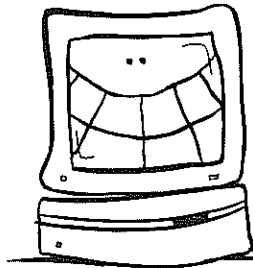


# Communiqué

Winter 1999

## Internet Abstract Site A Success!

The totals are in and the results confirm that our new Abstract Submission site on the Internet was a success. Headquarters has received and processed 1,817 abstracts! Nearly three quarters of those were received over the Internet. The Program Committee is working hard to put together informative and thoughtful sessions. Acceptance letters, confirming the session type and the date and time scheduled, will be mailed during the latter part of December. If you have not received a confirmation letter by January 4, 1999, please contact Nell Dillard at SOT Headquarters.



## Proposed Bylaws Revisions

In an effort to clearly define the financial responsibilities of the SOT Finance Committee, Treasurer and Council, SOT's Council has recommended changes to the Bylaws. These amendments will be discussed at the SOT Annual Business Meeting on Tuesday, March 16, 1999, at 4:30 p.m. A ballot will be mailed to voting members in April. If you would like further clarification of these proposals, please feel free to contact **Shawn Lamb** at SOT Headquarters.

Codes: Strikeouts = Delete Underlined/Bolded = Addition

### ARTICLE FOURTH

**Section 3.** The Finance committee shall continuously review the financial status of the Society and the Treasurer shall report at each Council meeting. At least one month prior to ~~a~~ the regular meeting, the Finance Committee shall

*Continued to page 3*

# NEWS IN THIS ISSUE

<b>SOT Annual Meeting Information</b>	<b>4-14</b>
<b>Request for CE Course Proposals</b>	<b>16</b>
<b>Robert A. Scala Award Information</b>	<b>22</b>
<b>Upcoming Elections of SOT Officers</b>	<b>24</b>

## SOT ANNUAL MEETING

---

### Have You Registered for the Annual Meeting Yet?

*The Advanced Registration Deadline is just around the corner – January 11, 1999.*

The SOT Annual Meeting is the largest toxicology meeting and exhibition in the world, attracting more than 5,000 scientists from industry, academia, and government. If you have not yet received a preliminary packet or need additional forms, please contact the SOT Headquarters office.

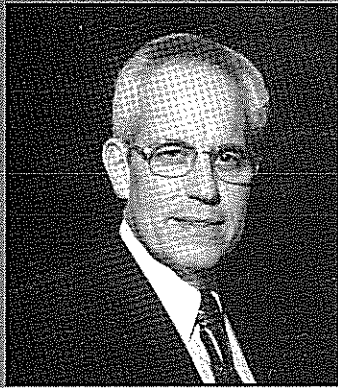
Fax-On-Demand:  
(800) 529-8635 (toll-free),  
E-mail: [annette@toxicology.org](mailto:annette@toxicology.org),  
Telephone: (703) 438-3115  
Fax: (703) 438-3113

If using a credit card, you may fax your completed Registration Form. No cover sheet is necessary.

Or

Try SOT's New On-Line Registration at [www.toxicology.org](http://www.toxicology.org)!

Simply go to the SOT Home page and select the Registration menu option.



Steven D. Cohen, D.Sc.  
1998-99 President of the  
Society of Toxicology

## FUTURE SOT ANNUAL MEETINGS

- 1999: March 14-18  
New Orleans,  
Louisiana
- 2000: March 12-16  
Philadelphia,  
Pennsylvania
- 2001: March 25-29  
San Francisco,  
California
- 2002: March 18-22  
Nashville,  
Tennessee

## INSIDE

Animals in Research	15
Placement Service	18-19
Regional Chapter News	20-22
Upcoming Conferences	23
Media of Interest	23
Council Highlights	24
Member News	24

# PRESIDENT'S MESSAGE

## A Mid-Term Update — Advancing Important Initiatives

As I write this it's hard to believe that Thanksgiving is rapidly approaching. This signals that the 1998-1999 SOT Council term of office has passed its mid-point. In keeping with the tradition of the season for some reflection on accomplishments and future goals, this president's message will update you on some important initiatives from *Horizon 2000*, the SOT strategic plan.

This year, the Continuing Education and Program Committees have put together an outstanding Annual Meeting for New Orleans that will *Support and Advance Basic and Applied Research in Toxicology* (our first strategic priority). The success of the Annual Meeting rests primarily upon the quality and quantity of cutting edge science presented in our courses and sessions. These and the exhibits of the latest in available technology and services, make our Annual Meeting the largest for toxicological sciences worldwide. What does it take to accomplish this? Dedication of the committees, Headquarters staff, and importantly, individual members who propose courses, symposia, etc. This year, again, over 1,900 abstracts were received, demonstrating that the Annual Meeting is the preferred and largest venue for cutting edge research in the toxicological sciences. Importantly, the Annual Meeting represents the largest expenditure of our operating budget and is responsible for generating most of our revenue. Proceeds from the meeting fund nearly all SOT initiatives and administrative costs. Your continued support is vital to SOT's and toxicology's future.

This year we had a major advance in our *Computing and Communications Technologies* through the introduction of on-line registration and submission of abstracts for the Annual Meeting, and our meeting itinerary software will soon be available, for free, on the SOT Web site. Our site continues to evolve under the guidance of the WWW Task Force (Chaired by **Mary Davis**). Many SOT-related sites can be directly accessed through the *Table of Contents*, and links to over 60 other important sites are now available. At the suggestion of the Regulatory Affairs and Legislative Assistance Committee (Chaired by **John DeSesso**), members can now easily communicate with Congress directly via the SOT site. Check it out.

Consistent with *Increased Public Understanding of Toxicology*, SOT's first Congressional Fellow, **Bradley Shurdut**, will have a unique opportunity to provide scientific input for public policy development. Also, two of the SOT nominees, **Michael Aschner** and **John LeMasters**, were appointed to the NIH AI-Tox Study Sections. Please join me in congratulating these three outstanding colleagues. At our September Council meeting, Director **Kenneth Olden** invited SOT to partner with NIEHS for initiatives of common interest. Accordingly, SOT will serve as a cosponsor of selected NIEHS **Regional Town Meetings** on the impact of the environment on human health. In related activity, our Committee on Public Communications will again sponsor a public forum at the Annual Meeting, and is making excellent progress toward development of a nationwide public service announcement to bring *Paracelsus to the People*.

Finally, we need your input. SOT often gets calls for quick action in regard to developing political or regulatory issues where toxicology expertise is needed. Most often, because of established SOT policies, it is impossible to communicate an SOT position publicly in any timely fashion. We could, however, fulfill our responsibility as a learned and professional society by quickly alerting members to important issues. Selective E-mails and postings on our Web site would offer enough information so that members could individually provide much needed perspective. Council would appreciate your comments as to the desirability of SOT initiatives of this type. (More info? See Summer and Fall *Communiqué*.)

I hope that you find these developments exciting. I have highlighted only a few activities of many that continue at an aggressive pace. I congratulate and thank all committees for their hard work, and I look forward to your comments and suggestions. Best wishes for a safe and enjoyable holiday season.

Steven D. Cohen  
1998-99 President

## Proposed Bylaws Revisions

Continued from page 1

prepare for presentation at the regular meeting a financial statement summarizing the financial operations of the Society for the immediately preceding fiscal year, including income, expenses and a financial balance sheet. The Finance Committee shall also prepare and present with the financial statement a budget for the coming year: a preliminary budget for the coming year and shall submit the same to Council. Following joint review of the preliminary budget by Council and the Finance Committee, Council shall adopt, prior to the commencement of the next fiscal year, a final budget for that fiscal year and shall communicate a summary of same to the membership.

(Move to ARTICLE FIRST, Section 5)

Recommendations affecting financial operations or actions shall be made by the Treasurer to Council and included with the financial statement for presentation at any regular meeting. The Finance Committee shall maintain general oversight as to and over the Society's financial affairs, and shall report and make recommendations to Council at each Council meeting. Council may from time to time charge the Finance Committee in writing with respect to oversight matters.

Fiscal and investment policies ~~and current investments~~ shall be recommended to Council by the Finance Committee and approved by Council.

### \$ Contributions to TEF Matched by SOT

Toxicology

SOT will match your contribution to the Toxicology Education Foundation dollar for dollar.

Consider adding TEF to your holiday gift list.

## Photos/Slides Needed for Final Night Reception

Do you have any recent or old SOT-member photos/slides (not necessarily SOT-related) that you would like displayed on video at the 1999 Annual Meeting Final Night Reception on Thursday, March 18th? If so, please send them to:

### Society of Toxicology

Attention: Trish Strong

1767 Business Center Drive, Suite 302

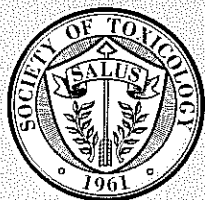
Reston, Virginia 20190-5332

All photos/slides will be returned after the Annual Meeting. Please mark your name on each and provide a mailing address where the photos/slides should be returned. Your participation is appreciated.

**Deadline: January 25, 1999**

## Student & Postdoctoral Fellow Reception

The Society of Toxicology strives each year to improve its Annual Meeting and accomplishes this in part by talking with attendees and listening to their suggestions. Last year, it was suggested that a forum be provided so that students and postdoctoral fellows could meet and talk informally with one another about graduate and postdoctoral programs. Therefore, the Society will be offering a reception for these individuals on **Sunday, March 14 from 7:00 p.m. - 11:00 p.m.**, immediately following the Welcoming Reception. SOT will provide a pasta buffet and DJ. No pre-registration is necessary; however, meeting badges are required.



The *Society of Toxicology* *Communique* is published 5 times annually in Reston, Virginia, for members of the Society of Toxicology.

#### Editorial Office and Membership:

Society of Toxicology  
1767 Business Ctr. Dr., Suite 302  
Reston, VA 20190-5332  
Phone: (703) 438-3115  
Fax: (703) 438-3113  
E-Mail: [sothq@toxicology.org](mailto:sothq@toxicology.org)  
Visit the SOT Home Page at <http://www.toxicology.org>

#### Newsletter Editor:

A. Jay Gandolfi, Ph.D.

#### Deadlines for

#### Upcoming Issues:

April 3, 1999 (Spring Issue)  
June 3, 1999 (Summer Issue)  
August 3, 1999 (Fall Issue)

# SOCIETY OF TOXICOLOGY

## Try SOT's New On-Line Registration!

SOT members and non-members are invited to register for the 1999 SOT Annual Meeting using SOT's new On-Line Registration System. The system is designed for those who will be paying their registration fee by credit card and who have access to the Internet.

Registration information can be accessed via the SOT Web site ([www.toxicology.org](http://www.toxicology.org)). Simply go to the Home page and select the Registration menu option.

## Program Disk on the Internet!

The SOT 1999 Annual Meeting program will be available in early February on the SOT Web site ([www.toxicology.org](http://www.toxicology.org)) at no charge. This program will be in the familiar IBM format. The Meeting Diskette Search Program provides the ability to search the abstract titles of papers and posters programmed for presentation at the Annual Meeting. The user can search the meeting program by key words and phrases, author names, and sessions. By printing your selections, you can create your own personal itinerary for the meeting.

## Plenary Lecture: Worlds Apart

Lecturer: Dr. Rick Chappell, Vanderbilt University

Science and technology are at the heart of our daily lives, whether it is concerning personal decisions on health issues, community decisions on protecting the environment or national decisions on investment in research. Americans are very interested in science, yet polls show that the public feels too ill informed about science to make confident decisions. Nowhere is knowledge of science and technology more essential than in areas related to toxicology where personal decisions become critically important. In this arena, sound scientific knowledge must be communicated effectively to legislators and public alike. Americans depend on the media for this communication, but recent experience has shown that science and the media are worlds apart in their mutual understanding and communication. This presents a great challenge to scientists and technologists in trying to build a bridge to the media. As deep as the chasm between the two now is, there are ways in which a bridge can be built. The solution involves efforts by scientists, journalists and gatekeepers alike and will require steps, which will feel somewhat new and different to each group. These steps must be taken, however, because the payoff is critical to our future both as individual citizens and as a nation.

## Medical Research Council (MRC) Lecture: Integrating Genes to Physiology: A Bioengineering Perspective

Lecturer: Dr. Douglas A. Lauffenburger, Division of Bioengineering and Environmental Health, Massachusetts Institute of Technology

Advances in basic biology at the molecular and cellular levels during recent decades have dramatically increased the foundational information available on mechanistic underpinnings of physiology. Indeed, the genomics revolution has accelerated the pace at which reductionist data is being generated. It is widely agreed that a crucial challenge for the next decades is how to integrate information from the genomic level to the physiomic level, connecting structure/function relationships at molecular, cell, and tissue levels within this hierarchy. This sort of integrative understanding will be of great value for technological progress in medical diagnostics and therapeutics as well as understanding of environmental influences on human health.

Engineering disciplines are predicated on the complementary principles of analysis and synthesis of complex systems, combining to elucidate quantitative "design principles" for the dependence of system behavior on component properties. The "measurement, modeling, and manipulation" approach that has characterized engineering disciplines based on the sciences of physics and chemistry is now finding biology accessible and amenable as well. Thus, a new discipline of Bioengineering is emerging, directed toward analysis of biological systems in terms of key component properties and consequently toward synthesis of modified biological systems derived from controlled component properties. A central nexus of current work resides at the molecule-to-cell and cell-to-tissue levels of the gene-to-physiology hierarchy, with the goals of understanding how molecular properties affect cell function and cell properties affect tissue function being viewed as bottlenecks that must be overcome especially as the gene-level information is accumulating so rapidly.

This lecture will offer an overview of the new Bioengineering perspective on integrating biology from gene to physiology, outlining major concepts in measurement, modeling, and manipulation across this hierarchy.

## Burroughs Wellcome Toxicology Scholar Award Lecture: Lessons Learned From Studying Toxicant-Induced Irreversible Testicular Injury

Lecturer: Kim Boekelheide, Ph.D., MD, Brown University

In the last quarter century, our understanding of male reproductive biology and toxicology has advanced to the point that potential mechanisms of toxicant action can be proposed and tested (without too much laughter in the back of the room). This talk will highlight lessons learned from the mechanistic examination of 2,5-hexanedione-induced testicular injury, an intensely studied model system. LESSON #1: Hypotheses are both gross oversimplifications and useful tools. Since 2,5-hexanedione exposure results in relatively specific injury of the nervous system and testis while reacting globally with primary amines throughout the body, this requires an hypothesis by which a global modification can produce a specific injury. LESSON #2: The most exciting observations are those at odds with basic

# 38TH ANNUAL MEETING

assumptions. The assumption that 2,5-hexanedione-induced irreversible testicular injury is a consequence of killing all the germ cells is just plain wrong. Primitive germ cells are present and happily proliferating after toxicant exposure—they just die instead of mature. Furthermore, "irreversible" injury is reversible with appropriate hormonal manipulation, opening up new avenues for exploring the basic biology of spermatogenesis, and for treating idiopathic azoospermia. **LESSON #3: Life is a balance.** Sertoli cells not only make growth factors (i.e., stem cell factor) that support germ cells, these "nurse" cells also make death factors (i.e., Fas ligand) to kill germ cells. The goal of the presentation will be to make these specific realizations broadly generalizable.

## **Burroughs Wellcome Toxicology Scholar Award Lecture: How Copper Ions Signal to the Transcriptional Machinery**

**Lecturer: Dennis J. Thiele, Ph.D., University of Michigan  
Medical School**

The metal ion copper plays a dual role in biological systems. On one hand, copper plays an essential function in the active sites of a large number of critical cellular enzymes such as Cu, Zn superoxide dismutase, cytochrome oxidase, dopamine  $\beta$ -hydroxylase and lysyl oxidase. On the other hand, copper ions are potent toxins, through interactions with superoxide anions, resulting in the generation of hydroxyl radical resulting in damage to membranes, proteins and nucleic acids. Therefore, all cells must orchestrate the accumulation of copper for essential biochemical reactions, yet prevent the accumulation of free copper ions to cytotoxic levels. My colleagues and I are interested in understanding the precise molecular mechanisms whereby cells maintain homeostatic control of copper ion levels through regulated transport, detoxification and through rapid transcriptional responses. Indeed, cells have exquisitely sensitive mechanisms for both sensing and responding to alterations in copper levels by directly signaling to the transcriptional machinery. Using yeast cells as a model eukaryotic organism, we have isolated genes encoding distinct copper sensing transcription factors that rapidly and potently activate the expression of copper detoxification genes in response to elevated copper levels. These rapid responses are achieved through the interdigitation of copper ion sensing and DNA binding domains in the copper metalloregulatory transcription factors, as well as through the use of specialized chromatin structures that poise metal induced genes in an accessible state. Furthermore, we have isolated genes encoding copper ion transporters and have identified transcription factors that activate expression of the copper transporter genes in response to copper starvation, but extinguish expression in the presence of high copper levels. The delicate balance that is required for maintaining sufficient levels of copper, while preventing copper toxicity, is dictated by the dynamic interplay between distinct copper ion sensing transcription factors and through the use of multiple layers of cellular regulation. These investigations lay the groundwork for understanding the molecular mechanisms by which mammals establish and maintain copper ion homeostasis.

## **SOT/EUROTOX Debate**

### **Motion: The Results of Mechanistic Toxicity Studies Should Supersede Ambiguous Epidemiological Data**

It is not uncommon to be faced with situations where limited epidemiologic data (e.g., weak association, lack of consistency, questionable temporal relationship, dubious biological plausibility) are employed to raise serious questions concerning the possibility that exposure to a particular chemical or physical agent might affect humans adversely. Recent examples of this involve saccharin and bladder cancer, and chloroform and bladder cancer. The question as to how, and when, information concerning the mechanism of action of the chemical of interest may be employed to place limited epidemiologic data into proper perspective is an important current issue, which is the focal point of this debate.

**Moderator: Jay I. Goodman, Ph.D., Michigan State  
University**

**Discussant for the motion: Samuel M. Cohen, Ph.D.,  
MD, University of Nebraska Medical Center, Omaha,  
NE (SOT)**

**Discussant against the motion: Professor Julian Peto,  
Institute of Cancer Research, Sutton, Surrey  
(EUROTOX)**

### **Issues Session: An Additional Ten-Fold Safety Factor for Children: Is This Needed?**

**Moderator: Dr. Jack A. Reynolds, Pfizer Inc.**

The Food Quality Protection Act of 1996 (FQPA) represents a major overhaul of pesticide regulations in the United States. A key section of the Act denotes that children exhibit an especially high susceptibility to pesticide-induced toxicity. This leads to a provision requiring the Environmental Protection Agency (EPA) to employ an additional 10-fold safety factor for infants and children. The EPA Administrator is, however, provided the option of using a different margin of safety if it can be shown that it will protect this subpopulation. In order to broaden access of children to essential medical treatments, the Food and Drug Administration Modernization Act of 1997 (FDAMA) provide incentives to pharmaceutical manufacturers who conduct acceptable studies in children with drugs identified by the FDA for which pediatric information would be beneficial. At the present time, following the establishment of safety in adults, safety in children is usually demonstrated by sequential clinical testing in children of decreasingly younger age groups. The FQPA's regulatory position that children are inherently more susceptible to the adverse effects of chemicals may carry over to pharmaceuticals (and other chemicals). This might engender alarm unnecessarily and discourage the proper use of pharmaceuticals in this age group. What is the basis for assuming that children exhibit an exceptionally high susceptibility to the potential adverse effects of chemicals? Should decisions be made on a case-by-case basis? What is the scientific basis for establishing pesticide exposure levels for children, bearing in mind that exposure does not equal dose? What is the scientific

*Continued on page 6*

# 38TH ANNUAL MEETING

Continued from page 5

basis for establishing pharmaceutical dose levels in children? What factors should be considered in demonstrating the relative susceptibility or resistance of children to the potential adverse effects of pesticides or drugs?

## Speakers:

- P. S. Guzelian, Department of Medical Toxicology, University of Colorado, Denver, CO;**
- C. S. Barrow, AgroChemical Division, DowElanco Corporation, Washington, DC;**
- J. DeGeorge, Office of Review Management, U. S. FDA, Rockville, MD;**
- C. A. Kimmel, U. S. EPA, NCEA, Washington, DC;**
- P. A. Fenner-Crisp, Office of Pesticide Programs, U. S. EPA, Washington, DC; and**
- J. A. Reynolds, Drug Safety Evaluation, Pfizer Corporation, Groton, CT.**

## Satellite Meetings: Safety Evaluation of Drugs for Central Nervous System Delivery

The cerebrospinal fluid space represents a route that can be almost routinely accessed for acute and or continuous delivery of agents that might not otherwise pass the blood brain barrier without achieving massive systemic concentrations and accruing the attendant morbidity associated with peripheral toxicity. In spite of the diversity of the therapeutic targets, central nervous system (CNS) delivery of different drugs raise similar issues, including questions regarding: routes of distribution, tissue diffusion, preclinical test models, parameters of CNS injection, catheter materials, animal/human kinetics and safety evaluation. Given the broad utility of CNS delivery, there has surprisingly been little focus on general issues pertinent to its implementation. This symposium provides a forum for the review of current issues related to: CNS anatomy; CNS drug diffusion and kinetics; safety evaluation of CNS delivered drugs and consideration of the implementation of delivery for specific clinical targets.

## 25-Year Member Reception

Have you been a member of the Society for 25 years (or perhaps many more)? If so, you will be recognized as a group at the SOT 1999 Annual Meeting in New Orleans, Louisiana.

- **25-Year Member Reception - Sunday, March 14, 6:30 p.m. to 7:30 p.m.**
- **Recognition at the SOT Annual Business Meeting - Tuesday, March 16, 4:30 p.m. to 6:00 p.m.**
- **Recognition at the SOT Awards Ceremony - Thursday, March 18, 5:00 p.m. to 6:00 p.m.**

Please consider joining us at the Annual Meeting so we can extend our gratitude for the solid foundation on which the Society has grown. Additional information will be mailed in December to all 25-Year Members.

For these reasons, we are organizing this meeting, entitled "Safety Evaluation of Drugs for Central Nervous System Delivery." This meeting will provide a basic background to issues pertinent to CNS drug delivery and the development of pre-clinical safety data. On the second day, there will be specific presentations on the development of drugs for this route of delivery. The speaker list is at present tentative, but we feel certain that those invited will enthusiastically attend. Further, it is our intent to have a meaningful presence of the FDA at this meeting.

This meeting is designed for toxicologists, pharmacokineticists, pharmaceutical chemists, physicians, and scientists from regulatory agencies interested in CNS-targeted drugs and their development. It is an opportunity to consider current thinking regarding the CNS and drug delivery.

## SOT Rental Car Discounts

### For SOT Annual Meeting Attendees

Do you need a rental car during the SOT Annual Meeting in New Orleans? To receive SOT's special meeting rate for SOT Members and Non-Members, please call AVIS at 1-800-331-1600. Use Discount# T534999.

### For SOT Members

SOT Members are eligible for year-round discounts (other than the SOT Annual Meeting) on rental cars from AVIS. This discount can also be used with any other special promotional rate offered by AVIS. To receive SOT's year-round discount for SOT Members, please call 1-800-331-1212. Use Discount# T534900.

## Media Training Program

This media training workshop is designed to teach participants how to:

- Develop easy-to-communicate messages and get them into every interview;
- Not be misquoted;
- Handle both tough interviews and sensitive issues;
- Dress, sit, stand and gesture appropriately for all media interviews;
- Get reporters to print/air what you want them to; and
- Ask 10 key questions before every media interview.

Learn to control the message and the media! This workshop is for beginning and advanced media savvy toxicologists.

Registration is free for SOT Media Resource Specialists and \$50 for all others.

## SOT Fax-On-Demand Service

Call the toll-free SOT information line for Annual Meeting Materials

**1-800-529-8635**

# Symposia Sessions



## BIOTECHNOLOGY PRODUCTS: NOVEL COMPOUNDS AND TESTING STRATEGIES

*Chairperson:* D. K. Monteith, Isis Pharmaceuticals, Carlsbad, CA.

Sponsored by the Regulatory and Safety Evaluation Specialty Section.

**Antisense Oligonucleotides: Toxicology from Mice to Humans,** D. K. Monteith, Isis Pharmaceuticals, Carlsbad, CA.

**Gene Therapy: Challenges in the Design and Interpretation of Toxicology Studies,** M. E. I. Leibbrandt, Department of Toxicology, Chiron, Emeryville, CA.

**Consideration of Biology in the Design of Toxicology Studies to Support Clinical Development of Neurotrophic Factors,** H. Davis, Amgen, Thousand Oaks, CA.

**Issues and Strategies in the Development of Recombinant Human Interleukin-4 (rhIL-4),** M. W. Leach, Schering-Plough Research Institute, Lafayette, NJ.

**Defining Relevant Animal Species for Toxicity Evaluation of Biologic Therapeutics: Critical Groundwork for Basing Preclinical Toxicity Program Strategies,** L. E. Black, Food and Drug Administration, CBER/OTRR, Rockville, MD.

## METALS AND DISORDERS OF CELL ACCUMULATION: MODULATION OF APOPTOSIS AND CELL PROLIFERATION

*Chairpersons:* M. P. Waalkes, NCI at NIEHS, Research Triangle Park, NC, and M. J. McCabe, Wayne State University, Institute of Chemical Toxicology, Detroit, MI.

Sponsored by the Metals Specialty Section.

**Mitochondria Coordinate the Upstream and Downstream Events in Lead-Induced Retinal Apoptosis,** D. A. Fox, University of Houston, Houston, TX.

**Arsenic-Induced Dysregulation of Cell Cycle and DNA Repair Gene Expression,** J. C. States, Institute of Chemical Toxicology, Wayne State University, Detroit, MI.

**Mechanisms and Modulation of Chromium-Induced Apoptosis,** S. R. Patierno, Department of Pharmacology, Molecular and Cellular Oncology Program, The George Washington University Medical Center, Washington, DC.

**Mechanisms Contributing to Systemic Autoimmune Disease: Mercury-Induced Tyrosine Phosphorylation and Disruption of the CD95/Fas Apoptotic Death Pathway,** M. J. McCabe, Jr., Institute of Chemical Toxicology and Department of Biological Sciences, Wayne State University, Detroit, MI.

## THE ROLE OF QUINONES IN TOXICOLOGY

*Chairpersons:* J. L. Bolton, Department of Medicinal Chemistry and Pharmacognosy, University of Illinois at Chicago, Chicago, IL, and T. J. Monks, University of Texas at Austin, College of Pharmacy, Austin, TX.

Sponsored by the Carcinogenesis and Mechanisms Specialty Sections.

**Benzene Quinones and Bone Marrow Toxicity and Chemoprevention,** M. A. Trush, Johns Hopkins, Baltimore, MD.

**ortho-Quinones as Activated Metabolites of Polycyclic Aromatic Hydrocarbons (PAH),** T. M. Penning, Department of Pharmacology, University of Pennsylvania School of Medicine, Philadelphia, PA.

**Quinones from Remarin® Estrogens: Role in Estrogen Carcinogenesis,** J. L. Bolton, Department of Medicinal Chemistry and Pharmacognosy, University of Illinois at Chicago, Chicago, IL.

**Quinone-Thioether Mediated Toxicities,** T. J. Monks, Division of Pharmacology & Toxicology, College of Pharmacy, University of Texas at Austin, Austin, TX.

**Quinone-Thioethers and Parkinson's Disease,** G. Dryhurst, Department of Chemistry and Biochemistry, University of Oklahoma, Norman, OK.

## ALIPHATIC ETHERS AS FUEL OXYGENATES: HEALTH EFFECTS AND REGULATORY ISSUES

*Chairpersons:* S. J. Borghoff, Chemical Industry Institute of Toxicology, Research Triangle Park, NC, and J. M. Benson, Lovelace Respiratory Research Institute, Albuquerque, NM.

Sponsored by the Inhalations Specialty Section and the Task Force to Improve the Scientific Basis of Risk Assessment.

**Neurotoxic, Developmental and Tumorigenic Effects of Methyl tert-Butyl Ether: An Overview,** J. Benson, Lovelace Respiratory Research Institute, Albuquerque, NM.

**Toxicity and Toxicokinetics of Aliphatic Ethers- Human vs Rodent Studies,** G. Johanson, National Institute for Working Life, Solna, Sweden.

**Biotransformation of Methyl tert-Butyl Ether in Humans and Rats,** W. Dekant, Department of Toxicology, University of Wurzburg, Wurzburg, Germany.

**Species-Specific Tumor Responses Following Exposure to Methyl tert-Butyl Ether (MTBE): Potential Modes of Action,** S. J. Borghoff, Chemical Industry Institute of Toxicology, Research Triangle Park, NC.

**Risk Assessment of Aliphatic Ethers: Critical Issues,** W. H. Farland, National Center for Environmental Assessment, US EPA, Washington, DC.

## MOLECULAR AND CELLULAR MECHANISMS OF ANTIOXIDANT ACTION

*Chairperson:* D. C. Liebler, University of Arizona, Tucson, AZ.

Sponsored by the Mechanisms Specialty Section.

**Antioxidant Labyrinths: Vitamin E/Coenzyme Q Trails,** V. E. Kagan, University of Pittsburgh, Pittsburgh, PA.

**Oxidants and Antioxidants in Cell Growth and Apoptosis Signaling,** D. P. Jones, Department of Biochemistry and Program in Molecular Therapeutics and Toxicology, Emory University, Atlanta, GA.

**DT-Diaphorase (NQO1) as an Antioxidant Enzyme. Relevance of Polymorphisms in NQO1 for Chemoprotection,** D. Ross, Department of Pharmaceutical Sciences, School of Pharmacy, University of Colorado Health Sciences Center, Denver, CO.

**The Antioxidant Activities of Nitric Oxide,** N. Hogg, Biophysics Research Institute, Medical College of Wisconsin, Milwaukee, WI.

**Antioxidant Chemistry of Green Tea Catechins,** D. C. Liebler, Department of Pharmacology and Toxicology, University of Arizona, Tucson, AZ.

## THE ROLE OF DNA REPAIR IN MAINTENANCE OF GENOME STABILITY

*Chairpersons:* D. L. Springer, Molecular Biosciences Department, Battelle Pacific Northwest National Laboratory, Richland, WA, and W. M. Baird, Environmental Health Sciences Center, Oregon State University, Corvallis, OR.

Sponsored by the Carcinogenesis and Mechanisms Specialty Sections.

**DNA Repair Pathways and Environmental Genomics,** S. H. Wilson, Laboratory of Structural Biology, Division of Intramural Research, National Institute of Environmental Health Sciences, Research Triangle Park, NC.

**Repair Rates of DNA Lesions Along the p53 Gene: Correlation with Skin and Lung Tumor Mutational Spectra,** G. P. Holmquist, City of Hope, Dept. Biology, Duarte, CA.

**Role of DNA/Histone Interactions in DNA Repair,** D. L. Springer, Pacific Northwest National Laboratory, Richland, WA.

**Knowledge of Molecular Dosimetry and Endogenous DNA Adducts Can Improve Risk Assessment and Management,** J. A. Swenberg, Dept of Environmental Sciences and Engineering and Curriculum in Toxicology, University of North Carolina, Chapel Hill, NC.

Continued to page 8

---

## Symposia Sessions

Continued from page 7

### CHEMICAL MODIFIERS OF RESPONSE TO FOOD-BORNE MICROBIAL PATHOGENS

*Chairpersons:* R. T. Riley, USDA-ARS, Athens, GA; J. J. Pestka and R. A. Roth, Michigan State University, E. Lansing, MI.

Sponsored by the Food Safety and Mechanisms Specialty Sections.

**Emerging Food and Water-Borne Microbial Diseases**, M. A. Smith, University of Georgia, Athens, GA.

**Biochemical and Physiological Factors that Affect Pathogenesis Caused by Shiga Toxin-Producing *Escherichia coli***, V. L. Tesh, Texas A&M University Health Science Center, College Station, TX.

**Bacterial Endotoxin Interactions with Food-Borne Chemicals in the Liver**, R. A. Roth, Michigan State University, E. Lansing, MI.

**Amplification of Endotoxin-Mediated Cytokine Expression and Lymphocyte Apoptosis by Trichohectenes: a Paradigm for Microbe-Toxicant Interactions**, J. J. Pestka, Michigan State University, East Lansing, MI.

**Xenobiotic-Induced Alterations in Glycosphingolipid Receptors, Microbial Toxin Binding Adhesion, and Translocation: Potential Modifiers of Disease Response**, R. T. Riley, USDA-ARS, Athens, GA.

### ENDOGENOUS ESTROGENS AS CARCINOGENS: METABOLIC ACTIVATION THROUGH OXIDATIVE METABOLISM

*Chairpersons:* J. D. Yager, Division of Toxicological Sciences, Department of Environmental Health Sciences, Johns Hopkins School of Hygiene and Public Health, Baltimore, MD, and D. V. Singh, US Environmental Protection Agency, Washington, DC.

Sponsored by the Carcinogenesis, Mechanisms, and Comparative and Veterinary Specialty Sections.

**Good Disrupters, Bad Disrupters**, H. L. Bradlow, Strang Cancer Research Laboratory, New York, NY.

**Xenobiotic-Induced Catechol Estrogen Formation in Breast Epithelial and Breast Cancer Cells**, D. C. Spink, Wadsworth Center, New York State Department of Health, Albany, NY.

**Formation, Activation, and DNA Damage by 4-Hydroxy-Estrogens**, J. G. Lichr, Stehlin Foundation for Cancer Research, Houston, TX.

**Decreased Catechol Estrogen Phase II Metabolism by Catechol-O-Methyl Transferase (COMT) as a Risk Factor for Breast Cancer: Molecular Epidemiologic and Experimental Evidence**, J. D. Yager, Division of Toxicological Sciences, Department of Environmental Health Sciences, Johns Hopkins School of Hygiene and Public Health, Baltimore, MD.

### DRUG HYPERSENSITIVITY: MECHANISMS OF IMMUNE-MEDIATED REACTIONS

*Chairpersons:* E. E. Sikorski, Procter & Gamble, Cincinnati, OH, and H. G. Haggerty, Bristol-Myers Squibb, Syracuse, NY.

Sponsored by the Immunotoxicology Specialty Section.

**Metabolic Bioactivation in Drug Hypersensitivity**, L. R. Pohl, Molecular and Cellular Toxicology Section, NHLBI, NIH, Bethesda, MD.

**Involvement of T Cells in Drug Allergy**, W. J. Pichler, Institute of Immunology and Allergology, Inselspital, Bern, Switzerland.

**TH1/TH2 Cytokines and Regulation of Specific Immune Response to Drugs**, H. Lebrech, Immunotoxicology Group, INSERM U461, Faculté de Pharmacie Paris Sud, Châtenay-Malabry, France.

**What Do T Cells Recognize in Adverse Immune Reactions to Chemicals?**, E. Gleichmann, Med. Inst. Environmental Hygiene, Heinrich Heine University, Düsseldorf, Germany.

### REACTIVE OXYGEN AND NITROGEN SPECIES: CELL ACTIVATION, INJURY, AND APOPTOSIS

*Chairperson:* E. M. Postlethwait, University of Texas Medical Branch, Galveston, TX.

Sponsored by the Inhalation Specialty Section.

**Oxygen Radical-Nitric Oxide Reactions in Oxidative Tissue Injury**, B. A. Freeman, Depts. of Anesthesiology and Biochemistry and Molecular Genetics, Center for Free Radical Biology, University of Alabama at Birmingham, Birmingham, AL.

**Oxidant and Antioxidant Regulation of Cellular Signaling**, H. J. Forman, University of Southern California, Los Angeles, CA.

**Induction of Cell Signalling Cascades and Transcription Factors Important in Control of Proliferation or Apoptosis in Pulmonary Epithelial Cells Exposed to Reactive Oxygen or Nitrogen Species**, Y. M. W. Janssen, University of Vermont, Department of Pathology, Burlington, VT.

**Generation of Lung Surface Secondary Reactive Species During Inhaled Oxidant Exposure**, E. M. Postlethwait, Pulmonary & Critical Care Medicine, University of Texas Medical Branch, Galveston, TX.

**3-D Mapping of Oxidant-Induced Tracheobronchial Epithelial Cytotoxicity**, C. Plopper, University of California, Davis, CA.

### MECHANISM OF ACTION OF NICOTINE ON NEURONAL ACETYLCHOLINE RECEPTORS: FROM MOLECULE TO BEHAVIOR

*Chairperson:* T. Narahashi, Department of Molecular Pharmacology and Biological Chemistry, Northwestern University Medical School, Chicago, IL.

Sponsored by the Neurotoxicology Specialty Section.

**Regulation of Acetylcholine Receptor Desensitization at Low Concentrations of Nicotine**, R. A. J. Lester, Department of Neurobiology, University of Alabama, Birmingham, AL.

**Interactions of Nicotine and Alcohol at Neuronal Nicotinic Acetylcholine Receptors**, T. Narahashi, Department of Molecular Pharmacology and Biological Chemistry, Northwestern University Medical School, Chicago, IL.

**Nicotinic Receptor Gene Family Members Targeted by Anthelmintics and Insect Control Agents**, D. B. Sattelle, The Babraham Institute Laboratory of Molecular Signalling, Department of Zoology, Cambridge, UK.

**Pharmacological Properties of Central Nicotinic Receptors**, B. R. Martin, Virginia Commonwealth University, Richmond, VA.

**Chronic Nicotine Infusion Effects on Memory: A Ventral Hippocampal Mechanism**, E. D. Levin, Duke University Medical Center, Durham, NC.

### MECHANISMS OF ACTION OF NATURALLY OCCURRING ANTICARCINOGENS

*Chairperson:* S. Safe, Department of Veterinary Physiology & Pharmacology, Texas A&M University, College Station, TX.

Sponsored by the Molecular Biology Specialty Section.

**Antiestrogenic and Antitumorogenic Activities of Diindolylmethane**, S. Safe, Department of Veterinary Physiology & Pharmacology, Texas A&M University, College Station, TX.

**Organosulfur Compounds in Alliums: Mechanism of Chemopreventive Action**, M. J. Wargovich, Department of Pathology, University of South Carolina School of Medicine and South Carolina Cancer Center, Columbia, SC.

**Genistein: *In Vivo* Mechanisms of Action and Chemoprevention**, C. A. Lamartiniere, Department of Pharmacology and Toxicology, University of Alabama at Birmingham, Birmingham, AL.

**Green Tea in Chemoprevention of Cancer: Mechanism of Action**, H. Mukhtar, Department of Dermatology, Case Western Reserve University, Cleveland, OH.

Continued to page 9



## Symposia Sessions

Continued from page 8

### CELL CYCLE CHECKPOINTS AND CHEMICAL-INDUCED STRESS RESPONSE: SURVIVAL VERSUS DEATH

*Chairperson: A-N. T. Kong, College of Pharmacy, University of Illinois at Chicago, Chicago, IL.*

Sponsored by the Molecular Biology Specialty Section.

**Roles of Cyclin-Dependent Kinase Inhibitors in Cell Cycle Checkpoints: Lessons from Knockout Mice**, H. Kiyokawa, Cancer Center, University of Illinois, Chicago, IL.

**p21(WAF1/CIP1) Expression in the Liver Following Carbon Tetrachloride Administration**, A. L. Tyner, Dept of Molecular Genetics, University of Illinois College of Medicine, Chicago, IL.

**The Effect of Radiation and Xenobiotic-Induced DNA Damage on Genetic Stability in Yeast**, R. J. Brennan, Dept. Cancer Cell Biology, Harvard School of Public Health, Boston, MA.

**Chemical-Induced Differential Activation of MAPK and Caspases in Cell Survival and Death**, A-N. T. Kong, College of Pharmacy, University of Illinois at Chicago, Chicago, IL.

### XENOBIOTIC EFFECTS ON CELL ADHESION MOLECULES AND EXTRACELLULAR MATRIX INTERACTIONS

*Chairpersons: K. T. Shiverick, University of Florida, Gainesville, FL, and B. L. Allen-Hoffmann, University of Wisconsin, Madison, WI.*

Sponsored by the Mechanisms and Molecular Biology Specialty Sections.

**Expression of Adhesion Molecules and Protease Activity in Endothelial Cells and Airway Epithelial Cells Exposed to Asbestos**, A. Barchowsky, Dartmouth Medical School, Hanover, NH.

**Oxidative Stress Disrupts the E-Cadherin/Catenin Cell Adhesion Complex**, A. R. Parrish, University of Arizona, Tucson, AZ.

**Benzo(A)Pyrene-Mediated Inhibition of Utero-Placental Cell Invasion and Expression of Cell Adhesion Molecules**, K. T. Shiverick, University of Florida College of Medicine, Gainesville, FL.

**Cell Adhesion and CYP1A1 Expression: What's the Connection?**, B. L. Allen-Hoffmann, University of Wisconsin, Madison, WI.

### BIOLOGIC MARKERS IN MOLECULAR EPIDEMIOLOGY

*Chairpersons: R. M. Santella, Columbia School of Public Health, New York, NY, and D. G. DeBord, National Institute for Occupational Safety and Health, Cincinnati, OH.*

Sponsored by the Molecular Biology and Occupational Health Specialty Sections and the Task Force to Improve the Scientific Basis of Risk Assessment.

**The Relative Contribution of Exogenous and Endogenous Exposures of Humans to Carcinogens as Reflected by DNA and Protein Damage**, P. B. Farmer, MRC Toxicology Unit, Leicester, UK.

**Approaches to the Analysis of Endogenous DNA Damage in People**, L. J. Marnett, Department of Biochemistry, Center in Molecular Toxicology, and the Vanderbilt Cancer Center, Vanderbilt University School of Medicine, Nashville, TN.

**Immunologic Methods for Measuring DNA Adducts: Applications to Molecular Epidemiologic Studies**, R. M. Santella, Division of Environmental Health Sciences, Columbia School of Public Health, New York, NY.

**Molecular Markers of Biological Effect — Use as Measures of Retrospective Cumulative Exposure and as Predictors of Human Health Effects**, W. L. Bigbee, Center for Environmental and Occupational Health and Toxicology, University of Pittsburgh, Pittsburgh, PA.

**Linking Biomarkers of Biologically Effective Dose and Early Biologic Effect to Disease Risk in Epidemiologic Studies**, N. Rothman, Division of Cancer Epidemiology and Genetics, NCI, Bethesda, MD.

### THE DEVELOPMENTAL TOXICITY OF TOBACCO SMOKE

*Chairperson: J. M. Rogers, Reproductive Toxicology Division, NHEERL, US EPA, Research Triangle Park, NC.*

Sponsored by the Reproductive and Developmental Specialty Section.

**Analysis of Risk to Birth Defects Associated with Smoking: Considering the Role of Gene-Environment Interactions**, T. H. Beaty, Dept. of Epidemiology, School of Hygiene & Public Health, Johns Hopkins University, Baltimore, MD.

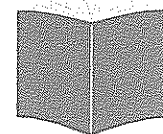
**Environmental Tobacco Smoke and Perinatal Airway Remodeling**, K. E. Pinkerton, University of California, Davis, CA.

**Maternal Smoking During Pregnancy: Are There Significant Long-Term Cognitive Effects in Offspring?**, P. A. Fried, Dept. of Psychology, Carleton Univ., Ottawa, Canada.

**Developmental Toxicity of Nicotine**, T. A. Slotkin, Dept. of Pharmacology & Cancer Biology, Duke University Medical Center, Durham, NC.

Summary, M. Golub, CAL-EPA, Sacramento, CA.

## Workshop Sessions



### TELEMTRY, TOXICOLOGY, AND SAFETY ASSESSMENT

*Chairpersons: L. B. Kinter, Astra Pharmaceuticals LP, Wayne, PA, and D. J. Murphy, SmithKline Beecham Pharmaceuticals, King of Prussia, PA.*

Sponsored by the Regulatory and Safety Evaluation and Comparative and Veterinary Specialty Sections.

**Telemetry: Real Reduction and Refinement Alternatives in Risk Assessment**, L. B. Kinter, Astra Pharmaceuticals LP, Wayne, PA.

**Cardiovascular Telemetry: From Mice to Monkeys**, C. Hassler, Battelle Memorial Inst., Columbus, OH.

**Telemetry as a Method for Monitoring Respiratory Function Chronically in Conscious Animals**, D. J. Murphy, Department of Toxicology, SmithKline Beecham Pharmaceuticals, King of Prussia, PA.

**Telemetry and Electrocardiography: Cardiotoxicity and Arrhythmogenicity**, J-C. P. Vincent, Lead Optimization, Hoechst Marion Roussel, Romainville, France.

### ANIMAL MODELS OF CARDIOPULMONARY DISEASE: IMPACT OF AIR POLLUTION ON AT RISK POPULATIONS

*Chairpersons: J.T. Zelikoff, New York University School of Medicine, New York, NY, and D.L. Morgan, NIEHS, Research Triangle Park, NC.*

Sponsored by the Immunotoxicology and Inhalation Specialty Sections and the Task Force to Improve the Scientific Basis of Risk Assessment.

**Animal Models of Cardiopulmonary Disease: Role in Air Pollution Toxicology**, R. B. Schlesinger, Department of Environmental Medicine, NYU School of Medicine, Tuxedo, NY.

**Models of Asthma/Allergy**, T. Gordon, NYU School of Medicine, Tuxedo, NY.

**Models of Chronic Obstructive Pulmonary Disease (COPD)**, D. L. Costa, Pulmonary Toxicology Branch, ETD/ NHEERL, US EPA, Research Triangle Park, NC.

**Models of Respiratory Infection**, J. T. Zelikoff, New York University School of Medicine, Nelson Institute of Environmental Medicine, New York, NY.

Continued to page 10

---

## Workshop Sessions

Continued from page 9

**Models of Cardiac and Cardiopulmonary Vascular Disease**, U. P. Kodavanti, NHEERL, US EPA, Research Triangle Park, NC.

**The Utility of Data from Animal Models of Cardiopulmonary Disease for Air Pollution Risk Assessment**, J. L. Mauderly, Lovelace Respiratory Research Institute, Albuquerque, NM.

### ENVIRONMENTAL JUSTICE: SOCIOECONOMIC INEQUITIES AND POPULATIONS AT RISK

*Chairpersons: R. Snyder, Environmental and Occupational Health Sciences Institute and Rutgers University, Piscataway, NJ.*

**Sponsored by the Epidemiology Specialty Section and Committee on Public Communications.**

**The Complex Interaction of Poverty, Pollution, and Health Status**, K. Olden, National Institute of Environmental Health Sciences, Research Triangle Park, NC.

**Environmental Justice and Health: Overview of Research Questions, Concepts and Methods**, S. Wing, Department of Epidemiology, School of Public Health, University of North Carolina, Chapel Hill, NC.

**Epidemiological & Exposure Assessment Studies of Asthma & Lung Disease in Children in Border Towns**, M. D. Lebowitz, University of Arizona, Tucson, AZ.

**Integrating Research into the Community-Health Effects of PCBs in a Native American Population**, D. O. Carpenter, University at Albany School of Public Health, Albany, NY.

**Chemical Exposure Among Seasonal and Migrant Farmworkers: Community-Based Epidemiology**, S. A. Quandt, Wake Forest University School of Medicine, Winston-Salem, NC.

**Development of Successful Community-Based Research Projects from a Community Perspective**, P. M. Shepard, West Harlem Environmental Action, Inc., New York, NY.

### COGNITIVE TESTS: INTERPRETATION FOR NEUROTOXICITY?

*Chairpersons: W. Slikker, Jr., Division of Neurotoxicity, National Center for Toxicological Research, Jefferson, AR, and B. D. Beck, Gradient Corporation, Cambridge, MA.*

**Sponsored by the Neurotoxicology and Risk Assessment Specialty Sections and the Task Force to Improve the Scientific Basis of Risk Assessment.**

**Assessment of Complex Cognitive Function in Rodents and Extrapolation Across Species**, D. A. Cory-Slechta, Department of Environmental Medicine, University of Rochester Medical School, Rochester, NY.

**Assessment of Complex Brain Function in Both Non-Human Primates and Humans Using Identical Behavioral Tasks**, M. G. Paule, National Center for Toxicological Research, Jefferson, AR.

**Assessing the Effects of Neurotoxicants on Children's Cognition**, D. Bellinger, Children's Hospital, Boston, MA.

**Human Neurobehavioral Test Methods for Studying Neurotoxicity in Working Populations**, W. K. Anger, Oregon Health Science University, Portland, OR.

### CARCINOGENICITY OF CIGARETTE SMOKE: BRIDGING THE GAP BETWEEN COMPLEX MIXTURES AND INDIVIDUAL COMPONENTS

*Chairpersons: S. W. Burchiel, University of New Mexico, College of Pharmacy, Albuquerque, NM, and H. P. Witschi, Institute of Toxicology and Environmental Health, University of California, Davis, CA.*

**Sponsored by the Carcinogenesis and Mechanisms Specialty Sections.**

**Free Radicals and Oxidants in Aqueous Extracts of Cigarette Smoke: Damage to Lipids, Proteins, and DNA**, W. A. Pryor, Biodynamics Institute, Louisiana State University, Baton Rouge, LA.

**Cigarette Smoke as a Lung Carcinogen in Man and Animals**, H. P. Witschi, Institute of Toxicology and Environmental Health, University of California, Davis, CA.

**Cigarette Smoke Carcinogens: Mechanisms of DNA Damage**, S. A. Belinsky, Lovelace Respiratory Research Institute, Albuquerque, NM.

**Do Cigarette Smoke Oxidants Alter Signaling Pathways Associated with Tumor Promotion and Progression?**, S. W. Burchiel, The University of New Mexico College of Pharmacy, Toxicology Program, Albuquerque, NM.

**Cigarette Smoke Carcinogens and Lung Cancer**, S. S. Hecht, University of Minnesota Cancer Center, Minneapolis, MN.

### TOXICOLOGY FOR KIDS: A HOW-TO GUIDE FOR TOXICOLOGISTS

*Chairpersons: G. S. Yost, Department of Pharmacology and Toxicology, University of Utah, Salt Lake City, UT, and C. A. McQueen, Department of Pharmacology and Toxicology, University of Arizona, Tucson, AZ.*

**Sponsored by the Education and K-12 Committees.**

**Toxicology Can Turn Kids on to Science**, N. Biggart, Bonita Vista High School, El Cajon, CA.

**Toxicologists Selling Science in the Classroom?, Lessons From Marketing**, W. T. Klimcecki, Motorola Inc., Corporate Research Labs, Tempe, AZ.

**Experiences of AAAS in K-12 Science, Mathematics, and Technology Education**, Y. S. George, American Association for the Advancement of Science, New York, NY.

**Overview of K-12 Environmental Health Science Education Efforts at NIEHS**, A. Deary, NIEHS, Research Triangle Park, NC.

**Hands-on Demonstrations of Toxicology Materials: "Enviromysteries" (Video)**, M. Trush, Johns Hopkins University; **"Toxicology Risk Assessment and Pollution" (Print)**, A. Gotsch, Rutgers University; **"Tox-in-a-Box" (Experiment)**, D. Eaton, University of Washington; **"Chemicals and Human Health" (Computer)**, J. Norman, University of Arizona; and **"Get the Lead Out" (Print)**, M. Dereski, Wayne State University.

### THE IMMUNOTOXICOLOGY OF NOVEL THERAPEUTICS

*Chairpersons: R. V. House, IIT Research Institute, Chicago, IL, and K. L. Hastings, US FDA, Rockville, MD.*

**Sponsored by the Immunotoxicology Specialty Section.**

**Immunomodulatory Biologics: Distinguishing Activity from Toxicity**, J. L. Bussiere, Genentech, Inc., South San Francisco, CA.

**Toxicity of Therapeutic Cytokines: from Animal Data to Clinical Adverse Effects**, J. Descotes, Lyon Poison Center and ISERM U98-X, Claude Bernard University, Lyon, France.

**Mechanisms and Applications of CpG DNA**, A. M. Krieg, Veterans Affairs Medical Center and University of Iowa, Iowa City, IA.

**Immunomodulation by the Protease Saquinavir**, D. R. Germolec, NIEHS, Research Triangle Park, NC.

**Toxicity of Therapeutic Immunosuppressants**, K. L. Hastings, Division of Special Pathogens and Immunologic Drug Products, Center for Drug Evaluation and Research, US FDA, Rockville, MD.

Continued to page 11

## Workshop Sessions

Continued from page 10

### VALIDATION OF TOXICOLOGY TEST METHODS: IMMUNOTOXICOLOGY CASE STUDIES

*Chairpersons:* G. F. Gerberick, Procter & Gamble, Miami Valley Laboratories, Cincinnati, OH, and A. E. Munson, NIOSH/HELD, Morgantown, WV.

Sponsored by the Immunotoxicology and In Vitro Specialty Sections.

**Guidelines for Validation and Acceptance of Toxicology Testing Methods,** W. S. Stokes, Environmental Toxicology Program, National Institute of Environmental Health Sciences, Research Triangle Park, NC.

**In Vitro 3T3 Neutral Red Uptake Phototoxicity Test (3T3 NRU PT): A Coordinated Validation Process,** H. Spielmann, ZEBET (National Center for Validation and Evaluation of Alternative Methods to Animal Experiments) at the BgVV (Fed. Inst. for Health Protection of Consumers and Veterinary Medicine), Berlin, Germany.

**Local Lymph Node Assay: An Approach to Validation and Current Regulatory Status,** I. Kimber, Zeneca Central Toxicology Laboratory, Macclesfield, England.

**Validation Status and Regulatory Acceptance of Laboratory Animal-Based Testing Methods to Assess Drug and Chemically-Induced Immunosuppression,** P. T. Thomas, Covance Laboratories Inc, Madison, WI.

### ENDOCRINE DISRUPTION AND NEUROTOXICITY: WHY TOXICOLOGISTS SHOULD BE CONCERNED ABOUT THE ACTIONS OF ESTROGENIC CHEMICALS IN THE CNS

*Chairpersons:* D. B. Miller, Toxicology & Molecular Biology Branch, Health Effects Laboratory Division, CDC/NIOSH, Morgantown, WV, and S. F. Ali, Neurochemistry Laboratory, Division of Neurotoxicology, NCTR/FDA, Jefferson, AR.

Sponsored by the Mechanisms and Neurotoxicology Specialty Sections.

**Biological Actions of Estrogen: Genomic and Non-Genomic Mechanisms,** S. C. Laws, Reproductive Toxicology Division, NHEERL, US EPA, Research Triangle Park, NC.

**The Role of Estrogens in Shaping Brain Structure,** A. C. Scallet, NCTR/FDA, Jefferson, AR.

**Neuroprotective Actions of Estrogen - Implications for Exposure to Estrogenic Chemicals,** D. B. Miller, Toxicology & Molecular Biology Branch, Health Effects Laboratory Division, CDC/NIOSH, Morgantown, WV.

**Neuroprotective Role of Estrogen in Oxidative Stress-Induced Neurodegeneration: Implications for Neurotoxic Insult,** S. F. Ali, Neurochemistry Laboratory, Division of Neurotoxicology, NCTR/FDA, Jefferson, AR.

### RELATIONSHIPS BETWEEN BIOPERSISTENCE, IN VITRO DISSOLUTION RATE, AND FIBER TOXICITY

*Chairpersons:* D. M. Bernstein, Consultant in Toxicology, Geneva, Switzerland, and T. W. Hesterberg, Johns Manville Corporation, Littleton, CO.

Sponsored by the Inhalation Specialty Section.

**Scientific Basis of Biopersistence Methods to Characterize the Carcinogenic Potential of Fibers,** G. Oberdörster, University of Rochester, Department of Environmental Medicine, Rochester, NY.

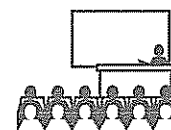
**The Biopersistence of Synthetic Vitreous Fibers: A Critical Determinant of the Biological Activity of Fibers,** J. G. Hadley, Owens Corning Science and Technology Center, Granville, OH.

**Importance of the Biopersistence of Mineral Fibers to Fiber Toxicity,** H. Muhle, Fraunhofer Institute of Toxicology and Aerosol Research, Hannover, Germany.

**Comparisons of Lung Clearance Mechanisms of Two Organic Fiber-Types: In Vitro and In Vivo Mechanistic Studies,** D. B. Warheit, DuPont Haskell Lab, Newark, DE.

**Summary,** D. M. Bernstein, Consultant in Toxicology, Geneva, Switzerland.

## Special Workshop



### INTERNATIONAL UNION OF TOXICOLOGY (IUTOX)- SPONSORED WORKSHOP—DISCUSSION OF THE INTERNATIONAL COUNCIL OF SCIENTIFIC UNIONS "WHITE BOOK" ENTITLED *NATURAL AND ANTHROPOGENIC ENVIRONMENTAL ESTROGENS: THE SCIENTIFIC BASIS FOR RISK ASSESSMENT*

*Chairpersons:* J. Bus, Dow Chemical, Midland, MI and/or I. Purchase, Zeneca Ltd, Cheshire, UK.

Advance pre-registration required.  
Contact: James Bus at: [jbus@dow.com](mailto:jbus@dow.com).

## Roundtable Sessions



### THE CHALLENGES OF USING COMMON MECHANISMS OF TOXICITY IN CHEMICAL REGULATION

*Chairpersons:* J. E. Chambers, Mississippi State University, Mississippi State, MS, and L. P. Sheets, Bayer Corporation, Stillwell, KS.

Sponsored by the Neurotoxicology and Risk Assessment Specialty Sections and the Task Force to Improve the Scientific Basis of Risk Assessment.

**Speakers:** J. Chambers, Mississippi State University, Mississippi State, MS; M. Dourson, Toxicology Excellence for Risk Assessment, Cincinnati, OH; P. Fenner-Crisp, US EPA, Washington, DC; and L. Sheets, Bayer Corporation, Stillwell, KS.

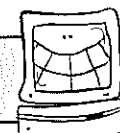
### A PARTNERSHIP APPROACH TO THE EVALUATION OF ALTERNATIVE MODELS FOR CARCINOGENICITY TESTING

*Chairpersons:* D. E. Robinson, International Life Sciences Institute, Washington, DC, and J. S. MacDonald, Schering-Plough Research Institute, Kenilworth, NJ.

Sponsored by the Carcinogenesis and Regulatory and Safety Evaluation Specialty Sections.

**Speakers:** J. C. Barrett, NIEHS, Research Triangle Park, NC; J. DeGeorge, US FDA, Rockville, MD; M. McClain, UMDNJ, Robert Wood Johnson Medical School, Piscataway, NJ; J. Popp, Sanofi Research Div, Malvern, PA; and R. Tennant, NIEHS, Research Triangle Park, NC.

Additional information on Symposia, Workshops and Roundtables is available on  
SOT's Home page on the World Wide Web at <http://www.toxicology.org>.



# Innovations in Toxicological Sciences Sessions



## CYTOKINES: BIOLOGY, GENE REGULATION, AND ROLE IN THE PATHOGENESIS OF LUNG DISEASE

**Chairpersons:** K. E. Driscoll, Procter & Gamble Pharmaceuticals, Cincinnati, OH, and D. L. Laskin, Rutgers University, Piscataway, NJ.  
Sponsored by the Inhalation Specialty Section.

**The Dynamic Interactions Between Cytokines, Chemokines, and Adhesion Molecules Dictates the Evolution of Chronic Disease,** S. L. Kunkel, University of Michigan Medical School, Ann Arbor, MI.

**The Role of TH2 Cytokines in the Pathogenesis of Allergic Asthma,** M. Wills-Karp, Johns Hopkins School of Hygiene and Public Health, Baltimore, MD.

**IL-6-Type Cytokines in Airways Disease,** J. A. Elias, Yale University School of Medicine, New Haven, CT.

**Expression of PDGF and TGF $\beta$ 1 at Sites of Lung Injury,** A. R. Brody, Tulane University Medical Center, New Orleans, LA.

**Chemical-Induced Activation of Nuclear Transcription Factors and Their Regulation of Cytokine Secretion,** M. I. Luster, National Institute for Occupational Safety and Health, Morgantown, WV.

**Summary,** D. L. Laskin, Rutgers University, Piscataway, NJ.

## REGULATION OF GENE-EXPRESSION VIA THE ELECTROPHILE RESPONSE ELEMENT

**Chairperson:** K. S. Ramos, Center for Environmental and Rural Health and Department of Physiology and Pharmacology, Texas A&M University College of Veterinary Medicine, College Station, TX.

Sponsored by the Mechanisms and Molecular Biology Specialty Sections.

**Transcriptional Regulation of the Glutathione S-Transferase A2 Gene,** C. B. Pickett, Schering-Plough Research Institute, Kenilworth, NJ.

**Antioxidant Regulation of Genes Encoding Enzymes that Detoxify Xenobiotics and Carcinogens,** A. K. Jaiswal, Dept. of Pharmacology, Baylor College of Medicine, Houston, TX.

**Functional Interaction of Proteins with the Electrophile Responsive Element,** W. E. Fahl, McArdle Laboratory for Cancer Research, University of Wisconsin, Madison, WI.

**NAD(P)H:Quinone Oxidoreductase 1 (QR1) and the Antioxidant/Electrophile Responsive Element (ARE/EpRE) in Cells of Neuronal Origin,** J. A. Johnson, Dept. of Pharmacol., Toxicol. and Thera., University of Kansas Medical Center, Kansas City, KS.

**Cell and Promoter Specific Patterns of Gene Regulation via the Electrophile Response Element,** K. S. Ramos, Center for Environmental and Rural Health and Department of Physiology and Pharmacology, Texas A&M University College of Veterinary Medicine, College Station, TX.

# Innovations in Applied Toxicology



## GENOMIC TECHNOLOGIES AND NEW SCREENING STRATEGIES FOR TOXICOLOGY

**Chairperson:** M. J. Cunningham, Incyte Pharmaceuticals, Inc., Palo Alto, CA.

Sponsored by the Regulatory and Safety Evaluation Specialty Section.

**Integration of Molecular Toxicology into the Drug Discovery Process,** M. D. Todd, Department of Toxicology, Chiron Corporation, Emeryville, CA.

**Moderate and High Throughput Strategies for Determining Hepatic Effects of Pharmaceutical Leads,** R. G. Ulrich, Strategic and Exploratory Sciences, Abbott Laboratories, Abbott Park, IL.

**Evaluating Drug Mechanisms and Toxicities by Microarray Expression Analysis,** D. A. Jones, Molecular Pharmacology Division, Huntsman Cancer Institute, Salt Lake City, UT.

**The Potential of Transcript and Protein Profiling for the Assessment of Chemically-Induced Toxicity,** J. D. Tugwood, Safety of Medicines Group, Zeneca Pharmaceuticals, Macclesfield, United Kingdom.

# Continuing Education Courses



Continuing Education Courses offer both basic and advanced topics and will be offered on Sunday, March 14, 1999.

Course descriptions were included in the Preliminary Information Packet mailed to members last July and will also be included in the Annual Meeting Preliminary Program that will be mailed to members in mid-December.

## BASIC BIOINFORMATICS: FROM SEQUENCE ANALYSIS TO GENOME ANALYSIS

Sunrise Mini-Course Basic

**Chairperson:** William Mattes, Pharmacia & Upjohn, Kalamazoo, MI.  
Sponsored by Molecular Biology Specialty Section.

## EVALUATION OF MALE REPRODUCTIVE TOXICITY: SPERM MARKERS AND EPIDIDYMAL MECHANISMS OF TOXICITY

AM #1 Basic

**Chairpersons:** Marion Miller, Dept. of Environmental Toxicology, University of California, Davis, CA, and Lori Dostal, Parke-Davis Pharmaceutical Research, Division of Warner-Lambert Company, Ann Arbor, MI.

Sponsored by Reproductive & Developmental Specialty Section.

**Basic Functions of the Mammalian Epididymis,** Barry Hinton, University of Virginia Health Sciences Center, Charlottesville, VA.

**Toxicology of the Epididymis: From Unique Experimental Strategies to Novel Biomarkers,** Gary Klinefelter, NHEERL, US EPA, Research Triangle Park, NC.

**Improved Methods for Assessing Sperm Functions and Interpreting the Results,** Sally D. Perreault, NHEERL, US EPA, Research Triangle Park, NC.

**Toxicology Testing for Male Reproductive Effects of Chemicals and Drugs: Methods and Applications,** Lori Dostal, Parke-Davis Pharmaceutical Research, Division of Warner-Lambert Company, Ann Arbor, MI.

## APPLICATION OF TRANSGENIC MODELS IN TOXICOLOGY

AM #2 Advanced

**Chairperson:** Ray Tennant, Laboratory of Environmental Carcinogenesis and Mutagenesis, NIEHS, Research Triangle Park, NC.

Sponsored by Molecular Biology Specialty Section.

Continued to page 13

---

## CE Courses

Continued from page 12

**Introduction to Transgenics**, Ray Tennant, NIEHS, Research Triangle Park, NC.

**Development of Transgenic Mouse Models: Examples in Reproduction and Development**, Mitch Eddy, NIEHS, Research Triangle Park, NC.

**Molecular Aspects of Transgene Integration and Expression**, Ronald Cannon, NIEHS, Research Triangle Park, NC.

**Applications of Transgenic Models in Toxicology**, Tom Goldsworthy, Integrated Laboratory Systems, Research Triangle Park, NC.

**Transgenic Models in Drug and Chemical Safety Assessment**, Raymond W. Tennant, NIEHS, Research Triangle Park, NC.

---

### GENE REGULATION BY REACTIVE OXYGEN SPECIES

AM #3 Advanced

*Chairperson: Alvaro Puga, University of Cincinnati, Cincinnati, OH.*

Sponsored by Molecular Biology Specialty Section.

**Free Radical Biology and Chemistry**, Sidney Stohs, Creighton University, Omaha, NE.

**Generation of Reactive Oxygen in Mitochondria**, Kendall Wallace, University of Minnesota, Duluth, MN.

**Cell Cycle Regulation by Oxidative Stress**, Michael Carty, University of Cincinnati Medical Center, Cincinnati, OH.

**Regulation of Gene Expression by Oxidants**, Alvaro Puga, University of Cincinnati, Cincinnati, OH.

---

### IN VITRO METHODS FOR EVALUATING BIOKINETIC PARAMETERS FOR RISK ASSESSMENT

AM #4 Basic

*Chairperson: John Frazier, Air Force Research Laboratory, Wright-Patterson Air Force Base, OH.*

Sponsored by *In Vitro* Specialty Section.

**Kinetic Modeling and Risk Assessment 0151—Introduction**, John Frazier, Air Force Research Laboratory, Wright-Patterson Air Force Base, OH.

**Evaluating Mechanisms of Membrane Transport Using *In Vitro* Systems**, Mary Vore, University of Kentucky Chandler Medical Center, Lexington, KY.

**Evaluation of Protein Binding Parameters for Kinetic Modeling**, Michael Owens, University of Arkansas for Medical Sciences, Little Rock, AR.

**Determining Metabolic Parameters in *In Vitro* Systems**, Gregory Kedderis, Chemical Industry Institute of Toxicology, Research Triangle Park, NC.

**Estimation of Parameters for Tissue-Blood Partitioning**, Joost DeJongh, Research Institute of Toxicology, Utrecht University, Utrecht, The Netherlands.

---

### ADVANCED METAL TOXICOLOGY

AM #5 Advanced

*Chairperson: Michael Waalkes, NCI at NIEHS, Research Triangle Park, NC.*

Sponsored by Metals Specialty Section.

**Advanced Metal Toxicology: Introduction**, Michael P. Waalkes, NCI, NIEHS, Research Triangle Park, NC.

**Bioinorganic Chemistry of Metals**, Dennis Winge, University of Utah Medical Center, Salt Lake City, UT.

**Metals in Normal and Aberrant Gene Expression**, Jim Korpatnick, London Regional Cancer Center, London, Ontario, Canada.

**Molecular and Ionic Mimicry in Metal Metabolism and Toxicity**, Michael Aschner, Bowman Gray School of Medicine, Winston-Salem, NC.

**Adaptive Mechanisms in Metal Toxicology**, George Cherian, University of Western Ontario, London, Ontario, Canada.

---

### CHEMICAL HYPERSENSITIVITY

AM #6 Basic

*Chairpersons: Meryl Karol, Department of Environmental and Occupational Health, University of Pittsburgh, Pittsburgh, PA, and Jacques Descotes, INSERM 80, Dept. Pharmacy, Medical Toxicology, and Environmental Medicine, Faculte de Medecine, Lyon, France.*

Sponsored by Immunotoxicology Specialty Section.

**Introduction**, Jacques Descotes, INSERM 80, Dept. Pharmacy, Medical Toxicology, and Environmental Medicine, Faculte de Medecine, Lyon, France.

**Immunobiological Mechanisms of Allergic Contact Dermatitis**, Ian Kimber, Zeneca CIL, Macclesfield, Cheshire, United Kingdom.

**Mechanisms of Allergic Respiratory Hypersensitivity**, Henk Van Loveren, RIVM-The Netherlands, Bilthoven, The Netherlands.

**Models of Contact and Respiratory Sensitivity and Structure-Activity Relationships**, Meryl H. Karol, University of Pittsburgh, Pittsburgh, PA.

**Chemical Allergy: Regulatory Considerations**, Martinus Lovik, National Institute of Public Health, Oslo, Norway.

**Conclusions/Discussion**, Meryl H. Karol, University of Pittsburgh, Pittsburgh, PA.

---

### TECHNIQUES FOR DETECTION AND QUANTIFICATION OF APOPTOSIS

PM #7 Basic

*Chairperson: Rick Schnellmann, University of Arkansas Medical Sciences, Little Rock, AR.*

Sponsored by Molecular Biology.

**Introduction**, Rick Schnellmann, University of Arkansas Medical Sciences, Little Rock, AR.

**Detection and Quantification of Apoptosis by Light and Electron Microscopy**, Myrtle A. Davis, School of Medicine, University of Maryland, Baltimore, MD.

**Detection and Quantification of Apoptosis by Flow Cytometry**, Martin Poot, University of Washington, Seattle, WA.

**Detection and Quantification of Apoptosis using Caspases**, Yuri Lazebnik, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY.

**Detection and Quantification of Apoptosis using DNA Fragmentation**, Kelvin Cain, University of Leicester, Leicester, United Kingdom.

**Question and Answer Period**, Speakers.

Continued to page 14

---

## CE Courses

Continued from page 13

### GENOMIC TECHNOLOGIES AND NEW SCREENING STRATEGIES FOR TOXICOLOGY

PM #8 Advanced

*Chairpersons:* Irwin Rosenblum, Schering-Plough Research Institute, Lafayette, NJ, and Roger Ulrich, Abbott Laboratories, Abbott Park, IL.

Sponsored by Molecular Biology and Regulatory & Safety Evaluation Specialty Sections.

**New Tools for Toxicology: Application of a Genome-Based Screen,** Mary Jane Cunningham, Incyte Pharmaceuticals, Inc., Palo Alto, CA.

**Toxicology Assessment using High Fidelity, Genome-Based Microarrays,** Thomas Ryder, Affymetric, Inc., Santa Clara, CA.

**Pharmaceutical Proteomics,** Leigh Anderson, Large Scale Biology Corporation, Rockville, MD.

**Use of the Quantigene Assay for High Throughput Screening of Nucleic Acid Targets,** Marque Todd, Chiron Corporation, Emeryville, CA.

**A High-Volume in situ mRNA Hybridization Assay for the Quantification of Gene Expression utilizing Scintillating Microplates,** David Jones, Huntsman Cancer Center, University of Utah, Salt Lake City, UT.

### GENE TARGETING/NULL MODELS IN TOXICOLOGY

PM #9 Advanced

*Chairperson:* Chris Bradfield, McArdle Laboratory for Cancer Research, Madison, WI.

Sponsored by Molecular Biology Specialty Section.

**Knockout Mice for use in Toxicology and Carcinogenesis,** Jerrold M. Ward, National Cancer Institute, Frederick, MD.

**Interpretation of Results from Gene Targeting Experiments,** Chris Bradfield, McArdle Laboratory for Cancer Research, Madison, WI.

**Techniques in Gene Targeting,** Jennifer V. Schmidt, Howard Hughes Medical Institute, Princeton University, Princeton, NJ.

**Prevention of Tumorigenesis in p53-Deficient Mice,** Susan N. Perkins, National Cancer Institute, Frederick, MD.

### THE PRACTICE OF STRUCTURE ACTIVITY RELATIONSHIPS (SAR) IN TOXICOLOGY

PM #10 Basic

*Chairperson:* James McKinney, US EPA, Research Triangle Park, NC.

Sponsored by Molecular Biology Specialty Section.

**Structure-Activity Relationships in Toxicology: Bridging Biology and Chemistry,** Ann Richard, US EPA, Research Triangle Park, NC.

**Application of 3D-QSAR Methods to Characterization and Prediction in Toxicology,** Chris Waller, OSI Pharmaceuticals, Inc., Durham, NC.

**Quantitative Ion-Character-Activity Relationships as an Approach to Predicting Metal Toxicity,** Michael Newman, Virginia Institute of Marine Science, Gloucester Point, VA.

**Development, Validation, and Application of Expert Systems for Predicting Toxicity,** Frank Gerberick, Procter & Gamble Company, Cincinnati, OH.

### TARGET ORGAN TOXICOLOGY: RESPIRATORY TRACT DOSIMETRY & RESPONSE TO INHALED TOXICANTS

PM #11 Basic

*Chairperson:* John Morris, University of Connecticut, Storrs, CT.

Sponsored by Inhalation Specialty Section.

**Respiratory Tract Dosimetry and Response to Inhaled Toxicants: An Overview,** John Morris, University of Connecticut, Storrs, CT.

**Structure of the Respiratory Tract,** Kent Pinkerton, University of California-Davis, Davis, CA.

**Tissue Responses of the Upper and Lower Respiratory Tracts,** Jack Harkema, Michigan State University, East Lansing, MI.

**Particle Dosimetry: Mechanism, Species Differences, and Extrapolation Modeling,** Richard B. Schlesinger, New York University Medical Center, Tuxedo, NY.

**Gas Dosimetry: Mechanisms, Species Differences, and Extrapolation Modeling,** John Morris, University of Connecticut, Storrs, CT.

### THE EDSTAC TIER 1 SCREENING BATTERY: OBJECTIVES AND RECOMMENDED ASSAYS

PM #12 Basic

*Chairpersons:* Leon Earl Gray, Jr., US EPA, Research Triangle Park, NC, and Jon Cook, E.I. du Pont de Nemours and Co., Newark, DE.

Sponsored by Reproductive and Developmental Specialty Section.

**Overview of the EDSTAC Process and Background of the Endocrine Screening and Testing Batteries,** Rochelle Tyl, Research Triangle Institute, Research Triangle Park, NC.

**In Vitro-Tier 1 Screening Assays, Highthroughput Prescreening Assays and Alternative In Vitro Assays,** William R. Kelce, Monsanto, Co. AG, St. Louis, MO.

**In Vitro-Tier 1 Screening Assays,** Leon Earl Gray, Jr., US EPA, Research Triangle Park, NC.

**In Vivo-Tier 1 Screening-Alternative Assays,** Jon Cook, E.I. du Pont de Nemours and Co., Newark, DE.

**Overview of Amphibian and Fish Assays for Evaluation of Chemicals with Endocrine Activity,** Gary Ankley, US EPA, Duluth, MN.

### BASICS OF ECOLOGICAL RISK ASSESSMENT

PM #13 Basic

*Chairperson:* Angela Schmidt, 3D Environmental, Cincinnati, OH.

Sponsored by Society of Environmental Toxicology and Chemistry.

**Introduction to Ecological Risk Assessment and Regulatory Guidelines,** Richard Reaves, 3D Environmental, Cincinnati, OH.

**Endpoint Selection and Exposure Assessment,** Angela Schmidt, 3D Environmental, Cincinnati, OH.

**Ecotoxicological Assessment,** Angela Schmidt, 3D Environmental, Cincinnati, OH.

**Risk Characterization and Case Studies,** Richard Reaves, 3D Environmental, Cincinnati, OH.

## SOT Supports Defense of Current USDA Regulations for Primates

A recent legal case might set a dangerous precedent allowing those who oppose any animal research to have controlling influence in the future development and enforcement of animal welfare regulations. Ultimately, if not successfully challenged, this precedent will threaten the performance-based standard approach that the research community believes is essential for scientifically sound animal care regulations and for the protection of laboratory animal welfare.

In this case, *Animal Legal Defense Fund v. the Secretary of Agriculture and NABR* (ALDF III), the U.S. Court of Appeals for the District of Columbia concluded on September 2, 1998, that **Marc Jumove**, an individual plaintiff-appellee, has the required standing to contest the validity of U.S. Department of Agriculture regulations covering environmental enrichment for nonhuman primates (9CFR Section 3.81). This decision is in response to the lawsuit originally filed in 1996, when the late U.S. District Court Judge **Charles Richey** invalidated existing, and ordered new, USDA animal welfare regulations governing nonhuman primates. A sharply divided court wrote two opinions totaling 56 pages debating the pros and cons of the question on standing. With four of the eleven judges dissenting, the majority said that Jumove satisfied the injury, causation, and redressability tests of constitutional standing, and also came within the zone of

interest of the Animal Welfare Act (AWA). Once standing is recognized for one plaintiff, there is no need for the court to rule on the legal status of co-litigants in order for the case to move forward.

The appeals court opinion did not address whether the existing regulations meet Congress' mandate under the AWA, a central issue in ALDF III. The merits of ALDF's claims are to be decided by a future appeals panel. It is not yet known when the case will be heard.

If USDA standards are revised according to Judge Richey's order, research facilities would have extremely costly physical plant requirements that are unlikely to benefit nonhuman primates. According to a NABR estimate, the engineering-based standards for primates originally proposed to USDA in 1989 would have cost over \$300 million.

*Because of the importance of this case, the Society of Toxicology has contributed \$3,000 toward the National Association for Biomedical Research (NABR) Legal Fund. The Society encourages its members to consider supporting the legal defense. Contributions may be made by checks payable to the National Association for Biomedical Research and forwarded to NABR, 818 Connecticut Avenue NW, Suite 303, Washington, DC 20006.*

## Toxicology for Kids: A How-To Guide for Toxicologists

What approaches and tools are effective for toxicologists participating in K-12 education? Find out at this workshop Wednesday morning, March 17. Presentations include:

- **Toxicology can turn kids on to science**  
Dr. Neal Biggart, Bonita Vista High School, Chula Vista, CA
- **Toxicologists selling science in the classroom? Lessons from marketing**  
Dr. Walt Klimecki, Motorola, Inc.
- **Experiences of AAAS in K-12 science, mathematics and technology education**  
Yolanda George, AAAS
- **Overview of NIEHS K-12 environmental health science education efforts**  
Dr. Allen Deary, NIEHS
- **Demonstrations of toxicology curriculum materials:**
  - Enviro mysteries** (video) Dr. Mike Trush, Johns Hopkins University
  - Toxicology risk assessment & pollution** (print) Dr. Audry Gotsch, Rutgers University
  - Tox-in-a-box** (experiments) Dr. Dave Eaton, University of Washington
  - Chemicals and human health** (computer) Dr. Joanna Norman, University of Arizona
  - Get the lead out** (print) Dr. Mary Dereski, Wayne State University

## **Membership Directory Updates:**

*Please make the following changes to the Specialty Section Officer Listing in your Membership Directory:*

### *Mechanisms Specialty Section*

Vice President:  
**Gary S. Yost**

Vice President-Elect:  
**James L. Stevens**

### *Reproductive and Developmental Specialty Section*

Councilor:  
**Marion G. Miller**

*Please make the following changes to the Membership Roster in your Membership Directory:*

**George C. Becking, PhD**  
2347 Aspen Street  
Kingston, Ontario, K7L 4V1  
CANADA  
FI /T: (613) 544-3775  
E-mail:  
george.becking@sympatico.ca

**Timothy A. Roy, PhD**  
Mobil Business Resources  
Corporation  
Product Stewardship &  
Toxicology  
P.O. Box 310  
Paulsboro, NJ 08066  
F /T: (609) 224-4629  
F: (609) 224-4652  
E-mail:  
tim\_a\_roy@email.mobil.com

## **EPA Pollution Prevention Grants Available**

The Environmental Protection Agency (EPA) expects to have approximately \$5 million available in fiscal year 1999 grant/cooperative agreement funds under the Pollution Prevention Incentives for States (PPIS) grant program. The grant dollars are targeted at state and tribal programs that address the reduction or elimination of pollution across all environmental media: Air, land, and water. Grants/cooperative agreements will be awarded under the authority of the Pollution Prevention Act of 1990. For further information, contact your EPA Regional Pollution Prevention Coordinator.

More information is available on the EPA Home page at "Federal Register—Environmental Document" (<http://www.epa.gov/fedrgstr>) and on the EPA P2 Home page: (URL:<http://web.fie.com/hfdoc/fed/epa/any/any/proc/any/fr10149801.htm>).

## **Request for Continuing Education Course Proposals for 2000 Annual Meeting**

The Continuing Education (CE) Committee would like to encourage you to begin thinking about submitting a CE course proposal for the annual meeting of the Society in 2000. You may wonder what factors are considered when planning the CE courses for the annual meeting. The major factors considered by the Committee include: the quality of the submitted proposal and timeliness of the subject material. The CE Committee also considers the needs for certain basic topics to be presented every two to five years and for new topics to be introduced as the science in a particular field, or the membership changes. The CE Committee also considers the diverse needs of the membership and responds to the suggestions of members. **Recommendations from both regional chapters and specialty sections are also welcomed.**

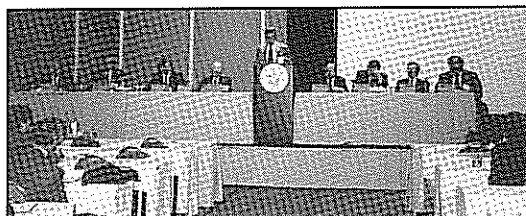
Potential topics for CE courses can be quite broad and have ranged in subject matter from endocrine disruptors to statistics for toxicologists. They have included suggestions ranging from improving our understanding of the toxicological relevance of improvements in biology (e.g., transgenic animal models) to more regulatory oriented subjects (e.g., management of clinical trials).

The CE Committee can help you plan your course and select excellent speakers. In selecting speakers, one should bear in mind that CE courses are intended as forums for established concepts, not as venues for presentation of the latest research observations. It is essential that speakers should be, first and foremost, outstanding teachers.

If you have any ideas about content or speakers for topics that would be of interest to the membership at large, then please consider submitting a CE course proposal for a 2000 CE course. Instructions and proposal forms will be included in the Special Issue of the *Communiqué* (January 1999). Please feel free to contact any member of the CE Committee if you require advice or information.



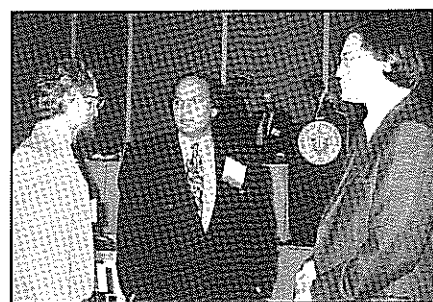
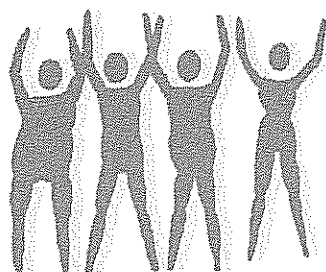
# The Society of Toxicology Thanks the Organizers, Exhibiting Companies and Sponsors of The Role of Diet and Caloric Intake in Aging, Obesity, and Cancer Meeting



The three-day meeting, held October 26-28, 1998, closed with a panel of distinguished scientists who discussed the public health implications of the studies presented at the meeting.



Dr. Walter Willet of the Harvard University School of Public Health, discussed links between diet and breast cancer.



Following the panel discussion, meeting chairperson Dr. Rakesh Dixit, of Merck Research Laboratories (middle), talks with colleagues Dr. Kevin Keenan also of Merck (left) and Dr. Michael Rosenbaum of Columbia University (right).

## Symposium Organizing Committee

R Dixit, Chairperson, Merck Research Laboratories

R Bernard, Cleary, Gottlib, Steen, and Hamilton

R Hart, National Center for Toxicological Research (NCTR)

S Kacew, University of Ottawa, Canada

K Keenan, Merck Research Laboratories

J Keller, Toxicology, Litigation, Regulatory,  
Environmental Services

D Neumann, ILSI Risk Science Institute

A Rogers, Boston University School of Medicine

C Willhite, State of California

## Exhibiting Companies

Charles River Laboratories

Harlan-Sprague Dawley, Inc.

Lab Products, Inc.

Purina Mills, Inc.

R&M Biometrics (BIOQUANT), Inc.

Research Diets, Inc.

## Sponsors

Charles River Laboratories

Dupont Pharmaceuticals

ILSI Risk Science Institute

International Society of Regulatory  
Toxicology and Pharmacology

Merck Research Laboratories

Monsanto Company

National Center for Toxicological Research,  
US Food and Drug Administration

Purina Mills, Inc.

Rhône-Poulenc Rorer Central

RW Johnson Pharmaceutical

Sanofi Pharmaceuticals

Schering-Plough Research Institute

SmithKline Beecham

Society of Toxicology



**Advertising in the *Communique* is an excellent way to recruit employees or employers!**

The SOT *Communique* is published five times a year. The costs for placing positions available are \$250.00 for 100 words and \$1.00 for each additional word. The cost for placing positions wanted ads is \$25.00 for 50 words and \$.50 for each additional word. Please send the ad copy to **Dawn Caruso**, SOT Headquarters, by E-mail: dawn@toxicology.org or Fax: 703-438-3113.

**Toxicologist**

Toxicologist, Ph.D./DABT, with seventeen years experience in academia, industry, and government, seeks position in pharmaceutical product safety testing, regulatory affairs, risk assessment, or non-profit toxicological activities. Can relocate anywhere, but preference is West Coast or Southwest. Salary negotiable. Computer literate. E-mail to nototoxicity@aol.com.

**Position Wanted:**

Successful applicants must demonstrate the potential to develop/maintain a research program, obtain extramural funding and participate in teaching medicinal chemistry, toxicology, and/or pharmacology. Applicants for associate professor level must have current extramural funding. Faculty are affiliated with a large and highly competitive interdisciplinary graduate program and opportunities exist for participation in the Center for Toxicology and Arizona Cancer Center.

Review of applications will begin January 15, 1999, and will continue until the positions are filled. An application letter, curriculum vitae, copies of two publications, statement of research interests, and names and addresses of 3-5 references should be sent to:

Search Committee  
 Department of Pharmacology & Toxicology  
 College of Pharmacy/University of Arizona  
 PO Box 210207  
 Tucson, AZ 85721-0207

The University of Arizona is an EEO/AA Employer, M/W/D/V.

Applicants must have a doctoral degree and postdoctoral experience. Areas of preferred interest include but are not limited to: molecular toxicology related to drug metabolism or environmental toxicology; synthetic medicinal, combinatorial or natural products chemistry; molecular pharmacology. Experience with computer-assisted drug design, QSAR or molecular modeling is of additional interest.

Under new leadership, The Department of Pharmacology and Toxicology at The University of Texas Medical Branch at Galveston (UTMB) will experience dynamic growth and development. We seek applications for three tenure-track positions.

**Assistant Professor & Associate Professor in Molecular Toxicology**

The Department of Pharmacology & Toxicology, College of Pharmacy, University of Arizona, invites applications for tenure-track positions at the assistant/associate professor level for the 1999-2000 academic year.

UTMB offers competitive salaries and start-up packages. Review of applications will begin on November 15, 1998 and will continue until all positions are filled. All applications should contain the following materials: current curriculum vitae and list of publications, concise statement (less than 3 pages) of research accomplishments and future plans, names and addresses of three referees. Please submit to: Dr. James Halpert, Professor and Chairman, Department of Pharmacology and Toxicology, The University of Texas Medical Branch, Galveston, Texas 77555-1031. UTMB is an EEO/AA Employer, M/F/D/V.

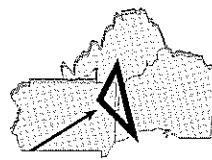
In addition, attractive opportunities exist for new faculty development through participation in an NIEHS-funded Center in Environmental Health Sciences, an Environmental Toxicology Training Grant, and the Centennial Center for Toxicology. Centers of Excellence in Structural Biology, Molecular Sciences, and Oncology and Hematology provide additional collaborations to enhance individual research efforts.

Research areas of special interest include but are not limited to: structure, mechanisms, or regulation of biotransformation enzymes; effects of toxicants on cellular signaling pathways; neurotoxicology; chemical mechanisms of toxicity or carcinogenesis. Individuals with demonstrated productivity utilizing molecular, cellular, or genetic approaches to elucidate mechanisms of toxicant action are especially encouraged to apply. For one of the positions, a strong background in synthetic chemistry is highly desirable.

The successful candidates will be expected to develop and sustain strong and independent extramurally-funded research programs and to contribute to the medical and graduate teaching missions of the department.

All positions require a doctoral degree, at least two years of completed postdoctoral training, and experience in grant writing and obtaining research funding. The Associate Professor candidates should have demonstrated sustained funding including major extramural support.

ALLEGHENY-ERIE CHAPTER

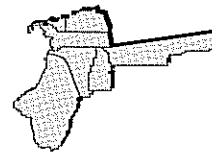


The Fall meeting of the Allegheny-Erie Chapter was held October 16<sup>th</sup> at the Mardi Gras Cajun restaurant (Pittsburgh, PA) as a culinary warm up for the National meeting next Spring in New Orleans.

The Education Committee, including four teachers from the Teachers Advisory Board, met to discuss future chapter programs in a continuing effort to provide training and informational resources to the science programs in tri-state area schools.

The technical program began with a roundtable discussion entitled "Chemicals, Communications, and

NORTHEAST CHAPTER



The Northeast Chapter of the Society of Toxicology held its annual meeting on Friday, October 23, 1998 in Avon, CT. The scientific program, entitled "Molecular Analysis of Target Organ and Cellular Toxicity: Markers and Mechanisms," featured presentations on the application of new high-throughput technologies for the analysis of mRNA and protein expression in

OHIO VALLEY CHAPTER



The Ohio Valley Regional Chapter (OVOT) held its sixteenth Annual Meeting at Wright State University, Dayton, OH, on October 30, 1998. The topic of the scientific program was "In Vitro Approaches in Toxicology." The program was presided over by Dr. Daniel Acosta, Dean of the College of Pharmacy, University of Cincinnati, Cincinnati, OH, and Vice President of SOT, who led off the symposium with a

Soccer Moms: Toxics in Society" which focused upon the Alar/apple episode of the late 80s as a case study in chemical risk communications gone astray. It followed the event sequence from the "60 Minutes" story through escalation of controversy ending with a needlessly frightened public. The panel included representatives from the press - Byron Spice (award-winning science writer - Pittsburgh Post Gazette), science education - Missy Zender (Summit Co. Schools, Ohio), toxicology - Dr. Tom Long - (former Illinois state toxicologist, senior scientist at McLaren/Hart), concerned and health conscious mother - Mary Leber (BS Home Economics), and health sciences - Dr. Bern Schwez (Director of NCTR, Arkansas). Dr. Phil Leber (Goodyear) was the moderator.

Dr. Schwez later presented an insightful after-dinner talk "Toxicology - Do We Have The Impact That We Led Attendees through evolution of chemical risk assessments from the an era where toxic and biochemical mechanisms can play an important role in distinguishing theoretical risks (e.g., increase in 1 case in 1 million people for cancer) from those that pose bona fide hazards to exposed populations. He urged scientific scrutiny of all toxic mechanisms as the only means for rationale projection of chemical risks. The annual Spring Meeting of the A-E SOT is scheduled for May 14, 1999 at Duquesne University, Pittsburgh, PA.

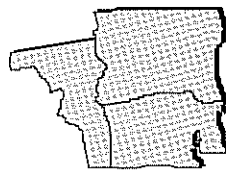
session garnered 22 participants, with graduate student K.C. Growthers (mentor: Dr. Michael Lynes, Univ. of Connecticut) receiving the award for the best graduate student presentation entitled "Endogenous Metallothionein Alters Immune Responses to External Stimulation." The beautiful Fall weather and exciting science attracted more than 100 people to this highly successful gathering.

order to better incorporate toxicology endpoints into the drug discovery process. Invited speakers were: 1) Dale Johnson, Chiron Corp., 2) Bonnie Gould-Rothberg, Curagen Corp., 3) Leigh Anderson, Large Scale Biology Corp., and 4) Stuart Swinburne, Nycomed-Amersham. Alexander Papanikolaou, Univ. of Connecticut, last year's student poster award winner, gave the student presentation concerning his research on colon tumorigenesis in inbred mice. A midday poster

presentation entitled "An In Vitro Approach to the Study of Target Organ Toxicity of Xenobiotics." The other invited speakers and title of their presentations were: Dr. RoseMarie Osborne, Procter & Gamble Company, Cincinnati, OH, on "Alternative Approaches to Assess the Ocular Irritancy of Consumer Products," Dr. Neil Wilcox, Food & Drug Administration, Rockville, MD, on "A Model for the Validation and Regulatory Acceptance of Alternative Testing Methods," and Dr. John Frazier, Wright-Patterson AFB, Dayton, OH, on "The Role of In

PACIFIC NORTHWEST CHAPTER

Scientists from Washington, Oregon, and Northern Idaho met September 17 & 18 in Leavenworth, WA, for the annual Northwest Association of Toxicologists (PANWAT) symposium and research presentations. This year's meeting was organized by President **Richard Okita** from Washington State University. Our



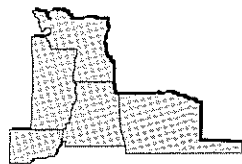
speakers for the symposium and their presentation titles were **Brian Thrall** (Battelle Pacific Northwest National Laboratory) - MAPK pathways and peroxisome proliferator-induced tumor promotion, **Mark Leid** (Oregon State University) - PPAR-alpha coactivators and corepressors, **Dennis Koop** (Oregon Health Sciences University) - The role of the proteasome in P450 regulation, **Sam Brusch** (University of Washington) - Protein targets in cova-

lent binding mediated cell death: Insights from the liver and kidney, and **Marc Farris** (Washington State University) - Antitumor and hepatoprotective properties of Vitamin E derivatives. The second day of the meeting included graduate student presentations and the graduate student award ceremony hosted by **Faige Lawrence** of Washington State University. **David**

*Continued on page 22*

SOUTH CENTRAL CHAPTER

The South Central Chapter held their annual Fall Meeting on October 23 at Mississippi State University. The local arrangements committee (**Drs. J. Chambers, S. Boone** and **R. Carr**) did an outstanding job organizing the meeting. **Dr. Steven**

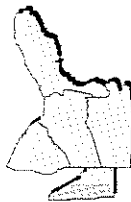


**Cohen**, President of the Society of Toxicology, was the keynote speaker and he addressed the long-range planning initiatives of the Society, with an emphasis on how the regional chapters can become more involved in implementing those initiatives. There were 72 registered participants with eight platform and 34 poster presentations covering a wide array of topics. Outstanding presentation awards were

given to **A. El-Alfy** (University of Mississippi, student platform), **M. Melo-Furtado** (University of Mississippi, student poster), **P. Singh** (Northeast Louisiana University, student poster) and **J. Tor-Agbdyde** (National Center for Toxicological Research, nonstudent-nonfaculty presentation).

SOUTHEASTERN CHAPTER

The 1998 meeting of the Southeastern Regional Chapter of SOT (SESOT) was recently held in at the University of Florida in Gainesville. The theme of the conference was "Interconnections among Ecological and Human



Toxicology." **Dr. Evan Gallagher**, the 1998-99 President of SESOT, organized the conference around the ecological/human toxicology theme to foster discussion among scientists in the southeastern region working on environmental toxicological issues that cross human health and ecological boundaries. Over 50 scientists attended

the meeting, including individuals from academia, government and industry. Two prizes were awarded for the best student poster and platform presentations. In addition, SESOT elected **Dr. Mary Alice Smith** from the University of Georgia as the incoming President for 1999-2000.

SOUTHERN CALIFORNIA CHAPTER

The Southern California Chapter of the Society of Toxicology had its Fall Meeting on Wednesday, November 4. The meeting was hosted by SIS Pharmaceuticals in Carlsbad, California. Over 60 were in attendance at the meeting. The Chapter presented a Symposium entitled "In Vitro Approaches and Methods for Biological Testing." The speakers and titles follow:



Speaker: **Jeff Theiss**, Ph.D., Agouron Pharmaceuticals  
 Title: "In Vitro testing Strategies in Toxicology"  
 Speaker: **David Monteith**, Ph.D., ISIS Pharmaceuticals  
 Title: "Use of Primary Cultures of Hepatocytes for Testing Pharmaceuticals"  
 Speaker: **Greg Stevens**, Ph.D., Agouron Pharmaceuticals  
 Title: "Slice Away the Headaches of

Preclinical Drug Development: The Use of Precision Cut Slices"  
 Speaker: **Leigh Ann Burns-Naas**, Ph.D., Dow Corning Corp.  
 Title: "In Vitro Approaches to Mechanistic Immunotoxicology Studies"  
 Leigh Ann Burns-Naas, at the SOT Meeting in Seattle, was a recipient of a 1998 Colgate-Palmolive Visiting Professorship Award. Thus, Leigh Ann spent the week of November 2-7, 1998 at the Graduate School of Public Health, San

*Continued on page 22*

# Women in Toxicology

*Are you interested in networking with other women in toxicology? Would you like to be a mentor to younger women entering the field? Do you have other concerns/interests related to women in toxicology? Then join us for an informal meeting on Monday, March 15th from 4:30 to 6:00 p.m. to discuss the formation of a Women in Toxicology Group. Watch the meeting program for the location. Questions or ideas? Contact: Gina Pastino, Tel: (914) 785-4487 or E-mail: gina.pastino@clbascc.com or Annie Jarabek, Tel: (919) 541-4847 or E-mail: jarabek.annie@epamail.epa.gov.*

## Robert A. Scala Award in Toxicology

Nominations are open for the seventh annual Robert A. Scala Award in Toxicology. The award is presented annually by the Environmental and Occupational Health Sciences Institute (EOHSI). The goal of this award is to honor the work of exceptional toxicologists in industry and to promote continued outstanding scientific contributions by industrial organizations.

The Scala Award has consistently chosen individuals who are currently active in performing toxicological scientific activities that show promise of making significant original contributions to the field.

The awardee will be announced at the Society of Toxicology annual meeting in March. They will be presented with the award at a special ceremony and lectureship held at EOHSI in the Spring.

Please submit your nomination complete with the nominee's C.V. to: Candace Botnick, Public Affairs Coordinator, EOHSI, 170 Frelinghuysen Road, Piscataway, NJ 08854. The deadline is December 31, 1998. Please contact Ms. Botnick at (732) 445-0206 or E-mail: botnick@eohsi.rutgers.edu with any questions.

## OHIO VALLEY CHAPTER

*Continued from page 20*

Pre-Translational Regulation of Recombinant Human N-Acetyltransferase 2 (NAT2) Allelic Variants in Yeast: Identification and Characterization of Three Novel Alleles;" (2nd place) Jian Cai, University of Louisville, "Use of GC/MS to Investigate Mechanisms of N-(Carboxymethyl) Valine Adduct Formation in Hemoglobin;" and (3rd Place) Erin Volaw, Ohio State University, "Inhibition of UVB-Induced Carcinogenesis by Theaflavins;" Judges for this year's graduate student competition were Dr. Mark Cartagena, Eli Lilly Company; Dr. William Baker, Army Medical Research Unit, WPAFB; and Dr. Bjorn Thorrud, Springfield Laboratories. During the business and Executive Council meetings, elections were held for outgoing officer/councilor positions. Results of the election were as follows: Vice-President, Dr. Yvonne Dragan, Ohio State University; Secretary/Treasurer, Dr. Lisa Kamenudis, Indiana University; and Councilor, Dr. John Lipscomb, US EPA. Outgoing Secretary/Treasurer Dr. Carl Potter, EPA, gave a treasurer's report. Incoming OVSOT President, Dr. David Hein, University of Louisville, Louisville, KY, presented an engraved gavel to outgoing President, Dr. Darol Dodd, MantaTech Environmental, in appreciation for his achievements and hard work during his tenure. The OVSOT Chapter has also established a Web site at [www.toxicology.org/regional/ohiovalley](http://www.toxicology.org/regional/ohiovalley).

## PACIFIC NORTHWEST CHAPTER

*Continued from page 21*

Shepard of Oregon State University and Michelle Cain of the University of Washington were first place winners in the platform and poster presentation categories. Awards were also given to Nancy Beck and Changhong Wang for platform talks and to Carlos Gartner, Tom Lewandoski, Siqing Lu, and Catherine Xiang for poster presentations. Additional awards were presented to students who asked the best questions during the symposium and platform presentations. A total of \$1,000 was given in prizes to graduate students at this year's meeting.

During PANWAT's business meeting, Jeff Jenkins of Oregon State University reported on PANWAT's finances and Terry Kavanagh of the University of Washington requested members to submit designs for our PANWAT logo and discussed options for creating a PANWAT Home page. Nancy Kerklief of Oregon State University described her initial plans for hosting PANWAT's 1999 meeting in Oregon.

## SOUTHERN CALIFORNIA CHAPTER

*Continued from page 21*

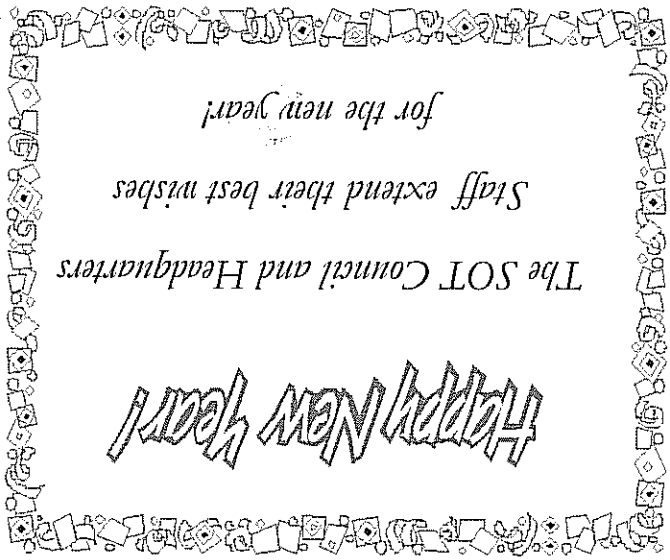
Diego State University working with graduate students currently training in Toxicology or Environmental Health under the tutelage of Professor Ann de Reyser. Leigh Ann provided the students a week of an intensive introduction to "In Vitro" methods in immunotoxicology testing. The officers, members, and guests gratefully thank SIS Pharmaceuticals, especially Dr. David Monteith, for hosting the meeting and the speakers for taking time out of their busy schedules to provide valuable information regarding "in vitro" toxicology testing. The next meeting will be held in the Spring of 1999.

- **Safety Evaluation of Drugs for Central Nervous System Delivery.** March 19-20, 1999, New Orleans, LA. Meeting organizers: Carl F. Lebel, Ph.D., Product Development, Amgen, Inc., Thousand Oaks, CA; (805) 447-8281; Fax: (805) 498-1425; Tony L. Yaksh, Ph.D., Department of Anesthesiology, University of California, San Diego; Tel: (619) 543-5243; Fax: (619) 543-6070.
- **Analytical Chemistry for QA Professionals.** March 24-25, 1999 in Labaska, Pennsylvania. Sponsored by the Mid-Atlantic Region Society of Quality Assurance (MARSOQA). Contact Rita Brillinger at Tel: (215) 641-7916; Fax: (215) 619-1657 or Cindy Murphy at Tel: (215) 652-1978; Fax: (215) 652-1075.
- **Conference on Topics in Toxicology and Risk Assessment.** April 12-15, 1999, Hope Hotel and Conference Center, Wright-Patterson, AFB, OH. Contact Lois Doncaster, Conference Coordinator; Tel: 937-235-5293; E-mail: doncasterl@falcon.a1.wpafb.af.mil; Web site: <http://voyager.wpafb.af.mil>.
- **First NSF International Conference on Indoor Air Health.** May 3-5, 1999, Marriott Tech Center, Denver, Colorado. For more information please contact Wendy Raeder at NSF International; Tel: (734) 769-8010, ext:205; Fax: (734) 769-0109; E-mail: raeder@nsf.org; <http://www.nsf.org>.
- **15th Health Effects Institute Annual Conference.** May 9-11, 1999, Hyatt Regency La Jolla, La Jolla, CA. Contact: Gail Allosso; Tel: 617-876-6700; Fax: 617-876-6709; E-mail: gallosso@health-effects.org.
- **SOT Contemporary Concepts Building Workshop.** "The Use of Human Tissue Models in Risk Assessment." September 1999, Turf Valley Resort and Conference Center, Ellicott City, MD. Detailed information will be available February 1999.
- **17th International Neurotoxicology Conference.** October 17-20, 1999, Double Tree Hotel, Little Rock, Arkansas. Contact: Prof. Jean Cranner, Department of Pediatrics, University of Arkansas for Medical Sciences, 1120 Marshall, Rm. 302, Little Rock, AR 72202; Tel: 501-320-2986; Fax: 501-320-4978; E-mail: CrannerjeanM@exchange.uams.edu; Abstract deadline: September 1, 1999.
- **9th North American ISSX Meeting.** October 24-28, 1999, Opry-Land Hotel, Nashville, TN. Contact: ISSX/ACT-DCT Meeting, P.O. Box 3, Cabin John, MD 20818; Fax: 301-983-5357; E-mail: <http://www.louisville.edu/medschool/biochemistry/ISSX-ACS/>
- **EURTOX 2000.** September 17-20, 2000, Imperial College, South Kensington, London. Contact Prof. Alan Bobbis; Fax: +44(0)181 383 2066; E-mail: a.bobbis@rps.ac.uk.
- **9th International Congress of Toxicology.** July 8-13, 2001, Brisbane Convention and Exhibition Centre, Queensland, Australia. Hosted by Australian Society of Clinical and Experimental Pharmacologists and Toxicologists. Contact Intermedia Convention and Event Management, P.O. Box 1280, Milton, QLD 4064, Australia; Tel: +61-0-7-3369-0477; Fax: +61-0-7-3369-1512; E-mail: [icth2001@im.com.au](mailto:icth2001@im.com.au); Web site: <http://www.uq.edu.au/IC19>

## MEDIA OF INTEREST

- **Casarett & Doull's Toxicology Companion Handbook, 5th Edition.** edited by Curtis D. Klaassen and John B. Watkins III. Contact: McGraw-Hill Companies, Health Professions Division, 11 West 19th Street, New York, NY 10011.
- **Dictionary of Toxicology, 2nd Edition.** by Drs. Ernest Hodgson, Richard Mailman, and Janice Chambers, 608 pages, ISBN: 1-56159-216-1. Contact: Grove's Dictionaries, Inc., 345 Park Avenue South, New York, NY 10010; 800-271-2123; in NY call 212-689-9200.

- **Course "Medical and Forensic Toxicology" of the Netherlands Postgraduate Education in Toxicology.** December 7-15, 1998, Utrecht, The Netherlands. Contact: Postgraduate Education in Toxicology, Department of Toxicology, Wageningen Agricultural University, P.O. Box 8000, NL-6700-EA Wageningen, The Netherlands; Tel: +31-317-482656; Fax: +31-317-484931. E-mail: [hans.lemmink@algemeent.wau.nl](mailto:hans.lemmink@algemeent.wau.nl)
- **1998 FDA Science Forum, Biotechnology: Advances, Application, and Regulatory Challenges.** December 8-9, 1998, Washington Convention Center, Washington, DC. For more information, call Tel: (703) 518-8429; E-mail: [meetings@aaps.org](mailto:meetings@aaps.org).
- **Children's Health Priorities: Getting it Right.** December 9-10, 1998, National Academy of Sciences, Washington, DC. Contact: Marybeth Rossomando/Deborah DeBlaine, Public Health Policy Advisory Boards, 1350 Eye Street, NW, Washington, DC 20005; Tel: (202) 312-8238; Fax: 202-842-2676; E-mail: [phpb@erols.com](mailto:phpb@erols.com).
- **1998 International Conference on Transgenic Animal and Safety Evaluation.** December 9-11, 1998. For more information, contact Andrew White at Tel: (617) 389-6168 or the Baltimore office contact Nola Mahoney at Tel: (301) 233-0894; E-mail: [lsctence@aol.com](mailto:lsctence@aol.com).
- **Benzene, State of the Science Workshop.** December 16-17, 1998, University of Ottawa, Canada. Co-sponsored by the American Petroleum Institute, the Canadian Petroleum Products Institute, and the U.S. EPA. Contact: Julie Deschamps, University of Ottawa, Tel: (613)562-5800, ext:4413; E-mail: [julied@pppovapp.uottawa.ca](mailto:julied@pppovapp.uottawa.ca).
- **Course "Cell Toxicology" of the Netherlands Postgraduate Education in Toxicology.** January 4-15, 1999, Leiden, The Netherlands. For more information contact Postgraduate Education in Toxicology, Department of Toxicology, Wageningen Agricultural University, P.O. Box 8000, NL-6700-EA Wageningen, The Netherlands; Tel: +31-317-482656; Fax: +31-317-484931. E-mail: [hans.lemmink@algemeent.wau.nl](mailto:hans.lemmink@algemeent.wau.nl)
- **Integrated Drug Discovery 1999.** January 14-15, 1999, Hotel Des Bergues, Geneva, Switzerland. Contact: Tel: (+44) 171-256-5188; Fax: (+44) 171-256-9393; E-mail: [postmaster@visibis3.demon.co.uk](mailto:postmaster@visibis3.demon.co.uk); Web site: <http://www.visibis.com>.
- **34th Annual Pharmaceutical Technologists Section Conference at Arden House: Institutional and Process Control for Solid Dose Forms: Present and Future.** January 17-22, 1999, Arden House Conference Center, Hartman, NY. Contact: Tel: 703-548-3000; E-mail: [meetings@aaps.org](mailto:meetings@aaps.org); Web site: <http://www.aaps.org/education.html>.
- **Course "Molecular Toxicology" of the Netherlands Postgraduate Education in Toxicology.** February 8-19, 1999, Amsterdam, The Netherlands. For more information contact Postgraduate Education in Toxicology, Department of Toxicology, Wageningen Agricultural University, P.O. Box 8000, NL-6700-EA Wageningen, The Netherlands; Tel: +31-317-482656; Fax: +31-317-484931. E-mail: [hans.lemmink@algemeent.wau.nl](mailto:hans.lemmink@algemeent.wau.nl).
- **Building the Road to Success with GMP Fundamentals.** A two-day workshop offered by the Mid-Atlantic Region Society of Quality Assurance (MARSOQA). February 10-11, 1999 in Labaska, Pennsylvania. For registration information please contact Joanne Jackson at Tel: (732) 873-6309; Fax: (732) 873-6009. For further information contact Debra Paterson at Tel: (609) 716-2013, Fax: (609) 275-5237.
- **Relationships Between Acute and Chronic Effects of Air Pollution.** February 22-25, 1999 Hanover Medical School Germany. For more information please contact Sharon Weiss at Tel: (202) 659-0074; Fax: (202) 659-8654 or E-mail: [sws@hstl.org](mailto:sws@hstl.org).
- **Society of Toxicology 38th Annual Meeting.** March 14-18, 1999, Ernest N. Morial Convention Center, New Orleans, LA. Contact: SOT Headquarters, 1767 Business Center Drive, Suite 302, Reston, VA 20190-5332; Tel: (703) 438-3115; Fax: (703) 438-3113; E-mail: [annette@toxicology.org](mailto:annette@toxicology.org); Web site: <http://www.toxicology.org>.



Ballots for the election of Council Officers and elected standing committees will be mailed to members by January 1, 1999. Offices to be filled include the Vice President-Elect, Secretary-Elect, two Councilors, two members each to the Membership and Education Committees, and four members to the Nominating Committee.

Please return your ballot to the SOT Executive Director in the envelope provided, postmarked on or before **February 1, 1999**. Be sure to sign and print your name on the return envelope to validate your vote. **Unsigned envelopes cannot be counted.**

The results of the election will be announced at the 1999 Annual Meeting in New Orleans.

## Upcoming Election of 1999 SOT Officers

The 1999 Leadership Orientation workshops will be held on Saturday, March 13, 1999, in New Orleans, LA from 1:30 - 2:30 p.m.

More information will be mailed to you in the coming month.

## Leadership Workshop at Annual Meeting

ATTENTION: COMMITTEE CHAIRS

**Dr. Bernard Schwetz**, Director of the National Center for Toxicological Research and interim chief scientist at the U.S. FDA, was recently elected into the Institute of Medicine of the National Academy of Sciences. Members make a commitment to devote a significant amount of volunteer time on committees engaged in a broad range of studies on health policy issues. Current Institute projects include studies on cancer research among minorities and the medically underserved; research and development needed to improve civilian medical response to chemical or biological terrorist incidents; the prevention of perinatal transmission of HIV; and a continuing series of reports on dietary reference intakes.

## MEMBER NEWS

- 5** Following a recommendation from the Animals in Research Committee, Council voted to contribute \$3,000 to the National Association for Biomedical Research for its legal fees incurred related to "Animal Legal Defense Fund."
- 6** Council voted to provide \$1,000 in support to the 4<sup>th</sup> Congress of Toxicology in Developing Countries.
- 7** Council approved the Israeli Society of Toxicology membership in IUTOX.
- 8** Following a recommendation from the CE Committee, Council voted to waive the cost of continuing education courses for five SRAs.

The following are the highlights of the September Council Meeting:

## COUNCIL HIGHLIGHTS

- 1** Following a recommendation from the Carcinogenesis Specialty Section, Council voted to approve a request for \$1,000 for the Barton Creek Conference "Gene Environment Interactions."
- 2** Following a recommendation from the Inhalation Specialty Section, Council voted to approve promotional support for the NSF International Conference on Indoor Air Health.
- 3** Council voted to work with SETAC on a joint Environmental-Human Health Interconnections Workshop.
- 4** Council voted to renew SOT's membership in the American Association for Laboratory Animals in Science.