOCHEMICAL AND MORPHOLOGICAL ALTERATIONS AFTER IN UTERO METHYL MERCURY EXPOSURE IN THE RAT.** D.R. Brown, B.G. Callahan, T. Mulligan, P. Wadman, and R.A. Schatz. Northeastern University, Toxicology Program, Boston, MA.
- #879 **CHANGES IN BEHAVIORAL PATTERN DEVELOPMENT IN THE NEONATE AFTER MATERNAL INGESTION OF ETHANOL.** V. Wooten, D.R. Brown, M. Paquette and R.A. Schatz. Northeastern University, Toxicology Program, Boston, MA 02115.
- #880 **EFFECTS OF SUBCHRONIC EXPOSURE TO TRICRESYL PHOSPHATE IN F344 RATS AND B6C3F1 MICE: BEHAVIORAL AND MORPHOLOGICAL CORRELATES.** G.C. Haggerty, M. Hejtmanecik, R. Deskin, M.J. Ryan, A.C. Peters and R. Irwin\*. Battelle, Columbus, OH, and \*National Toxicology Program, RTP, NC.

- #881 **THE EFFECT OF A GANGLIOSIDE MIXTURE ON THE DEVELOPMENT OF TRI-O-TOLYL PHOSPHATE-INDUCED DELAYED NEUROTOXICITY.** M.M. Berry, B.K. Trosko, D. Tanaka, Jr. and S.J. Bursian, College of Veterinary Medicine, Department of Anatomy, Department of Animal Science, and Center for Environment Toxicology, Michigan State University, E. Lansing, MI. Sponsor: D. Polin.
- #882 **THE ASSESSMENT OF THE EUROPEAN FERRET AS A MODEL SPECIES FOR ORGANOPHOSPHATE-INDUCED DELAYED NEUROTOXICITY.** A.M. Kogut, S.J. Bursian, R.J. Aulerich, B.K. Trosko, and D. Tanaka, Jr. Departments of Animal Science and Anatomy and Center for Environmental Toxicology, Michigan State University, East Lansing, MI. Sponsor: D. Polin.
- #883 **BEHAVIORAL EFFECTS OF DERMALLY APPLIED HERBICIDES.** J.A. Mitchell and M.C. Wilson, Dept. of Pharmacology, Sch. of Pharmacy, Univ. of Mississippi, University, MS. Sponsor: W.M. Davis.
- #884 **BEHAVIORAL RESPONSES TO DERMALLY APPLIED PYRETHROIDS.** J.A. Mitchell, M.J. Kallman, and M.C. Wilson, Depts. of Pharmacology and Psychology, Sch. of Pharmacy, Univ. of Mississippi, University, MS. Sponsor: W.M. Davis.
- #885 **THE NEUROTOXICITY OF ACETYL ETHYL TETRAMETHYL TETRALIN (AETT): A CORRELATIVE BEHAVIORAL AND MORPHOLOGICAL STUDY.** J. Saphia, L.D. Trombetta, M.F. Young, St. John's University, NY.
- #886 **A MULTIVARIATE ANALYSIS OF THE BEHAVIORAL RESPONSE TO PARATHION EXPOSURE.** F.O. Risinger and W.M. Bourn. Northeast Louisiana University, School of Pharmacy, Monroe, LA. Sponsor: T.H. Eickholt.
- #887 **DIURNAL RHYTHM OF MONKEY AND RAT ACTIVITY AFTER TRIMETHYL TIN EXPOSURE.** J.F. Graefe, H.L. Evans and P.J. Bushnell. NYU Med. Ctr., New York, NY 10016.
- #888 **INCREASED LOCOMOTOR ACTIVITY OF MICE DURING LOW-LEVEL EXPOSURE TO TOLUENE.** R.W. Wood and V.A. Colotta, Env. Hlth. Sci. Ctr., Dept. Rad. Biol. Biophys., Univ. Roch. Med. Ctr., Rochester. NY 14642, and Facultad de Psicología, Universidad Nacional Autónoma de México, México, D.F.
- #889 **A REPEATED-MEASURES APPROACH TO THE DETECTION OF THE MINIMAL ACUTE EFFECTS OF TOLUENE.** R.W. Wood and C.C. Cox, Environmental Health Sciences Center, Dept. Rad. Biol. and Biophys., Univ. Roch. School of Medicine, Rochester, NY 14642.
- #890 **EFFECTS OF MATERNAL EXPOSURE TO TRICHLOROETHYLENE ON LOCOMOTOR ACTIVITY AND CIRCULATING CORTICOSTERONE LEVELS IN RAT PUPS.** V.L. Steel, D.H. Taylor and \*R.D. Laurie. Miami University, Oxford, OH and \*Health Effects Research Laboratory, U.S. EPA, Cincinnati, OH. Sponsor: P.T. McCauley.
- #891 **EXPOSURE TO TRICHLOROETHYLENE DURING EARLY DEVELOPMENT INDUCES LEARNING ANOMALIES IN MATURE RATS.** E. Goldey, D.H. Taylor, K.E. LaGory, R.J. Pfohl and \*R.D. Laurie. Miami University, Oxford, OH and \*Health Effects Research Laboratory, U.S. EPA, Cincinnati, OH. Sponsor: P.T. McCauley.
- #892 **CATECHOLAMINERGIC MODULATION OF 1,1,1-TRICHLORO-2,2-BIS(p-CHLOROPHENYL)ETHANE (DDT)-INDUCED TREMOR.** D.W. Herr\* and H.A. Tilson. National Institute of Environmental Health Sciences, Research Triangle Park, NC.

**THURSDAY MORNING, MARCH 6**  
**French Market Exhibit Hall**

**POSTER SESSION 24: GENOTOX/MUTAGENESIS**

Chairman: R. Skalko, East Tennessee State University, Johnson City, TN

Displayed: 8:30 a.m. - 11:30 a.m.

Attended: 10:00 a.m. - 11:30 a.m.

- #893 **MOUSE LIVER MITOCHONDRIAL AND PHAGE (PHI X174) DNA DAMAGE BY COPPER AND NADH.** L.O. Lim, Dept. Pharmacology and Therapeutics, Coll. of Medicine, Univ. of Florida, Gainesville, Florida.
- #894 **IMMUNOHISTOCHEMICAL UTILIZATION OF ANTI BrdU MONOCLONAL ANTIBODIES AS INDICATORS OF REPLICATION AND DNA REPAIR.** B.F. Droy, M.R. Miller, and D.E. Hinton. West Virginia Univ. Med. Center, Morgantown, WV 26506.
- #895 **DOES S-PHASE INDUCTION IN THE IN VIVO-IN VITRO MOUSE HEPATOCYTE ASSAY REPRESENT REGENERATIVE HYPERPLASIA?** D.J. Doolittle, G. Miller and H.E. Scribner. Rohm and Haas Co., Toxicology Department Spring House, PA. Sponsor: S.L. Longacre.
- #896 **EFFECT OF TOXICITY ON MUTATION FREQUENCY: IMPLICATIONS FOR THE HOST-MEDIATED ASSAY.** J. Cavagnaro, E.T. Donoghue and A.K. Thakur. Hazleton Laboratories Corporation, Vienna, VA. Sponsor: J.L. Gargus.
- #897 **DNA ADDUCT FORMATION BY THE SESQUITERPENE LACTONE HYMENOXON.** V.L. Sylvia, H.L. Kim, J.O. Norman & D.L. Busbee, Depts. of Anatomy and of Physiol. and Pharm., College of Veterinary Medicine, Texas A&M University, College Station, TX 77843. Sponsor: T.D. Phillips.
- #898 **SENSITIVITY ANALYSIS OF RYBERG'S MODEL FOR ALKALINE UNWINDING OF DNA.** J. Cramer and R.B. Conolly, Toxicology Program, School of Public Health, The University of Michigan, Ann Arbor, MI 48109.
- #899 **BLEOMYCIN-INDUCED DNA DOUBLE-STRAND DAMAGE IN ISOLATED PACHYTENE SPERMATOCYTES.** Timothy P. Coogan and I.Y. Rosenblum, Dept. of Pharmacology and Toxicology, Philadelphia College of Pharmacy and Science, Phila., PA.
- #900 **LACK OF TESTICULAR TOXICITY OF SK&F 8542 (TRIAMTERENE) IN MICE.** F.J. Guerriero, E. Alston, J. Rendemonti, M. Wright, Jr., T. Brown, T. Toscano, L. Zolna, Y.J. Kang and J.M. Manson. Department of Reproductive and Developmental Toxicology, Smith Kline & French Labs., Philadelphia, PA. Sponsor: J.M. Manson.
- #901 **METABOLISM OF 2,4-DIAMINOTOLUENE TO MUTAGENIC AND DNA-BINDING FORMS BY S9 AND ISOLATED RAT HEPATOCYTES.** B.B. Furlong, R.P. Weaver and J.A. Goldstein, NIEHS, Research Triangle Park, NC.
- #902 **MICROBIAL METABOLISM AND DETOXICATION OF 7,12-DIMETHYLBENZ(a)ANTHRACENE.** D.C. McMillan and C.E. Cerniglia. Nat. Center for Toxicol. Res., FDA, Jefferson, AR, and Dept. of Pharmacol. and Interdisciplinary Toxicol., UAMS, Little Rock, AR Sponsor: D.E. McMillan.
- #903 **TRANSFORMATION OF NIH/3T3 CELLS BY DNA FROM 7,12-DIMETHYLBENZANTHRACENE-INDUCED RAT MAMMARY TUMORS.** A.E. Aust, Departments of Biochemistry and Microbiology and Public Health, Michigan State University, East Lansing, MI.
- #904 **INDUCTION OF DNA REPAIR AND REPLICATION IN RAT HEPATOCYTES AFTER IN VIVO TREATMENT WITH 2-ACETYLAMINOFLUORENE AND 4-ACETYLAMINOFLUORENE.** C.B. Salocks and G.M. Decad, IBM Corporation, H60/282, San Jose, CA.
- #905 **GENETIC TOXICITY OF TRIS(2-ETHYLHEXYL)TRIMELLITATE (TOTM) IN THE UDS AND CHO/HGPRT ASSAYS.** M.A. Cifone, R.R. Young, B.C. Myhr, and H.B. Lockhart, Jr., Hazleton Biotechnologies Corp., Kensington, MD, and Eastman Kodak Company, Rochester, NY. Sponsor: R.H. Bell.
- #906 **SINGLE-STRAND BREAKS IN DNA OF ISOLATED RAT HEPATOCYTES (RH) EXPOSED TO HYDROGEN PEROXIDE.** M.J. Olson and J.P. Gardner. Biomedical Science Dept., GM Research Labs, Warren, MI. Sponsor: E.W. Lee.

- #907 **STUDIES ON THE ABILITY OF ALDICARB, ALDICARB SULFOXIDE, ALDICARB SULFONE, AND NITROSOALDICARB TO INDUCE UNSCHEDULED DNA SYNTHESES IN ISOLATE D RAT HEPATOCYTES.** M.T.S. Hsia, B.L. Kreamer, and C.M. Chang. Dept. of Entomol. and Environ. Toxicol. Ctr., Univ. of Wisconsin, Madison, WI.
- #908 **BIOTRANSFORMATION OF AROMATIC AMINES TO DNA DAMAGING PRODUCTS BY URINARY BLADDER ORGAN CULTURES.** C.A. McQueen, B.M. Way and G.M. Williams. American Health Foundation, Valhalla, NY.
- #909 **MUTAGENICITY OF OZONIZED AND NITRATED PYRENES AND PHENANTHRENES GENERATED IN VITRO.** B.S. Shane, D.H. Giamalva and W.A. Pryor. Institute for Environmental Studies and Department of Chemistry, Louisiana State University, Baton Rouge, LA 70803. Sponsor: C.R. Short.
- #910 **EVALUATION OF IN VIVO MUTAGENICITY OF METHYLENE CHLORIDE IN MICE BY DOMINANT LETHAL TEST.** R.R. Raje, M. Greening, and T. Tolen. A & M Schwartz College of Pharmacy and Health Sciences, Long Island University, Brooklyn, New York 11201.
- #911 **GENOTOXICITY OF SELENAZOFURIN, A POTENTIAL ANTICANCER AGENT.** M.L. Kropko, E.J. McGuire, and D.G. Pegg. Warner-Lambert/Parke-Davis, Pharm. Res., Ann Arbor, MI 48106.
- #912 **FORMATION OF CYCLIC ADDUCTS OF DEOXYGUANOSINE BY REACTION WITH TRANS-4-HYDROXY-2-HEXENAL AND TRANS-4-HYDROXY-2-NONENAL IN VITRO.** C.K. Winter, H.J. Segall, and W.F. Haddon. Veterinary Medicine Pharmacology and Toxicology, University of California, Davis, CA and USDA/WRRC, Albany, CA.
- #913 **GENOTOXICITY AND CYTOTOXICITY OF SELECTED PYRROLIZIDINE ALKALOIDS AND ALKENALS.** D.S. Griffin and H.J. Segall. VM/Pharmacology and Toxicology, University of California, Davis, CA.
- #914 **MUTAGENIC ACTIVITY AND POLYCYCLIC AROMATIC HYDRO-CARBON (PAH) LEVELS IN URINE OF HUMANS EXPOSED TO THERAPEUTICAL COAL TAR.** E. Clonfero, M. Zordan, P. Venier, and A.G. Levis. Istituto de Medicina del Lavoro and Dipartimento di Biologia, Universita di Padova (Italia). Sponsor: M. Lotti.
- #915 **LECITHIN SURFACTANT EXTRACTION OF MUTAGENIC COMPOUNDS FROM DIESEL PARTICULATES.** W.E. Wallace, M.J. Keane, T-M Ong. National Institute for Occupational Safety and Health, Div. Resp. Disease Studies, Morgantown, WV. Sponsor: V. Castranova.
- #916 **INDUCTION OF DNA REPAIR AND REPLICATIVE DNA SYNTHESIS (RDS) FOLLOWING EXPOSURE TO UNLEADED GASOLINE (UG).** D.J. Loury, T. Smith-Oliver, and B.E. Butterworth, CIIT, Research Triangle Park, NC. Sponsor: J.S. Bus.
- #917 **EVALUATION OF THE CYTOTOXICITY AND POTENTIAL GENOTOXICITY OF ETHYLENE GLYCOL AND DIETHYLENE GLYCOL USING A BATTERY OF IN VITRO TESTS.** R.S. Slesinski, P.J. Guzzie, W.C. Hengler, and B. Ballantyne. Bushy Run Research Center/Mellon Institute - Union Carbide Corp., Export, PA 15632.
- #918 **EMBRYOTOXIC AND POST HATCH EFFECTS PRODUCED IN CHICKENS FOLLOWING IN OVO INOCULATION WITH DIVERSE CHEMICALS.** L. Rogers<sup>1</sup>, G. Hatch<sup>1</sup>, F. Edens<sup>2</sup>, B. Most<sup>1</sup>, and E. Berman<sup>3</sup>. Environmental Sciences Toxicology Div., Northrop Services<sup>1</sup> and Experimental Biology Div., E.P.A.<sup>3</sup>, Research Triangle Park, NC and Poultry Sciences Dept., North Carolina State University<sup>2</sup>, Raleigh, NC. Sponsor: D.E. Gardner.
- #919 **MATHEMATICAL MODEL OF DATA FROM THE ALKALINE ELUTION ASSAY.** S. Ruangwises and R.B. Conolly. Toxicology Program, School of Public Health, The University of Michigan, Ann Arbor, MI 48109.
- #920 **MEASUREMENT OF VARIATION IN HUMAN RESPONSE TO GENOTOXIC AGENTS USING LYMPHOCYTES.** J.S. Munzer, J.P. O'Neill\*, S.L. Kubic, W.G. Bradley and S.H. Robison, Depts. of Neurology and \*Medicine, Univ. of Vermont, Burlington, VT. Sponsor: J.D. Heck.
- #921 **FALSE POSITIVE RESULT FOR A PEPTIDE DRUG IN THE GENE CONVERSION ASSAY WITH YEAST STRAIN D7.** L.R. DePass, R.L. Chan, and I.A. Heyman, Syntex Research, Palo Alto, CA and D.R. Jagannath, Hazelton Biotechnologies, Kensington, MD.
- #922 **RESOLUTION OF FALSE-POSITIVES OF BISPHOSPHONATES IN THE MOUSE LYMPHOMA ASSAY.** D.F. Eastman and E.D. Thompson. Norwich Eaton Pharmaceuticals, Inc. Norwich, NY and The Procter and Gamble Co., Cincinnati, OH. Sponsor: L.E. Van Petten.
- #923 **AMES MUTAGENICITY TESTING OF OTC COUGH-COLD FORMULATIONS AND ACTIVE INGREDIENTS.** F. Mastrocco, J. Green, E. Lasinski, S. Carson, and A. Arthur. Research Dept., Pharmaceuticals Div., CIBA-GEIGY CORP., and St. John's Univ. Sponsor: J. Green.

**THURSDAY MORNING, MARCH 6**  
**French Market Exhibit Hall**

## **POSTER SESSION 25: ONCOGENESIS**

**Chairman:** R.M. McClain, Hoffmann-La Roche, Inc., Nutley, NJ

**Displayed:** 8:30 a.m. - 11:30 a.m.

**Attended:** 8:30 a.m. - 10:00 a.m.

- #924 **EFFECT OF METHYLCHOLANTHRENE ON INDUCTION OF ATHEROSCLEROSIS IN MICE WITH VARYING SUSCEPTIBILITY FOR TUMORS.** B.J. Paigen, P.A. Holmes, and A. Morrow. Children's Hospital Medical Center, Oakland, CA.
- #925 **EFFECT OF PROLONGED PHENOBARBITAL (PB) ADMINISTRATION ON HEPATIC XENOBIOTIC METABOLISM AND LIVER NODULE FORMATION IN C3H/He AND C57BL/6 MICE.** B.G. Lake, M.A. Collins, J.G. Evans and S.D. Gangolli. BIBRA, Carshalton, Surrey, England.
- #926 **XENOBIOTIC METABOLISING ENZYME ACTIVITIES IN SPONTANEOUS AND PHENOBARBITAL(PB)-INDUCED LIVER NODULES IN C3H/He MICE.** B.G. Lake, M.A. Collins, J.G. Evans and S.D. Gangolli. BIBRA, Carshalton, Surrey, England.
- #927 **QUANTITATION OF NUCLEAR PORES IN NORMAL HEPATOCYTES AND HEPATIC NEOPLASTIC NODULES IN AN INITIATION/PROMOTION HEPATOCARCINOGENESIS SYSTEM IN RATS.** M.G. Evans and S.D. Sleight. Dept. of Pathol., Mich. St. Univ., E. Lansing, MI 48824.
- #928 **A SEQUENTIAL ANALYSIS OF THE DEVELOPMENT OF SPONTANEOUS AND PHENOBARBITAL (PB)-INDUCED HEPATIC NODULES IN C57BL AND C3H/He MICE.** J.G. Evans, B.G. Lake, W.H. Butler. BIBRA, Carshalton Surrey, England.
- #929 **BIOCHEMICAL PARAMETERS ASSOCIATED WITH INITIATION AND PROMOTION OF LIVER CARCINOGENESIS IN MICE.** H.A.J. Schut, and J.E. Klaunig. Department of Pathology, Medical College of Ohio, Toledo, OH.
- #930 **DI(2-ETHYLHEXYL)PHTHALATE (DEHP): STUDIES TO EXAMINE THE INITIATING POTENTIAL IN RAT LIVER.** L.K. Garvey, J.A. Swenberg, T.E. Hamm, Jr., and J.A. Popp. CIIT, RTP, NC.
- #931 **TUMOR INITIATING ACTIVITY OF STRUCTURAL ANALOGS OF ACRYLAMIDE.** R.J. Bull<sup>1</sup>, M. Robinson<sup>2</sup>, and R.D. Laurie. <sup>1</sup>College of Pharmacy, Washington State University, Pullman, WA, and <sup>2</sup>Toxicology and Microbiology Division, USEPA, Cincinnati, OH.
- #932 **PROMOTION OF CARCINOGENESIS BY TRICHLOROACETIC ACID (TCA).** G. Mather, M.J. Parnell, J.H. Exon and L.D. Koller. Veterinary Medicine, University of Idaho, Moscow, ID 83843.



- #933 **LIVER TUMOR PROMOTION BY PHENOBARBITAL IN MICE.** J.E. Klaunig, R.J. Ruch, and M.A. Pereira. Dept. of Pathology, Medical College of Ohio, Toledo, OH 43699 and HERL, U.S. EPA, Cincinnati, OH 45268.
- #934 **INHIBITION OF INTERCELLULAR COMMUNICATION BETWEEN PRIMARY CULTURED MOUSE HEPATOCYTES BY LIVER TUMOR PROMOTERS.** R.J. Ruch, J.E. Klaunig, and M.A. Pereira. Dept. of Pathology, Medical College of Ohio, Toledo, OH 43699 and HERL, U.S. EPA, Cincinnati, OH 45268.
- #935 **THREE ORGANOCHLORINE INSECTICIDES SHOW SIMILAR EFFECTS ON LIVER ENZYME INDUCTION AND TUMOR PROMOTION.** E.G. Butler, P.J. England and G.M. Williams. Naylor Dana Institute, Valhalla, NY.
- #936 **HEPATIC TUMOR PROMOTERS PHENOBARBITAL AND POLYBROMINATED BIPHENYLS INHIBIT METABOLIC COOPERATION BETWEEN RAT LIVER EPITHELIAL CELLS.** M.S. Rezabek, J.E. Trosko, C. Jone, S.D. Sleight. Depts. of Pathology and Pediatrics/Human Devel., Center for Environmental Toxicology, Michigan State University, E. Lansing, MI 48824.
- #937 **SEQUENTIAL STUDY ON THE DEVELOPMENT OF HEPATIC TUMORS PROMOTED BY CONGENERS OF POLYBROMINATED BIPHENYLS.** R.K. Jensen, S.D. Sleight, and S.D. Aust. Depts. of Pathology and Biochemistry, Center for Environmental Toxicology, Michigan State University, East Lansing, MI 48824.
- #938 **ENHANCEMENT OF NASAL TUMORS BY COGENERS OF POLYHALOGENATED BIPHENYLS AND PHENOBARBITAL.** R.K. Jensen and S.D. Sleight. Department of Pathology and Center for Environmental Toxicology, Michigan State University, East Lansing, MI 48824.
- #939 **NASAL TUMORS IN RATS FOLLOWING LONG-TERM INHALATION EXPOSURE TO 1, 4-DICHLOROBUTENE-2.** L.S. Mullin, T. Chiu, G.J. Graepel, R.W. Rickard, C.K. Wood, E.I. duPont de Nemours and Co., Haskell Laboratory for Toxicology and Industrial Medicine, Newark, DE.
- #940 **EFFECTS OF PARTICULATE OF COAL TAR PAINT IN A/J MICE.** R.D. Laurie<sup>1</sup>, M. Robinson<sup>1</sup>, and R.J. Bull<sup>2</sup>. <sup>1</sup>Toxicology and Microbiology Division, USEPA, Cincinnati, OH, and <sup>2</sup>College of Pharmacy, Washington State University, Pullman, WA.
- #941 **INDUCTION BY HALOGENATED ACETONITRILES (HA) AND ETHANES (HE) OF NUCLEAR ANOMALIES (NA) IN THE GASTROINTESTINAL TRACT OF RATS AND MICE.** M.A. Pereira, S.L. Herren-Freund, \*G. Olson and \*R.E. Long, U.S. Environmental Protection Agency, Cinti., OH and \* Pathol. Assoc., Inc. Cinti., OH.
- #942 **CARCINOGENIC ACTIVITY ASSOCIATED WITH CHLORINATED ACETONES AND AROLEINS IN THE MOUSE SKIN ASSAY.** M. Robinson<sup>1</sup>, R.D. Laurie<sup>1</sup>, and R.J. Bull<sup>2</sup>. <sup>1</sup>Toxicology and Microbiology Division, HERL, USEPA, Cincinnati, OH and <sup>2</sup>Washington State University, Pullman, WA.
- #943 **CHRONIC TOXICITY/CARCINOGENICITY STUDIES OF MIXED XYLENES IN F344 RATS AND B6C3F1 MICE.** M. Hejtmancik, A. Peters, R. Persing, and W. Eastin<sup>\*</sup>. Battelle, Columbus, OH and <sup>\*</sup>National Toxicology Program, Research Triangle Park, NC.
- #944 **COMPARATIVE CARCINOGENICITY OF HC BLUE NO. 1 AND HC BLUE NO. 2.** F.W. Kari, J.H. Mennear, J.D. Prejean, \* D. Farnell, \* R.B. Thompson<sup>\*</sup>. NIEHS/NTP, Res. Tri. Park, NC 27709 and <sup>\*</sup>Southern Research Institute, Birmingham, AL 35255.
- #945 **ACRYLIC ACID: SKIN CARCINOGENESIS IN ICR/HA MICE.** I.L. Cote, A. Hochwalt, I. Seidman, G. Budzilovich, J.J. Solomon, and Alvin Segal. Department of Environmental Medicine, Pathology & Neuropathology, New York University Medical Center, NY, NY 10016. Sponsor: C. Snyder.
- #946 **INDUCTION OF OVARIAN TUMORS IN B6C3F<sub>1</sub> MICE BY CHRONIC ORALLY ADMINISTERED 4-VINYLCYCLOHEXENE.** J.J. Collins<sup>\*</sup> and A. Manus<sup>\*\*</sup>, <sup>\*</sup>NIEHS, NTP, Research Triangle Park, NC; <sup>\*\*</sup>SoRI, Birmingham, AL. Sponsor: R. Yang.
- #947 **PHARMACOKINETICS OF THE ESOPHAGEAL CARCINOGEN METHYL-N-AMYLNITROSAMINE FOLLOWING I.P. INJECTION INTO RATS.** M. Makary, S.S. Mirvish, A. Deshpande, and P. Issenberg. Eppley Inst. Res. Cancer, Univ. Neb. Med. Center, Omaha, NE 68105.
- #948 **SQUAMOUS METAPLASIA IN MOUSE BLADDER EPITHELIUM INDUCED BY DIETARY VITAMIN A DEFICIENCY.** R.E. Bagdon, C.J. Molloy, and J.D. Laskin. UMDNJ-Rutgers Medical School, Piscataway, NJ.
- #949 **INDUCTION OF PROLIFERATIVE LESIONS IN THE FORESTOMACK AND INCREASE IN LABELLING INDEX IN THE GRANDULAR STOMACK AND URINARY BLADDER EPITHELIUM AFTER ADMINISTRATION OF PHENOLIC COMPOUNDS TO SYRIAN GOLDEN HAMSTERS.** M. Hirose, T. Inoue, and N. Ito. Department of Pathology, Nagoya City University Medical School, Nagoya, Japan. Sponsor: J.R.P. Cabral.
- #950 **DNA SYNTHESIS AND ADDUCT FORMATION IN METHYLBENZYL NITROSAMINE (MBN) ESOPHAGEAL CARCINOGENESIS: EFFECT OF ZINC DEFICIENCY.** T.F. Schragar, P.M. Newberne, S.A. Broitman. Boston University School of Medicine, Boston, MA.
- #951 **COVALENT BINDING (CB) OF [<sup>14</sup>C]-NITROSONORNICOTINE (NNN) MEDIATED BY RAT LUNG MICROSOMES.** M.F. Hughes and M.Vore. Grd. Ctr. Toxicol. and Dept. Pharmacol., Univ. Kentucky, Lexington, KY 40536.
- #952 **REACTIVITY AND IN VIVO DNA ETHYLATION FOLLOWING INHALATION EXPOSURE TO ETHYL-N-NITROSOETHYL CARBAMATE (ENEC).** M.A. Bogdanffy, K.T. Morgan and J.A. Swenberg. Chem. Ind. Inst. Tox., Res. Tri. Park, NC 27709.
- #953 **EFFECTS OF SODIUM CYCLAMATE AND SODIUM CHLORIDE ON METABOLIC COOPERATION BETWEEN CHINESE HAMSTER V79 LUNG FIBROBLASTS.** A.R. Malcolm, U.S. E.P.A., and L.J. Mills. Science Applications International Corp., Narragansett, R.I. Sponsor: G.S. Edwards.
- #954 **INVESTIGATION OF PARAMETERS ASSOCIATED WITH ACTIVITY OF THE KIRSTEN-RAS (Ki-ras) and HARVEY-RAS (Ha-ras) ONCOGENES.** R.L. Vorce and J.I. Goodman, Ctr. for Environ. Toxicol., Dept. of Pharmacology and Toxicology, Michigan State University, East Lansing, MI 48824.

## THURSDAY MORNING, MARCH 6

French Market Exhibit Hall

## POSTER SESSION 26: DERMAL/OCULAR

Chairman: C.S. Auletta, Bio/dynamics, Inc., East Millstone, NJ

Displayed: 8:30 a.m. - 11:30 a.m.

Attended: 10:00 a.m. - 11:30 a.m.

- #955 **A SIMPLE ALGORITHM TO PREDICT EYE IRRITATION.** S.C. Lewis<sup>1</sup>, R. Parker<sup>1</sup>, M.J. Nicolich<sup>1</sup>, S.A. Lerman<sup>1</sup>, G.S. Simon<sup>2</sup>, T. Bernath<sup>1</sup>. <sup>1</sup>Exxon Corp., East Millstone, NJ; <sup>2</sup>Rhone-Poulenc, Monmouth Jct., NJ. Sponsor: R.A. Kuna.
- #956 **INFLUENCE OF REDUCED NUMBERS OF RABBITS ON THE ADEQUACY OF EYE IRRITANCY TESTS.** N.S. Hatoum, C.L. Leach, R.B. Gibbons, D.M. Talsma, J-C. Roger, and P.J. Garvin. IIT Research Institute and Amoco Corporation, Chicago, IL.
- #957 **INTERSPECIES COMPARISON OF EYE IRRITATION.** G.A. Nixon, F.E. Freeberg, P.J. Reer, and J.E. Weaver. The Procter & Gamble Co., Cincinnati, OH, and L.W. Sanders III, Cincinnati, OH. Sponsor: J.F. Griffith.

- #958 **A SIX MONTH OCULAR SAFETY EVALUATION STUDY OF CELIPROLOL HCL OPHTHALMIC SOLUTION IN RABBITS.** B. Brar, R. Chau and L.C.K. Wong. Dept. of Drug Safety Evaluation, Revlon Health Care, Tuckahoe, NY.
- #959 **PERCUTANEOUS AND LOCAL DERMAL TOXICITY OF BIS[2-(DIMETHYLAMINO)ETHYL]ETHER (DMAEE).** B. Ballantyne, L.R. DePass, E.H. Fowler, R.H. Garman, R.C. Myers, C.M. Troup, and J.H. Coleman. Bushy Run Research Center, Export, PA.
- #960 **A METHOD FOR RABBIT DERMAL TOXICITY TESTING EMPLOYING VETRAP® BANDAGING TAPE.** R.C. Myers, K.R. Hufford, and N.S. Bellich. Bushy Run Research Center, Union Carbide Corporation, Export, PA. 15632. Sponsor: E.R. Homan.
- #961 **DERMAL TOXICITY OF ALCIDE ALLAY IN RABBITS.** M. Abdel-Rahman, G. Skowronski, S. Gerges, R. Turkail and A. Abu-Hadeed. Pharmacology Depart., NJ Medical School, Newark, NJ.
- #963 **ARYL HYDROCARBON HYDROXYLASE OF RAT EPIDERMIS AND CULTURED KERATINOCYTES IS MEDIATED BY DIFFERENT ISOZYMES OF CYTOCHROME P-450.** C.E. Rothwell, X.P. Jin, R. Brown, and I.A. Bernstein. The University of Michigan, Toxicology Program, Ann Arbor, Michigan. Sponsor: F. Cavender.
- #964 **LECTIN BINDING AS A PROBE OF IRRITANT-INDUCED CHANGES IN KERATINOCYTE PROLIFERATION AND DIFFERENTIATION IN VITRO.** W. Ku and I.A. Bernstein. Toxicology Program, Dept. of Env. and Ind. Health, Univ. of Michigan, Ann Arbor, MI.
- #965 **THE EFFECT OF TPA AND DIFFERENTIATION ON CELLULAR RETINOIC ACID BINDING PROTEIN (RABP) IN PRIMARY RAT EPIDERMAL KERATINOCYTE CULTURES.** K. Kehoe, R.S. Mitra, R.A. Brown, I.A. Bernstein. Toxicology Program, University of Michigan, Ann Arbor, MI.
- #966 **COMPARISON OF BIOLOGICAL REACTIVITY AND TOXICITY OF ACRYLATE (A) AND METHACRYLATE (MA) ESTERS.** D.H. Gould. U.S. Environmental Protection Agency, Washington, DC.
- #967 **A SENSITIVE ASSAY FOR THE DETERMINATION OF LOW LEVELS OF DNA DAMAGE IN PRIMARY CULTURES OF RAT EPIDERMAL KERATINOCYTES.** P.L. Ribeiro, R.S. Mitra and I.A. Bernstein. Toxicology Program, Dept. of Env. and Ind. Health, University of Michigan, Ann Arbor, MI.
- #968 **THIRTEEN-WEEK TOXICITY STUDY BY DERMAL APPLICATION OF PETROLEUM STOCKS TO RATS.** G. Cruzan, G.E. Cox, P.H. Craig, E.J. Singer, and M.A. Mehلمان. Mobil Oil Corporation, Princeton, NJ.
- #969 **SUBCHRONIC DERMAL TOXICITY OF INY-6202 IN THE RABBIT.** S.E. Loveless, H.C. Chen and G.L. Kennedy, Jr. E.I. duPont de Nemours & Co., Inc., Haskell Laboratory for Toxicology and Industrial Medicine, P.O. Box 50, Newark, DE.
- #970 **REPRODUCIBILITY OF ACUTE TOXICITY TESTS - ORAL TOXICITY, EYE, AND SKIN IRRITATION.** G.L. Kennedy, Jr. and O.L. Dashiell, E.I. duPont de Nemours & Co., Inc., Haskell Laboratory for Toxicology and Industrial Medicine, P.O. Box 50, Elkton Road, Newark, DE.
- #971 **SKIN IRRITATION OF FIBER FINISHES IN RABBITS AND MAN.** G.L. Kennedy, Jr., G.W. Lovett, K.L. Gabriel\*, and M.V. Shelanski\*\*, E.I. duPont de Nemours and Company, Haskell Laboratory, Newark, DE. \*Biosearch Inc., Philadelphia, PA, \*\*Product Investigations, Conshohocken, PA.
- #972 **USE OF ABRADED SKIN TO ENHANCE THE SENSITIVITY OF THE BUEHLER GUINEA PIG SENSITIZATION METHOD.** M. Kaminsky & M. Szivos, Beecham Products Western Hemisphere Research, Parsippany, NJ, USA.
- #973 **EVALUATION OF ADDITIONAL TEST MATERIALS AND DESIGN VARIABLES IN (AND ODD TECHNICAL NOTES FROM) THE MOUSE EAR SWELLING TEST (MEST).** S.C. Gad, R.W. Darr, D.W. Dobbs, B.J. Dunn, C. Reilly and R.D. Walsh. Allied Corporation, Morristown, NJ.
- #974 **A DOUBLE BLIND INTRALABORATORY VALIDATION OF THE MOUSE EAR SWELLING TEST (MEST).** S.C. Gad<sup>1</sup>, C.S. Auletta<sup>2</sup>, B.J. Dunn<sup>1</sup>, R.A. Hiles<sup>3</sup>, C. Reilly<sup>1</sup>, E. Reagan<sup>4</sup>, and B. Yenser<sup>5</sup>. Allied Corporation, Morristown, NJ<sup>1</sup>; Biodynamics, East Millstone, NJ<sup>2</sup>; Springborn Institute of Research, Spencerville, OH<sup>3</sup>; Food and Drug Research Laboratories, Waverly, NY<sup>4</sup>; and M.B. Research Laboratories, Spinnerstown, PA<sup>5</sup>.
- #975 **A NOVEL MODEL FOR CUTANEOUS TOXICOLOGIC RESEARCH: THE ISOLATED PERFUSED PORCINE SKIN FLAP (IPPSF).** J.E. Riviere, K.A. Bowman, N.A. Monteiro-Riviere, M.P. Carver and L.P. Dix. Lab. Toxicokinetics, Sch. Vet. Med. and Toxicology Program, NC State University, Raleigh, NC.
- #976 **MORPHOLOGICAL ASSESSMENT OF VIABILITY AND TOXICITY IN THE ISOLATED PERFUSED PORCINE SKIN FLAP.** N.A. Monteiro-Riviere, K.F. Bowman, V.J. Scheidt, L.P. Dix, and J.E. Riviere. Dept. Anatomy and Lab. Toxicol., Sch. Vet. Med., N.C. State Univ., Raleigh, NC.
- #977 **PERCUTANEOUS ABSORPTION OF CAFFEINE AND MALATHION IN THE ISOLATED PERFUSED PORCINE SKIN FLAP (IPPSF).** M.P. Carver, K.F. Bowman, N.A. Monteiro-Riviere, R.A. Rogers, and J.E. Riviere. Lab. of Toxicokinetics, Toxicology Program, and Sch. Vet. Med., NC State Univ., Raleigh, NC.
- #978 **CUTANEOUS METABOLISM IN SKIN ABSORPTION OF TOPICALLY APPLIED CHEMICALS.** J.Kao and J.W. Hall. Biology Division, ORNL, Oak Ridge, TN 37831.
- #979 **DERMAL ABSORPTION OF HYDRAZINE VAPORS IN RATS.** J.N. McDougal, M.E. George, H.J. Clewell III, \*D.L. Pollard, and M.E. Andersen, AAMRL/THB, Wright-Patterson AFB, OH, and \*University of California/THRU, Wright-Patterson AFB, OH.
- #980 **IN VITRO PERCUTANEOUS PENETRATION AND METABOLISM OF [3H]JT-2 TOXIN: COMPARISON OF HUMAN, RAT, GUINEA PIG, AND RABBIT.** B.W. Kempainen, R.T. Riley, F.J. Hoerr, and J.L. Joyave. School of Pharmacy, Auburn University, AL, USDA-ARS, Athens, GA, ALA Vet Diag Lab, Auburn, AL, U So ALA Col Med, Mobile, AL.
- #981 **DERMAL PENETRATION OF SELECTED LIPOPHYLIC PESTICIDES THROUGH SKIN.** R.E. Grissom, Jr. and F.E. Guthrie. North Carolina State University, Toxicology Program, Raleigh, NC.
- #982 **DERMAL PENETRATION OF CARBOFURAN IN YOUNG AND ADULT FISCHER-344 RATS.** P.V. Shah<sup>1</sup>, H.L. Fisher<sup>2</sup>, M.R. Sumler<sup>1</sup>, and L.L. Hall<sup>2</sup>. <sup>1</sup>Northrop Services, Inc., RTP, NC 27709, <sup>2</sup>USEPA, HERL, DBD, Reproductive Toxicology Branch, RTP, NC.
- #983 **CHLORDECONE KINETICS AFTER DERMAL EXPOSURE.** H.L. Fisher<sup>1</sup>, P.V. Shah<sup>2</sup>, M.R. Sumler<sup>2</sup>, and L. Hall<sup>1</sup>. <sup>1</sup>USEPA, HERL, DBD, Reproductive Toxicology Branch, RTP, NC. <sup>2</sup>Northrop Services Inc., Research Triangle Park, NC.
- #984 **AGE RELATED PERCUTANEOUS PENETRATION OF CARBARYL, DETERMINED BY IN VIVO AND IN VITRO METHODS.** L.L. Hall<sup>1</sup>, H.L. Fisher<sup>1</sup>, M.R. Sumler<sup>2</sup>, and P.V. Shah<sup>2</sup>. <sup>1</sup>USEPA, HERL, DBD, Reproductive Toxicology Branch, RTP, NC. <sup>2</sup>Northrop Services, Inc., RTP, NC.
- #985 **EFFICACY OF A NON-OCCLUSIVE BARRIER MODEL TO STUDY TOXIN PHARMACOKINETICS AFTER DERMAL EXPOSURE.** R.W. Wannemacher, Jr., D.L. Bunner, J.G. Pace, R.E. Dinterman. US Army Medical Research Institute of Infectious Diseases, Frederick, MD. Sponsor: R.F. Fricke.
- #986 **PREPARATION OF THE BARRIER LAYER FOR IN VITRO PERCUTANEOUS ABSORPTION STUDIES.** R.L. Bronaugh and R.F. Stewart. Division of Toxicology, Food and Drug Administration, Washington, DC.
- #987 **ROLE OF CHEMICAL CHARACTERIZATION AND DERMAL PENETRATION IN EVALUATING THE SYSTEMIC TOXICITY OF THREE COMPLEX REFINERY STREAMS.** L.K. Low, J.R. Meeks, C.R. Mackerer, G. Cruzan, E.J. Singer and M.A. Mehلمان, Mobil Oil Corp., Princeton, NJ.
- #988 **SKIN DEPOSITION OF 3,4,4'-TRICHLORO-CARBANILIDE (TCC) IN BAR SOAP.** J. Demetruilas, H. North-Root. Armour-Dial, Inc., Scottsdale, AZ.

- #989 **FATE AND DISTRIBUTION OF [<sup>3</sup>H]-T-2 TOXIN IN TOPICALLY EXPOSED GUINEA PIGS.** J.G. Pace, W.J. Canterbury, and C. Matson. US Army Medical Research Institute of Infectious Diseases, Fort Detrick, Frederick, MD Sponsor: R.F. Fricke.
- #990 **REPEATED APPLICATION OF CHEMICALS PRODUCING ACUTE SKIN IRRITATION BY DIFFERENT MECHANISMS.** E. Patrick and H.I. Maibach. Department of Dermatology, University of California, San Francisco, CA.
- #991 **BONE MARROW CELL MIGRATION AS AN INDEX OF DELAYED TYPE HYPERSENSITIVITY REACTIONS.** S. Nicklin, J. Maisey and K. Miller. BIBRA, Carshalton, Surrey UK. Sponsor: D.M. Conning.
- #992 **PCB IN VITRO HUMAN SKIN DECONTAMINATION MODEL.** R.C. Wester, M. Mobayen, and H.I. Maibach. Department of Dermatology, University of California School of Medicine, San Francisco, CA.

## THURSDAY AFTERNOON, MARCH 6

12 p.m. - 1 p.m.

Poydras A

### FIRST BURROUGHS-WELLCOME TOXICOLOGY SCHOLAR AWARD LECTURE

A.P. Poland, University of Wisconsin, McCordle Laboratory for Cancer Research, Madison, WI

Chairman: T.S. Miya, SOT President 1979-1980

## THURSDAY AFTERNOON

1:30 p.m. - 5:00 p.m.

Ballroom A-C

### SYMPOSIUM: NEONATAL TOXICOLOGY

Honorary Chairman: F. Coulston, SOT Founder

Cochairmen: W.M. Galbraith, National Center for Drugs & Biologics, Rockville, MD  
I.W. Daly, Bio/Dynamics, Inc., East Millstone, NJ

Introduction. R.A. deLemos, U.S. Air Force Medical Center, San Antonio, TX

Comparative Developmental Anatomy. E.M. Johnson, Jefferson Medical College, Philadelphia, PA; R.M. Hoar, Hoffmann-LaRoche Inc., Nutley, NJ; R. Skalko, East Tennessee State University, Johnson City, TN

Comparative Biochemical Development. O. Pelkonen, University of Oulu, Oulu, Finland

Comparative Neurological Development. P. Rodier, University of Rochester Medical School Rochester, NY

Comparative Development of the Immune System. A.R. Lawton, Vanderbilt University School of Medicine, Nashville, TN

Neo-natal Testing Models. R.A. deLemos

Summary and Significance for Design and Interpretation of Safety Studies. W.M. Galbraith

## THURSDAY AFTERNOON, MARCH 6

1:30 p.m. - 5:00 p.m.

Burgundy Room

### SYMPOSIUM: FRONTIERS IN THE STUDY OF TOXIC LUNG DAMAGE

Sponsored by SOT Inhalation Specialty Section

Honorary Chairman: H.C. Hodge, SOT Founder

Chairman: H.R. Witschi, Oak Ridge National Laboratory, Oak Ridge, TN

Effects of the Respiratory Tract on Inhaled Materials (and Vice Versa). A.R. Dahl, Inhalation Toxicology Research Institute, Albuquerque, NM

Site for Xenobiotic Activation and Deactivation within the Respiratory Tract: Implications for Chemically-induced Toxicity. J. Baron, University of Iowa, Iowa City, IA

Aldehydes: Toxic and Defense Mechanisms in the Nasal Mucosa. H.D. Heck, CIIT, Research Triangle Park, NC

The Alveolar Type II Epithelial Cell: A Multifunctional Pneumocyte. V. Castronova, West Virginia University, Morgantown, WV

Puzzles in Pulmonary Pyrrolizidine Poisoning. R.A. Roth, Michigan State University, East Lansing, MI

## THURSDAY AFTERNOON, MARCH 6

1:30 p.m. - 5:00 p.m.

Poydras A

### PLATFORM SESSION: GENOTOXICITY

Honorary Chairman: J.F. Borzelleca, SOT President 1973-1974

Chairman: A.E. Aust, Warner-Lambert/Parke-Davis, Ann Arbor, MI

- #148 1:30 **EVALUATION OF SELECTED STRUCTURALLY-RELATED PHENYLENEDIAMINE DYES IN THE V-79 METABOLIC COOPERATION ASSAY.** E. Elmore, D. Murphy, H.A. Milman\*, and G. Wyatt, Northrop Services, Inc., P.O. Box 12313, Research Triangle Park, NC; \*Office of Toxic Substances, U.S. E.P.A., Washington, DC.

- #149 1:45 **DNA DAMAGE AND ENANTIOSPECIFIC MUTAGENESIS BY AZIDE METABOLITES.** J.M. LaVelle and J.B. Mangold. Toxicology Program, Section of Pharmacology and Toxicology and Section of Medicinal Chemistry and Pharmacognosy, School of Pharmacy, University of Connecticut, Storrs, CT.
- #150 2:00 **MUTAGENICITY OF METABOLITES OF GENTIAN VIOLET IN CHEMOSTAT AND PLATE ASSAYS.** J.J. McDonald, B.S. Hass, and R.H. Heflich. Natl. Center for Toxicological Research, Jefferson, AR.
- #151 2:15 **MUTAGENIC POTENCY OF BINARY MIXTURES OF AFLATOXINS AND STERIGMATOCYSTIN.** K.C. Donnelly, T. R. Irvin, and R.H. Bailey, Lab of Toxicology, Dept of Vet Anatomy, Texas A&M, Coll Sta, TX. Sponsor: A. Ray.
- #152 2:30 **MNNG PRETREATMENT AND BIS (CHLOROETHYL)-SULFIDE (BCES)-INDUCED DNA CROSSLINKING IN KERATINOCYTES.** D.H. Sorscher and R.B. Conolly, Toxicology Program, School of Public Health, The University of Michigan, Ann Arbor, MI 48109.
- #153 2:45 **POLYAMINE LEVELS AND BIS (CHLOROETHYL)SULFIDE (BCES)-INDUCED DNA DAMAGE.** L.T. Mulholland and R.B. Conolly, Toxicology Program, School of Public Health, The U. of Michigan, Ann Arbor, MI 48109.
- #154 3:00 **POTENTIATION OF MNNG-INDUCED MUTAGENICITY BY CADMIUM IN E. COLI B/R.** W. Hamilton-Koch and J.M. LaVelle, Toxicology Program, Section of Pharmacology and Toxicology, School of Pharmacy, University of Connecticut, Storrs, CT.
- #155 3:15 **EFFECT OF PERFLUORINATED CARBOXYLIC ACIDS AND POLYCHLORINATED BIPHENYLS ON INTERCELLULAR COMMUNICATION PROCESSES.** A.M. Rogers-Back and J. J. Clarke, Microbiological Associates, Inc., Bethesda, MD.
- #156 3:30 **A CORRELATION BETWEEN CYTOTOXICITY AND SCE'S IN CHINESE HAMSTER OVARY CELLS AFTER EXPOSURE TO SEVERAL RELATED HYDROXYBENZOPHENONES.** K.A. Powell, C.D. Snyder, S.T. Li, R.K. Esch, and L.K. Machicao, IBM Corporation, 5600 Cottle Rd., San Jose, CA 95193. Sponsor: G.M. Decad.
- #157 3:45 **THE INDUCTION OF DNA DAMAGE AND REPAIR SYNTHESIS IN RAT HEPATOCYTES FOLLOWING IN VIVO EXPOSURE TO CHLORDECONE AND CARBON TETRACHLORIDE.** F.I. Ikegwuonu and H.M. Mehendale, Dept. Pharmacol. & Toxicol., Univ. MS Med. Ctr., Jackson, MS 39216.
- #158 4:00 **FORMATION OF CARCINOGENIC AND/OR GENOTOXIC ALIPHATIC AZOXY COMPOUNDS FROM THE RESPECTIVE NITROALKANES BY DIRECT MILD CHEMICAL REDUCTION.** E.S. Fiala, R. Czerniak, and G.M. Williams. Naylor Dana Institute, American Health Foundation, Valhalla, NY.
- #159 4:15 **COMPARISON OF THE BALB/3T3 AND C3H 10T1/2 CELL TRANSFORMATION ASSAYS USING DIVERSE CARCINOGENS.** R.A. Lubet, J. McCarvill, E. Kiss, L. Schechtman\* and D.L. Putman. Microbiological Associates, Bethesda, MD. \*Presently at Food and Drug Administration, DVM, Rockville, MD. Sponsor: A.M. Rogers-Back.
- #160 4:30 **EVALUATION OF SISTER CHROMATID EXCHANGES IN RELATION TO CELL KINETICS IN SOMATIC AND SPERMATAGONIAL CELLS OF THE RAT.** J.A. Zempel, V.A. Linscombe, B.B. Gollapudi, A.K. Sinha and P.G. Watanabe. Health & Environmental Sciences, Lake Jackson Research Center, Dow Chemical U.S.A., Freeport, TX.
- #161 4:45 **MUTAGENICITY OF UNSTABLE AGENTS IN SALMONELLA.** S.M. DiZio and J.G. Rieder. Wyeth Laboratories, Paoli, PA 19301. Sponsor: M. Hite.

## THURSDAY AFTERNOON, MARCH 6

1:30 p.m. - 5:00 p.m.

Poydras B

## PLATFORM SESSION: HALOGENATED HYDROCARBONS

Honorary Chairman: C. Weil, SOT President 1968-1969

Chairman: L.S. Birnbaum, NIEHS, Research Triangle Park, NC

- #162 1:30 **UROPORPHYRIN (URO) ACCUMULATION IN CULTURED CHICK EMBRYO LIVER CELLS (CEL) TREATED WITH 2,3,7,8-TETRACHLORODIBENZO-p-DIOXIN (TCDD).** R.W. Lambrecht, W.J. Bement, P.R. Sinclair, J.F. Sinclair, and H.L. Bonkovsky. V.A., White River Junction, VT, and Dartmouth Medical School, Hanover, NH. Sponsor: R.P. Smith.
- #163 1:45 **2,3,7,8 TETRACHLORODIBENZO-p-DIOXIN ALTERS CONTRACTION FORCE IN ISOLATED GUINEA PIG ATRIA.** D.W. Brewster and F. Matsumura. Pesticide Research Center, Michigan State University, E. Lansing, MI.
- #164 2:00 **A STUDY OF THYROID STATUS AFTER A NONANOREXIGENIC DOSE OF TCDD.** W. Roth, P.A. Bank and S.D. Aust, Department of Biochemistry and Center for Environmental Toxicology, Michigan State University, East Lansing, MI.
- #165 2:15 **TCDD (2,3,7,8-TETRACHLORODIBENZO-p-DIOXIN) CAUSES INCREASED PROTEIN KINASE C ACTIVITY IN THE HEPATIC PLASMA MEMBRANE OF THE RAT AND GUINEA PIG.** D.W. Bombick, B.V. Madhukar, D.W. Brewster, and F. Matsumura. Pesticide Research Center, Michigan State U., E. Lansing, MI.
- #166 2:30 **EPIDERMAL HYPERPLASIA AND ALTERATIONS IN KERATINIZATION IN THE HAIRLESS MOUSE INDUCED BY TCDD.** C.J. Molloy, M.A. Gallo, and J.D. Laskin. UMDNJ-Rutgers Medical School, Piscataway, NJ.
- #167 2:45 **EFFECTS OF 2,3,7,8-TCDD ON THE ESTROGEN RECEPTOR IN IMMATURE FEMALE LONG EVANS RATS.** M. Romkes, J. Piskorska-Plisczynska and S. Safe. Veterinary Physiology and Pharmacology, Texas A&M University, College Station, Texas 77843-4457.
- #168 3:00 **DEPRESSION OF RAT TESTICULAR 17-HYDROXYLASE AND 17,20-LYASE AFTER ADMINISTRATION OF 2,3,7,8-TETRACHLORODIBENZO-p-DIOXIN (TCDD).** C.A. Mebus and W.N. Piper. Dept. of Pharmacology, Univ. of Nebr. Med. Ctr., Omaha, NE 68105.
- #169 3:15 **SERUM PROLACTIN (PRL) AND PRL-STIMULATED ORNITHINE DECARBOXYLASE (ODC) ALTERATIONS IN RESPONSE TO TCDD.** M.K. Jones, W.P. Weisenburger, I.G. Sipes, D.H. Russell. Dept. Pharmacol., U. Arizona, Tucson, AZ.
- #170 3:30 **THE EFFECTS OF RECEPTOR MODULATION ON THE BIOLOGIC AND TOXIC ACTIONS OF 2,3,7,8-TCDD.** R. Bannister, M. Kelley and S. Safe, Veterinary Physiology and Pharmacology, Texas A&M University, College Station, Texas 77843.
- #171 3:45 **LACK OF COOPERATIVITY IN THE BINDING OF 2,3,7,8-TCDD TO THE Ah RECEPTOR.** K. Farrell and S. Safe, Veterinary Physiology and Pharmacology, Texas A&M University, College Station, TX 77843.
- #172 4:00 **THE BIOLOGIC AND TOXIC EFFECTS OF 2,3,7,8-TCDD METABOLITES.** G. Mason and S. Safe, Veterinary Physiology and Pharmacology, Texas A&M University, College Station, TX 77843.
- #173 4:15 **INTERACTIVE EFFECTS OF DI(2-ETHYLHEXYL)PHTHALATE (DEHP) AND 2,3,7,8-TETRACHLORODIBENZO-p-DIOXIN (TCDD) ON LIPID METABOLISM IN F344 RATS.** K. Tomaszewski, F. Harrington, A. Greenwell, C. Rahn, J. Moore, L. Birnbaum and R. Melnick. NTP, NIEHS, Research Triangle Park, NC.
- #174 4:30 **EFFECTS OF AROCLOR 1016 ON ADULT FEMALE CYNOMOLGUS MONKEYS.** F. Iverson, J. Truelove, L. Tryphonas, H. Tryphonas, Z. Zawidzka, J. Mes. Food Directorate, Health Protection Branch, Ottawa, Canada.
- #175 4:45 **QUANTIFICATION OF PERSISTENT POLYCHLORINATED BIPHENYLS (PCBs) AND DIBENZOFURANS (PCDFs) AND CYTOSOLIC Ah RECEPTOR IN HUMAN PLACENTA.** T.K. Wong<sup>1</sup>, T.C. Sloop<sup>1</sup>, T. Tiernan<sup>2</sup>, M. Taylor<sup>2</sup>, and G.W. Lucier<sup>1</sup>. <sup>1</sup>NIEHS, Research Triangle Park, NC and <sup>2</sup>Wright State University, Dayton, OH.

## POSTER SESSION 27: BIOTRANSFORMATION/DISPOSITION II

Chairman: M. Savides, SDS Biotech Corporation, Painesville, OH

Displayed: 1:30 p.m. - 4:30 p.m.

Attended: 1:30 p.m. - 3:00 p.m.

- #993 **THE OXIDATIVE METABOLISM OF CODEINE TO CODEINONE: A POTENTIAL HEPATOTOXIC PATHWAY.** S.P. Ellington and G.M. Rosen. Department of Pharmacology, Duke University Medical Center, Durham, NC.
- #994 **SEPARATION AND PARTIAL CHARACTERIZATION OF 17 METABOLITES OF AFLATOXIN B1 (AFB) EXCRETED IN BILE OF RATS.** D.L. Eaton, G.M. Bellamy, D.A. Kalman, D.H. Monroe and C.J. Holeski, Dept. Environmental Health, University of Washington, Seattle, WA.
- #995 **EFFECTS OF BUTYLATED HYDROXYANISOLE (BHA) ON THE IN VIVO AND IN VITRO METABOLISM OF AFLATOXIN B1 (AFB) IN THE MOUSE LIVER.** D.H. Monroe and D.L. Eaton, Dept. Environmental Health, University of Washington, Seattle, WA.
- #996 **MECHANISM OF TOXICITY OF 2,2,2-TRIFLUOROETHANOL IN RATS.** J.M. Fraser, J.B. Silkworth, and L.S. Kaminsky. Wadsworth Center for Laboratories and Research, NY State Dept. of Health, Albany, NY.
- #997 **EFFECTS OF SORBITOL AND GLYCERIN ON THE ABSORPTION OF SUCRALFATE (U-<sup>14</sup>C).** K.K. Hwang, J. Battor, D.T. Drees, and R.K. Browne. Marion Laboratories, Kansas City, MO.
- #998 **THE RELEVANCE OF A POLYAMINE ACCUMULATION SYSTEM TO THE SELECTIVE TOXICITY OF DRUGS AND HERBICIDES.** L.L. Smith, J.B. Kenneally, T.M. Dexter, and G.M. Cohen. Imperial Chemical Industries PLC, Central Toxicology Laboratory, Alderley Park, Macclesfield, Cheshire, SK10 4TJ, U.K., and School of Pharmacy, Brunswick Square, London, WC1N 1AX, U.K. Sponsor: E.A. Lock.
- #999 **INTERACTION BETWEEN PHENCYCLIDINE (PCP) AND 1-PHENYLCYCLOHEXENE (PC).** A.K. Chaturvedi and D.J. Kuntz. Dept. of Pharm. Sci./Tox., ND State Univ., Coll. of Pharmacy, Fargo, ND.
- #1000 **COMPARATIVE CYANOGENIC POTENTIAL OF MALONONITRILE (MN) AND SUCCINONITRILE (SN).** B. Ballantyne, Union Carbide Corporation, Danbury, CT.
- #1001 **STUDIES ON THE MECHANISM OF UROTOXIC ACTIVITY OF N'-N-DIMETHYL AMINOPROPIONITRILE (DMAPN) II: SPECIES DIFFERENCES IN TOXICITY.** M.M. Mumtaz and A.E. Ahmed, University of Texas Medical Branch, Galveston, TX 77550.
- #1002 **QUANTITATION OF POLAR URINARY METABOLITES OF NICOTINE ENANTIOMERS IN THE GUINEA PIG.** C.G. Nwosu, C.S. Godin, and P.A. Crooks. College of PPharmacy and Graduate Center for Toxicology, University of Kentucky, Lexington, KY. Sponsor: J.W. Flesher.
- #1003 **DETERMINATION OF SALICYLAMIDE AND ITS METABOLITES BY HPLC.** L.A. Kotkoskie, S.R. Howell, R.L. Dills, and C.D. Klaassen. Department of Pharmacol., Toxicol. & Therap., Univ. of Kansas Med. Ctr., Kansas City, KS.
- #1004 **IN VITRO METABOLISM OF SALICYLIC ACID BY ISOLATED KIDNEY AND LIVER MITOCHONDRIA.** M.E. Kyle and J.J. Kocsis, Dept. Pharmacology, Thomas Jefferson University, Philadelphia, PA.
- #1005 **THE FORMATION OF PROCAINAMIDE HYDROXYLAMINE BY RAT AND HUMAN LIVER MICROSOMES.** R.A. Budinsky, S.M. Roberts, E.A. Coats, L.E. Adams, and E.V. Hess. Div. of Pharmacology & Medicinal Chemistry College of Pharmacy, and Division of Immunology, College of Medicine, University of Cincinnati, Cincinnati, OH 45267.
- #1006 **HIGH PERFORMANCE LIQUID CHROMATOGRAPHIC ANALYSIS OF ANTICARCINOGENIC INDOLES PRESENT IN BRASSICA OLERACEA.** C.A. Bradfield and L.F. Bjeldanes. Dept. of Nutritional Sciences, Food Toxicology Group, University of California, Berkeley, CA.
- #1007 **PHARMACOKINETICS OF THE ANTI-INFLAMMATORY AGENT 5-(4-PYRIDYL)-6(4-FLUOROPHENYL)-2,3-DIHYDROIMIDAZO (2,1-b)-THIAZOLE (SK&F 86002) IN SPRAGUE-DAWLEY RATS.** L.A. Yodis, B.A. Mico, D.J. Kechane, R.D. Eckardt, R.H. Dewey, J.G. Dent and J.F. Newton. Dept. of Drug Metabolism, Smith Kline & French Labs., Philadelphia, PA.
- #1008 **METABOLISM OF THE ANTI-INFLAMMATORY AGENT 5-(4-PYRIDYL)-6(4-FLUOROPHENYL)-2,3-DIHYDROIMIDAZO(2,1-B)-THIAZOLE(SK&F 86002) IN MALE SPRAGUE DAWLEY RATS.** R.D. Eckardt, L.P. Yodis, D.J. Keohane, K.M. Straub, G.L. Joseph, T.B. Leonard, J.G. Dent, and J.F. Newton. Smith Kline & French Labs., Philadelphia, PA.
- #1009 **URINARY EXCRETION OF THE METAL BINDING AGENTS 2,3-DIMERCAPTO-1-PROPSNRDULRONIC ACID (DMPS) AND MESO-2,3-DIMERCAPTOSUCCINIC ACID (DMSA).** H.V. Aposhian, R.M. Maiorino and G.L. Weber. Dept. Molecular & Cellular Biology, University of Arizona, Tucson, AZ 85721.
- #1010 **BIOTRANSFORMATION OF THE METAL BINDING AGENT 2,3-DIMERCAPTO--1-PROPANESULFONIC ACID (DMPS).** R.M. Maiorino, G.L. Weber and H.V. Aposhian. Dept. Molecular & Cellular Biology, University of Arizona, Tucson, AZ 85721.
- #1011 **COMPARATIVE DISPOSITION OF 1-CHLORO-3-METHYLPROPENE)DIMETHYL VINYL CHLORIDE, DMVC) IN RATS AND MICE.** B.I. Ghanayem and L.T. Burka. NIEHS, Research Triangle Park, NC. Sponsor: H.B. Matthews.
- #1012 **THE COMPARATIVE METABOLISM OF CAPTAN IN THE RAT AND MOUSE.** Z.A. Wong, H.M. Cheng, and J.A. MacGregor. Chevron Environmental Health Center, Inc., Richmond, California.
- #1013 **URINARY METABOLITES OF 2,4- AND 2,6-DIMETHYLANILINE IN DOGS AND RATS.** M.L. Hardy, C.R. Short, S.A. Barker. Dept. of Veterinary Physiology, Pharmacology, Toxicology, LSU School of Veterinary Medicine, Baton Rouge, LA.
- #1014 **IN VITRO METABOLISM OF AMIODARONE BY RABBIT AND RAT HEPATIC AND DUODENAL TISSUE FRACTIONS.** R.A. Young and H.M. Mehendale, Department Pharmacol. & Toxicol., University of Mississippi Medical Center, Jackson, MS 39216.
- #1015 **METABOLISM OF 1-NITRO[<sup>14</sup>C]PYRENE BY PRIMARY TRACHEAL EPITHELIAL CELLS.** L.C. Kings<sup>a</sup>, M. Jackson<sup>b</sup>, L.M. Ball<sup>c</sup>, and J. Lewtas<sup>a</sup>. <sup>a</sup>Genetic Toxicology Div., Health Effects Research Laboratory, U.S. Environmental Protection Agency, Research Triangle Park, NC; <sup>b</sup>Environmental Health Research and Testing, Inc., P.O. Box 12199, Research Triangle Park, NC; <sup>c</sup>Dept. of Envir. Sciences & Engineering, Univ. of North Carolina, Chapel Hill, NC. Sponsor: R.W. Chadwick.
- #1016 **METABOLISM AND PHARMACOKINETICS OF 4-NITRO-N-METHYLPHTHALIMIDE [CARBONYL-<sup>14</sup>C] (4-NPI) IN PREGNANT AND NULLIPAROUS RATS FOLLOWING ORAL ADMINISTRATION.** R.C. Couch and L.W. Smith. Primate Research Institute, Holloman AFB, NM and General Electric Company, Pittsfield, MA.
- #1017 **METABOLISM AND EXCRETION OF o-DINITROBENZENE IN MALE FISCHER-344 RATS.** D.D. Nystrom, M.J. Turner, Jr., and D.E. Rickert. CIIT, Research Triangle Park, NC 27709.
- #1018 **ABSORPTION AND METABOLISM OF 5-(4-NITROPHENYL)-2,4-PENTADIENAL (NPPD).** L.T. Burka, J.M. Sanders, and H.B. Matthews. NIEHS, Research Triangle Park, NC.
- #1019 **THE ABSORPTION AND METABOLISM OF [HEXYL-2-<sup>14</sup>C]-DI(2-ETHYLHEXYL) TEREPHTHALATE IN THE RAT.** P.M. Enriquez, C.J. Giordano and G.D. DiVincenzo, Health and Environment Laboratories, Eastman Kodak Co., Rochester, NY.
- #1020 **COMPARISON OF DISPOSITION OF n-OCTANE AND 2,2,4-TRIMETHYLPENTANE IN MALE FISCHER 344 RATS.** D.R. Peterson, L.G. DeLapp, A.W. Lington, R.D. Phillips. EXXON Corp., East Millstone, NJ. Sponsor: R.A. Scala.

- #1021 **DISPOSITION OF HEXACHLORO-1,3-BUTADIENE IN MALE FISCHER 344 RATS AND B6C3F<sub>1</sub> MICE.** R.S.H. Yang, R. Jeffcoat, and H.B. Matthews. National Toxicology Program, NIEHS, RTP, NC 27709 and Research Triangle Institute, RTP, NC 27709.
- #1022 **METABOLISM OF n-OCTANE IN FISCHER 344 RATS.** C.T. Olson, K.O. Yu, M.P. Serve. Harry G. Armstrong Aerospace Medical Research Laboratory, Wright-Patterson AFB, OH. Sponsor: B.O. Stuart.
- #1023 **ACUTE TOXICITY, DISTRIBUTION, AND METABOLISM OF PICRIC ACID (2,4,6-TRINITROPHENOL) IN RATS.** J.F. Wyman, D.W. Hobson, and L.H. Lee. Naval Medical Research Institute/Toxicology Detachment, Wright-Patterson AFB, OH. Sponsor: E.H. Vernet.
- #1024 **DISPOSITION OF 2-HYDROXY-4-METHOXYBENZOPHENONE (HMB) IN RATS DOSED BY GAVAGE, INTRAVENOUS INJECTION, OR DERMAL APPLICATION.** S.M. El Dareer, K.F. Tillery, J.R. Kalin, and D.L. Hill. Southern Research Institute, Birmingham, AL.
- #1025 **THE METABOLISM OF [U-<sup>14</sup>C]HYDROQUINONE IN FISCHER 344 RATS FOLLOWING ORAL AND INTRATRACHEAL ADMINISTRATION.** H.B. Lockhart, Jr., J.A. Fox, and G.D. DiVincenzo. Health and Environment Laboratories, Eastman Kodak Co., Rochester, NY.
- #1026 **DERMAL DISPOSITION AND WASHING EFFICIENCY OF 4,4'-METHYLENEDIANILINE (MDA) IN RATS.** M. El-hawari<sup>1</sup>, M.Stoltz<sup>1</sup>, P. Alm<sup>1</sup>, D. Czarnecki<sup>1</sup> and J. Remmers<sup>2</sup>. MRI, Kansas City, MO<sup>1</sup> and EPA, Washington, DC.<sup>2</sup>
- #1027 **SPECIES DIFFERENCES IN DERMAL DISPOSITION OF 4,4'-METHYLENEDIANILINE (MDA).** M.Stoltz<sup>1</sup>, D. Czarnecki<sup>1</sup>, P. Alm<sup>1</sup>, M.El-hawari<sup>1</sup> and J. Remmers<sup>2</sup>. MRI, Kansas City, MO<sup>1</sup> and EPA, Washington, DC.<sup>2</sup>
- #1028 **DISPOSITION OF 4,4'-METHYLENEDIANILINE (MDA) ADMINISTERED INTRAVENOUSLY TO RATS, GUINEA PIGS AND MONKEYS.** M. Stoltz<sup>1</sup>, M.El-hawari<sup>1</sup>, and J. Remmers<sup>2</sup>, MRI, Kansas City, MO<sup>1</sup> and EPA, Washington, DC.<sup>2</sup>
- #1029 **CAFFEINE ELIMINATION IN THE MONKEY (*Macaca fascicularis*) DECREASES DURING PREGNANCY.** S.G. Gilbert, B. Stavric, and D.C. Rice. Toxicology Research Division, Bureau of Chemical Safety, Food Directorate, Health Protection Branch, Health and Welfare Canada, Ottawa, Ontario, Canada. K1A 0L2.
- #1030 **PHARMACOKINETICS OF 1,2-DIBROMO-3-CHLOROPROPANE (DBCP).** R. Gingell, P.W. Beatty, H.R. Mitschke, V.L. Sawin, A.C. Page, Toxicology Research, Shell Development Co., and W.G. Kramer, L.Putcha. Coll Pharmacy, University of Houston, TX.
- #1031 **DISPOSITION AND METABOLISM OF A SINGLE ORAL DOSE OF [1<sup>4</sup>C]TRI-O-CRESYL PHOSPHATE (TOCP) IN HENS.** E. Suwita\*, A.A. Nornair\* and M.B. Abou-Donia\*. \*Duke University Medical Center, Durham and \*NIEHS, Research Triangle, NC.
- #1032 **THE EFFECTS OF ETHANOL CONSUMPTION ON THE MICROSOMAL METABOLISM OF PESTICIDES BY INBRED STRAINS OF MICE.** G.A. Beumel and E. Hodgson. North Carolina State University, Toxicology Program, Raleigh, NC.
- #1033 **EFFECTS OF ETHANOL ON THE PHARMACOKINETICS OF MORPHINE IN RATS.** D.R. Steup and R.B. Forney. Department of Pharmacology and Toxicology, Indiana University School of Medicine, Indianapolis, IN 46223.
- #1034 **DECREASED PLASMA FOLATE BINDING CAPACITY IN ETHANOL-TREATED RATS.** K.E. McMartin, W.R. Bates, L.A. Poret, Dept. of Pharmacol. Section of Toxicol., LSU Med. Ctr., Shreveport, LA.
- #1035 **NADPH-DEPENDENT MICROSOMAL OXIDATION OF ALLYL ALCOHOL.** R.G. Little and D.R. Peterson. Alcohol Research Center, School of Pharmacy, University of Colorado, Boulder, CO.
- #1036 **ENHANCED HEPATOTOXICITY OF ALLYL ALCOHOL IN FEMALE RATS.** R.M. Fancher, W.C. Kershaw and G.L. Lage, Dept. of Pharmacology & Toxicology, Philadelphia College of Pharmacy & Science, Philadelphia, PA 19104.
- #1037 **TOXICITY AND METABOLISM OF BENZYL ALCOHOL.** S.E. McCloskey, J.J.L. Lertora, L.A. White, D. Simoneaux, and W.J. George. Departments of Pharmacology and Medicine, Tulane Medical School, New Orleans, LA. Sponsor: R.F. Ochillo.
- #1038 **METABOLISM OF TRANS-4-HYDROXY-2-NONENAL (t-4HN), TRANS-2-HYDROXY-2-HEXENAL (t-4HH) and TRANS-2-HEXENAL (t-2H) BY RAT LIVER MITOCHONDRIAL ALDEHYDE DEHYDROGENASE (ALDH).** L. Grasse, M.W. Lame and H.J. Segall. VM/Pharmacology and Toxicology, University of California, Davis, CA.
- #1039 **DETOXIFICATION OF ALPHA-BETA UNSATURATED ALDEHYDES BY RAT LIVER ALDEHYDE DEHYDROGENASES.** D.Y. Mitchell and D.R. Petersen, School of Pharmacy, Univ. of Colo., Boulder, CO.
- #1040 **METABOLISM OF GLYCOLALDEHYDE BY HEPATIC AND RENAL ALDEHYDE DEHYDROGENASES OF THE RAT AND DOG.** J.J. Hjelte, J.A. Jacobsen, C.W. Luker and G.F. Grauer. School of Vet. Medicine and the Environ. Toxicology Ctr., Univ. of Wisconsin, Madison, WI.
- #1041 **EFFECT OF ALCOHOL DEHYDROGENASE INHIBITORS ON THE TOXICITY AND PHARMACOKINETICS OF ETHYLENE GLYCOL IN THE DOG.** G.F. Grauer, M.A. Thrall, B. A. Henre and J.J. Hjelte. School of Veterinary Med., Univ. of Wisconsin, Madison, WI and College of Veterinary Med., Colorado State Univ., Fort Collins, CO.
- #1042 **EFFECTS OF DISULFIRAM ON THE TOXICITY OF CERTAIN GLYCOL ETHERS IN MICE.** A.R. Nikurs, D.P. Waller, and L.J.D. Zaneveld. Departments of Physiology and Biophysics, and Pharmacodynamics, and Program for Collaborative Research in the Pharmaceutical Sciences, University of Illinois at Chicago, and Department of Obstetrics and Gynecology, Rush-Presbyterian-St. Luke's Medical Center, Chicago, IL.
- #1043 **METABOLISM AND BINDING OF 1,2-DICHLOROETHANE (EDC) IN RATS TREATED CHRONICALLY WITH EDC, DISULFIRAM (DS) OR ETHANOL (ET).** M. El-hawari<sup>1</sup>, M.Stoltz<sup>1</sup>, F. Pallas<sup>1</sup>, K. Christianson<sup>1</sup>, K. Cheever<sup>2</sup> and E. Weisburger<sup>3</sup>, MRI, Kansas City, MO<sup>1</sup>, NIOSH, Cincinnati, OH<sup>2</sup>, and NCI, Bethesda, MD<sup>3</sup>.
- #1044 **KINETICS OF INHALED METHANOL IN MALE FISCHER-344 RATS.** V.L. Horton, M.A. Higuchi, K.L. Wong, and D.E. Rickert. CIIT, Research Triangle Park, NC, and Curriculum in Toxicology, University of North Carolina, Chapel Hill, NC.
- #1045 **DOSIMETRY COMPARISONS BETWEEN INHALATION AND ORAL EXPOSURES OF DICHLOROMETHANE IN RATS.** M.J. Angelo, A.B. Pritchard, and D.A. Nelson. General Foods Technical Center, Tarrytown, NY. Sponsor: J.C. Kirschman.
- #1046 **MODELING BLOOD AND TISSUE SOLUBILITIES OF HALOGENATED METHANES, ETHANES, AND ETHYLENES.** P.G. Seybold, M.A. May, \*M.L. Gargas, and \*M.E. Andersen, Wright State University, Dayton, Ohio, and \*AAMRL/THB, Wright-Patterson AFB, Ohio.
- #1047 **COMPARATIVE PHARMACOKINETICS OF INHALED DICHLOROMETHANE IN RATS AND MICE.** T. Green, J.A. Nash, and W.M. Proven, Imperial Chemical Industries PLC, Central Toxicology Laboratory, Alderley Park, Macclesfield, Cheshire, SK10 4TJ, U.K. Sponsor: E.A. Lock.
- #1048 **IN VIVO METABOLISM <sup>14</sup>C-METHYLENE CHLORIDE (MEC).** R.H. Reitz, F.A. Smith, and \*M.E. Andersen, Dow Chemical USA, Midland, Michigan, and \*AAMRL/THB, Wright-Patterson AFB, Ohio.
- #1049 **EFFECT OF A SINGLE DOSE VS. 7 DAILY DOSES OF CCL<sub>4</sub> ON TOXICANT METABOLISM AS DETERMINED BY IN VITRO ENZYME ACTIVITY AND A MODEL SUBSTRATE ASSAY.** R.W. Chadwick, M.F. Copeland, G.P. Carlson, B.A. Trela, B.M. Most. U.S. EPA and Northrop Services, Inc., Research Triangle Park, NC and Purdue University, Lafayette, IN.
- #1050 **COMPARISON OF THE UPTAKE, DISTRIBUTION AND MACRO-MOLECULAR BINDING IN MICE OF 1,2-DIBROMOETHANE AND CHLOROFORM ADMINISTERED IN CORN OIL OR WATER.** E.L.C. Lin, J. Mattox, R. Danner, and M.A. Pereira. U.S. EPA, HERL, Cincinnati, OH.
- #1050A **MEWATABOLIC FATE OF BENZARONE IN MAN: COMPARISON WITH RAT AND DOG.** L.F. Chasseaud, Huntingdon Research Centre Ltd., Huntingdon, Cambs., England. Sponsor: P.A. Johns.

## POSTER SESSION 28: METALS II

Chairman: S. Gad, Allied-Signal Corporation, Morristown, NJ

Displayed: 1:30 p.m. - 4:30 p.m.

Attended: 3:00 p.m. - 4:30 p.m.

- #1051 **URINARY PORPHYRINS AS A MEASURE OF ARSENIC EXPOSURE IN THE RAT.** W.T. Bellamy and D.E. Carter. Dept. of Pharmacology and Toxicology, Col. of Pharmacy, University of Arizona, Tucson, AZ.
- #1052 **INDICATORS OF SYSTEMIC TOXICITY IN THREE ANIMAL SPECIES FOLLOWING ARSENIC III EXPOSURE.** R.D. Mitchell, B.J. Snider and D.E. Carter, Dept. of Pharmacology and Toxicology, Col. of Pharmacy, University of Arizona, Tucson, AZ.
- #1053 **METABOLISM OF ARSENIC BY RAT HEPATOCYTES AND KIDNEY AND HEPATOMA-DERIVED CELL LINES.** F.M. Tatum, R.G. Lindahl, and R.D. Hood. Biology Department, The University of Alabama, Tuscaloosa, AL. Sponsor: R.S. Filler.
- #1054 **INTRANUCLEAR ARSENIC INCLUSIONS: STRUCTURE AND COMPOSITION.** E.M.B. Sorensen. Department of Pharmacology and Toxicology, The University of Texas, Austin, TX.
- #1055 **DEPENDENCY OF BOTH THE ORGANIC CONSTITUENT AND METAL GROUP FOR DEALKYLATION OF ORGANOMETALS BY RAT HEPATOCYTES IN PRIMARY CULTURE.** D.L. Novicki, P. Mushak, M.R. Krigman. University of North Carolina, Chapel Hill, NC 27514.
- #1056 **EFFECTS OF TRIMETHYLTIN (TMT) ON CELL AND SYNAPTIC FUNCTION IN THE RATE DENTATE GYRUS.** D.A. Janigro, P.A. Schwartzkroin and L.G. Costa, Depts. of Neurological Surgery and Environmental Health, University of Washington, Seattle, WA.
- #1057 **ADRENAL TOXICITY OF TRIMETHYLTIN (TMT) IN VIVO.** A.I. Ally and K.R. Reuhl. Division of Biological Sciences, National Research Council of Canada, Ottawa, Ontario, K1A 0R6, Canada. Sponsor: J.G. Pounds.
- #1058 **IMMUNOTOXIC EFFECTS OF NICKEL SULFATE IN MICE.** M.P. Dieter, C.W. Jameson, A.N. Tucker, M.I. Luster, J.E. French, and G.A. Boorman. National Institute of Environmental Health Sciences, NTP, Research Triangle Park, NC 27709.
- #1059 **PROTECTIVE EFFECTS OF MAGNESIUM ACETATE ON THE TOXICITY OF NICKELOUS ACETATE.** K.S. Kasprzak, M.P. Waalkes, and L.A. Poirier. National Cancer Institute, FCRF, Frederick, MD.
- #1060 **COMPARISON OF CHROMOSOMAL ABERRATIONS AND SISTER CHROMATID EXCHANGE INDUCED BY NICKEL AND CHROMIUM COMPOUNDS.** P. Sen and M. Costa. Dept. of Pharmacology, Univ. of Texas Medical School, Houston, TX 77025 and Dept. of Environmental Medicine, NYU Medical School, New York, NY 10016.
- #1061 **CaCrO<sub>3</sub> INDUCED DAMAGE AND CYTOTOXICITY IN MAMMALIAN CELLS.** M. Sugiyama, and M. Costa. Department of Pharmacology, University of Texas Medical School, Houston, TX and Dept. of Environmental Medicine, NYU Medical School, New York, NY.
- #1062 **ACUTE TOXICITY OF FOUR CHROMATES.** W.J. Powers, S.C. Gad, B.J. Dunn, G.M. Hoffman, K.M. Siino, and R.D. Walsh. Department of Toxicology, Allied Corporation, Morristown, NJ.
- #1063 **GOLD INDUCED CHANGES IN COPPER, ZINC AND METALLOTHIONEIN IN RAT TISSUES.** K.J. McVety and Z.A. Shaikh. University of Rhode Island, Kingston, RI.
- #1064 **EXCESS COPPER DEPOSITION IN THE LIVER OF ADJUVANT ARTHRITIC RATS FOLLOWING CHRONIC TREATMENT WITH COPPER ASPIRINATE.** V. Kishore, and R.F. Ochillo. College of Pharmacy, Xavier University of Louisiana, New Orleans, LA.
- #1065 **GOLD SODIUM THIOALATE INHIBITS THE RAT KIDNEY ENDOPLASMIC RETICULUM CALCIUM PUMP.** L. Moore. Department of Pharmacology, Uniformed Services University, Bethesda, MD. Sponsor: J.H. Wills.
- #1066 **GOLD-INDUCED POTENTIATION OF ACETAMINOPHEN (AAP) HEPATOTOXICITY IN RATS.** B.P. White, A.M. Blacker, G.P. Casale, and R.C. Schnell, Dept. Pharmacodynamics-Toxicology, Univ Neb Med Ctr. Omaha, NE 68105.
- #1067 **CLEARANCE OF SODIUM ORTHOVANADATE AND VANADIUM PENTOXIDE FROM RAT LUNG AFTER INTRATRACHEAL DEPOSITION.** S.J.S. Flora, R.P. Sharma, D.B. Drown and S.G. Oberg, Center for Environmental Toxicology, Utah State University, Logan, UT.
- #1068 **VANADIUM COMPOUNDS STIMULATE THE OXIDATION OF NADH IN THE PRESENCE OF THIOLS.** R.J. Keller, D.P. Briskin, R.A. Coulombe, Jr., and R.P. Sharma, Center for Environmental Toxicology, Utah State University, Logan, UT.
- #1069 **THE CLEARANCE OF MANGANESE CHLORIDE IN THE PRIMATE.** M.C. Newland, R. Hamada, G. Oberdorster, B. Weiss. University of Rochester, Division of Toxicology, Rochester, NY.
- #1070 **HOMEOSTATIC CONTROL OF MANGANESE EXCRETION IN THE NEONATAL RAT.** N. Ballatori and T.W. Clarkson. Liver Center, Yale Univ. School of Medicine, New Haven, CT, and Division of Toxicology, Univ. of Rochester School of Medicine, Rochester, NY.
- #1071 **EFFECT OF PLICTRAN ON CALCIUM PUMP ACTIVITY IN RAT HEART SARCOPLASMIC RETICULUM.** K.I.A. Sahib and D. Desai. Dept. of Neurology, Univ. Miss. Med. Ctr., Jackson, MS 39216.
- #1072 **INHIBITION OF METABOLIC COOPERATION BY METALS.** R. Loch-Carusio, I.A. Corcos and J.E. Trosko. Department of Pediatrics and Human Development, Michigan State University, East Lansing, MI.
- #1073 **DISTRIBUTION AND BIOCHEMICAL EFFECTS OF ALUMINUM CHLORIDE FOLLOWING IP ADMINISTRATION IN RATS.** E.H. Jeffery, H.T. Jansen, and J.A. Dellinger. University of Illinois, Department of Veterinary Biosciences, Urbana, IL.
- #1074 **DITHIOCARBAMATE SUPPRESSION OF CIS-PLATINUM NEPHROTOXICITY IN RATS.** M.M. Jones and M.A. Basinger. Department of Chemistry, Vanderbilt University, Nashville, TN 37235.
- #1075 **DIFFERENTIAL REACTIVITIES OF Pd(II), Pt(II) AND Rh(III) WITH LIVER ELECTRON TRANSPORT SYSTEMS.** G.W. Winston and R.D. Lingard. Institute for Environmental Studies and Department of Biochemistry, Louisiana State University, Baton Rouge, LA. Sponsor: C.R. Short.
- #1076 **EFFECT OF SELENIUM ON TOTAL HEPATIC GLYCOGEN CONTENT IN MALE RATS.** J.L. Early, N.T. Nanavati and T. Howell. Florida A&M University, College of Pharmacy and Pharmaceutical Sciences, Tallahassee, FL 32307. Sponsor: R.C. Schnell.
- #1077 **TUMORS IN RATS AT THE SITE OF IDENTIFICATION TAGS MADE OF NICKEL-COPPER ALLOY.** M.P. Waalkes, S. Rehm, K.S. Kasprzak, National Cancer Institute-FCRF, Frederick, MD, M.L. Wenk, M.S. Balaschak, D. Devor, Microbiological Associates, Bethesda, MD, and H.J. Issaq, Program Resources inc., Frederick, MD.
- #1078 **EVIDENCE FOR THE ABSENCE OF METALLOTHIONEIN IN THE RAT TESTES.** M.P. Waalkes, and A. Perantoni, National Cancer Institute-FCRF, Frederick, MD.
- #1079 **ROLE OF LIPID PEROXIDATION AND GLUTATHIONE DEPLETION IN THE HEPATOTOXICITY OF CADMIUM, VANADATE AND MERCURY IN MICE.** C.-P. Siegers, S.C. Sharma, and M. Younes. Institute of Toxicology, Medical University of Lubeck, FRG.
- #1080 **DIFFERENTIAL INDUCTION OF METALLOTHIONEIN-I (MT-I) AND METALLOTHIONEIN-II (MT-II) BY CADMIUM AND ZINC.** L.D. Lehman and C.D. Klaassen. Dept. Pharmacol., Toxicol. & Therap. Univ. Kansas Med.Ctr., Kansas City, KS.
- #1081 **EFFECT OF ZINC ON ACETAMINOPHEN BIOTRANSFORMATION IN MALE RATS.** A.M. Pour, M.H. Davis, A. Blacker, S.A. Weir, and R.C. Schnell, Dept. Pharmacodynamics-Toxicology, Univ. Neb. Med. Ctr., Omaha, NE 68105.

**THURSDAY AFTERNOON, MARCH 6**  
**French Market Exhibit Hall**

**POSTER SESSION 29: MOLECULAR/CELLULAR**

Chairman: R.S. H. Yang, NIEHS/NTP, Research Triangle Park, NC

Displayed: 1:30 p.m. - 4:30 p.m.

Attended: 1:30 p.m. - 3:00 p.m.

- #1083 **RESPONSE OF ISOLATED RENAL PROXIMAL TUBULES TO HYPOXIA/REOXYGENATION OR CHEMICALLY INDUCED OXIDATIVE STRESS.** N.M. Jackson, R.P. O'Connor, H.D. Humes. VA Med. Ctr. and Univ. of Mich., Ann Arbor, MI. Sponsor: R.B. Conolly.
- #1084 **PROTECTION AGAINST TERT-BUTYL HYDROPEROXIDE (TBH) INDUCED INJURY TO RENAL PROXIMAL TUBULE SEGMENTS (PTS) IN VITRO.** N.M. Jackson, R.P. O'Connor, H.D. Humes. VA Med. Ctr. and Univ. of Mich., Ann Arbor, MI. Sponsor: R.B. Conolly.
- #1085 **A MONOCLONAL ANTIBODY SPECIFIC FOR FULLY MATURE TYPE I PNEUMOCYTES IN THE BALB/C MOUSE.** J.A. Hotchkiss<sup>1</sup> and S.J. Kennel.<sup>2</sup> <sup>1</sup>Univ. Tenn.-Oak Ridge Grad. Sch. Biomed. Sci. and <sup>2</sup>Biol. Div., Oak Ridge National Laboratory, Oak Ridge, TN. Sponsor: J. Kao.
- #1086 **THE ROLE OF PHAGOCYTOSIS IN ALVEOLAR MACROPHAGE CHEMOTAXIS.** C.S. Wheeler and C.D. Garner. Biomedical Science Dept., General Motors Research Labs, Warren, MI. Sponsor: E.W. Lee.
- #1087 **THE EFFECT OF DIESEL PARTICULATE ON ALVEOLAR MACROPHAGE AND POLYMORPHONUCLEAR LEUKOCYTE CHEMOTAXIS.** C.S. Wheeler and C.D. Garner. Biomedical Science Dept., General Motors Research Labs, Warren, MI. Sponsor: E.W. Lee.
- #1088 **PNEUMOTOXIC EFFECTS OF METHYLCYCLOPENTADIENYL MANGANESE TRICARBONYL (MMT).** D.N. Cox and G.J. Traiger, Dept. of Pharm. and Tox., Univ. of Kansas, Lawrence, KS 66045.
- #1089 **BCNU-INDUCED TOXICITY IN ISOLATED PULMONARY TYPE II CELLS.** A.C. Smith, Y. Nakagawa, D.J. Reed and J.B. McMahon. Lab. Exp. Ther. & Metab., NCI, Bethesda, MD.
- #1090 **DNA STRAND BREAKS IN CULTURED PULMONARY ENDOTHELIAL CELLS INDUCED BY REACTIVE OXYGEN SPECIES.** R.L. Thies and A.P. Autor. UBC Pulmonary Res. Lab., Dept. of Pathology, University of British Columbia, Vancouver, B.C., V6T 1W5.
- #1091 **DEVELOPMENT OF INTERSTITIAL FIBROSIS IN PERIPHERAL LUNG ORGAN CULTURES. A COMPARISON BETWEEN MULTIPLE TEST ARTICLES AND TISSUE FROM DIFFERENT SPECIES.** M.E. Placke and G.L. Fisher. Battelle, Columbus, OH.
- #1092 **IMMUNOLOGICAL IDENTIFICATION OF CYTOCHROME P450 ISOZYMES WITHIN RAT LUNG.** E.B. Olson, Jr., I.M. Keith, N.M. Wilson, and C.R. Jefcoate. Environ. Tox. Cent. & Sch. of Vet. Med., Univ. of Wis., Madison, WI 53706. Sponsor: J.J. Hjelle.
- #1093 **SPECIES DIFFERENCES IN RELEASE OF MEDIATORS OF INFLAMMATION IN RESPONSE TO INHALED DIESEL EXHAUST.** R.F. Henderson, H.W. Leung, A.G. Harmsen, and R.O. McClellan. Lovelace Inhalation Toxicology Research Institute, Albuquerque, NM.
- #1094 **EFFECTS OF OZONE ON THE BIOSYNTHESIS OF ANTI-OXIDANT ENZYMES IN ESCHERICHIA COLI.** C. Whiteside and H.M. Hassan. North Carolina State University, Raleigh, NC. Sponsor: E. Hodgson.
- #1095 **BINDING OF 1,2-DIBROMOETHANE TO PLASMA MEMBRANE LIPIDS OF RAT LIVERS.** L.W. Chang, A.B. DeAngelo and M.A. Pereira. U.S. Environmental Protection Agency, Health Effects Research Laboratory, Cincinnati, OH.
- #1096 **1,1,1-TRIFLUOROPROPAN-2-ONES ARE POTENT INHIBITORS AND VALUABLE LIGANDS FOR THE AFFINITY PURIFICATION OF TOXICOLOGICALLY SIGNIFICANT ESTERASES.** Y.A.I. Abdel-Aal, M. Ashour, T. Hanzlik and B.D. Hammock. Departments of Entomology and Environmental Toxicology, University of California, Davis, CA.
- #1097 **FURTHER STUDIES ON THE MECHANISM OF CHLOROFORM STIMULATION OF RAT HEPATIC ORNITHINE DECARBOXYLASE (ODC).** R.E. Savage, Jr., C.W. Guion, A. B. DeAngelo, L. Chang, and R. Danner. U.S. Environmental Protection Agency, HERL, Cincinnati, OH.
- #1098 **METHYLXANTHINE TREATMENT AND ACTIVITY OF 2',5'-OLIGOADENYLATE SYNTHETASE IN RAT LIVER NUCLEI.** D.K. Liu and G.F. Owens, Dept. of Pharmacology, Pennsylvania State University College of Medicine, Hershey, PA 17033.
- #1099 **A NEW PROCEDURE FOR THE AFFINITY PURIFICATION OF CYTOSOLIC EPOXIDE HYDROLASE FROM MOUSE LIVER.** R.N. Wixtrom, M.H. Silva and B.D. Hammock. Depts. of Entomology & Environmental Toxicology, University of California, Davis, CA.
- #1100 **AFFINITY PURIFICATION OF CYTOSOLIC EPOXIDE HYDROLASE FROM HUMAN, NONHUMAN PRIMATE, RABBIT, AND RODENT LIVER.** M.H. Silva and B.D. Hammock. Depts. of Entomology and Environmental Toxicology, University of California, Davis, CA.
- #1101 **EFFECT OF AGE, SEX AND PCN TREATMENT ON DIGITOXIN METABOLISM AND TOXICITY IN RATS.** M.P. Arlotto, A.J. Sonderfan, M.M. McKinney and A. Parkinson. Department of Pharmacology, Toxicology & Therapeutics, Kansas University Medical Center, Kansas City, KS 66103.
- #1102 **IN VITRO EFFECTS OF HELENALIN AND ALANTOLACTONE ON MIXED FUNCTION OXIDASE ACTIVITIES.** D.E. Chapman, D.J. Holbrook, I.H. Hall and S.G. Chaney. Toxicology, Biochemistry, Medicinal Chem. Univ. of North Carolina, Chapel Hill, NC.
- #1103 **TESTOSTERONE HYDROXYLATION BY THE PCN-INDUCIBLE FORM OF RAT LIVER MICROSOMAL CYTOCHROME P-450.** A.J. Sonderfan, M.P. Arlotto, D.R. Dutton and A. Parkinson, Department of Pharmacology, Toxicology and Therapeutics, Kansas University Medical Center, Kansas City, KS 66103.
- #1104 **INDUCTION OF RAT LIVER CYTOCHROME P-450 ISOZYMES BY SUSTITUTED POLYCHLORINATED BENZENES AND BI-PHENYLS.** D. Dutton, S. Li<sup>a</sup>, M. Denomme<sup>a</sup>, B. Leece<sup>a</sup>, S. Safe<sup>b</sup> and A. Parkinson. Department of Pharmacology, Toxicology and Therapeutics, Kansas University Medical Center, Kansas City, KS 66103; <sup>a</sup>University of Guelph, Ontario, Canada, and <sup>b</sup>Texas A&M University, College Station, TX.
- #1105 **YEAST CYTOCHROME P-450 GENES.** T.R. Sutter, V.F. Kalb, C. Woods, C.R. Dey, J.C. Loper. Dept. of Envir. Hlth. and Dept. of Microbiol. and Molec. Genetics, Coll. Med., Univ. Cinti., Cincinnati, OH. Sponsor: C.C. Smith
- #1106 **2,3,7,8- + TETRACHLORODIBENZO-P-DIOXIN REDIRECTS ACTH STIMULATION OF BOVINE ADRENAL CORTICAL CELLS IN VITRO.** M.J. DiBartomeis, C. Williams and C.R. Jefcoate. Departmente of Pharmacology and Environmental Toxicology Center, University of Wisconsin Medical School, Madison, WI. Sponsor: R.E. Peterson.
- #1107 **EVIDENCE THAT HEXACHLOROBENZENE (HCB) INDUCES P-450d (RATS) AND P<sub>3</sub>-450 (C57BL/6 MICE) BY A MECHANISM NOT INVOLVING THE AH RECEPTOR.** P. Linko, T.A. Gasiewicz, H.N. Yeowell and J.A. Goldstein, NIEHS, Research Triangle Park, NC and <sup>1</sup>University of Rochester, Rochester, NY.



- #1108 **CYTOSKELETAL PERTURBATION INDUCED BY HERBICIDES 2,4-DICHLOROPHENOXYACETIC ACID (2,4-D) AND 2,4,5-TRICHLOROPHENOXYACETIC ACID (2,4,5-T).** W. Li, Y. Zhao, and I.N. Chou. Department of Microbiology, Boston University School of Medicine, Boston, MA. Sponsor: A.E. Rogers.
- #1109 **INHIBITION OF GLYCOSAMINOGLYCAN SULFATION AND INDUCTION OF DIFFERENTIATION IN HUMAN HL60 CELLS.** D. Carson, D. DeBord and C.S. Baxter. Univ. of Cincinnati Coll. of Med., Cincinnati, OH.
- #1110 **PROTECTIVE ROLE OF CELLULAR NON-PROTEIN SULFHYDRYLS AGAINST HELENALIN CYTOTOXICITY IN P-388 LYMPHOCYTIC LEUKEMIA CELLS.** G.B. Roberts, D.E. Chapman, I.H. Hall, S.G. Chaney, D.J. Holbrook. Toxicology, Biochemistry, Medicinal Chemistry, Univ. of North Carolina, Chapel Hill, NC.
- #1111 **ENHANCED CYTOTOXICITY OF MISONIDAZOLE IN HYPOXIC TUMOR CELLS.** L.C. Totman and K.A. Kennedy. Department of Pharmacology, George Washington University, Washington, DC. Sponsor: P. Mazel.
- #1112 **MACROMOLECULAR METABOLISM OF A DIFFERENTIATED KERATINOCYTE CULTURE SYSTEM FOLLOWING EXPOSURE TO SULFUR MUSTARD.** S. Zaman, R. Scavarelli, F.L. Vaughan and I.A. Bernstein. Toxicol. Program, Dept. Environ. Indust. Hlth, University of Michigan, Ann Arbor, MI.
- #1113 **MECHANISM OF ANTAGONIZING CYANIDE-INDUCED LETHALITY BY  $\alpha$ -KETOGLUTARIC ACID.** J.C. Norris, W.S. Utley, A.S. Hume. Dept. Pharmacol. & Toxicol., Univ. MS Med. Ctr., Jackson, MS 39216.
- #1114 **EVIDENCE FOR LOW-LEVEL DNA DAMAGE BY ACRYLONITRILE IN VIVO.** L.L. Hogy and F.P. Guengerich, Departments of Pharmacology and Biochemistry and Center in Molecular Toxicology, Vanderbilt University, Nashville, TN 37232.
- #1115 **COMPARISON OF ULTRAVIOLET INDUCED DNA DAMAGE AND REPAIR BY SUNLIGHT, SUNTAN BOOTH, AND GERMICIDAL LAMP.** J.R. Hincks and R.A. Coulombe, Jr., Center for Environmental Toxicology, Utah State University, Logan, UT.
- #1116 **DELTA-9-TETRAHYDROCANNABINOL ENHANCES HERPES SIMPLEX VIRUS TYPE 2 (HSV2) RELEASE *In Vitro*.** E.M. Mishkin, P.J. McNerney, and G.A. Cabral. Dept. of Microbiology and Immunology, Virginia Commonwealth University, Richmond, VA. Sponsor: A.E. Munson.
- #1117 **LIPOPROTEIN-MEDIATED UPTAKE AND TRANSPORT OF LIPOPHILIC XENOBIOTICS.** D. Busbee, R. Ziprin, J. Norman, R. Wilson, and S. Ragsdale. Division of Toxicology, College of Veterinary Medicine, Texas A&M University, and Veterinary Toxicology and Entomology Research Laboratory, USDA, College Station, TX. Sponsor: T.D. Phillips.
- #1118 **INCORPORATION OF ISOTOPES BY STRESS PROTEINS (SPs) AFTER DL-ISOPROTERENOL (IPR) AND SODIUM ARSENITE (NaAsO<sub>2</sub>) ADMINISTRATION IN SORTED NUCLEI.** J.F. Anson, J.L. Pipkin, W.G. Hinson, E.R. Burns\* and D.A. Casciano. National Center for Toxicological Research, Jefferson AR and \*University of Arkansas for Medical Sciences, Little Rock, AR. Sponsor: G.L. Wolff.
- #1119 **IMMUNOLOGICAL AND STRUCTURAL HOMOLOGIES OF NUCLEAR PROTEINS IN VARIOUS ORGANISMS INDUCED BY CHEMICAL AND ENVIRONMENTAL STRESS.** J.L. Pipkin, J.F. Anson, W.G. Hinson, D.A. Casciano and P.H. Duffy. National Center for Toxicological Research, Jefferson, AR. Sponsor: G.L. Wolff.
- #1119A **TISSUE SPECIFIC EXPRESSION OF RAT CYTOCHROME P-450b AND P-450e mRNAs.** C.J. Omiecinski. Department of Environmental Health, University of Washington, Seattle, WA 98195. Sponsor: S.D. Murphy.

**THURSDAY AFTERNOON, MARCH 6**  
**French Market Exhibit Hall**

## **POSTER SESSION 30: RISK ASSESSMENT/REGULATORY TOXICOLOGY**

**Chairman:** H.V. Levinsky, Pfizer Inc., Groton, CT

**Displayed:** 1:30 p.m. - 4:30 p.m.

**Attended:** 3:00 p.m. - 4:30 p.m.

- #1120 **COMMUNICATING RISK ASSESSMENT TO THE PUBLIC.** M.A. Kamrin, Center for Environmental Toxicology, Michigan State University, East Lansing, MI. Sponsor: L.J. Fischer.
- #1121 **A PROJECT ON TOXICOLOGICAL STUDIES OF CHEMICAL MIXTURES OF ENVIRONMENTAL CONCERN AT THE NATIONAL TOXICOLOGY PROGRAM.** R.S.H. Yang and E.J. Rauckman. National Toxicology Program, NIEHS, RTP, NC 27709.
- #1122 **TYPE 1 ERROR AND POWER OF THE LINEAR TREND TEST IN PROPORTIONS UNDER THE NATIONAL TOXICOLOGY PROGRAM'S MODIFIED PATHOLOGY PROTOCOL.** C.J. Portier, National Institute of Environmental Health Sciences, Research Triangle Park, NC. Sponsor: G.W. Lucier.
- #1123 **ONCODYNAMICS AND RISK ASSESSMENT OF ETHYLENE OXIDE.** R.P. Beliles and J.C. Parker, U.S. EPA, Washington, DC.
- #1124 **EPA'S DRINKING WATER HEALTH ADVISORY PROGRAM.** P.A. Fenner-Crisp and E.V. Ohanian. Office of Drinking Water (WH-550), U.S. Environmental Protection Agency, Washington, DC 20460.
- #1125 **SUBCHRONIC TOXICITY TESTING OF CHEMICALS IN SUPPORT OF THE RESOURCE CONSERVATION AND RECOVERY ACT.** B. Sonawane, R. Rubenstein, C. deRosa and M. Otto, United States Environmental Protection Agency, Washington, DC. Sponsor: C.A. Kimmel.
- #1126 **SUCCESSFUL DRUG DEVELOPMENT - THE ROLE OF INVESTIGATIVE TOXICOLOGY.** C.K. Atterwill, C.G. Brown, P. Johnson, G.B. Leslie. Smith Kline & French Research Ltd., Welwyn, UK.
- #1127 **CHEMICAL SCORING SYSTEM FOR HAZARD ASSESSMENT.** T.O'Bryan, \*R.H. Ross, and \*P.Y. Lu. Existing Chemicals Assessment Division, U.S. Environmental Protection Agency and \*Information Research and Analysis Section, Oak Ridge National Laboratory.
- #1128 **A COMPARATIVE ANALYSIS OF SHORT- AND LONG-TERM STUDIES OF PHARMACEUTICAL COMPOUNDS.** S.R. Walker, C.E. Lumley, Centre for Medicines Research, Carshalton, Surrey, England. Sponsor: D. Conning.
- #1129 **A EUROPEAN TOXICOLOGY DATABANK - THE ESTABLISHMENT AND POTENTIAL.** C.E. Lumley, S.R. Walker. Centre for Medicines Research, Carshalton, Surrey, England. Sponsor: D. Conning.
- #1130 **SELECTION CRITERIA AND PROCEDURES USED TO IDENTIFY CHEMICALS AND INFORMATIONAL SOURCES FOR THE HAZARDOUS SUBSTANCES DATA BANK (HSDB).** A.A. Wykes and V.W. Hudson. Toxicology Information Program, National Library of Medicine, Bethesda, MD.
- #1131 **PARAMETER ESTIMATION TECHNIQUES FOR PHYSIOLOGICALLY-BASED PHARMACOKINETIC (PB-PK) MODELS.** H.J. Clewell III, D.W. Quinn,\* and M.E. Andersen, AAMRL/THB, and \*AFIT/ENC, Wright-Patterson AFB, OH.
- #1132 **ALTERNATIVE APPROACHES TO MATHEMATICALLY ANALYZING THE BIOASSAY DATA FOR 2,3,7,8-TCDD.** R.L. Sielken<sup>1</sup>, F.W. Carlborg<sup>2</sup>, D.J. Paustenbach<sup>3</sup>, H.P. Shu<sup>3</sup>, F.J. Murray<sup>3</sup>. <sup>1</sup>Professor of Statistics, Texas A&M Univ., College Station, TX. <sup>2</sup>Statistical Consultant, St. Charles, IL. <sup>3</sup>Syntex (U.S.A.), Inc., Palo Alto, CA.
- #1133 **AN EXAMINATION OF CRITICAL ASSUMPTIONS IN HEALTH RISK ASSESSMENTS OF 2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN CONTAMINATED SOIL.** D.J. Paustenbach, H.P. Shu, F.J. Murray. Syntex (USA), Inc., Palo Alto, CA.

- #1134 **TETRACHLOROETHYLENE: METABOLISM AND PHARMACOKINETICS IMPLICATION FOR RISK ASSESSMENT.** J.C. Parker, C.W. Chen, and I.W.F. Davidson. U.S. Environmental Protection Agency, Washington, DC, and Bowman Gray School of Medicine, Winston Salem, NC. Sponsor: R.P. Beliles.
- #1135 **AN INDUSTRIAL EXAMPLE OF A HEALTH HAZARD DETERMINATION PROCEDURE.** K.M. Vetrano, K.D. Reece, D.R. Brown, and L.W. Smith. Northeastern University, Boston, MA and General Electric Company, Pittsfield, MA.
- #1136 **PREVENTION OF NEUROTOXICITY AT THE WORKPLACE.** R.M. Singer. Occupational Health Consulting, New York, NY.
- #1137 **EVALUATION OF A NEW APPROACH TO THE SAFETY ASSESSMENT OF BIOMATERIALS.** W.H. Benson and R.A. Stackhouse. Division of Pharmacology, Toxicology and Nuclear Pharmacy, School of Pharmacy, Northeast Louisiana University, Monroe, LA.

**THURSDAY AFTERNOON, MARCH 6**  
**French Market Exhibit Hall**

**POSTER SESSION 31: HEMATOLOGIC TOXICOLOGY**

Chairman: H. North-Root, Armour-Dial, Inc., Scottsdale, AZ

Displayed: 1:30 p.m. - 4:30 p.m.

Attended: 1:30 p.m. - 3:00 p.m.

- #1138 **DEVELOPMENT OF THE PLASMINOGEN AND ALPHA<sub>2</sub>-ANTI-PLASMIN ASSAYS FOR EVALUATING SYSTEMIC FIBRINOLYSIS IN THE DOG.** S. O'Brien, T. Sellers, J. Bloom and H. Lewis. Smith Kline & French Laboratories, Philadelphia, PA. Sponsor: W. Hewitt.
- #1139 **THE LABORATORY ASSESSMENT OF STREPTOKINASE- AND UROKINASE-INDUCED FIBRINOLYSIS IN THE DOG.** T. Sellers, S. O'Brien, C. Gunning, J. Bloom and H. Lewis. Smith Kline & French Laboratories, Philadelphia, PA. Sponsor: W. Hewitt.
- #1140 **13 WEEK TOXICITY STUDY OF 4-CHLORO-2-NITROANILINE ADMINISTERED ORALLY TO F344/N RATS AND B6C3F<sub>1</sub> MICE.** R. Irwin\*, R. Montali\*\*, L Uraih\*, A.G. Manus\*\*. (\*NIEHS/NTP Research Triangle Park, NC; (\*\*Litton Bionetics Inc., Rockville, MD. Sponsor: R. Chhabra.
- #1141 **DETERMINATION OF ERYTHROCYTE LIFE SPAN IN F-344, Wistar and Sprague-Dawley Rats using <sup>3</sup>H-Diisopropyl-Fluorophosphate (<sup>3</sup>H-DFP).** M.J. Dereanko, Allied Corporation, Morristown, NJ. Sponsor: W.E. Rinehart.
- #1142 **EFFECT OF HIGH DOSE, SHORT TERM ETHYLENE OXIDE (EO) EXPOSURE IN MICE.** D. Popp, S. Lock and R.A. Popp. Oak Ridge National Laboratory, Oak Ridge, TN 37831.
- #1143 **ALTERATIONS IN HEMATOPOETIC STEM CELL DEVELOPMENT IN MALE B6C3F<sub>1</sub> MICE FOLLOWING EXPOSURE TO 1,3-BUTADIENE (BD).** L.J. Leiderman, W.S. Stillman, R.S. Shah, W.H. Steinhagen and R.D. Irons, Chemical Industry Institute of Toxicology, R.T.P., NC 27709.
- #1144 **MACROCYTIC-MEGALOBlastic ANEMIA IN MALE B6C3F<sub>1</sub> MICE FOLLOWING CHRONIC EXPOSURE TO 1,3-BUTADIENE (BD).** R.D. Irons, C.N. Smith, W.S. Stillman, R.S. Shah, W.H. Steinhagen and L.J. Leiderman. Chemical Industry Institute of Toxicology, R.T.P., NC 27709.
- #1145 **EFFECT OF BENZENE EXPOSURE ON BONE MARROW PRECURSOR CELLS OF SPLENECTOMIZED MICE.** C. Valle-Paul and C.A. Snyder. NYU Med. Ctr., Dept. of Env. Med., New York, N.Y. 10016.
- #1146 **EFFECT OF LOW-LEVEL BENZENE EXPOSURE ON MURINE HEMOPOIETIC PRECURSOR CELLS.** A.M. Dempster and C.A. Snyder. NYU Med. Ctr., Dept. of Env. Med., New York, N.Y. 10016.
- #1147 **BENZENE METABOLITES INHIBITORY TO DNA SYNTHESIS IN MOUSE BONE MARROW CELLS IN VITRO.** E.W. Lee, C.D. Garner, J.T. Johnson. Biomedical Science Dept., General Motors Research Labs, Warren, MI.
- #1148 **FACTOR IX COMPLEX SAFETY EVALUATION STUDIES IN RATS & RABBITS.** B.S. Brar & L.C.K. Wong. Dept. of Drug Safety Evaluation, Revlon Health Care R&D, Tuckahoe, NY.
- #1149 **HYDROQUINONE SUPPRESSION OF BONE MARROW STROMAL CELL SUPPORTED HEMOPOIESIS IN VITRO IS ASSOCIATED WITH PROSTAGLANDIN E<sub>2</sub> (PGE<sub>2</sub>) PRODUCTION.** K. Gaido, D. Wierda. West Virginia Univ. Med. Ctr. Dept. Pharmacology/Toxicology. Morgantown, WV.
- #1150 **INDOMETHACIN PROTECTS AGAINST IN VIVO BENZENE INHIBITION OF STROMAL CELL FUNCTION.** D. Wierda and K. Gaido. West Virginia Univ. Med. Ctr. Dept. of Pharmacology/Toxicology. Morgantown, WV.

**FRIDAY MORNING, MARCH 7**

8:30 a.m. - 12 p.m.

Ballroom A-C

**SYMPOSIUM: CELL-TO-CELL COMMUNICATION: ITS REGULATION AND ROLE IN TOXIC INJURY**

Sponsored by SOT Mechanisms Specialty Section

Cochairmen: F. Welsch, CIIT, Research Triangle Park, NC

J.E. Trosko, Michigan State University College of Human Medicine, East Lansing, MI

**Ultrastructure and Molecular Analysis of Gap Junction Structure and Function.** B. Yancey, California Institute of Technology, Pasadena, CA

**Biochemical Analysis of the Role of Gap Junction Function.** E. Hertzberg, Baylor College of Medicine, Houston, TX

**Role of c-AMP and Gap Junction Regulation.** G. Dahl, University of Miami, Miami, FL

**Role of pH and Calcium in the Regulation of Gap Junctions.** D. Spray, Albert Einstein College of Medicine, New York, NY

**Oncogene Expression and Gap Junction Function.** J. Sheridan, University of Minnesota, Minneapolis, MN

**Potential Role of Gap Junctions in Teratogens.** F. Welsch

**Modulation of Gap Junction Function: A Possible Mechanism in Many Fields of Toxicology?** J.E. Trosko

**FRIDAY MORNING, MARCH 7**

**8:30 a.m. - 11:30 a.m.**

**Burgundy Room**

## **SYMPOSIUM: THE NTP TODAY: SELECTED ISSUES**

**Cochairmen:** E.E. McConnell, NIEHS, Research Triangle Park, NC  
J.E. Huff, NIEHS, Research Triangle Park, NC

**Response to and Integration of Recommendations of the Ad Hoc Panel on Carcinogenesis Testing and Evaluation.** E.E. McConnell

**Concepts of Long-Term Carcinogenesis Studies.** J.E. Huff

**Report of Alternative Species/Strains Workshops.** G.N. Rao, NIEHS, Research Triangle Park, NC

**Testing for Adverse Reproductive Effects of Chemicals—Male Reproduction.** B.A. Schwetz, NIEHS, Research Triangle Park, NC

**Testing for Adverse Reproductive Effects of Chemicals—Chernoff-Kavlock Test.** B. Hardin, NIOSH, Bethesda, MD

**The Role of Short-Term Tests in Identifying Chemical Carcinogens.** M.D. Shelby, NIEHS, Research Triangle Park, NC; D. Casciano, NCTR

**Statistical Issues in Carcinogenesis Studies.** J.K. Haseman, NIEHS, Research Triangle Park, NC

**FRIDAY MORNING, MARCH 7**

**8:30 a.m. - 12 p.m.**

**Poydras A**

## **PLATFORM SESSION: FOOD/DRUGS**

**Honorary Chairman:** V.A. Drill, SOT Founder and President 1972-1973

**Chairman:** M.J. McKenna, Warner-Lambert/Parke-Davis, Ann Arbor, MI

- #176 8:30 **COMPARATIVE TOXICOLOGY BETWEEN SIX ANTIHISTAMINES FROM 90-DAY SUBCHRONIC TOXICITY STUDIES.** W.T. Allaben, C. D. Jackson, and G. M. Cronin. National Center for Toxicological Research, Jefferson, AR.
- #177 8:45 **TOXICOLOGY AND EXPERIMENTAL THERAPEUTICS OF TETRAPLATIN (NSC 363812) INFUSIONS IN MICE.** S.D. Harrison, Jr., D.J. Dykes, H.D. Giles, J. Plowman,\* C.L. Litterst,\* and D.P. Griswold, Jr. Southern Research Institute, Birmingham, AL and \*Div. of Cancer Treatment, NCI, Bethesda, MD.
- #178 9:00 **AGE-RELATED SUSCEPTIBILITY TO DRUG-INDUCED ARTHROPATHY IN DOGS AND RABBITS.** T.A. Barbolt, B.A. Mayes, C. Romero-Ferret, and J. Legros. Sterling-Winthrop Research Institute, Rensselaer, NY and Dijon Research Centre, Dijon, France.
- #179 9:15 **CHRONIC ORAL SAFETY STUDY OF CELIPROLOL IN RATS.** L.C.K. Wong, C. Tompkins & B.J. Payne, Revlon Health Care, R&D, Tuckahoe, NY & Toxicity Res. Laboratories, Muskegon, MI.
- #180 9:30 **INTERSPECIES COMPARISON OF TIME COURSE, DOSE RESPONSE, AND MEDIATORS OF CHEMICALLY INDUCED SKIN IRRITATION.** E. Patrick and H.I. Maibach. Department of Dermatology, University of California, San Francisco, CA.
- #181 9:45 **INTRACELLULAR PIGMENTATION IN MICE AND RATS FOLLOWING LONG-TERM ORAL ADMINISTRATION OF CGS 7525A.** G. Batastini, E.T. Yau, J.D. Green, and V.M. Traina. Research Dept., Pharmaceuticals Div., CIBA-GEIGY Corporation, Summit, NJ.
- #182 10:00 **LONG-TERM TOXICITY PROFILE OF CGS 7525A, A POTENTIAL ANTIDEPRESSANT AGENT.** G. Batastini, E.T. Yau, J.D. Green, and V.M. Traina. Research Department, Pharmaceuticals Div., CIBA-GEIGY CORP., Summit, NJ.
- #183 10:15 **ASCORBIC ACID AND THE TOXICOLOGICAL AND BEHAVIORAL CONSEQUENCES OF ACUTE ALCOHOL CONSUMPTION IN MAN.** R.L. Susick, Jr. and V.G. Zannoni, Dept. of Pharmacology, University of Michigan, Ann Arbor, MI. Sponsor: A.P. Kulkarni.
- #184 10:30 **CHRONIC TOXICITY OF BROMOVINYLDIOXYURIDINE IN THE BEAGLE DOG.** C.P. Chengelis<sup>1</sup>, C. Port<sup>1</sup>, F. Kotsonis<sup>1</sup> and B.C. Dickie<sup>2</sup>. G.D. Searle Research & Development, Skokie, IL<sup>1</sup>, and Hazleton Laboratories America, Madison, WI<sup>2</sup>.
- #185 10:45 **ORAL TOXICOLOGIC EVALUATION OF THE NOOTROPIC, CI-911.** S.I. Gracon, C.J. DiFonzo, N.J. Barsoum, J. Fitzgerald, and J.M. Sturgess. Path. Exp. Tox. Dept., Warner-Lambert/Parke-Davis Pharm. Res., Mississauga, ON and Ann Arbor, MI.
- #186 11:00 **OXIDANT EFFECTS OF FLUOSOL DA-20® AND OXYGEN IN THE RAT LUNG.** A.J. DeLucia, R.G. Jones, R.V. Acuff, and J.R. Dunbar, III. East Tennessee St. University, Johnson City, TN 37614.
- #187 11:15 **EXAMINATION OF THE MECHANISM OF THYROID HYPERPLASIA IN RATS CAUSED BY A LEUKOTRIENE ANTAGONIST (L-649,923).** D.A. Eigenberg, J.E. Sanders, L.J. Bracht, L.S. Argenbright, W.R. Wang, and G.T. Miwa. Dept. of Safety Assessment and Animal Drug Metabolism, Merck Sharp & Dohme Research Laboratories, West Point, PA and Rahway, NJ. Sponsor: R.T. Robertson.
- #188 11:30 **EFFECT OF DIETARY BUTYLATED HYDROXYANISOLE (BHA) ON GLUTATHIONE-S-TRANSFERASE AND EPOXIDE HYDRATASE IN BEAGLE DOGS.** P.P. Sapienza, J. Stewart, G.J. Ikeda and J.O. Peggins, FDA, CFSAN, Division of Toxicology, Washington, DC. Sponsor: E. Miller.
- #189 11:45 **EFFECT OF LONG-TERM BUTYLATED HYDROXYANISOLE (BHA) FEEDING ON THE HEPATIC MIXED-FUNCTION OXIDASE SYSTEM IN BEAGLES.** J. Peggins, J. Stewart, G. Ikeda, and P. Sapienza, FDA, Beltsville, MD. Sponsor: E. Miller.

**FRIDAY MORNING, MARCH 7**

**8:30 a.m. - 12 p.m.**

**Poydras B**

## **PLATFORM SESSION: METALS**

**Honorary Chairman:** T.S. Miya, SOT President, 1979-1980

**Chairman:** R.P. Beliles, Oakton, VA

- #190 8:30 **THE ADVERSE EFFECTS OF LEAD IN CHILDREN AND ADULT POPULATIONS AT LOW BLOOD LEVELS (THE RATIONALE FOR ENVIRONMENTAL REGULATION).** W.L. Marcus, Foundation for Advancement in Science and Education, Los Angeles, CA. Sponsor: K. Khanna.
- #191 8:45 **LEAD, ZINC AND COPPER DECONTAMINATION DURING TREATMENT OF LEAD-POISONED CHILDREN WITH CALCIUM DISODIUM ETHYLENEDIAMINE TETRAACETATE (CaEDTA).** D.J. Thomas, and J.J. Chisolm, Jr. The Kennedy Institute, Baltimore, MD. Sponsor: J.M. Frazier.

- #192 9:00 **THE CELLULAR METABOLISM OF LEAD: EFFECTS OF CALCIOTROPIC HORMONES AND PHOSPHODIESTERASE INHIBITORS.** J.F. Rosen and J.G. Pounds. Albert Einstein College of Medicine, Bronx, NY, and Brookhaven National Laboratory, Upton, NY.
- #193 9:15 **MECHANISM OF REVERSAL OF LEAD (Pb) INHIBITION OF  $\delta$ -AMINOLEVULINIC ACID DEHYDRATASE (ALAD) BY PURIFIED KIDNEY Zn-METALLOTHIONEIN (MT).** P.L. Goering and B.A. Fowler, NIEHS, Research Triangle Park, NC.
- #194 9:30 **ALTERATION OF BIOCHEMICAL EFFECTS ASSOCIATED WITH LEAD INTOXICATION IN RATS BY DIETARY SUPPLEMENTATION OF THIAMINE.** S.J.S. Flora and R.P. Sharma, Center for Environmental Toxicology, Utah State University, Logan, UT.
- #195 9:45 **A PHYSIOLOGICAL MODEL OF LEAD KINETICS IN RATS.** E.J. O'Flaherty. University of Cincinnati College of Medicine, Cincinnati, OH.
- #196 10:00 **EFFECT OF ORAL LEAD ON THE VITAMIN D ENDOCRINE SYSTEM OF RABBITS.** D.P. Peterson and M.H. Bhattacharyya, Argonne National Laboratory, Argonne, IL. Sponsor: M.G. Cherian.
- #197 10:15 **TIME SEQUENCE OF INFLAMMATORY REACTION IN THE LUNG INDUCED BY CADMIUM COMPOUNDS. I: CELLULAR EVENTS AND EPITHELIAL PERMEABILITY.** G. Oberdoerster, G. Anderson, R.D. Mavis, N.L. Marcello, S.R. Drago. Div. of Toxicology, Univ. of Rochester, Rochester, NY.
- #198 10:30 **TIME SEQUENCE OF INFLAMMATORY REACTIONS IN THE LUNG INDUCED BY CADMIUM COMPOUNDS. II. PROTEASES IN LAVAGE.** G.L. Anderson, R.D. Mavis, and G. Oberdoerster. School of Biology, Georgia Institute of Technology, Atlanta, GA and Radiation Biology and Biophysics, Univ. of Rochester, Rochester, NY.
- #199 10:45 **PROTECTIVE EFFECTS OF DITHIOTHRETOLE, GLUTATHIONE AND CYSTEINE AGAINST CADMIUM AND METHYLMERCURY INHIBITION OF RAT BRAIN Na<sup>+</sup> PUMP ACTIVITY.** D. Desai, R. Ramamurthi and K.I.A. Sahib. Department of Neurology, Univ. Miss. Med. Center, Jackson, MS 39216.
- #200 11:00 **EFFECT OF ADRENALECTOMY AND CORTICOSTERONE ON THE HIPPOCAMPAL LESION PRODUCED BY TRIMETHYL TIN (TMT).** F.G. Bivins, L.W. Chang, D.W. Cockerill, J. Hardin and A. Hough. Departments of Pathology and Medicine, University of Arkansas for Medical Sciences, Little Rock, AR.
- #201 11:15 **MORPHOLOGICAL CHANGES IN THE MOUSE ADRENAL AND HIPPOCAMPUS FOLLOWING TRIMETHYL TIN (TMT) EXPOSURE.** D.W. Cockerill, L.W. Chang, F.G. Bivins, and A. Hough, Department of Pathology, Univ. of Arkansas for Medical Sciences, Little Rock, AR.
- #202 11:30 **EFFECTS OF METHYLMERCURY ON LYMPHOCYTE MICROTUBULES.** K.R. Reuhl, R.D. Graff, S. Bormann and D.L. Brown. Div. Biol. Sci., Nat. Res. Council, and \*Dept. Biology, Univ. Ottawa, Ottawa, Canada. Sponsor: J.G. Pounds.
- #203 11:45 **INFLUENCE OF METAL AND STRESS PRETREATMENT ON ACUTE CADMIUM TOXICITY.** K.N. Baer and W.H. Benson. Division of Pharmacology, Toxicology and Nuclear Pharmacy, School of Pharmacy, Northeast Louisiana University, Monroe, LA.

## FRIDAY MORNING, MARCH 7

### French Market Exhibit Hall

## POSTER SESSION 32: REPRODUCTIVE/TERATOLOGY II

**Cochairs:** D. Rodwell, WIL Research Labs, Inc., Ashland, OH  
C.E. Mendoza, Defense Research Establishment, Ralston, Canada

**Displayed:** 8:30 a.m. - 11:30 a.m.

**Attended:** 10:00 a.m. - 11:30 a.m.

- #1153 **ENDOCRINE EVENTS ASSOCIATED WITH ALTERED REPRODUCTIVE FUNCTION.** G.L. Rehnberg, J.F. Hein, K. McElroy, J.M. Goldman, and R.L. Cooper. Reproductive Toxicology Branch, DBD, HERL, EPA, Research Triangle Park, NC. Sponsor: N. Chernoff.
- #1154 **INFERTILITY AND PARTIAL RECOVERY AFTER A SINGLE EXPOSURE TO 1,3-DINITROBENZENE (DNB) IN THE MALE RAT.** S.D. Perreault<sup>1</sup>, R.E. Linder<sup>1</sup>, R. A. Hess<sup>2</sup>, and L.E. Strader<sup>2</sup>. U.S. E.P.A., HERL, DBD, Reproductive Toxicology Branch<sup>1</sup>, and Northrop Services Inc.<sup>2</sup>, Research Triangle Park, NC. Sponsor: N. Chernoff.
- #1155 **ALTERED RESPONSE TO A REPRODUCTIVE TOXIN IN THE AGING MALE RAT.** R.L. Cooper, J.M. Goldman, G.L. Rehnberg, J. Hein, W.K. McElroy. USEPA, HERL, DBD, Repr. Tox. Br., RTP, NC. Sponsor: N. Chernoff.
- #1156 **MODULATION OF ADENYLATE CYCLASE BY PHORBOL ESTERS IN ISOLATED SPERMATOGENIC CELL PLASMA MEMBRANE.** L. Beebe and D.A. Barsotti, Department of Pharmacology and Toxicology, Philadelphia College of Pharmacy and Science, Phila., PA. Sponsor: G.L. Lage.
- #1157 **COMPARATIVE CYTOTOXICITY OF 1,2-DIBROMO-3-CHLOROPROPANE (DBCP) AND PROPOSED METABOLITES TO ISOLATED SPERMATOCYTES.** G.E. Miller, P.J. Beattie, M.J. Welsh, and M.J. Brabec. Toxicology Program and the Dept. of Anatomy and Cell Biology, The University of Michigan, Ann Arbor, MI.
- #1158 **LEAD ACETATE INHIBITS GLUCOSE UTILIZATION IN SERTOLI CELLS AND LACTATE UTILIZATION IN GERM CELLS IN VITRO.** L.I. Batarseh, M.J. Welsh, M.J. Brabec. Toxicology Program and The Department of Anatomy and Cell Biology, The University of Michigan, Ann Arbor, MI.
- #1159 **METHOXYACETIC ACID STIMULATES CARBOHYDRATE METABOLISM BY SERTOLI CELL IN VITRO.** S. Pavitranon, M.J. Welsh, and M.J. Brabec. Program in Toxicology and Dept. of Cell Biology. The University of Michigan, Ann Arbor, MI 48109-2029.
- #1160 **BIOCHEMICAL RESPONSE OF PRIMARY RAT SERTOLI CELL CULTURES TO CADMIUM.** S.R. Clough, M.J. Welsh, and M.J. Brabec. Program in Toxicology, The University of Michigan, Ann Arbor, MI 48109.
- #1161 **THE EFFECTS OF 2,5-HEXANEDIONE (2,5-HD), ACRYLAMIDE (ACR), AND MONO-(2-ETHYLHEXYL) PHTHALATE (MEHP) ON SERTOLI CELL-ENRICHED CULTURES.** R.E. Chapin, T.J.B. Gray, S.L. Dutton, and J.C. Lamb, IV, National Toxicology Program, NIEHS, Box 12233, RTP, NC 27709 and \*BIBRA, Woodmansterne Rd., Carshaton, Surrey, SM5 and 4DS, England.
- #1162 **A COMPARATIVE STUDY OF ORNIDAZOLE AND METRONIDAZOLE ON FERTILITY, EPIDIDYMAL SPERM FUNCTION AND SPERMATOGENESIS IN RATS.** R.M. McClain and J.C. Downing. Department of Toxicology and Pathology, Hoffmann-La Roche Inc., Nutley, NJ 07110.
- #1163 **EFFECTS OF CEPHALOSPORIN ANTIBIOTICS ON SEXUAL DEVELOPMENT IN THE MALE RAT OFFSPRING.** L. Zolna, C. Johnson, T. Toscano, J. Manson and Y.J. Kang, Reproductive and Developmental Toxicology Department, Smith Kline and French Laboratories, Philadelphia, PA 19101. Sponsor: J.M. Manson.
- #1164 **THE MORPHOGENESIS AND ULTRASTRUCTURAL CHANGES OF THE TRI-O-CRESYL PHOSPHATE (TOCP)-INDUCED TESTICULAR LESION IN F344 RATS.** S.G. Somkuti, D. M. Lapadula, R.E. Chapin\*, J.C. Lamb, IV\*, and M.B. Abou-Donia. Duke Univ. Med. Ctr., Durham, NC, and \*Nat. Inst. of Env. Health Sci., RTP, NC.
- #1165 **TESTICULAR TOXICITY OF TRI-O-CRYSYL PHOSPHATE (TOCP) IN F344 RATS.** S.G. Somkuti, D.M. Lapadula, R.E. Chapin\*, J.C. Lamb, IV\*, and M. B. Abou-Donia. Duke Univ. Med. Ctr., Durham, NC, and \*Nat. Inst. of Env. Health Sci., RTP, NC.

- #1166 **THE EFFECT OF SELECTED CHEMICALS ON GLUTATHIONE (GSH) LEVELS.** G.C. Millner, J. Gandy, D. Casciano and R.D. Harbison. NCTR, Jefferson, AR and Div. of Inter. Toxicology, Univ. of Ark. for Med. Sciences, Little Rock, AR 72205.
- #1167 **ANGUIDINE-INDUCED CHANGES IN TESTICULAR FUNCTION AND STRUCTURE IN RATS.** B.H. Conner, M.W. Conner, A.E. Rogers, and P.M. Newberne. Massachusetts Institute of Technology, Cambridge, MA and Boston University School of Medicine, Boston, MA.
- #1168 **INHIBITION OF SPERM MITOCHONDRIAL ELECTRON TRANSPORT CHAIN ACTIVITY BY 1,2-DIBROMO-CHLOROPROPANE (DBCP).** A. Greenwell and R.L. Melnick. NIEHS, National Toxicology Program, Research Triangle Park, NC 27709. Sponsor: E.J. Rauckman.
- #1169 **HEPATIC PEROXISOME PROLIFERATION AND TESTICULAR TOXICITY OF DI(2-ETHYLHEXYL)PHTHALATE (DEHP) IN NEONATAL RATS AFTER DIRECT DOSING AND EXPOSURE TO DEHP VIA BREAST MILK.** L.A. Dostal, W.L. Jenkins, M.D. Ross, S.A. Stefanski, and B.A. Schwetz, National Toxicology Program, N.I.E.H.S., P.O. Box 12233, Research Triangle Park, NC 27709.
- #1170 **REDUCTION OF EPIDIDYMAL RESERVES ENHANCES THE DETECTION OF ETHOXYETHANOL-INDUCED SPERMATOTOXICITY.** M. Hurtt and H. Zenick. \*Dept. Environ. Hlth., Univ. Cincinnati and USEPA, Washington, DC.
- #1171 **SPERMATOGENIC STAGES ASSOCIATED WITH ACRYLAMIDE (ACR) INDUCED DOMINANT LETHALITY.** V.H. Sublet, M.K. Smith, J. Randall and H. Zenick\*. U.S. EPA, Cincinnati, OH; Washington, DC\*, Environmental Research and Testing, Inc., Cincinnati, OH.
- #1172 **REPRODUCTIVE TOXICITY OF TRICRESYL PHOSPHATE IN MALE RATS & MICE BY TWO DOSING ROUTES.** B.D. Carlton, R. Irwin, M. Hejtmancik, R. Deskin, M. Ryan, A.C. Peters. Battelle Columbus Labs, Columbus, OH, and NTP, Research Triangle Park, NC.
- #1173 **REPRODUCTIVE TOXICITY OF TRICRESYL PHOSPHATE IN LONG-EVANS RATS.** B.D. Carlton, P.B. Barlett, M.K. Smith. Battelle Columbus Laboratories, Columbus, OH and USEPA, HERL, Cincinnati, OH.
- #1174 **SINGLE GENERATION REPRODUCTION STUDY OF METHYL-T-BUTYL ETHER IN RATS.** R.W. Biles, R.E. Schroeder, C.Holdsworth. Exxon Corp., E. Millstone, NJ, Bio/dynamics, Inc., E. Millstone, NJ 08873; API, Washington, DC 20005. Sponsor: G.F. Egan.
- #1175 **REPRODUCTIVE TOXICITY OF DI-ETHYL PHTHALATE (DEHP), DI-N-BUTYL PHTHALATE (DBP), AND DI-N-HEXYL PHTHALATE (DHP) STUDIED BY A CONTINUOUS BREEDING PROTOCOL.** J.C. Lamb, IV, R.E. Chapin, J. Teague\*, A.D. Lawton\*\*, and J.R. Reel\*\*. National Toxicology Program, NIEHS, \*Program Resources, Inc. and \*\*Research Triangle Institute, Research Triangle Park, NC 27709.
- #1176 **REPRODUCTIVE TOXICITY OF METHOXYACETIC ACID (MAA) IN THE DRINKING WATER TO MOUSE BREEDING PAIRS.** J.D. George, J.R. Reel, C.B. Myers, A.D. Lawton, and J.C. Lamb, IV\*, Research Triangle Institute and \*National Toxicology Program, NIEHS, Research Triangle Park, NC 27709.
- #1177 **REPRODUCTIVE EFFECTS OF CHLORAMINE ADMINISTERED BY GAVAGE TO LONG-EVANS RATS.** B.D. Carlton, P.B. Barlett, M.K. Smith. Battelle Columbus Laboratories, Columbus, OH and USEPA, HERL, Cincinnati, OH.
- #1178 **GENERAL REPRODUCTION STUDY OF BUPRENEXR IN SPRAGUE-DAWLEY RATS.** M.L. Sutton, T.C. Graham and L.E. Van Petten. Pathology/Toxicology, Norwich Eaton Pharmaceuticals, Inc., Norwich, NY, a Procter & Gamble Company.
- #1179 **IRREVERSIBLE REPRODUCTIVE TOXICITY INDUCED BY DELTA-9-TETRAHYDROCANNABINOL (THC).** P.C. Chan, D.S. Goldman, C.A. Montgomery. NIEHS/NIH, RTP, NC 27709. Sponsor: R. Yang.
- #1180 **REPRODUCTIVE TOXICITY OF 7 GLYCOL ETHERS AND OXALIC ACID.** D.K. Gulati\*, L. Hommel-Barnes\*, M. Welch\*, K.B. Poonacha\*, and J.C. Lamb, IV†. \*Environmental Health Research and Testing, Inc., Lexington, KY, and †National Toxicology Program, NIEHS, Research Triangle Park, NC.
- #1181 **REPRODUCTIVE TOXICOLOGY ASSESSMENT OF PULSED ELECTROMAGNETIC FIELD EXPOSURE TO FEMALE RATS.** R. Filler, P. Vanatta, B. Robertson and W. Stith. Hazleton Laboratories America, Inc., Rockville, MD and America Medical Electronics, Dallas, TX.
- #1182 **ALTERATIONS IN REPRODUCTIVE DEVELOPMENT IN HAMSTERS INDUCED BY METHOXYCHLOR (M).** L.E. Gray, Jr., K. Gray, J. Ferrell, J. Ostby. USEPA, HERL, DBD, RTB, Research Triangle Park, NC. Sponsor: P.V. Shah.
- #1183 **INHIBITION OF THE DECIDUAL CELL RESPONSE OF THE FEMALE RAT BY METHOXYCHLOR.** A.M. Cummings. USEPA, HERL, DBD, RTB, Research Triangle Park, NC. Sponsor: N. Chernoff.
- #1184 **THE INFLUENCE OF METHOXYCHLOR (MXC) UPON THE HYPOTHALAMIC-PITUITARY REPRODUCTIVE AXIS.** J.M. Goldman, R.L. Cooper, G.L. Rehnberg, J. Hein, W. K. McElroy, L.E. Gray, Jr. USEPA, HERL, DBD, Repro. Tox. Branch, RTP, NC. Sponsor: N. Chernoff.
- #1185 **METHOXYCHLOR-INDUCED (M) ALTERATIONS OF REPRODUCTIVE DEVELOPMENT IN RATS.** L.E. Gray, Jr., K. Gray, J. Ferrell, J. Ostby. USEPA, HERL, DBD, RTB, Research Triangle Park, NC. Sponsor: P.V. Shah.
- #1186 **ETHYLENE OXIDE INDUCES DOMINANT LETHALS IN C57BL AND STERILITY IN SEC MALE MICE.** R.A. Popp, S.L. Niemann and S. Lock. Biology Division, Oak Ridge National Laboratory, Oak Ridge, TN 37831.
- #1187 **EFFECTS OF HIGH LINEAR ENERGY TRANSFER (LET) RADIATION ON DOMINANT LETHAL MUTATIONS ASSAYED IN MOUSE EMBRYOCULTURES.** D. Oudiz & L. Goldstein, Dept. Rad. Onc., Univ. of Calif., San Francisco. Sponsor: H. Zenick.
- #1188 **DOMINANT LETHAL EFFECTS OF SUBCHRONIC ACRYLAMIDE ADMINISTRATION IN THE MALE LONG-EVANS RAT.** M.K. Smith, H. Zenick\*, R.J. Preston, E.L. George, and R.E. Long\*\*. U.S. Environmental Protection Agency, Cincinnati, OH and \*Washington, DC, Oak Ridge National Laboratory, Oak Ridge, TN, Pathology Associates\*\*, Inc., Cincinnati, OH.
- #1189 **LONTREL® HERBICIDE: TWO-GENERATION DIETARY REPRODUCTION STUDY IN FISCHER-344 RATS.** F.K. Dietz, D.C. Mensik, G.C. Jersey and J.T. Young. Dow Chemical U.S.A., Freeport, TX. Sponsor: K.S. Rao.
- #1190 **TRIDIPHANE: TWO-GENERATION DIETARY REPRODUCTION STUDY IN FISCHER 344 RATS.** K.S.Rao, J.A. John, T.K. Jeffries, B.H. Scortichini and J.T. Young. Mammalian and Environmental Toxicology Research Laboratory, Dow Chemical U.S.A., Midland, MI 48674.
- #1191 **A TWO-GENERATION REPRODUCTION STUDY WITH FILARIBITS® PLUS IN BEAGLE DOGS.** D.E. Rodwell, J.M. Murphy†, M.D. Nemecek and E.J. Tasker, WIL Research Laboratories, Inc. Ashland, OH. †Norden Laboratories, Inc., Lincoln, NE.
- #1192 **ETHANOL ATTENUATION OF 2-METHOXYETHANOL (ME) TERATOGENICITY DOES NOT ALTER EMBRYONAL ACCUMULATION OF RADIOACTIVITY FROM ME (1,2-<sup>14</sup>C).** R.B. Sleet, J.A. John-Greene and F. Weisch. C.I.I.T., Research Triangle Park, NC.
- #1193 **IN VITRO EMBRYOTOXICITY OF SUMPWEED EXTRACTS DETERMINED VIA POSTIMPLANTATION RODENT EMBRYO CULTURE.** T. R. Irvin, M. Murphy, P.C. Mertes, J. Reagor, G.R. Bratton and A. Ray, Lab of Toxicology, Dept of Vet Anatomy, Texas A&M Univ and Texas Vet Diag Lab, Coll Sta, Texas.
- #1194 **GROWTH AND FETAL VIABILITY IN MICE EXPOSED TO HIGH CONCENTRATIONS OF ETHYLENE OXIDE (EtO).** S. Lock. Biology Division, Oak Ridge National Laboratory, Oak Ridge, TN.
- #1195 **INCREASE IN FETAL RESORPTION IN SPRAGUE-DAWLEY RATS TREATED WITH (O,O,S-TRIMETHYL PHOSPHOROTHIOATE OOS-TMP) ON GESTATION 8 AND 10 DAYS.** A. Koizumi and T. Imamura. Division of Toxicology and Physiology, University of California, Riverside, CA.
- #1196 **DELAYED IMPLANTATION INDUCED BY BUTYROPHENONE NEUROLEPTICS IN RATS.** S. Takayama, K. Mochida, and S. Harada. Daiichi Seiyaku Co., Ltd., Res. Inst. Tokyo, Japan.

**POSTER SESSION 33: GENERAL II**

**Chairman:** R.N. Roth, Atlantic Richfield Company, Los Angeles, CA

**Displayed:** 8:30 a.m. - 11:30 a.m.

**Attended:** 8:30 a.m. - 10:00 a.m.

- #1197 **COMPARATIVE FOURTEEN-DAY ORAL TOXICOLOGY STUDIES OF BUTYRALDEHYDE AND CROTONALDEHYDE IN F344 RATS AND B6C3F<sub>1</sub> MICE.** J.E. French, National Toxicology Program, NIEHS, RTP, NC. Sponsor: J. Bucher.
- #1198 **ORAL SUBACUTE TOXICITY OF AGE INHIBITOR EU-4867 IN BEAGLE DOGS.** R.A. Levin, T.C. Graham, M.L. Sutton, R.E. Nichols, and L.E. Van Petten. Drug Safety Assessment Dept., Norwich Eaton Pharmaceuticals, Inc., a Procter & Gamble Co., Norwich, NY 13815.
- #1200 **SUBCHRONIC TOXICITY OF CALCITRIOL IN RATS.** C.L. Yang, B. Buratto, J.P. Lewkowski, P.K. Cusick, D.R. Patterson and J.W. Kesterson, Abbott Labs., Abbott Park, IL.
- #1201 **ACUTE TOXICITY OF HELENALIN IN BDF<sub>1</sub> MICE.** D.E. Chapman, G.B. Roberts, A.A. Grippo, I.H. Hall, S.G. Chaney, J. Chang, D.J. Reynolds and D.J. Holbrook. Toxicology, Biochem., Med. Chem., Univ. of North Carolina, Chapel Hill, NC.
- #1202 **TUMOR PREVALENCE: TO PETO OR NOT TO PETO - THAT IS THE QUESTION.** A.K. Thakur, Hazleton Laboratories America, Inc., Vienna, VA. Sponsor: F.E. Reno.
- #1203 **ACUTE INTRAVENOUS TOXICITY OF CI-937, AN ANTHRAPHYRAZOLE ANTI-CANCER DRUG CANDIDATE.** D.G. Pegg, S.N. Kim. Warner-Lambert/Parke-Davis Pharm. Res., Ann Arbor, MI.
- #1204 **PRECHRONIC DOSE FEED TOXICITY STUDIES OF 4,4'-THIOBIS-(6-t-BUTYL-mCRESOL) IN RATS AND MICE.** C.A. Mansur, I.A. Muni, American Biogenics Corporation (ABC), Woburn, MA, 01801, and L.S. Birnbaum, NIEHS, Research Triangle Park, NC 27709.
- #1205 **IMPAIRED CLEARANCE, ELIMINATION AND METABOLISM OF PLASMA CHOLESTEROL ESTERS ASSOCIATED WITH HYPER-CHOLESTERMIA IN MICE FED CYCLOPROPENOID FATTY ACIDS.** J.P. Matlock, Exxon Corp. and J.E. Nixon, Oregon State University Sponsor: G.F. Egan.
- #1206 **ULTRASTRUCTURAL CHANGES IN RATS TREATED NEONATALLY WITH 6-MERCAPTOPYRIMIDINE.** A.A. Abraham<sup>1</sup>, B. Veronesi<sup>2</sup>, F.R. Alleva<sup>3</sup> and T. Balazs<sup>3</sup>, <sup>1</sup>GWU, Washington, DC. <sup>2</sup>EPA, Chapel Hill, NC. <sup>3</sup>FDA, Washington, DC.
- #1207 **CAPILLARY GC/QUADRUPOLE MASS SPECTROMETRIC APPLICATIONS FOR MULTI-MYCOTOXIN DETECTION.** B.A. Clement, N.D. Heidelbaugh, and T.D. Phillips. Veterinary Public Health, Texas A&M University, College Station, TX 77843.
- #1208 **SURVIVAL OF MURINE CARRIER ERYTHROCYTES IN VIVO.** P. Leung and J.L. Way. Dept. of Medical Pharmacology and Toxicology, Texas A&M University, College of Medicine, College Station, TX 77843.
- #1209 **THE ORAL SUBCHRONIC TOXICITY STUDY OF ORPANOXIN IN SPRAGUE-DAWLEY RATS.** R.A. Levin, M.L. Sutton, T.C. Graham, E.P. Denine, and L.E. Van Petten. Drug Safety Assessment Dept., Norwich Eaton Pharmaceuticals, Inc., a Procter & Gamble Co., Norwich, NY 13815.
- #1210 **CONTAMINATION IN RAT ORAL TOXICITY STUDIES: AN ASSESSMENT.** E.C. Joseph and R.J. Barrett, Toxicology Department, Smith Kline and French Research Ltd., The Frythe, Welwyn, Herts, AL6 9AR, UK. Sponsor: G.B. Leslie.
- #1211 **DETERMINATION OF 4-BROMO-METHYL-BENZOATE FOLLOWING CHROMIC ACID OXIDATION OF LIVER EXTRACTS FROM RATS TREATED WITH BRODIFACOU M OR BROMADIOLONE.** A.C. Ray, M.J. Murphy, M.D. DuVall, J.C. Reagor. Texas Veterinary Medical Diagnostic Laboratory, College Station, TX.
- #1212 **A THIRTEEN WEEK FEEDING STUDY ON DIISONONYL PHTHALATE (DINP) IN RATS.** M.G. Bird, R.W. Kaap, C.A. Keller\*, A.W. Lington. Exxon Corporation, Research and Environmental Health Division, East Millstone, NJ. \*Exxon Chemical Company, Linden, NJ.
- #1213 **DETERMINATION OF CYCLOPIAZONIC ACID IN SKELETAL MUSCLE BY HIGH PRESSURE LIQUID CHROMATOGRAPHY.** W.P. Norred, R.J. Cole and J.W. Dörner. Toxicology Unit, Russell Research Center, Athens, GA and National Peanut Lab, Dawson, GA, ARS/USDA.
- #1215 **GLYCOLIC ACID DETERMINATION BY HIGH PRESSURE LIQUID CHROMATOGRAPHY FOR DIAGNOSIS AND MANAGEMENT OF ETHYLENE GLYCOL INTOXICATION IN HUMANS.** T.P. Hewlett, A.J. Lauro, and K.E. McMartin. Louisiana Regional Poison Control Center and Department of Pharmacology, Section of Toxicology Louisiana State University Medical Center, Shreveport, LA and Emergency Department, Charity Hospital, New Orleans, LA.
- #1216 **PRELIMINARY INVESTIGATION OF THE TOXICITY OF PYRETHRUM EXTRACTS.** R.F. Ochillo, C.S. Tsai and K. Bui. Laboratories of Pharmacology and Toxicology. Xavier University of Louisiana, New Orleans, LA 70125.
- #1217 **AN IMPROVED "FLOATING SHEET" METHOD OF ULTRASTRUCTURAL PREPARATION OF CULTURED CELLS FOR TOXIC STUDIES.** J.R. Arnold, R.L. Harrison, R.M. Hysmith, P.J. Boor. Department of Pathology, Univ. of Texas Medical Branch, Galveston, TX. Sponsor: A.E. Ahmed.
- #1218 **SODIUM PENTOBARBITAL ADSORPTION BY SUPERCHAR, DARCO G-60, AND USP ACTIVATED CHARCOALS.** C.D. Curd, and J.J. Stewart, Dept. of Pharmacol. and Ther., Louisiana State University School of Medicine, Shreveport, LA Sponsor: J.E. Manno.
- #1219 **CHARACTERIZATION OF POTENTIALLY NEUROTOXIC EFFECTS USING AN IN VITRO HIPPOCAMPAL SLICE TEST BATTERY.** S.B. Fountain and T.J. Teyler. Department of Neurobiology, Northeastern Ohio Universities College of Medicine, Rootstown, OH 44272. Sponsor: Z. Annau.
- #1220 **EYE IRRITATION CLASSIFICATION BASED ON EARLY CORNEAL THICKNESS CHANGES.** R.L. Morgan, S.S. Sorenson, and T.R. Castles, Stauffer Chemical Company, Richmond, CA 94804.
- #1221 **SELF-ADMINISTRATION OF ACUTE ORAL DOSE BY MEAL-FEEDING RATS.** D.M. Larson, J.A. Botta, Jr., H.E. Munro, and L.W. Smith. TPS, Inc., Mt. Vernon, IN and General Electric Company, Pittsfield, MA.
- #1222 **LIPOGENESIS OF FRESHLY ISOLATED TYPE II CELLS AND PULMONARY ALVEOLAR MACROPHAGES.** K.C. Chen. Biomedical Science Dept., General Motors Research Labs, Warren, MI. Sponsor: E.W. Lee.
- #1223 **EFFECT OF MICROENCAPSULATION PROCESSES ON CHEMICALS FOR TOXICOLOGY STUDIES.** R.L. Ridlen, G.O. Kuhn, and D.W. Arneson, Midwest Research Institute, Kansas City, MO; and C.W. Jameson, National Toxicology Program, Research Triangle Park, NC. Sponsor: M. El-hawari.
- #1224 **EXPONENTIAL INTRAVENOUS INFUSIONS IN TOXICOLOGICAL STUDIES: ACHIEVING IDENTICAL SERUM DRUG CONCENTRATION PROFILES IN INDIVIDUALS WITH ALTERED PHARMACOKINETIC STATES.** L.P. Dix, D.L. Frazier, M. Cooperstein, and J.E. Riviere. Lab. Toxicokinetics, School of Veterinary Medicine and Toxicology Program, NC State University, Raleigh, NC.
- #1225 **A CORRELATIVE IN VITRO AND IN VIVO STUDY OF SKELETAL MUSCLE IRRITANCY.** M.F. Young, L.D. Trombetta, J.V. Saphia. Department of Pharmaceutical Sciences, St. John's University, Jamaica, NY.
- #1226 **DETERMINATION OF QUATERNARY AMMONIUM METABOLITES BY MASS SPECTROMETRIC ANALYSIS.** W.F. Pool, P.A. Crooks, R.J. Greathead\*, R. Parillo\*. College of Pharmacy and Graduate Center for Toxicology, University of Kentucky, Lexington, KY, \*Kratos Analytical, Ramsey, NJ. Sponsor: M. Vore.

- #1227 **A NOVEL IN VITRO CULTURE SYSTEM FOR CARDIOTOXIC (CDTX) DRUG SCREENING.** K.A. Bozak, R.T. Dorr, D.S. Alberts. University of Arizona, Tucson, AZ. Sponsor: I.G. Sipes.
- #1228 **SELECTED ORGAN PATHOLOGY FOLLOWING ACUTE STREPTOZOTOCIN IN GUINEA PIGS: MODIFICATION BY INSULIN THERAPY.** M.J. Schlosser, A.W. Bannon, and A.J. Verlangieri. Atherosclerosis Research Laboratories, Department of Pharmacology, School of Pharmacy, University of Mississippi, University, MS. Sponsor: W.L. Guess.
- #1229 **EXTRACTION AND ISOLATION BY HIGH PERFORMANCE LIQUID CHROMATOGRAPHY OF UROPORPHYRIN AND COPROPORPHYRIN ISOMERS FROM BIOLOGICAL TISSUES.** R.V. Reddy, W.R. Christenson and W.N. Piper. Univ. of Nebr. Med. Ctr., Omaha, NE.
- #1230 **EVALUATION OF TOXICITY OF FOUR SUPERABSORBENT LAMINATES WHEN EXPOSED TO THE VAGINAL MUCOSA OF RATS, RABBITS, AND SHEEP.** R.J. Staab, Tambrands, Inc., Palmer, MA; C.S. Auletta, R.F. McConnell, Bio/dynamics, Inc.
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**FRIDAY MORNING, MARCH 7**  
**French Market Exhibit Hall**

## **POSTER SESSION 34: HALOGENATED HYDROCARBONS**

Chairman: F.J. Koschier, CIBA-GEIGY Corporation, Ardsley, NY

Displayed: 8:30 a.m. - 11:30 a.m.

Attended: 10:00 a.m. - 11:30 a.m.

- #1235 **EFFECT OF HEXACHLOROBENZENE ON THE SPECIFIC BINDING OF 2,3,7,8-TCDD TO THE HEPATIC AH RECEPTOR.** M.E. Hahn, T.A. Gasiewicz, J.A. Goldstein\* and P. Linko\*. Div. of Toxicology, University of Rochester, Rochester, NY; and \*NIEHS, Research Triangle Park, NC.
- #1236 **EFFECT OF THYROID STATUS ON Ah RECEPTOR AND ENZYME INDUCIBILITY BY 2,3,7,8-TCDD IN RAT LIVER.** E.C. Henry and T.A. Gasiewicz, Div. of Toxicology, University of Rochester, Rochester, NY.
- #1237 **THYROID STATUS AND REACTION OF THYROXINE METABOLIZING ENZYMES IN TCDD TREATED RATS.** U.J. Rickenbaucher and J.D. McKinney, NIEHS, Research Triangle Park, NC. Sponsor: L.S. Birnbaum.
- #1238 **UPTAKE OF 2,3,7,8-TETRACHLORODIBENZO-p-DIOXIN (TCDD) FROM PLASMA LIPOPROTEINS BY CULTURED HUMAN FIBROBLASTS.** R.B. Shireman and C.I. Wei. Food Science and Human Nutrition Dept., Univ. of Florida, Gainesville, FL. Sponsor: L.O. Lim.
- #1239 **PATTERNS OF HEPATIC ENZYME ACTIVITIES FOLLOWING 2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD) TREATMENT IN THE RAT.** C.K. Kelling, L.A. Menahan, and R.E. Peterson, University of Wisconsin, Madison, WI.
- #1240 **EFFECTS OF 2,3,7,8-TETRACHLORODIBENZO-p-DIOXIN (TCDD) ON THE PLASMA CONCENTRATIONS OF PITUITARY HORMONES.** Robert W. Moore, Jonathan A. Parsons\*, Robert C. Bookstaff, and Richard E. Peterson, School of Pharmacy, Univ. of Wisconsin, Madison, WI 53706 and \*Dept. of Anatomy, Univ. of Minn., Minneapolis, MN 55455.
- #1241 **BINDING OF SUBSTITUTED DIBENZO-p-DIOXINS AND DIBENZOFURANS TO THE RAT CYTOSOLIC 2,3,7,8-TCDD RECEPTOR PROTEIN - A QSAR APPROACH.** S. Safe, T. Fujita, K. Homonko, M. Romkes, J. Piskorska-Pliszczynska and M.A. Denomme, Veterinary Physiology and Pharmacology, Texas A&M University, College Station, Texas 77843; Department of Chemistry, University of Guelph, Guelph Ontario, Canada; Department of Agricultural Chemistry, Kyoto University, Kyoto, Japan.
- #1242 **POLYCHLORINATED DIBENZO-p-DIOXINS: QUANTITATIVE STRUCTURE-ACTIVITY RELATIONSHIPS.** G. Mason, B. Keys, K. Farrell and S. Safe, Veterinary Physiology and Pharmacology, Texas A&M University, College Station, TX 77843.
- #1243 **BIOCHEMICAL AND TOXICOLOGICAL EFFECTS OF TCDD CONGENERS IN FEMALE RATS.** M.A. Shara and S.J. Stohs, University of Nebraska Medical Center, Omaha, NE
- #1244 **IN VITRO METABOLISM OF 2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD) BY HEPATOCYTES FROM C57BL/6J AND DBA/2J MICE.** E.S. Shen and J.R. Olson. Dept. of Pharmacology & Therapeutics, SUNY, Buffalo, NJ.
- #1245 **FATE OF 2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD) IN GUINEA PIGS.** J.R. Olson. Dept. of Pharmacology & Therapeutics, SUNY at Buffalo, NY.
- #1246 **AGE-RELATED CHANGES IN TCDD ABSORPTION.** C.D. Hebert and L.S. Birnbaum, Univ. of NC, Chapel Hill, NC and NIEHS, Research Triangle Park, NC.
- #1247 **DISPOSITION OF OCTACHLORODIBENZO-P-DIOXIN (OCDD) IN RATS.** L.S. Birnbaum and L.A. Couture. NIEHS, Research Triangle Park, NC.
- #1248 **ALTERED REGULATION OF EGG-RECEPTOR BY 2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD) IN INBRED STRAINS OF MICE.** B.V. Madhukar, D.W. Bombick, D. W. Brewster and F. Matsumura. Pesticide Res. Ctr., MSU, E. Lansing, MI.
- #1249 **EVALUATION OF EARLY RECEPTOR AND HISTOCHEMICAL CHANGES IN TCDD-PROMOTED HEPATOCARCINOGENESIS.** T. Goodrow, G. Sunahara, T. Sloop, G. Lucier and K. Nelson. NIEHS, Research Triangle Park, NC.
- #1250 **GLUCOSE METABOLISM IN TCDD-TREATED RATS.** L.W.D. Weber and K. Rozman. Dept. of Pharmacol., Toxicol. & Therap., Univ. of Kansas Med. Ctr., Kansas City, KS U.S.A. and Gesellschaft für Strahlen-und Umweltforschung mbH München, Neuherberg, Fed. Rep. Germany.
- #1251 **OXYGEN CONSUMPTION, CARBON DIOXIDE PRODUCTION AND THE RESPIRATORY QUOTIENT IN TCDD-TREATED RATS.** J. Muzi, J.R. Gorski and K. Rozman. Dept. of Pharmacol., Toxicol. & Therap., Univ. of Kansas Med. Ctr., Kansas City, KS, U.S.A. and Abt. für Toxikol., Gesellschaft für Strahlen- und Umweltforschung mbH München, Neuherberg, F.R.G.
- #1252 **PROTECTIVE EFFECT OF ALPHA-NAPHTHAFLAVONE ON TCDD-INDUCED IMMUNOSUPPRESSION.** J. Blank, A. Tucker, \*J. Sweatlock, and T. Gasiewicz. NIEHS, RTP, N.C., and \*University of Rochester, Rochester, NY.
- #1253 **INFLUENCE OF ISOPROTERENOL ON TENSION DEVELOPMENT AND RATE IN ATRIA ISOLATED FROM RATS TREATED WITH 2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD).** C.K. Kelling, L.A. Menahan, and R.E. Peterson, University of Wisconsin, Madison, WI.
- #1254 **TCDD, DIETARY IRON AND IRON DISTRIBUTION IN FEMALE RATS.** Z.A. Al-Bayati, S.J. Stohs and W.A. Al-Turk. College of Pharmacy, University of Nebraska Medical Center, Omaha, NE.

- #1255 **THE EFFECTS OF ALTERED RAT HEPATIC RECEPTOR LEVELS ON THE ENZYME INDUCTION ACTIVITIES OF TOXIC HALOAROMATICS:** B. Leece, M.A. Denomme, M.A. Li, R. Towner, C. Kamps, G. Mason and S. Safe, Department of Chemistry, University of Guelph, Guelph Ontario, Canada and Veterinary Physiology and Pharmacology, Texas A&M University, College Station, TX 77843.
- #1256 **HEXACHLOROBENZENE (HCB): DERMAL ABSORPTION IN MALE FISCHER 344 RATS.** A.K. Koizumi, M.D. Dryzga & J.M. Waechter, Jr. H&ES, Dow Chemical USA, Midland, MI. Sponsor: A.M. Schumann.
- #1257 **ACUTE, SUBACUTE AND SUBCHRONIC ORAL TOXICITY STUDIES OF 1, 1-DICHLOROETHANE (DCE) IN RATS.** S. Muralidhara, R. Ramanathan, C.E. Dallas and J.V. Bruckner. Department of Pharmacology and Toxicology, College of Pharmacy, University of Georgia, Athens, GA.
- #1258 **EFFECTS OF O-BENZYL-P-CHLOROPHENOL (BCP) ON PORPHYRIN EXCRETION IN F344 RATS.** M.J.W. Chang, M.R. Hejtmancik, A.C. Peters, and L.S. Birnbaum\* Battelle, Columbus, OH, and \*National Toxicology Program, RTR, NC.
- #1259 **THE EFFECT OF TETRATHAL® (TETRACHLOROPHTHALIC ANHYDRIDE) ON HEPATIC MICROSOMAL METABOLISM IN THE RAT AND MOUSE.** W.P. Ridley, J. Warren, and R.S. Nair, Monsanto Environ. Health Lab./Dept. Medicine and Environ. Health, St. Louis, MO. Sponsor: W.E. Ribelin.
- #1260 **SUB-CHRONIC TOXICITY STUDIES OF TRANS-1, 2-DICHLOROETHYLENE IN RATS.** D.A. McMillan and R.C. Schnell, Dept. of Pharmacodynamics and Toxicology, Univ. Neb. Med. Ctr., Omaha, NE 68105.
- #1261 **THE EFFECTS OF DICHLOROMETHANE EXPOSURE ON THE LUNGS AND LIVERS OF RATS AND MICE.** T. Green J.R. Foster, and P.M. Hext, Imperial Chemical Industries PLC, Central Toxicology Laboratory, Alderley Park, Macclesfield, Cheshire, SK10 4TJ, U.K. Sponsor: E.A. Lock.
- #1262 **PERCHLOROETHYLENE INDUCED HEPATIC PEROXISOME PROLIFERATION IN MICE AND RENAL HYALINE DROPLET FORMATION IN RATS.** T. Green, J. Odum, J.R. Foster, and P.M. Hext, Imperial Chemical Industries PLC, Central Toxicology Laboratory, Alderley Park, Macclesfield, Cheshire, SK10 4TJ, U.K. Sponsor: E.A. Lock.
- #1263 **CYTOGENETIC EFFECTS OF DIETARY TETRACHLOROAZOXY-BENZENE EXPOSURE TO MICE.** M.R. Bleavins, R.D. Hinsdill, M.T.S. Hsia, L.F. Meisner, and J. E. Wiley. General Motors Research Laboratories, Warren, MI; University of Wisconsin, Madison, WI; and East Carolina University, Greenville, NC.
- #1264 **TISSUE DISTRIBUTION OF PERFLUORO-N-DECANOIC ACID (PFDA) IN RATS.** M.E. George and M.E. Andersen, AAMRL/THB, Wright-Patterson AFB, OH.
- #1265 **PHYSIOLOGICAL AND HORMONAL CHANGES INDUCED IN THE MALE RAT BY PERFLUORO-N-DECANOIC ACID (PFDA).** M.J. Van Raefelghem\*, R.E. Keeseey+ and R.E. Peterson.\* \*School of Pharmacy and +Psychology Department, University of Wisconsin, Madison, WI.
- #1266 **THE EFFECT OF PERFLUORODECANOIC (PFDA) ON VITAMIN A HOMEOSTASIS IN RATS.** P.A. Bank, R.H. Powers and S.D. Aust, Department of Biochemistry and Center for Environmental Toxicology, Michigan State University, East Lansing, MI.
- #1267 **EFFECTS OF PERFLUORODECANOIC ACID (PFDA), TCDD AND RELATED COMPOUNDS ON VITAMIN A.** R.H. Powers, P.A. Bank and S.D. Aust, Department of Biochemistry and Center for Environmental Toxicology, Michigan State University, East Lansing, MI.
- #1268 **IMPAIRMENT OF CALCIUM HOMEOSTASIS BY HEXACHLOROBENZENE EXPOSURE IN FISCHER 344 RATS.** J.E. Andrews, K.D. Courtney,<sup>1</sup> and W.E. Donaldson.<sup>2</sup> <sup>1</sup>U.S.E.P.A., HERL, RTP, NC; <sup>2</sup>NCSU, Toxicology Program, Raleigh, NC.
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- #1270 **PURIFICATION AND CHARACTERIZATION OF THE DOG HEPATIC CYTOCHROME P-450 ISOZYME(S) RESPONSIBLE FOR THE METABOLISM OF 2,2',4,4',5,5'-HEXACHLOROBIPHENYL.** D.B. Duignan, J.R. Halpert, T.B. Leonard, and I.G. Sipes, Department of Pharmacology and Toxicology, College of Pharmacy, University of Arizona, Tucson, AZ, and Smith, Kline & French Labs., Philadelphia, PA.
- #1271 **COMPARISON OF IN VIVO AND IN VITRO METABOLISM OF 1,2,4,5-TETRACHLOROBENZENE IN THE DOG AND RAT.** E.E. Sikorski, R.G. Schnellmann, and I.G. Sipes, Dept. of Pharmacology and Toxicology, Col. of Pharmacy, University of Arizona, Tucson, AZ.
- #1272 **EFFECT OF NEONATALLY-ADMINISTERED AROCLOR 1254 ON HEPATIC MICROSOMAL TESTOSTERONE HYDROXYLASE ACTIVITY IN MALE ADULT RATS.** J.M. Haake, M. Romkes, M. Kelley, and S. Safe. Veterinary Physiology and Pharmacology, Texas A&M University, College Station, Texas 77843.
- #1273 **ARYL HYDROCARBON HYDROXYLASE INDUCTION BY TCDD CONTAMINATED SOILS FROM TIMES BEACH, MISSOURI, AND NEWARK, NEW JERSEY.** T.H. Umbreit, E.J. Hesse, and M.A. Gallo. University of Medicine and Dentistry of New Jersey, Rutgers Medical School, Busch Campus, Piscataway, New Jersey 08854.
- #1274 **COMPARATIVE TOXICITY OF TCDD CONTAMINATED SOILS FROM TIMES BEACH, MISSOURI, AND NEWARK, NEW JERSEY.** T.H. Umbreit, E.J. Hesse, and M.A. Gallo. Dept. of Environmental and Community Medicine, Univ. of Medicine and Dentistry of New Jersey, Rutgers Medical School, Busch Campus, Piscataway, NJ 08854.
- #1275 **ACUTE AND CHRONIC TOXICITY OF 2,3,7,8-TETRA-CHLORODIBENZO-P-DIOXIN (TCDD) IN MINK.** J.R. Hochstein, R.J. Aulerich, S.J. Bursian, and A.C. Napolitano. Dept. Animal Science and Center for Environmental Toxicology, Michigan State University, East Lansing, MI. Sponsor: D. Polin.
- #1276 **CONCENTRATIONS OF POLYCHLORINATED BIPHENYLS IN LACTATING COWS AND THEIR CALVES.** L.B. Willett, H.I. Durst, and T-T.Y. Liu. Ohio State University/Ohio Agricultural Research and Development Center, Wooster, Ohio 44691
- #1277 **NITROGEN (N) DEFICITS AND ALTERED GLUCOSE AND UREA METABOLISM IN AROCLOR 1254 (ARO)-TREATED RATS.** K.V. Ebner and W.E. Braselton. Dept. of Pharmacol./Toxicol., Mich. St. Univ., E. Lansing, MI. Sponsor: L.F. Fischer.



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(Council Liaison\*)

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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. Cranmer
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. Anderson
1985	.....	Alan R. Buckpitt

## Frank R. Blood

1974	.....	Yves Alarie
1975	.....	Donald J. Ecobichon G.J. Johnstone O. Hutzinger
1976	.....	Richard D. Brown
1977	.....	J. Dedinas George D. DiVincenzo C.J. Kaplan
1978	.....	Perry J. Gehring E.O. Madrid G.R. McGowan Philip G. Watanabe
1979	.....	R. Fradkin E.J. Ritter W.J. Scott James G. Wilson
1980	.....	Jerold A. Last Peter F. Moore Otto G. Raabe Brian K. Tarkington
1981	.....	Yves Alarie Martin Brady Christine Dixon Meryl Karol
1982	.....	Melvin E. Andersen Michael L. Gargas Lawrence J. Jenkins, Jr. Robert A. Jones
1983	.....	Henry D. Heck
1984	.....	Erik Dybing Sidney Nelson Erik Soderlund Christer Von Bahr
1985	.....	Nobumasa Imura Masae Inokawa Kyoko Miura

## Education

1975	.....	Harold C. Hodge
1976	.....	Ted A. Loomis
1977	.....	Robert B. Forney
1978	.....	No Award
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

## Arnold J. Lehman

1980	.....	Allan H. Conney
1981	.....	Gabriel L. Plaa
1982	.....	Gary M. Williams
1983	.....	David P. Rall
1984	.....	Tibor Balasz
1985	.....	Frederick Coulston

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1970	.....	Don D. Irish
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1973	.....	Herbert E. Stokinger
1974	.....	William B. Deichmann
1975	.....	Frederick Coulston
1976	.....	Verald K. Rowe
1977	.....	Harry W. Hays
1978	.....	Julius M. Coon
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1981	.....	John H. Weisburger
1982	.....	Harold M. Peck
1983	.....	Perry J. Gehring
1984	.....	Tom S. Miya
1985	.....	Carrol S. Weil

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1982	.....	Curtis D. Klaassen
1983	.....	Frederick P. Guengerich and R. Craig Schnell
1984	.....	Philip Guzelian
1985	.....	I. Glenn Sipes



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1980 ..... Anthony P. De Caprio  
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1984 ..... Philip Bartholomew  
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Allgood, G.S.	611	Baldwin, D.M.	584	Bhattacharyya,	196,434
Allmann, D.W.	785	Baldwin, R.C.	535	Bice, D.E.	683
Ally, A.I.	1057	Ball, D.J.	861	Bick, P.H.	667,668,669
Alm, P.	1026,1027	Ball, L.M.	1015	Bigelow, S.W.	117
Alsaker, R.	255	Ballantyne, B.	41,235,237,238,369,837, 917,959,1000	Biles, R.W.	365,1174
Alston, E.	900	Ballard, R.	1231	Billings, R.E.	3
Alvarez, L.	551	Ballatori, N.	639,1070	Bird, M.	1212
Amdur, M.O.	34,523,524,531	Balster, R.L.	869,870	Birge, W.J.	636
Amoruso, M.A.	13,100	Bank, P.A.	164,1266,1267	Birnbaum, L.S.	173,223,224,594,655,1246, 1247,1258
Andersen, M.E.	27,47,222,598,979,1046, 1048,1131,1264	Banner, W.	806	Bivins, F.G.	200,201
Anderson, C.W.	760	Bannister, R.	170	Bjeldanes, L.F.	1006
Anderson, D.	232	Bannon, A.W.	1228	Bjerkemo, M.	245
Anderson, G.	197,198	Baran, K.P.	748	Blacker, A.	586,587,1066,1081
Anderson, J.	125,282,500,729	Barbera, P.	674	Blackwell, B.N.	508
Anderson, L.D.	1232	Barbolt, T.A.	178	Blake, J.W.	510
Anderson, M.B.	124	Barker, S.A.	1013	Blanchard, F.A.	102
Anderson, P.	319,808	Barlett, P.B.	1173,1177	Blank, J.	1252
Anderson, R.J.	485	Barna-Lloyd, T.	87	Blanton, R.	667
Anderson, R.S.	536	Barnett, J.	696	Bleavins, M.R.	1263
Andress, J.M.	724	Barr, J.	478,479,480	Bloom, J.	256,1138,1139
Andrews, J.E.	1268	Barrett, R.J.	1210	Boekelheide, K.	763
Andrews, J.P.	748	Barron, M.G.	101	Bogdanffy, M.S.	217,585,952
Andrews, L.K.	500,729	Barsotti, D.A.	451,1156	Bombick, D.W.	165,1248
Angelo, M.J.	1045	Barsoum, N.J.	185,501	Bond, G.G.	556
Angle, C.R.	413,1082	Barton, S.L.	676	Bond, J.A.	141,223,224,225,227
Annau, Z.	78,873	Basinger, M.A.	1074	Bonkovsky, H.L.	162
Ansari, G.A.S.	613,614	Basting, L.A.	45,571	Book, S.A.	649
Anson, J.F.	1118,1119	Batarseh, L.	1158	Bookstaff, R.C.	1240
Anthony, D.C.	760	Batastini, G.G.	181,182	Boor, P.J.	808,826,1217
Antrim, L.	61	Bates, H.K.	352	Boorman, G.	307,727,1058
Anzueto, A.	207	Bates, W.	1034	Booth, N.H.	789
Aposhian, H.V.	1009,1010	Batham, P.	813	Boothe, A.D.	532
Aranyi, C.	226,262,664,674	Battor, J.	997	Borders, C.K.	367,554
Archuleta, D.C.	138	Baxter, C.S.	1109	Borghoff, S.J.	594
Arfman, A.E.	747	Beamand, J.A.	457,473	Bormann, S.	202
Argenbright, L.	187			Borzelleca, J.F.	470

Bosakowski, T.	20	Butler, E.G.	935	Chester, A.E.	787
Botta, J.A.	1221	Butler, W.H.	928	Chester, G.	93
Boudreau, J.	98	Butterworth, B.	916	Chhabra, R.	348,738,876
Bourcier, D.R.	6,85	Cabral, G.A.	1116	Chherawala, N.	766
Bourn, W.M.	97,886	Cadrin, M.	496	Chin, A.E.	842
Bowman, K.	705,975,976,977	Calabrese, E.J.	250	Chism, J.P.	628
Boyer, J.L.	639	Caldwell-Kenkel	405,491	Chisolm, J.J.	191
Boyes, W.K.	287,329	Callahan, B.G.	878	Chiu, T.	545,939
Boysen, B.G.	487,505	Callis, A.H.	265,537	Cholakis, J.M.	543
Bozak, K.	1227	Cameron, R.G.	56	Chou, I.N.	426,427,1108
Brabec, M.J.	1157,1158,1159,1160	Campbell, T.C.	19	Chow, C.K.	250
Bracht, L.J.	187	Campen, D.B.	18	Chow, E.	90
Bracken, W.	421,424	Camus, Ph.	773	Christenson, W.	342,750,1229
Bradfield, C.A.	1006	Canada, A.T.	250	Christian, M.S.	353,366
Bradley, S.G.	63,279,687	Cannon, D.J.	388	Christianson, K	1043
Bradley, W.G.	920	Canterbury, W.J	989	Chu, I.	328
Bradof, J.	262,674	Carhart, H.W.	646	Cieszlak, F.S.	331
Braitman, D.J.	768	Carlborg, F.W.	1132	Cifone, M.A.	905
Branham, W.S.	355,381,382	Carlson, G.P.	1049	Clark, G.	280,673
Branstetter, D.	758	Carlson, J.R.	12	Clark, M.J.	387
Brar, B.	283,661,824,958,1148	Carlton, B.D.	348,738,832,876,1172,1173,1177	Clark, S.	389
Braselton, W.E.	1277	Carlton, W.W.	726	Clarke, J.J.	155
Bratton, G.R.	416,1193	Caron, S.	716	Clarke, W.	544
Brauner, J.A.	62	Carpenter, R.L.	526,527	Clarkson, T.W.	443,1070
Breen, T.J.	658	Carraway, R.E.	790	Clay, R.J.	137
Brendel, K.	471,477,478,481,699,701,709	Carrington, C.D	779	Clayton, J.W.	541
Brewster, D.W.	163,165,1248	Carson, D.	1109	Clegg, D.	328
Briskin, D.P.	1068	Carson, S.	923	Clegg, E.D.	123
Bristol, D.W.	499	Carter, D.E.	480,1051,1052	Clement, B.A.	1207
Britt, S.G.	4	Carthage, P.	467	Clewell, H.J.	27,47,598,979,1131
Brodeur, J.	454,617,657,714	Carver, B.	363	Clonfero, E.	438,914
Brody, A.R.	146,301	Carver, M.P.	706,975,977	Clough, S.	1160
Broitman, S.A.	950	Casale, G.P.	1066	Coats, E.A.	1005
Bronaugh, R.L.	986	Casanova, M.	219,628	Cochrane, D.E.	790
Brooks, L.	452	Casciano, D.	1118,1119,1166	Cockerham, L.G.	790
Brown, C.	495,1126	Caspary, W.	312	Cockerill, D.W.	200,201
Brown, D.L.	202,496	Casper, A.G.	1232	Cockrell, B.Y.	226
Brown, D.R.	663,878,879,1135	Castles, T.R.	1220	Coffin, D.L.	23
Brown, E.M.	431	Cathers, L.E.	633	Coggins, C.	208
Brown, L.D.	483	Catignani, J.	261,278	Cohen, G.M.	998
Brown, P.I.	713	Cavagnaro, J.	70,255,896	Cohen, S.D.	314
Brown, R.	822,963,965	Cavanagh, D.G.	29,137	Cole, R.J.	812,1213
Brown, T.	472,705,707,900	Cerniglia, C.E.	902	Coleman, J.B.	470
Brown, W.E.	59	Chadwick, R.W.	595,1049	Coleman, J.H.	959
Browne, R.K.	997	Chakrabarti, S.	447,714,715,716,717,718,719,720,721,723	Colin, P.	447,447
Bruckner, J.V.	736,1257	Chambers, J.	796	Colley, J.	862A
Bruner, L.H.	283A	Chan, P.	1179	Collier, T.K.	641
Bruner, R.H.	659,694	Chan, R.L.	921	Collins, B.J.	300
Brzeznicka, E.	422,601	Chaney, S.G.	1102,1110,1201	Collins, J.J.	499,946
Buben, J.A.	615,616	Chang, C.M.	907	Collins, M.A.	925,926
Bucher, J.R.	303,307,308,309	Chang, J.	1201	Collins, P.	772
Budinsky, R.A.	1005	Chang, L.	200,201,293,1095,1097	Colotla, V.A.	888
Budzilovich, G.I	945	Chang, M.J.	1258	Combs, A.B.	725
Bugelski, P.J.	703	Chang, S-L	510	Condie, L.	351,470,733
Buhler, D.R.	52,104,641,643	Chapin, R.E.	539,1161,1164,1165,1175	Conner, B.H.	1167
Bui, K.	784	Chapman, D.E.	1102,1110,1201	Conner, M.W.	524,1167
Bull, R.J.	931,940,942	Chappel, C.I.	505	Connors, M.R.	79
Bumpus, J.A.	99	Charbonneau, M.	454	Conolly, R.B.	152,153,292,598,653,898,919
Bunner, D.L.	248,985	Charles, A.K.	118,119,794	Conway, J.G.	745
Burak, E.	625	Chasseaud, L.	1050A	Coogan, T.P.	899
Buratto, B.	247,1200	Chastain, J.E.	767	Cook, J.C.	691
Burbacher, T.M.	122	Chaturvedi, A.	325,999	Cook, L.L.	333,875
Burchiel, S.W.	676	Chau, R.	283,661,824,958	Cooke, N.	595
Burdock, G.A.	374	Cheever, K.L.	127,543,1043	Coombs, J.K.	139
Burger, G.T.	535	Chellman, G.J.	391,722	Cooper, G.	786
Burgess, B.A.	229	Chen, B.T.	655	Cooper, J.	373
Burka, L.T.	1011,1018	Chen, C.W.	1134	Cooper, K.O.	48
Burleigh-Flayer	211	Chen, H.C.	229,969	Cooper, K.R.	107,108,452,800
Burleson, G.	66,261,273,278	Chen, J.J.	355	Cooper, R.L.	1153,1155,1184
Burnett, D.	542	Chen, K.	1222	Cooperstein, M.	1224
Burnett, V.	692	Chen, L.C.	531	Copeland, M.	595,1049
Burns, E.R.	1118	Chen, R.	607A	Corcos, I.A.	1072
Bursian, S.J.	881,882,1269,1275	Cheng, H.M.	1012	Corsino, B.	537
Burt, D.G.	526	Cheng, Y.S.	224,227	Cory-Slechta, D	407
Bus, J.S.	390,391,692,693,722	Chengelis, C.P.	184,724	Cossum, P.	604
Busbee, D.L.	897,1117	Chepanonis, J.A	88	Costa, D.	35,206,244,303
Bushnell, P.J.	489,863,887	Cherian, M.G.	428	Costa, L.G.	775,776,1056
Buster, D.	829				

Costa, M.	1060,1061	DeLucia, A.J.	186	Dunnick, J.K.	230
Costlow, R.D.	337,338	Dement, J.M.	299	Durant, G.J.	472
Cote, I.L.	945	Demetruilas, J.	988	Durst, H.D.	783
Cote, M.G.	205,529,530	Dempsey, C.A.	853	Durst, H.I.	1276
Couch, R.C.	1016	Dempster, A.M.	1146	Dutcher, J.S.	223,224
Coulombe, P.	205,529,530	Denine, E.P.	747,1209	Dutton, D.	1103,1104
Coulombe, R.A.	81,82,498,788,1068,1115	Denomme, M.	1104,1241,1255	Dutton, S.L.	1161
Courtney, K.D.	1268	Dent, J.G.	451,591,742,1007,1008	DuVal, G.	408
Couture, L.A.	1247	Denton, R.R.	562	DuVall, M.D.	1211
Cowan, F.	782	DePass, L.R.	921,959	Dvergsten, C.L.	493
Cox, C.C.	889	Derelanko, M.	1141	Dybing, E.	14,629
Cox, D.N.	1088	Derks, M.C.	462	Dyer, R.S.	291
Cox, G.E.	968	deRosa, C.	1125	Dykes, D.J.	177
Cox, L.R.	807	Desaiah, D.	199,1071	Dziedzic, D.	277
Cox, M.	692,693	Descotes, J.	67	Eacho, P.I.	461
Cox, R.	70,374	Deshpande, A.	947	Early, J.L.	433,1076
Coyle, J.T.	768	Deskin, R.	264,832,880,1172	Earnest, D.	450
Craig, D.K.	335,553	Deslex, P.	811	Eastin, W.	943
Craig, J.C.	220	Dethloff, L.A.	540	Eastman, D.F.	922
Craig, P.H.	968	Dettbarn, W.D.	73	Eastmond, D.A.	2
Cramer, J.	898	Detweiler, D.K.	814	Eaton, D.L.	319,379,469,605,994,995
Cranmer, J.M.	388	Devens, B.H.	260	Ebner, K.V.	1277
Creasia, D.A.	248	Devor, D.	1077	Ebron, M.T.	384
Crocker, T.T.	33	Dewey, R.H.	1007	Eccles, E.U.	488
Crofton, K.M.	298,793,865	DeWit, R.H.	818	Eckardt, R.	570,1007,1008
Cronin, G.M.	176	Dexter, T.M.	998	Eden, R.J.	813
Crooks, P.A.	53,1002,1226	Dey, C.R.	1105	Edens, E.	24
Cruzan, G.	968,987	DiBartolomeis,	120,1106	Edens, F.	333,918
Cubberley, V.	740	Dickens, C.S.	263,670	Eells, J.T.	484
Cummings, A.M.	1183	Dickie, B.C.	184,506	Ehrich, M.	494,495
Curd, C.D.	1218	DiDonato, L.J.	338	Ehrreich, S.J.	817
Curtis, L.R.	121	Diederich, K.-W	819	Eigenberg, D.A.	187
Cusick, P.K.	1200	Dieter, M.P.	1058	Eisenbrandt, D.	293,332,662
Cyr, C.R.	94	Dietz, D.	401	El Dareer, S.M.	1024
Czarnecki, D.	1026,1027	Dietz, F.K.	1189	El-Awar, M.	320
Czarniak, R.	158	DiFonzo, C.J.	17,185,501	El-Feel, E.A.	76
D'Arcy, J.B.	140	Dills, R.L.	43,593,597,1003	El-hawari, M.	1026,1027,1028,1043
Dabbs, J.E.	702	Dinsmore, A.M.	127	Elcombe, C.R.	458,463,465
Daguillard, F.	69	Dinterman, R.E.	985	Eling, T.E.	514
Dahl, A.R.	223,225	DiRenzo, A.	471	Ellakkani, M.A.	559A
Dahl, J.E.	14	DiVincenzo, G.D	656,1019,1025	Ellefson, D.D.	317,323,678
Dahlstrom-King,	714	Dix, L.	705,706,975,976,1224	Ellington, S.P.	993
Dallas, C.E.	218,736,1257	Dixon, D.	737	Elliott, C.	568
Dalvi, D.R.	577	DiZio, S.M.	161	Ellison, G.D.	871
Daly, Ira W.	143	Doane, P.	114	Elmore, E.	148
Dames, B.	810,848	Dobbs, D.W.	267,973	Elsayed, N.M.	36
Dammers, K.D.	831	Dodd, D.C.	811	ElSisi, A.E.	450
Daniel, F.B.	127	Dodd, D.E.	41,130,235,237,357,660,837	Elstein, K.H.	519
Dankovic, D.	3,835	Doherty, J.D.	770	Emerson, J.L.	505
Danner, R.	1050,1097	Doherty, R.	445	Engel, D.W.	635
Darr, R.W.	267,552,973	Dolce, K.	592	Engelhardt, J.A	726
Dasenbrock, C.	546	Dold, K.M.	691	England, P.J.	935
Dashiell, O.L.	970	Donaldson, W.E.	1268	Enloe, P.V.	367,554
Daston, G.P.	730	Donnelly, K.C.	151	Enriquez, P.M.	1019
Daughtrey, W.C.	365	Donoghue, E.T.	896	Epstein, D.M.	649
Dauterman, W.C.	602,665	Doolittle, D.	895	Erickson, D.A.	644
Davidovich, A.	831	Dorner, J.W.	812,1213	Erker, E.F.	448,734
Davidson, I.W.F	1134	Dorr, R.T.	1227	Esber, H.J.	746
Davies, H.W.	4	Dostal, L.A.	599,1169	Esch, R.K.	156
Davies, M.H.	588,861,1081	Dougherty, W.	740	Eshleman, A.	643
Davis, B.D.	406	Downing, J.C.	1162	Eskin, T.A.	286
Davis, C.S.	780	Drago, S.R.	197	Esterline, R.L.	753
Davis, G.J.	467	Drees, D.T.	997	Eurell, T.	694,732A
Davis, M.E.	650	Drew, R.T.	143,212,214	Eustis, S.L.	214
Davis, R.A.	756,757	Driscoll, K.E.	144,512	Evans, B.L.B.	264
de la Iglesia,	236,371,803	Drown, D.B.	637,1067	Evans, H.L.	489,863,887
Dean, J.	268,675,676	Droy, B.F.	894	Evans, J.G.	455,456,838,925,926,928
DeAngelo, A.B.	459,1095,1097	Drozdowicz, B.	532	Evans, M.	482,861
Deardorff, T.L.	103	Dryzga, M.D.	1256	Evans, M.G.	927
Dearlove, G.E.	353	Dudek, B.R.	554	Evans, T.C.	122
DeBaecke, P.J.	827,860	Dudley, R.E.	247,850	Eveland, J.	482
DeBord, D.	1109	Duffy, P.H.	1119	Everett, D.J.	511
Decad, G.M.	904	Duignan, D.B.	1270	Everett, R.M.	229,283
DeCaprio, A.P.	761	Dulinski, J.	257	Exon, J.H.	274,275,276,932
Decarie, S.	717	Dumas, M.	242	Eyraud, A.	67
Deisinger, P.J.	656	Dunaif, G.E.	19	Faiman, M.D.	520
DeLapp, L.G.	1020	Dunbar, J.R.	186	Fairchild, E.J.	218
Dellinger, J.A.	321,1073	Dunn, B.J.	267,836,973,974,1062	Falahee, K.J.	857

Fan, A.M.	509,649	Gale, K.C.	591	Goyal, R.M.	617
Fancher, R.M.	1036	Galen, D.	871	Gracon, S.	185,501
Fantel, A.G.	385	Gallo, M.A.	45,108,166,452,571,1273,1274	Graefe, J.F.	863,887
Fara, J.W.	1232	Gan, J.C.	614	Graepel, G.J.	939
Farnell, D.	944	Gandolfi, A.J.	265,471,477,478,481,699,701,709	Graff, R.D.	202
Farrell, K.	171,1242	Gandy, J.	1166	Graham, D.G.	760
Farrish, H.	7,8	Ganey, P.E.	249	Graham, J.A.	66,273,303
Faustman-Watts,	379,383	Gangal, S.	310	Graham, T.C.	1178,1198,1209
Fechter, L.	296	Gangolli, S.D.	456,457,473,731,732,858,925,926	Graichen, M.E.	439
Federowicz, D.A	592,625	Ganjam, V.K.	431	Grant, D.	838
Feldstein, M.S.	571	Gardner, J.P.	906	Grasse, L.	1038
Feng, Y-P.	482	Gargas, M.L.	27,47,598,1046	Grauer, G.F.	1040,1041
Fenner-Crisp, P	1124	Garman, R.H.	41,369,959	Gray, J.A.	363
Fenters, J.	674	Garner, C.D.	1086,1087,1147	Gray, K.	1182,1185
Ferguson, J.	302,304	Garst, J.E.	11	Gray, L.E.	363,364,1182,1184,1185
Fernando, J.C.	72	Garvey, L.K.	745,930	Gray, T.J.B.	455,456,457,473,1161
Ferrell, J.	1182,1185	Garvin, P.J.	57,847,956	Grayson, M.H.	672
Feuer, G.	17,56	Gasiewicz, T.	1107,1235,1236,1252	Greathead, R.J.	1226
Fiala, E.S.	158	Gauthier, T.	428	Green, C.E.	702
Field, W.E.	505	Gavigan, F.A.	836	Green, F.H.Y.	145
Figueroa, I.C.	803	Gaworski, C.L.	222	Green, J.	181,182,815,823,923
Filion, P.R.	205,529,530	Gaylor, D.W.	508	Green, T.	1047,1261,1262
Filler, R.	1181	Gearhart, J.M.	144,521	Greene, K.	10,603
Fincher, R.F.	676	Gee, S.J.	829	Greening, M.	910
Finkelstein, J.	288,289,440,443	Geerling, S.	354	Greenlee, W.F.	691
Finley, B.L.	46	Geissler, F.	379	Greenman, D.L.	345,502
Firriolo, J.M.	538	Genter, M.B.	760	Greenwell, A.	173,1168
Fisher, G.D.	341	George, C.J.	755	Gregus, Z.	444,596,607
Fisher, G.L.	264,1091	George, E.L.	358,1188	Greim, H.	833
Fisher, H.L.	982,983,984	George, J.D.	359,1176	Gretz, M.D.	859
Fisher, L.C.	369	George, M.E.	979,1264	Grice, H.C.	506
Fisher, R.	477,478,481	George, W.J.	124,281,755,1037	Griehaber, C.K	849,849
Fishman, B.	797	Gerges, S.	370,961	Griffin, D.	913
Fitzgerald, J.	185,335,818	Gerhart, J.M.	847	Griffis, L.C.	335
Fitzgerald, S.	206,244,303	Gerling, I.	820	Grimm, S.W.	541
Fleischhacker,	281,687A	Germansky, M.	624	Grippio, A.A.	1201
Flood, W.H.	524	Germolec, D.R.	280,311,673	Grissom, R.E.	981
Flora, S.	194,1067	Gersich, F.M.	102	Griswold, D.P.	177
Flowers, L.J.	548	Ghanayem, B.I.	759,1011	Grizzle, T.	74
Flynn, B.A.	828	Giachelli, C.M.	404A	Grose, E.C.	142,213
Fogelson, L.	272	Giamalva, D.H.	909	Gross, E.A.	215,216,217
Folkers, K.	725	Gianutsos, G.	797	Gross, W.B.	494
Force, L.	495	Gibbons, R.B.	956	Grossman, S.L.	809
Ford, G.P.	455,838	Gibbs, L.S.	243	Gruenke, L.D.	220
Forney, R.B.	769,1033	Giddens, W.E.	228,230	Guarino, A.	103
Foss, J.A.	294	Gilbert, S.G.	1029	Guba, J.	283
Foster, J.R.	1261,1262	Giles, H.D.	177	Guengerich, F.P	631,1114
Fouant, M.M.	279	Gill, M.W.	79	Guerrero, F.	900
Fountain, S.B.	1219	Gill, S.S.	575,576,606,672	Guest, D.	656
Fourleman, G.L.	603	Gillette, J.R.	10,607A	Guion, C.W.	1097
Fournier, M.	257	Gilmore, L.B.	539,540	Gulati, D.K.	1180
Fowler, B.A.	193,408,409,635,728	Gingell, R.	1030	Gunning, C.	1139
Fowler, E.H.	130,235,959	Giordano, C.	1019	Gupta, B.N.	307,308,309
Fowler, M.R.	853	Glass, S.J.	560	Gupta, K.C.	40
Fox, D.A.	284,285	Godin, C.S.	1002	Gupta, R.C.	73
Fox, J.A.	1025	Goehl, T.J.	300	Gupta, R.P.	550
Foxworthy, P.S.	461	Goering, P.L.	193,408,409,728	Gurley, L.R.	559
France, K.A.	357,369	Gokhale, R.D.	85	Gurman, J.L.	233,558
Francis, B.M.	320	Golberg, L.	532	Guth, D.J.	251
Francovitch, R.	281,528,755	Goldenthal, E.	236,371,749	Guthenburg, C.	599
Fraser, J.	996	Goldey, E.	891	Guthrie, F.E.	665,981
Frazier, D.	705,706,1224	Goldman, D.S.	1179	Gutshall, D.M.	347
Frazier, J.M.	425	Goldman, J.M.	1153,1155,1184	Gutshall, L.L.	536
Freeberg, F.E.	957	Goldman, M.	71	Guzelian, P.S.	49
French, J.E.	1058,1197	Goldstein, B.D.	13,100,618	Guzzle, P.J.	917
Freudenthal, R.	314	Goldstein, J.A.	901,1107,1235	Haake, J.M.	1272
Fricke, R.F.	468,569,741	Goldstein, R.S.	700	Haasch, M.L.	642,645
Friedman, M.	387,514,756,757	Gollapudi, B.B.	160	Haase, K.	44
Fu, R.C.	1233	Goodman, J.I.	954	Haber, S.B.	212,214
Fugmann, R.	674	Goodrich, M.S.	644	Haberman, P.	711
Fujita, T.	770,1241	Goodrow, T.	1249	Haddon, W.F.	912
Fuller, L.B.	66,273	Gordon, B.M.	839,841	Hadley, W.M.	676
Fullerton, F.R.	345	Gordon, C.J.	333	Hagan, J.V.	535
Furlong, B.B.	901	Gorgacz, E.J.	748	Haggerty, G.	832,842,876,880
Gabriel, K.L.	971	Gorski, J.R.	349,1251	Hahn, F.F.	515,525,526,527
Gad, S.C.	267,552,836,973,974,1062	Gorzinski, S.J.	331	Hahn, M.E.	1235
Gaido, K.	1149,1150	Gould, D.H.	966	Halder, C.A.	847
Gairola, C.	547	Gould, E.	635	Haley, D.M.	783

Haley, M.V.	783	Hertzberg, V.	389	Hudson, V.W.	1130
Hall, I.H.	1102,1110,1201	Hess, E.V.	1005	Hudson, L.D.	534
Hall, J.W.	978	Hess, R.A.	1154	Huff, J.E.	28
Hall, L.	982,983,984	Hesse, E.J.	571,1273,1274	Hufford, K.R.	960
Hall, L.B.	307	Hetnarski, H.	627	Hughes, B.J.	259
Halleck, N.M.	697	Hewitt, L.A.	453	Hughes, M.	951
Halpert, J.R.	1270	Hewitt, W.R.	703,704,742	Hughey, D.	874
Hamada, R.	1069	Hewlett, T.	1215	Huie, J.M.	81,788
Hamilton, P.B.	825,846	Hext, P.M.	1261,1262	Hume, A.S.	533,1113
Hamilton-Koch,	154	Heyman, I.A.	921	Humes, H.D.	1083,1084
Hamm, T.E.	930	Hiatt, G.F.	30	Humphreys, J.E.	522
Hammock, B.D.	336,829,1096,1096,1099,1100	Hicks, J.S.	91	Hurt, S.S.	337,338
Hampton, J.D.	790	Higgins, M.J.	133	Hurt, M.	1170
Hanke, D.W.	75	Higgins, R.	71	Huseman, C.A.	1082
Hanley, T.R.	129	Higuchi, M.	21,1044	Huxtable, R.J.	806
Hanna, A.	707	Hilaski, R.J.	542	Hwang, K.	997
Hansen, K.	389	Hildreth, B.P.	622	Hysmith, R.M.	826,1217
Hanson, A.L.	839,841	Hiles, R.A.	974	Iatropoulos, M.	834
Hanson, R.L.	526,527	Hill, B.H.	59	Ikeda, G.	188,189
Hanzlik, R.P.	615,616	Hill, D.L.	1024	Ikegwuonu, F.I.	157
Hanzlik, T.	1096	Hill, D.M.	595	Illing, J.W.	142
Haque, S.	8	Hill, L.H.	146,301	Imamura, T.	260,316,317,322,323,567, 671,677,678,679,680,1195
Harada, S.	1196	Hillebrand, J.A.	58,266	Imlay, M.M.	139
Harbison, R.D.	126,1166	Hincks, J.R.	498,1115	Impelman, D.	285
Hardin, J.	200	Hinderer, R.K.	207	Infurna, R.	368
Harding, T.H.	290	Hine, C.H.	30	Inoue, T.	949
Hardisty, J.	142	Hines, D.	548	Inskeep, P.	631
Hardy, M.L.	754,1013	Hinsdill, R.D.	1263	Irons, R.D.	21,1143,1144
Hare, M.F.	786	Hinson, W.G.	1118,1119	Irvin, T.R.	151,386
Harleman, J.H.	15,813	Hinton, D.E.	105,106,894	Irving, D.	402
Harmsen, A.G.	683,1093	Hiraga, K.	739	Irwin, R.	762,832,880,1140,1172
Harrington, F.	173	Hirose, M.	949	Ison, J.R.	294
Harrington, R.M.	350,351	Hirshfield, D.	227	Issenberg, P.	947
Harris, C.	385	Hixson, C.	542	Iszard, M.B.	433
Harris, M.	306	Hjelle, J.J.	589,1040,1041	Ito, N.	949
Harris, T.M.	631	Ho, I.K.	72,83	Iverson, F.	174
Harrison, R.L.	1217	Hobbs, C.H.	526,527	Iwamoto, E.T.	864
Harrison, S.D.	177	Hobbs, E.J.	232	Jackson, C.D.	176
Haschek-Hock, W	519	Hoberman, A.M.	353	Jackson, M.	1015
Hasegawa, L.	316,322,323,567	Hobson, D.W.	373,659,694,695,732A,1023	Jackson, N.M.	1083,1084
Haseman, J.K.	28	Hochstein, J.R.	313,1275	Jacobs, A.C.	857
Haskins, E.	306	Hochwalt, A.	945	Jacobs, A.J.	440
Hass, B.S.	150	Hodder, K.D.	457,473	Jacobsen, J.A.	1040
Hassan, H.M.	1094	Hodgson, E.	572,573,579,1032	Jagannath, D.R.	921
Hastings, K.	268	Hodgson, J.R.	838	Jamall, I.	624,801
Hastings, L.	358	Hoerr, F.J.	980	Jamall, I.S.	420
Hatch, G.	918	Hoffman, G.	552,1062	James, R.C.	126
Hatch, G.E.	32,517	Hoffmann, S.H.	553	Jameson, C.W.	300,1058,1223
Hatch, G.G.	24	Hogy, L.L.	1114	Janigro, D.A.	1056
Hatherill, J.R.	283A	Holbrook, D.J.	1102,1110,1201	Jansen, H.T.	1073
Hatoum, N.S.	57,847,956	Holdsworth, C.E	226,1174	Jarpe, M.A.	683
Haviland, D.L.	677	Holeski, C.J.	605,994	Jaskot, R.H.	142,213
Hayes, A.W.	726	Holliday, T.L.	105	Jayasekara, M.U	729,818
Hayes, T.J.	830	Holmes, P.A.	924	Jayasekara, S.	637
Hayton, W.L.	101	Holmquist, B.	245	Jefcoate, C.R.	1092,1106
Hazelette, J.R.	315	Holsapple, M.P.	63,64,666,686,687	Jeffcoat, R.	1021
Hazelton, G.A.	601	Holson, R.	798	Jeffery, E.H.	1073
Heath, J.E.	499	Hommel-Barnes,	1180	Jeffries, T.K.	1190
Hebert, C.D.	1246	Homonko, K.	1241	Jenkins, W.L.	1169
Heck, H.d'A.	219	Hood, R.D.	356,1053	Jensen, C.B.	619
Heflich, R.H.	150	Hook, G.E.R.	539,540,550	Jensen, K.F.	497
Heidelbaugh, N.	1207	Hook, J.B.	700	Jensen, R.K.	937,938
Heikkila, R.E.	791	Hooper, M.J.	89	Jepson, G.W.	222
Hein, J.	1153,1155,1184	Hopkins, D.L.	102	Jersey, G.C.	87,1189
Heinrich, U.	25,546	Horstman, D.H.	31	Jetten, A.M.	550
Hejtmancik, M.	727,832,880,943,1172,1258	Horton, V.L.	1044	Ji, S.	110,113,346,751,752,753
Helgren, M.C.	850	Hoskins, B.	72,83	Jimmerson, V.R.	782
Henck, J.W.	376	Hostetler, K.A.	49	Jin, X.P.	963
Henderson, J.	71	Hotchkiss, J.A.	1085	Johannsen, F.R.	696,749
Henderson, M.C.	643	Hottendorf, G.H	580	John, J.A.	1190
Henderson, R.A.	520	Hough, A.	200,201	John-Greene, J.	360,1192
Henderson, R.F.	223,224,225,515, 525,655,1093	House, R.V.	675	Johnson, C.	1163
Hengler, W.C.	917	Howard, M.L.	534	Johnson, D.E.	696,844,845
Henre, B.A.	1041	Howard, W.B.	377	Johnson, D.W.	783
Henry, E.C.	1236	Howell, S.R.	593,1003	Johnson, E.S.	850
Herr, D.W.	892	Howell, T.	1076	Johnson, G.A.	133
Herren-Freund,	941	Hsia, M.T.S.	907,1263	Johnson, G.L.	817
		Hsieh, D.P.H.	632,862		

Johnson, J.T.	140,1147	Kenneally, J.B.	998	Kreamer, B.L.	907
Johnson, K.A.	331	Kennedy, G.L.	969,970,971	Krieger, D.	651
Johnson, K.W.	64,684,687	Kennedy, K.A.	1111	Krieger, R.I.	651
Johnson, N.F.	252,253	Kennel, S.J.	1085	Krigman, M.R.	405,490,491,1055
Johnson, P.	1126	Kennick, B.	564	Krishna, G.	460
Johnson, W.D.	504	Keohane, D.J.	1008	Kroll, D.J.	439
Jolicoeur, P.	257	Kerkvliet, N.	62	Kroll, R.	620
Jollow, D.J.	619,622	Kershaw, W.C.	451,1036	Kropko, M.L.	911
Jone, C.	936	Kesterson, J.W.	1200	Kropscott, B.E.	331
Jones, C.L.	356	Keys, B.	1242	Krzystyniak, K.	257
Jones, K.W.	839,840,841	Khan, P.	108	Ku, W.W.	964
Jones, M.	169,1074	Khatib, S.A.	785	Kubic, S.L.	920
Jones, R.G.	186	Kilgore, W.W.	341	Kuhn, G.O.	1223
Jones, R.K.	141	Killinger, J.M.	314	Kulkarni, A.P.	581,582
Jones, S.L.	40	Kim, B.S.	666	Kuntz, D.J.	325,999
Jorge, J.	741	Kim, H.J.	736	Kupferberg, H.J.	406
Jortner, B.S.	495	Kim, H.L.	623,852,897	Kurihara, N.	770
Joseph, E.C.	813,1210	Kim, K.Y.	583	Kurtz, P.J.	348,876
Joseph, G.L.	1008	Kim, S.N.	729,803,1203	Kwiatek, W.	839
Joseph, X.	817	Kim, S.Y.	795	Kyle, M.E.	1004
Joshi, U.M.	242	Kimmel, C.A.	359,361,362,816	LaBorde, J.B.	352
Joyave, J.L.	980	Kimmel, G.L.	816	Lage, G.L.	451,704,1036
Juchau, M.R.	385	Kimmerle, G.	130,357,372	LaGory, K.E.	891
Kado, N.Y.	632	Kindt, M.V.	791	Lake, B.G.	455,456,457,473,838,925,926,928
Kahn, C.	592	King, A.G.	682	Lal, J.B.	127
Kalb, V.F.	1105	King, J.W.	842	Lam, C-W.	219
Kalbfleisch, J.	1278	King, L.C.	1015	Lam, H.F.	34,523
Kalin, J.R.	1024	King, M.E.	35,38	Lamb, J.C.	499,1161,1164,1165,1175,1176,1180
Kallman, M.J.	884	Kinkead, E.R.	856	Lamb, R.C.	470
Kalman, D.A.	994	Kinney, L.A.	229	Lambrecht, R.W.	162
Kamat, S.R.	310	Kinsler, S.	579	Lame, M.W.	574,1038
Kaminski, N.E.	665,684	Kirby, A.W.	290	Lamm, S.H.	648
Kaminsky, L.S.	996	Kirby, Z.	383	Landi, M.	592
Kaminsky, M.	972	Kirkpatrick, D.	254	Landis, W.G.	783
Kamps, C.	1255	Kirkpatrick, J.	765,766	Landreth, K.S.	682
Kamrin, M.A.	1120	Kisby, G.E.	84	Landry, T.D.	331
Kane, W.W.	337	Kish, P.	795	Langley, A.E.	347
Kanerva, R.L.	698	Kishore, V.	1064	Lapadula, D.M.	762,764,1164,1165
Kang, Y.J.	900,1163	Kiss, E.	159	Lariviere, D.M.	746
Kao, J.	978	Kissman, H.M.	1199	Larrieu, A.J.	805
Kao, L.-R.	626,627	Kjellstrand, P.	245	Larson, D.M.	1221
Kapeghian, J.C.	823	Klaassen, C.D.	43,421,422,423,424,444,	Lasinski, E.	923
Kaphalia, B.S.	613		593,596,597,601,607,1003,1080	Laska, D.A.	580
Kaplan, A.M.	366,372,547	Klaunig, J.E.	459,929,933,934	Laskey, J.W.	344
Kaplan, H.L.	207	Kleeman, J.M.	640	Laskin, D.	113,752
Kapp, R.W.	1212	Kleinow, K.M.	642,645	Laskin, J.D.	166,948
Kappas, A.	446	Kling, D.S.	608	Last, J.A.	251
Kari, F.W.	944	Klinkner, A.	703	Latriano, L.	618
Karol, M.H.	58,59,60,266,310,557,559A	Klonne, D.R.	231,237	Lau, S.S.	9,10
Kasprzak, K.	1059,1077	Kloss, M.W.	693	Lauer, L.D.	675
Kastello, M.D.	849,849	Kluwe, W.M.	221	Laukaran, V.H.	507
Katz, B.	871	Knisely, J.S.	869,870	Laurie, D.	492
Katz, S.P.	687A	Knittweis, L.	256	Laurie, R.D.	733,890,891,931,940,942
Kaufman, M.	296	Ko, J.H.	583	Lauro, A.J.	1215
Kaur, S.	576,606	Kocsis, J.J.	1004	LaVelle, J.M.	149,154
Kavlock, R.J.	363,384	Koga, N.	631	Lawrie, N.J.	100
Kawabata, T.T.	686A	Kogut, A.M.	882	Laws, S.D.	344
Kaylor, G.	775	Koizumi, A.	316,317,322,323,567,1195,1256	Lawson, L.D.	685
Keane, M.J.	915	Kolesar, G.B.	232	Lawton, A.D.	1175,1176
Kechane, D.J.	1007	Koller, L.D.	274,276,932	Lawton, M.P.	336
Kedzierski, B.	52	Kononen, D.W.	313	Leach, C.L.	57,847,956
Keenan, C.M.	551	Koren, H.	32	Leach, J.F.	794
Keesey, R.E.	1265	Kornbrust, D.	401	Leahy, H.F.	222
Kehoe, K.	965	Koros, A.	60	Leamons, M.L.	355,382
Kehrer, J.P.	610,621	Kostyniak, P.J.	442	Leary, J.B.	335
Kehrl, H.R.	31	Kotkoskie, L.	1003	Lech, J.J.	104,642,644,645
Keith, I.M.	1092	Kotsonis, F.	184	Ledoux, T.A.	362
Kellen, J.A.	17	Kotsonis, F.N.	724,814	Lee, E.W.	1147
Keller, C.A.	1212	Kovach, R.M.	543	Lee, F.C.	583
Keller, D.A.	549	Koviak, T.	782	Lee, J.S.	583
Keller, R.J.	1068	Kozlen, S.L.	456	Lee, L.H.	659,1023
Kelley, M.	170,1272	Krack, G.	471,476,477	Lee, Y.C.	534
Kelling, C.K.	1239,1253	Kramer, C.M.	686	Leece, B.	1104,1255
Kellner, T.	71	Kramer, R.A.	603	Leedle, R.A.	111
Kelly, D.P.	551	Kramer, W.G.	1030	Legros, J.	178
Kemp, J.	778	Kraus, A.L.	51	Lehman, L.D.	422,423,1080
Kempainen, B.W.	980	Krautter, G.R.	366	Lehmann, J.R.	206,244

Lehnert, B.E.	136,138,204,555,559	Lotti, M.	86	Matheson, S.	476,479
Lehning, E.	1269	Loury, D.J.	916	Matlock, J.P.	1205
Leiderman, L.J.	1143,1144	Lovan, T.	785	Matson, C.	989
Lemasters, G.K.	389	Loveless, S.E.	969	Matsumura, F.	163,165,1248
Leonard, T.B.	439,451,570,591,742,1008,1270	Lovett, G.W.	971	Matthews, H.B.	759,1018,1021
Leong, B.K.	139	Low, L.K.	987	Mattie, D.R.	694
Lerman, S.A.	955	Lowther, D.K.	40	Mattox, J.	1050
Lertora, J.J.L.	1037	Lu, P.Y.	1127	Mattsson, J.L.	293,341A
Leslie, G.	1126	Lubet, R.A.	159	Mauderly, J.L.	223
Leung, H.W.	1093	Lucier, G.	175,655,1249	Mauil, E.A.	354
Leung, K.H.	630	Luebke, R.W.	272,685	Mavis, R.D.	197,198,254
Leung, N.	260,671	Lui, E.M.K.	400	May, M.A.	1046
Leung, P.	1208	Luker, C.W.	1040	Mayes, B.A.	178
Levesque, P.C.	441	Lumley, C.E.	1128,1129	Mayes, M.A.	102
Levi, P.E.	572,573	Lupo, S.	472	Mayhew, D.A.	367,554
Levin, A.	590	Luster, M.	280,311,673,1058	McCarthy, J.F.	531
Levin, B.C.	233,558	Lutz, M.F.	337	McCartney, M.	1234
Levin, E.D.	871	Lyerly, D.	74	McCarvill, J.	159
Levin, R.A.	748,1198,1209	Lynch, J.J.	286	McCay, J.A.	688
Levinskas, G.J.	696,749	Lyon, J.P.	130,357,372	McClain, R.M.	20,830,1162
Levis, A.G.	438,914	Lysy, H.H.	688	McClellan, R.O.	141,227,1093
Levy, B.	368	Lyte, M.	668	McCloskey, S.E.	1037
Lewis, D.F.V.	457	MacDonald, J.R.	475	McClure, T.R.	33
Lewis, G.R.	266	MacEwen, J.D.	856	McConnell, E.E.	28
Lewis, H.	1138,1139	MacGregor, J.A.	1012	McConnell, R.F.	1230
Lewis, R.M.	647	Machicao, L.K.	156	McCoy, Z.	18
Lewis, S.C.	226,955	MacKenzie, K.M.	505,506	McCullough, T.E.	1233
Lewkowsky, J.P.	1200	Mackerer, C.R.	987	McDonald, J.J.	150
Lewtas, J.	466,1015	MacPhail, R.C.	330,875	McDonough, J.	874
Lhuguenot, J.	463	Madden, M.C.	514	McDougal, J.N.	979
Li, A.	548	Madge, G.E.	315	McElroy, K.	1153
Li, M.A.	1255	Madhukar, B.V.	165,1248	McElroy, S.R.	774
Li, S.	1104	Magreni, C.M.	60	McElroy, W.K.	1155,1184
Li, S.T.	156	Mahlum, D.D.	375,804	McGhee, C.	282,500
Li, W.	1108	Maibach, H.I.	180,220,990,992	McGuire, E.	282,500,911
Liebler, D.C.	608	Mailman, R.	782,793	McIntire, M.S.	1082
Lim, L.O.	893	Maiorino, R.M.	1009,1010	McKee, D.J.	516
Lim, T-W	676	Maisey, J.	681,991	McKinney, J.D.	1237
Lin, E.L.C.	1050	Majors, K.R.	247	McKinney, M.M.	1101
Lin, G.H.	128	Makary, M.H.	947	McLaughlin, S.I.	515
Lindahl, R.G.	1053	Malcolm, A.R.	953	McLees, S.A.	619
Lindamood, I.C.	499	Malek, D.E.	39	McMahon, J.B.	1089
Lindemann, D.A.	490	Mallory, V.T.	269	McMartin, K.E.	1034,1215
Lindenschmidt,	37	Malspeis, L.	849,849	McMenamin, M.G.	9
Linder, R.E.	1154	Malya, P.A.G.	828	McMillan, D.A.	1260
Lingard, R.D.	1075	Mandel, L.J.	708	McMillan, D.C.	902
Lington, A.W.	1020,1212	Mangold, J.B.	149	McNeill, D.A.	264
Linko, P.	1107,1235	Maniscalco, W.M.	440	McNerney, P.J.	1116
Linscombe, V.A.	160	Mannervik, B.	599	McQueen, C.A.	908
Lipham, L.B.	789	Manno, B.R.	853	McVety, K.J.	1063
Litterst, C.L.	177	Manno, J.E.	853	Means, J.R.	814
Little, R.G.	1035	Manson, J.	380,900,1163	Mebus, C.A.	168,342
Little, S.	383	Mansour, N.A.	76,78	Medinsky, M.A.	141,224,227
Littlefield, N.	508	Mansur, C.A.	1204	Medlock, K.L.	381,382
Litwa, L.M.	827	Manus, A.	946,1140	Meeks, J.R.	987
Liu, D.D.	83	Marcello, N.L.	197	Mehendale, H.M.	116,157,240,241,242,246,326,773,1014
Liu, D.K.	1098	Marcus, A.H.	414	Mehlman, M.A.	968,987
Liu, G.	460	Marcus, W.L.	190	Mehrotra, B.D.	774,774
Liu, T-T.Y.	1276	Margott, D.A.	654	Meisner, L.F.	1263
Lo, H.H.	713	Marks, T.A.	132,133	Meldrum, B.	411
Loch-Carusio, R.	1072	Marlowe, C.	387	Melnick, R.	173,462,1168
Lock, E.A.	708	Maronpot, R.	18,746,759	Menache, M.G.	38,213,303
Lock, S.	1142,1186,1194	Marquis, J.K.	94	Menahan, L.A.	1239,1253
Lockhart, H.B.	905,1025	Marr, M.C.	359,361,362	Mendis, D.	731
Loeb, W.	335	Martin, B.W.	511	Mendoza, C.E.	404
Lomax, L.G.	129	Martin, R.A.	236,371	Meneses, J.J.	120
Lombard, J.Y.	67	Martinez, A.	555	Mennear, J.H.	544,944
London, J.E.	559	Martino, M.	435	Mensik, D.C.	1189
Long, G.J.	839	Marvis, R.D.	443	Menzel, D.B.	239,516,518,528,549,630
Long, R.E.	941,1188	Mason, G.	172,1242,1255	Menzer, R.E.	96
Long, R.M.	474	Mason, J.	312	Meredith, M.J.	631
Long, T.J.	234	Massaro, E.J.	437	Merigan, W.H.	286
Longacre, S.L.	338	Massaro, T.F.	410,771	Merrick, B.A.	1
LoPachin, R.M.	765,766	Masson, S.	453	Merrill, J.	623
Loper, J.C.	1105	Mast, R.W.	269,366	Mertes, P.C.	1193
Lorenz, D.C.	342	Masters, B.S.S.	52,104	Mes, J.	174
Loria, R.M.	315	Mastrocco, F.	923	Mesfin, G.M.	133
Losco, P.E.	660	Mather, G.	932		



Mewhinney, J.A.	224	Mostrom, M.S.	321	Noda, H.	54
Meyer, C.	389	Mottet, N.K.	122	Nolan, R.J.	654
Meyers, F.H.	787	Mudgett, S.L.	376	Nomeir, A.A.	1031
Mhatre, R.	805	Mulhern, S.	69	Norbury, K.C.	467
Michaelson, I.A	792	Mulholland, L.T	153	Norman, B.B.	509
Mico, B.A.	592,625,1007	Muller, G.	895	Norman, J.	897,1117
Miller, B.E.	539	Mulligan, T.	878	Norred, W.P.	789,1213
Miller, F.J.	38	Mullin, L.S.	939	Norris, J.C.	1113
Miller, G.D.	771	Mumtaz, M.	96,1001	Norton, R.M.	390,693,722
Miller, G.E.	1157	Mundy, W.R.	864	Norton, S.	877
Miller, K.	258,681,991	Muni, I.A.	1204	Notides, A.C.	562
Miller, M.R.	894	Munro, H.E.	1221	Novak, R.F.	564
Miller, P.D.	34	Munson, A.E.	63,64,65,666,684	Novicki, D.L.	1055
Miller, R.A.	88,221,544	Munzer, J.S.	920	Nunn, V.A.	577
Miller, R.R.	341A	Muralidhara, S.	736,1257	Nwosu, C.	1002
Millner, G.C.	1166	Murphy, D.	148	Nye, A.C.	415
Mills, L.J.	953	Murphy, J.M.	1191	Nye, D.E.	93
Milman, H.A.	148	Murphy, M.	610,1193,1211	Nystrom, D.D.	1017
Minnema, D.	786,792	Murphy, P.G.	102	O'Brien, S.	1138,1139
Miranda, C.L.	643	Murphy, S.D.	319,775	O'Bryan, T.	1127
Mirkes, P.	383	Murray, F.J.	1132,1133	O'Connor, R.P.	1083,1084
Mirvish, S.S.	947	Murray, R.K.	17	O'Connor, R.W.	299
Mishkin, E.M.	1116	Mushak, P.	1055	O'Flaherty, E.J	195
Misra, R.P.	853	Muzi, J.	1251	O'Neal, F.O.	130,357
Mistry, Prakash	728	Myers, C.A.	548	O'Neill, J.P	920
Mitchell, A.M.	458	Myers, C.B.	1176	O'Shea, W.	226,664
Mitchell, D.Y.	1039	Myers, M.H.	263	Oberdoerster, G	198
Mitchell, J.A.	883,884	Myers, M.J.	667,668,669,670	Oberdorster, G.	197,1069
Mitchell, R.	1052	Myers, R.C.	837,959,960	Oberg, S.G.	1067
Mitra, A.	6,85	Myhr, B.C.	905	Obrosky, K.W.	747
Mitra, R.S.	965,967	Myrback, R.E.	1232	Ochillo, R.F.	784,1064,1216
Mitschke, H.R.	1030	Nachreiner, D.J	237,837	Odum, J.	1262
Miura, K.	700	Nadeau, D.	98	Ogata, N.	484
Miwa, G.T.	187	Nagle, R.B.	699	Oglesby, L.A.	384
Miyamoto, T.	829	Nair, R.S.	1259	Ohanian, E.V.	1124
Mobayen, M.	992	Nakagawa, Y.	739,1089	Olafsdottir, K.	112
Mochida, K.	1196	Namkung, M.J.	385	Olajos, E.J.	856
Modrow, H.	874	Nanavati, N.T.	1076	Oldham, M.J.	135
Mohamad, F.K.	435	Napolitano, A.C	1275	Olekevich, S.	657
Mohamed, M.K.	122	Naptun, D.A.	745	Olsen, H.E.	632
Mohammad, F.K.	431	Narahashi, T.	483,484	Olson, B.	1269
Mohr, U.	25,546	Narasimhan, N.	615,616	Olson, C.T.	373,694,695,1022
Moldeus, P.	114	Narloch, B.A.	336	Olson, E.B.	732A,1092
Molinary, S.	505	Nash, G.	811	Olson, G.	941
Molloy, C.J.	166,948	Nash, J.A.	1047	Olson, J.R.	442,640,1244,1245
Monks, T.J.	9,10	Nelson, D.A.	1045	Olson, M.J.	906
Monroe, D.H.	994,995	Nelson, J.L.	581	Olton, D.	872,874
Montaldi, A.	438	Nelson, K.	1249	Omaye, S.T.	859
Montali, R.	1140	Nelson, L.A.	825	Omichinski, J.G	629
Monteiro-Rivier	977	Nelson, S.D.	5,629	Omiecinski, C.J	404A,1119A
Montgomery, C.A	228,1179	Nemec, M.D.	131,1191	Ong, T-M	915
Montgomery, M.R	334	Nettesheim, P.	550	Opong-Mensah, K	339,340
Moody, D.E.	336	Neutra, R.R.	649	Ortiz, L.W.	252
Moore, J.	173	Newball, H.H.	233	Ostby, J.	364,1182,1185
Moore, L.	117,474,1065	Newberne, P.M.	950,1167	Otto, M.	1125
Moore, R.W.	1240	Newland, C.	868,1069	Oudiz, D.	1187
Moore, S.J.	533	Newport, G.D.	798	Owens, G.F.	1098
Moorman, C.R.	300	Newton, J.F.	570,1007,1008	Paabo, M.	233,558
Moorman, M.	306	Nguyen, T.	33	Pace, J.G.	985,989
Moran, E.J.	455	Nichols, R.E.	1198	Padilla, S.	74,287,493
Moretti, E.S.	434	Nickerson, P.A.	442	Page, A.C.	1030
Moretto, A.	86	Nicklin, S.	258,681,991	Page, J.G.	849,849
Morgan, D.G.	700,703,742	Nicolich, M.J.	955	Paigen, B.J.	924
Morgan, D.L.	522	Niemann, S.L.	1186	Palekar, L.D.	23
Morgan, K.T.	215,216,217,585,952	Niemeier, R.W.	848	Pallas, F.	1043
Morgan, R.L.	1220	Nigro, D.A.	281	Palmer, S.	507
Moriarity, C.M.	1082	Nikiforov, A.I.	134	Palmgren, M.S.	687A
Morris, D.F.	132,133	Nikurs, A.	1042	Pannella, M.	782
Morris, J.B.	29,137	Nishie, K.	812	Paquette, M.	879
Morris, M.S.	21	Nishimura, K.	770	Paradiso, L.J.	282
Morris, S.L.	6,85	Nishiyama, S.	436	Parillo, R.	1226
Morrissey, R.E.	362	Nitschke, K.D.	341A	Park, J.K.	583
Morrissey, R.L.	26,327,502	Nixon, G.A.	957	Park, Young-ja	725
Morrow, A.	924	Nixon, J.C.	522	Parker, J.C.	1123,1134
Morseth, S.L.	374	Nixon, J.E.	1205	Parker, R.	955
Moser, V.C.	329,330	Noble, J.	740	Parkinson, A.	1101,1103,1104
Most, B.	24,213,918	Nocerini, M.R.	12	Parnell, M.J.	932
Most, B.M.	1049			Parsons, J.A.	1240

Paschke, L.L.	362	Popp, R.A.	1142,1186	Reiner, E.	780
Pascoe, G.A.	112	Poret, L.A.	1034	Reiter, L.W.	295,298,793
Pasino, D.A.	700	Port, C.	184,814	Reitman, F.A.	115
Patrick, E.	180,990	Port, C.D.	724	Reitz, R.H.	27,662,1048
Patterson, D.L.	216,217	Porter, J.K.	789	Remmers, J.	1026,1027,1028
Patterson, D.R.	247,1200	Porter, W.R.	339,340	Rendemonti, J.	900
Patton, L.M.	520	Portier, C.J.	1122	Renne, R.A.	228
Patton, S.E.	550	Posch, R.C.	20	Reno, F.	70,255
Paustenbach, D.	1132,1133	Post, D.J.	386	Reuhl, K.	202,489,496,839,863,1057
Pautler, E.L.	790	Pott, F.	25,546	Reynolds, D.J.	1201
Pavittranon, S.	1159	Pounds, J.G.	192,412,415,839,841	Reynolds, L.	328
Pavkov, K.	727	Pour, A.	588,1081	Rezabek, M.S.	936
Payne, B.J.	22,179	Powell, K.	156	Rhoades, R.A.	65
Pazdernik, T.L.	767	Powers, R.H.	1266,1267	Ribeiro, P.L.	967
Peckham, J.C.	552,836	Powers, W.J.	1062	Rice, D.C.	1029
Pedersen, R.A.	120	Prasada Rao, K.	240,773	Rice, S.A.	297
Pedigo, N.G.	124	Prejean, J.D.	944	Richard, M.B.	281
Peele, D.B.	865	Preston, R.J.	1188	Richards, D.E.	127
Pegg, D.G.	803,911,1203	Prevo, M.E.	1231	Richards, J.A.	469
Peggins, J.	188,189	Price, C.J.	359,361,362	Richardson, K.E.	825
Pentz, R.	44,743	Price, V.F.	619,622	Richardson, R.J.	317,485,780
Peoples, S.	523	Pritchard, A.B.	1045	Richig, J.W.	823
Peoples, S.M.	531	Pritts, I.M.	41,130,231,237,357	Rickard, R.W.	939
Perantoni, A.	1078	Procell, L.	233	Rickenbaucher,	1237
Pereira, D.	834	Procter, B.	328	Rickert, D.E.	604,628,1017,1044
Pereira, M.A.	459,933,934,941,1050,1095	Proctor, J.E.	532	Ridder, G.M.	698
Perreault, S.D.	1154	Proven, W.M.	1047	Riddle, M.M.	272,685
Perrino, B.A.	426	Pryor, W.A.	909	Ridlen, R.L.	1223
Perry, C.J.	511	Purchase, R.	858	Ridley, W.P.	1259
Perry, J.J.	611	Putcha, L.	1030	Rieder, John G.	161
Persing, R.	727,943	Putman, D.	159	Rieger, J.A.	324
Peter, G.K.	818	Putnam, C.W.	478	Rigdon, G.C.	291
Peters, A.	832,943	Quast, J.F.	332	Riley, R.T.	980
Peters, A.C.	727,876,880,1172,1258	Quin, G. S.	760	Ring, B.J.	55
Petersen, D.R.	1035,1039	Quinn, B.J.	318	Ringer, R.K.	313
Peterson, D.P.	196,434	Quinn, D.W.	1131	Risinger, F.O.	97,886
Peterson, D.R.	697	Raffaele, K.C.	874	Ritz, H.L.	264,556
Peterson, L.G.	1020	Ragan, H.	221,544	Riviere, J.E.	705,706,707,975,976,977,1224
Peterson, R.E.	486,487,640,1239,1240,1253,1265	Ragan, H.A.	228	Robbins, J.D.	789
Petrere, J.A.	125	Ragsdale, S.	1117	Roberts, A.E.	663
Petsel, S.R.W.	505	Rahn, C.	173	Roberts, G.B.	1110,1201
Pettersen, J.C.	799	Rains, T.C.	406	Roberts, G.K.S.	830
Pfohl, R.J.	492,492,891	Raje, R.R.	910	Roberts, J.F.	665
Phalen, R.F.	30,135	Ramamurthi, R.	199	Roberts, S.M.	1005
Phelps, J.S.	701	Ramanathan, R.	736,1257	Robertson, B.	1181
Phelps, P.V.	344	Ramos, K.	807,809	Robertson, D.	485
Phillips, J.C.	731,732,858	Rand, G.M.	93	Robinson, C.	69
Phillips, R.D.	697,697,1020	Randall, H.W.	585	Robinson, C.J.G	689
Phillips, T.D.	354,1207	Randall, J.	1171	Robinson, E.C.	42
Pichare, M.M.	575	Ranganathan, P.	356	Robinson, K.	404
Pickrell, J.A.	515,526,527	Ranganathan, S.	356	Robinson, M.	733,851,931,940,942
Pilaro, A.	113,752	Rankin, G.O.	568,713	Robison, S.H.	920
Pilcher, G.D.	347	Rao, K.S.	129,246,1190	Rodgers, K.E.	671,677,843
Pilon, D.	657	Rao, N.G.S.	325	Rodier, P.M.	288,289
Pinkerton, K.E.	539	Rao, S.B.	241,246,773	Rodwell, D.E.	131,1191
Pinkerton, M.	554	Rashid, A.	414	Roger, J-C.	57,956
Piotrowski, J.K	652	Raska-Emery, P.	334	Roger, L.J.	31
Piper, R.C.	758	Ratajczak, H.	57,664,674	Rogers, A.E.	524,1167
Piper, W.N.	168,342,343,750,1229	Rau, L.	55	Rogers, J.M.	363
Pipkin, J.L.	1118,1119	Rauckman, E.J.	1121	Rogers, K.E.	260
Piskorska-Plisc	1241	Ravikumar, V.C.	324	Rogers, L.	24,918
Pitcher, H.	413	Ray, A.	1193,1211	Rogers, R.A.	707,977
Pizzi, W.	798	Ray, S.	346,751,752	Rogers, R.R.	272,685
Plaa, G.L.	449,453,454,657,735	Reagan, E.	974	Rogers, S.A.	591
Placke, M.E.	738,1091	Reagor, J.	1193,1211	Rogers-Back, A.	155
Plakas, S.M.	103	Reddy, C.S.	431,435	Roloff, M.V.	42,234
Plowman, J.	177	Reddy, R.V.	342,750,1229	Romano, M.	570
Pohl, L.R.	4	Reddy, Y.S.	324	Romero-Ferret,	178
Poirier, L.A.	430,1059	Redmond, N.I.	811	Romkes, M.	167,1241,1272
Polin, D.	1269	Reece, K.D.	1135	Ronis, M.J.	578
Pollard, D.L.	979	Reed, D.J.	112,603,608,609,1089	Roomi, M.W.	56
Pollock, G.A.	92	Reel, J.R.	362,1175,1176	Rose, G.P.	778
Pool, W.F.	53,1226	Reer, P.J.	957	Rosen, G.M.	993
Poonacha, K.B.	1180	Rees, D.C.	658,869,870	Rosen, J.F.	192,412
Pope, C.D.	290	Rehm, S.	1077	Rosenberg, D.W.	446
Popp, D.M.	1142	Rehnberg, G.L.	1153,1155,1184	Rosenberg, P.	781,781A
Popp, J.A.	745,930	Reigle, K.S.	552	Rosenblum, I.Y.	899
		Reilly, C.	267,973,974	Rosenthal, G.J.	270

Ross, D.	2,114	Schroeder, R.E.	372,1174	Simms, P.	482
Ross, M.D.	1169	Schults, N.E.	459	Simon, G.S.	955
Ross, R.H.	1127	Schut, H.A.	929	Simoneaux, D.	1037
Roth, Robert A.	249	Schwab, B.W.	485,780	Sinclair, J.F.	162
Roth, T.P.	265	Schwartz, J.	413	Sinclair, P.R.	162
Roth, W.	164	Schwartzkroin,	1056	Singer, E.J.	968
Rothwell, C.E.	963	Schwegler, D.	145	Singer, R.	1136
Rouisse, L., Mr	723	Schwetz, B.A.	300,306,309,1169	Singer, S.J.	987
Rowe, D.G.	272,685	Scortichini, B.	1190	Singh, S.V.	600
Rowles, T.	416	Scott, K.A.	511	Singh, Y.	460
Roycroft, J.	213,221,228	Scribner, H.E.	338,535,895	Sinha, A.K.	160
Rozman, K.K.	349,833,834,1250,1251	Secours, V.	328	Sipes, I.G.	169,450,476,478,479,480, 481,1270,1271
Ruangwises, S.	919	Segal, A.	945		
Rubanoff, B.	60	Segall, H.J.	574,912,913,1038	Sirois, G.	447
Ruben, S.D.	799	Seidman, Irving	945	Skala, J.H.	859
Rubenstein, R.	1125	Selgrade, M.	261,278	Skalko, R.G.	376
Rubin, R.J.	620	Seikirk, J.K.	1	Sklar, J.L.	808
Rubinoff, B.	310	Sellers, T.	1138,1139	Skowronski, G.	370,961
Rubinstein, S.D.	284	Sen, P.	1060	Slabik, C.	70,255
Ruch, R.J.	933,934	Serve, M.P.	695,1022	Slade, R.	32,517
Ruegg, C.E.	699	Seth, P.K.	817	Slattery, J.T.	5
Rugen, P.J.	648	Sevastian, A.	109	Slaughter, L.J.	448,734
Rulon, P.W.	747	Seybold, P.G.	1046	Sleet, R.B.	360,1192
Rusch, G.M.	545,552	Shackelford, M.	418	Sleight, S.D.	737,927,936,937,938
Rush, G.F.	50,472	Shah, P.V.	982,983,984	Slesinski, R.S.	917
Russell, D.H.	169	Shah, R.S.	21,1143,1144	Slikker, W.	798
Russell, J.L.	264	Shaikh, Z.A.	436,1063	Sloane, R.	306
Rutherford, J.E	519	Shamoo, A.	78	Sloop, T.	175,1249
Ruzo, L.O.	2	Shanahan, R.W.	269	Smialowicz, R.J	272,685
Ryan, M.	832,880,1172	Shane, B.S.	909	Smith L.	388
Ryer, J.E.	13	Shara, M.A.	1243	Smith, A.C.	1089
Rylander, L.A.	701	Sharma, R.P.	68,80,81,82,194,259,271, 377,637,788,854,855,1067,1068	Smith, C.N.	1144
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