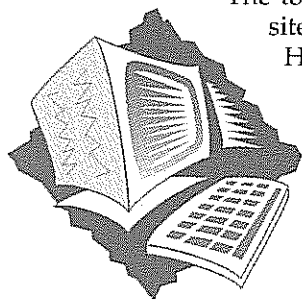


# Communiqué

Winter 2000

## Internet Abstract Site A Success!



The totals are in and it looks like the Abstract Submission site on the Internet was a success again this year. Headquarters has received and processed 1,868 abstracts! More than 80 percent of the abstracts were received via the Internet. Acceptance letters, confirming the session type, date and time scheduled, will be mailed during the latter part of December. If you have not received a confirmation letter by January 10, 2000, please contact Tonya Mills at SOT Headquarters.

## TAP: Search for New Editor

Dr. Edward Bresnick's tenure as Editor of *Toxicology and Applied Pharmacology (TAP)* will end effective December 31, 2000. The SOT Board of Publications (BOP), as well as the general membership, appreciate the leadership that Dr. Bresnick has provided for the Journal over the last seven years. The SOT Council has directed the BOP to conduct a search in cooperation with Academic Press, the publisher of *TAP*, for a well-qualified individual to serve as the Editor of *TAP* for a three-year, renewable term, beginning January 1, 2001.

The Editor is expected to provide scientific editorial leadership for the Journal and serve as the primary coordinator of interactions among authors of submitted manuscripts, the publisher, associate editors, members of the Editorial Board and other peer reviewers. Academic Press initially receives all manuscripts submitted and handles the majority of clerical and non-scientific editorial functions. This reduces clerical responsibilities that are performed in the Editor's office. Academic Press provides the Editor with a budget and administrative support.

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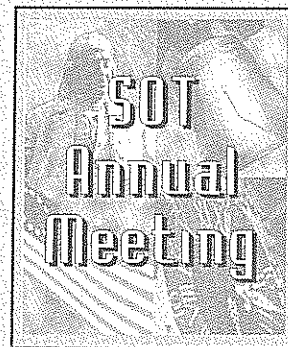
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Have You  
Registered for the  
Annual Meeting Yet?



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

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

The Advanced Registration  
Deadline is just around the  
corner—**January 10, 2000.**

The SOT Annual Meeting is the  
largest toxicology meeting and  
exhibition in the world, attracting  
more than 5,000 scientists from  
industry, academia, and govern-  
ment. 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: [nii@toxicology.org](mailto:nii@toxicology.org)

Telephone: (703) 438-3115

Fax: (703) 438-3113

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



Jay I. Goodman, Ph.D.  
1999-2000 President of the  
Society of Toxicology

## FUTURE SOT ANNUAL MEETINGS

2000: March 19-23  
Philadelphia,  
Pennsylvania

40th Annual Meeting  
2001: March 25-29  
San Francisco,  
California

2002: March 17-21  
Nashville,  
Tennessee

2003: March 16-20  
Salt Lake City,  
Utah

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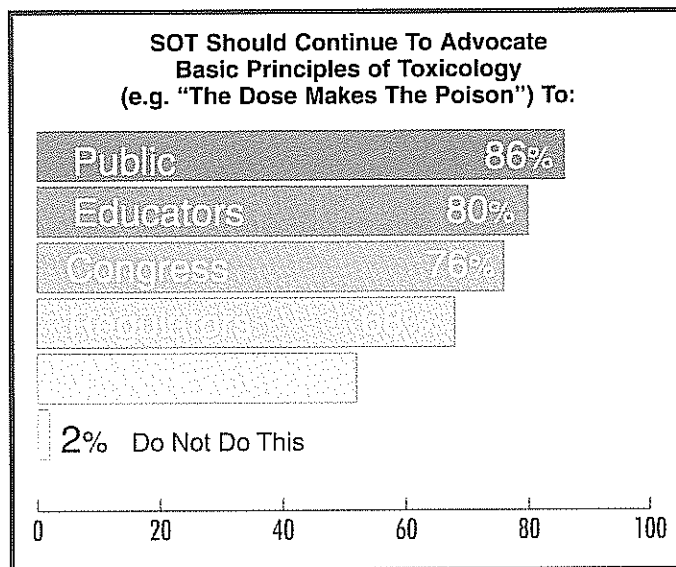
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# PRESIDENT'S MESSAGE

## SHOULD SOT SPEAK OUT ON MATTERS RELATED TO TOXICOLOGICAL SCIENCES? THE MEMBERSHIP SAYS "YES!"

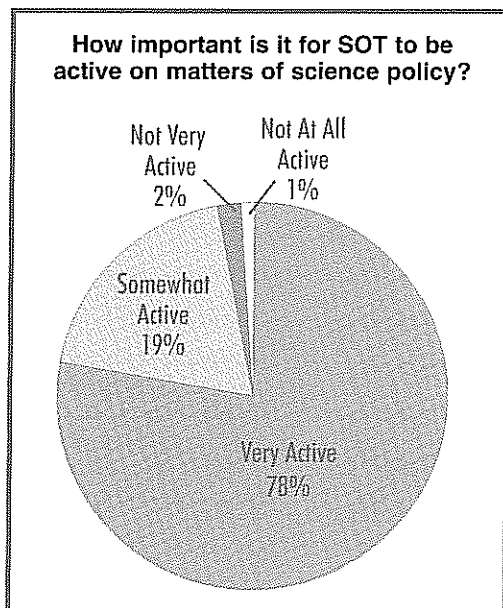
The results of our membership "customer satisfaction" survey are in. The response rate was approximately 20 percent, 1,000 members responded. Indeed, this is a very good response (it is not unusual for this type of survey to generate only a 10 percent response) and I would like to thank all of the participants for their help. This is an important mechanism whereby Council can keep in touch with the membership and it is my hope that it will be repeated every two to three years. Overall, I am delighted to be able to report that the survey's results indicate a very high level of satisfaction with the Society, Council, and Headquarters. However, there were important areas of concern that were brought to our attention and these will be reported to you and addressed. In particular, a number of individuals expressed the view that the awards process may be influenced by a relatively few individuals. First, let me assure you that this is not the case; it is a fair and open procedure (and I should add that I am glad to say we received a large number of nominations for awards this year which are being considered by our Awards Committee, chaired by **Steve Cohen**). However, I am sensitive to the fact that perception is important. We need to do a better job of communicating our procedures and, importantly, I plan to recommend to Council that we move to make the Awards Committee an elected committee.

The results of the survey will be the substrate for a number of articles starting with the Special Issue of the *Communiqué* in January and I am looking into the possibility of having all of the data, including the comments received, placed on our Web site. Currently, you can find a summary of the survey results on the Members Only section of the Web site. I would like to take this opportunity to address your responses to two key questions. One of the questions asked was "To which of the following groups should SOT continue to advocate basic principles of toxicology (e.g., the dose makes the poison)?" People were requested to either express support for one or more groups (the public, the media, regulators, congress the judiciary, educators—note, most individuals said "yes" to more than one group) or to indicate that "SOT should not be doing this." The result was an overwhelming expression of support for SOT being a vigorous advocate for principles of toxicology. **Only 2 percent said SOT should not be doing this.**



A second question asked was "How important do you feel it is for SOT to be active on matters of science policy?" and 97 percent responded either "very important" or "somewhat important."

Importantly, with regard to both of the survey questions, the responses received from the different subcategories of members (academia, government, industry, non-profit/not-for-profit, private consultant, full member, associate member or student member) are virtually indistinguishable. Thus, there is both broad and deep support from the membership for SOT to speak out on matters of science policy related to toxicological sciences, and to advocate strongly in support of principles of toxicology such as "the dose makes the poison."



I am delighted to see that the vast majority of our membership share my view that it is important for us to speak out on matters related to science policy and principles of toxicology. However, this must be juxtaposed with the realization that the SOT is a large organization and the membership might have a rather heterogeneous mix of views on a particular issue. **Honest differences of opinion must be respected. We should recognize that the Society will not be able to speak with one voice on many issues. Therefore, we all need to become more informed and to speak out, as individuals, on matters related to toxicological sciences.** In this context, it is important to keep in mind the fact that support and enhancement of basic and applied research in toxicology is our first priority. Our credibility stems from scholarly activity and a scholarly approach to problem solving.

We should seek areas where the Society can take positions, e.g., our position paper entitled "Toxicologic Principles Do Not Support the Banning of Chlorine" (*Fundamental and Applied Toxicology* 24: 1-2, 1995). Continued vigorous support of science-based risk assessment is a must. Steve Cohen's August 1998 letter, on behalf of SOT Council, to EPA Administrator **Carol Browner** advocating for a science-based drinking water standard for chloroform, is a good example of this. Additionally, and importantly, I am committed to having the SOT leadership continue to alert the membership when relevant issues arise and urge them to become both informed and involved. Examples of this are: 1) my August 1998 memorandum to the membership, pursuant to discussion at a Council meeting, requesting that members write to EPA expressing their views concerning the need to use sound science as a basis for

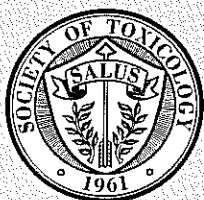
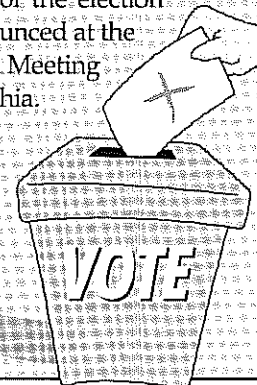
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## Upcoming Election of Year 2000 SOT Officers

Ballots for the election of Council Officers and elected standing committees will be mailed to members by January 1, 2000. Offices to be filled include the Vice President-elect, Treasurer-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, 2000. Be sure to sign and print your name on the return envelope to validate your vote. Unsigned envelopes cannot be counted. International members should follow the instructions provided on their ballot.

The results of the election will be announced at the 2000 Annual Meeting in Philadelphia.



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

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 Visit the SOT Home Page at <http://www.toxicology.org>

**Newsletter Editor:**  
 A. Jay Gandolfi, Ph.D.  
**Deadlines for Upcoming Issues:**  
 April 3, 2000 (Spring Issue)  
 June 2, 2000 (Summer Issue)  
 August 3, 2000 (Fall Issue)

# 2000 Annual Meeting

## Try SOT's On-Line Registration!

SOT members and non-members are invited to register for the 2000 SOT Annual Meeting using SOT's 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 2000 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.

## Media Training I: What To Do When the Media Calls

**Saturday, March 18, 3:00 PM–4:00 PM (Free)**

Learn to control the message and the media! This workshop is lively, fun, creative, challenging and loaded with critical information. This seminar is for beginning and advanced media savvy toxicologists. Registration is free. Sign up on the Registration Form located on page 47 of the Preliminary Program. The Media Training Workshop will be held at the Pennsylvania Convention Center. All attendees will receive a free reference guide.

## Media Training II: On-Camera Training for Toxicologists

**Saturday, March 18, 4:00 PM–6:00 PM (Free), and  
Sunday, March 19 (\$75)**

*On Sunday, March 19, this one-hour workshop will be held hourly starting at 8:00 AM with a break from 12:00 NOON–1:00 PM. The last workshop will begin at 4:00 PM.*

Learn to develop and deliver your message to the media on camera! These sessions will be held to help toxicologists hone their skills for delivering key messages during crises and other tense situations. The two-hour free Saturday workshop will be held in a large group setting with a few attendees being selected for on-camera interviews. The one-hour \$75 small group training sessions allow for each participant to be trained and critiqued on camera. Sign up on the Registration Form located on page 47 in the Preliminary Program. All attendees of the one-hour workshop will receive a free videotape of their interview. If you have any questions regarding either session please contact Deborah Hyman at SOT Headquarters ([deborahh@toxicology.org](mailto:deborahh@toxicology.org)).

## 2000 Leadership Orientation Workshop for All Committee Members

**Saturday, March 18, 1:30 PM–3:00 PM**

If you are currently or will next year be a member of an SOT committee, please make plans now to attend the 2000 Leadership Orientation Workshop scheduled for 1:30 PM Saturday, March 18. All SOT members serving on committees are strongly encouraged to attend. With new committee assignments taking affect on May 1, 2000, the workshop is intended to provide guidance and answer questions that new members and chairs may have. The SOT strategic plan, administrative practices and procedures (e.g., budgets) and other important information for new chairpersons are just a few of the areas to be covered. The meeting also serves as an opportunity for Committees to get a head start on setting priorities for the year. Therefore, in order for the workshop to be a success, it is imperative that as many committee members as possible attend. For more information, contact SOT Headquarters.

## 25-Year Member Recognition

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 2000 Annual Meeting in Philadelphia, Pennsylvania.

- 25-Year Member Reception  
Sunday, March 19, 6:30 PM–7:00 PM
- Recognition at the SOT Annual Business Meeting  
Tuesday, March 21, 4:30 PM–6:00 PM
- Recognition at the SOT Awards Ceremony  
Thursday, March 23, 4:30 PM–5:30 PM

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.

## Student/Post-Doctoral 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 post-doctoral fellows could meet and talk informally with one another about graduate and post-doctoral programs. Again, the Society will be offering a reception for these individuals on Sunday, March 19 from 7:00 PM–9:00 PM, immediately following the Welcoming Reception. SOT will provide a pasta buffet and DJ. Meeting badges are required.

## Placement Service

During the Annual Meeting, the Placement Service will be located on the first floor of the Pennsylvania Convention Center. Registrations will be accepted at the Annual Meeting; we are encouraging individuals to pre-register. Access to the Placement Service site can be achieved through the SOT Home page [www.toxicology.org](http://www.toxicology.org). Simply go to the Home page, locate the Career Resources description that will direct you to Placement Services link, and you will be directed to the on-line job bank. To receive a brochure that describes the Placement Service, contact Tonya Mills ([tonya@toxicology.org](mailto:tonya@toxicology.org)) at SOT Headquarters.

# Philadelphia, PA

## Placement Seminar

### Keeping Your Career in Gear

Monday, March 20, 4:00 PM-5:30 PM

New initiatives in safety evaluation, regulatory policy and breakthrough technological advancements challenge all toxicologists to recognize the skills and expertise needed to develop and sustain a successful career. The goal of this seminar is to provide attendees with perspectives from practicing toxicologists in industrial, academic and government sectors on successful strategies for career development and career management in light of ever-changing job requirements. The seminar will feature speakers with diverse employment backgrounds, and each speaker will address the challenges presented in his/her work and share their perspectives on how they react to and meet these challenges and opportunities. Each speaker will also discuss prospectively how their work is changing and what new or additional skills they believe will be needed to continue on a successful career path. The seminar is intended to provide useful perspective to entry level scientists as well as established toxicologists.

4:00 PM-4:15 PM Welcome—Lois Lehman-McKeeman,  
The Procter & Gamble Company

4:15 PM-4:30 PM David L. Eaton, University of Washington

4:30 PM-4:45 PM Grushenka H. I. Wolfgang, Chiron Corp.

4:45 PM-5:00 PM Albert E. Munson, NIOSH

5:00 PM-5:15 PM William F. Greenlee, CIIT

5:15 PM-5:30 PM Panel Discussion

## Burroughs Wellcome Toxicology Scholar Award Lectures

### Retinoid Binding Proteins and Retinoid Toxicity

Tuesday, March 21, 8:00 AM-8:30 AM

*Lecturer: Ellen Li, M.D., Ph.D., Professor of Medicine, Associate Professor of Biochemistry and Biophysics, Washington University School of Medicine, St. Louis, MO.*

Vitamin A is indispensable for growth, reproduction, differentiation and vision of vertebrates. Vitamin A deficiency is a major cause of childhood morbidity and mortality worldwide. On the other hand, the pharmacological use of retinoids can result in severe fetal malformations and in the adult most commonly causes hyperlipidemia. Two classes of nonsteroid nuclear hormone receptors mediate retinoid signaling, the retinoic acid receptor and retinoid x receptor. In addition, the retinoid x receptors play a central role in regulating gene transcription through formation of homodimers and heterodimers with other nuclear receptors other than the retinoic acid receptors, such as the peroxisome proliferator-activated receptors, vitamin D3 receptors, and the thyroid hormone receptors. Intracellular trafficking of retinoids is mediated by specific cytoplasmic carrier proteins, which influence ligand availability for binding with the nuclear retinoids. Retinoid signaling involves a complex interplay between the nuclear receptors, cytoplasmic carrier proteins and sites of metabolic processing. Our laboratory has been interested in studying the structural basis of ligand protein interactions and in modeling intracellular trafficking of retinoids between various retinoid binding proteins. We have purified fully functional bacterially

expressed nuclear retinoid receptors and cytoplasmic retinoid binding proteins and analyzed the interactions of these proteins with retinoids in solution using a number of biophysical techniques, most notably nuclear magnetic resonance. Using this approach we have modeled how the physical properties of these binding proteins affect vitamin A homeostasis and toxicity.

### Gene Induction by Phenobarbital and Cell Signaling in the Hepatocyte

Wednesday, March 22, 8:00 AM-8:30 AM

*Lecturer: Curtis J. Omiecinski, Department of Environmental Health, University of Washington, Seattle, WA.*

The induction of biotransformation processes has substantial impact on an individual's response to pharmaceutical and toxicant exposures. Phenobarbital (PB) is a prototypical inducing agent for a variety of drugs and other xenobiotic compounds that exhibit pleiotropic effects in the liver of mammalian organisms. Biotransformation genes that are markedly up regulated by this "class" of compounds include certain glutathione transferases, UDP-glucuronosyl transferases, aldehyde dehydrogenases, and cytochrome P450 monooxygenases. The molecular mechanisms and signaling pathways responsible for the transcriptional activation effects of PB inducers remain poorly defined. To further investigate the induction paradigm, one research thrust of our laboratory has focused on the development of transgenic mouse and primary hepatocyte *in vitro* models enabling investigation of the biology of PB induction together with that of liver-specific gene expression. Initially, results from our transgenic models largely pointed the way to the subsequent discovery of a PB responsive unit or module (PBREM) localized ~2200 bp upstream of the transcriptional initiation site for the rat CYP2B2 and mouse Cyp2b10 genes. This module is centered on a nuclear factor 1 site and is flanked by sequence motifs for putative nuclear receptor interactions. Further transgenic mouse studies by our laboratory indicated that NR1 is not the key regulator of PB responsiveness within the PBREM; rather, a CAR nuclear receptor protein was identified recently by Dr. Negishi's group as a critical modulator of PB transcription. Since this transcriptional response is largely lost in transformed cell lines, we have developed a defined primary hepatocyte culture model and investigated liver specific signaling cascades required for

*Continued to page 6*

## SOT Annual Meeting Program Committee

Daniel Acosta, Jr.	Chairperson
David Eaton	Co-Chairperson
William D. Atchison	Member
Richard A. Corley	Member
Joshua W. Hamilton	Member
Jack R. Harkema	Member
Dean P. Jones	Member
Edward Lock	Member
Rashmi S. Nair	Member
Kenneth Ramos	Member
Jack A. Reynolds	Member
Kathleen Rodgers	Member
Mary Jane Selgrade	Member
Grushenka H. I. Wolfgang	Member

## Annual Meeting (continued)

maintaining the highly differentiated cell phenotype. Using this model, we demonstrated that de novo protein synthesis is not required for PB induction. Arrays of pharmacological agents have been evaluated for their effects on hepatocyte signaling networks and potential modulation of the PB induction process. PKC, MAPK, CAMKII and P13K pathways have been largely ruled out as PB signaling mediators. In contrast, important roles were established for protein kinase A (PKA) and protein phosphatase pathways (PP2A) as regulators of the induction response, although recent experiments have established that PB exposures per se do not increase cAMP levels or PKA activity in hepatocytes. Further experiments with the developed transgenic and *in vitro* models are poised to delineate the cell signaling networks and associated extracellular matrix interactions that define the hepatic phenotype, regulate genetic induction, and modulate the toxicological responses characteristic of this organ.

### Request for Continuing Education Course Proposals for 2001 Annual Meeting

The Continuing Education (CE) Committee encourages you to submit a CE course proposal for the 2001 Annual Meeting of the Society of Toxicology. The major factors considered by the CE Committee in their selection of courses are quality of the submitted proposal and the timeliness of the subject material. Other factors considered include the necessity for certain basic topics to be presented every two to five years, and the desire to present newer topics as the science and membership changes. The diverse needs of the membership (including the regional and specialty sections) also provide the basis for course selection.

Potential topics for CE courses are quite broad; past topics have included everything from endocrine disruptors to statistics for toxicologists. The course contents have ranged from improving our understanding of the toxicological relevance of transgenic technology to regulatory issues associated with clinical trial management. CE courses are intended as forums for established concepts (albeit potentially cutting-edge science), while symposia are more appropriate for the presentation of the latest research results.

The CE Committee can help you to plan your courses and to select excellent speakers. The best speakers are those individuals who are outstanding teachers.

*Continued to page 12*

## Issues Session

### The Value and Ethics of Using Human Data for the Registration of Pesticides

Thursday, March 23, 12:00 NOON-1:30 PM

*Moderator: Ernest E. McConnell, ToxPath, Inc., Raleigh, NC.*

*Speakers: Bernie Weiss, University of Rochester, Rochester, NY; Judy MacGregor, Independent Consultant, Rockville, MD; Lynn Goldman, Johns Hopkins University, Baltimore, MD; Ron Kendall, Chair of FIFRA Science Advisory Panel and at Texas Tech University, Lubbock, TX; Dan Goldstein Medical Toxicologist at Monsanto, St. Louis, MO; and Dr. Gary Ellis, NIH Office for Protection from Research Risks, Rockville, MD.*

A joint meeting of the EPA Science Advisory Board and FIFRA Science Advisory Panel was convened on December 10-11, 1998, to provide advice and comment to the EPA on issues related to data derived from testing on human subjects, particularly the use of human data for making pesticide registration decisions. Both scientific and ethical questions were raised about such data, the manner in which they are obtained, and how these data should be used in risk assessments.

Proponents of using human data felt such data were of prime value for developing a risk assessment of a given pesticide, if the data were obtained in a scientifically credible and ethical manner, similar to what is expected in the field of pharmaceutical testing. In fact, it was felt that testing in human volunteers was particularly important in the case of pesticides because of their potential for contamination of food and water. Opponents felt it was unethical to test pesticides in human volunteers under most circumstances. They posed two basic arguments for supporting their case: 1) Pesticides are unique chemicals because they are designed to be "poisons," and 2) Many pesticides are neurotoxic and it is unethical to test neurotoxins in people.

This is a particularly important issue because it impacts on some fundamental concepts in toxicology and is a basic policy decision for the EPA.

## SOT/EUROTOX Debate

Tuesday, March 21, 12:00 NOON-1:30 PM

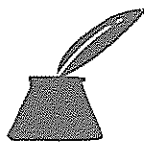
*Debaters: Dr. Ian Munro, Cantox, Mississauga, Ontario, Canada and Dr. Bevan Moseley, Independent Consultant, Reading, Berkshire, United Kingdom.*

*Motion: An evaluation demonstrating that foods derived from genetically modified crops are as safe as their traditional counterparts is an appropriate paradigm for assessing the safety of genetically modified foods.*

*Moderator: Steve Taylor, University of Nebraska, Lincoln, NE.*

Prior to the introduction of foods derived from genetically modified (GM) crops, the producers of seeds for these crops must obtain regulatory approvals both for their introduction into the environment as well as the use of these crops for human food and animal feed. In addition to thorough characterization of the introduced gene and the protein product, the producers are required to show that foods produced from these crops are as safe as the foods from traditional crops. Some people have questioned whether the current safety assessments are adequate for GM crops. The debaters will provide insight on the controversy and how it is affecting development of this key technology.

# Symposium Sessions



## Advances in the Use of Mechanism-Based Biomarkers in Risk Assessment

*Chairpersons:* Lewis Smith, AstraZeneca, Ltd., Macclesfield, Cheshire, United Kingdom and Jim Swenberg, University of North Carolina, Chapel Hill, NC.

Molecular Biomarkers of Benzene Exposure and Risk, Martyn T. Smith, University of California, Berkeley, CA.

Molecular Dosimetry of Butadiene Adducts in Mice, Rats and Humans, Jim Swenberg, University of North Carolina, Chapel Hill, NC.

Tyrosinemia as a Marker of Exposure to HPPD Inhibitors, Mac Provan, AstraZeneca, Ltd., Macclesfield, Cheshire, United Kingdom.

Relation Between Genetic Susceptibility and DNA Adduct Formation, Fred F. Kadlubar, National Centre for Toxicological Research, Jefferson, AR.

## Application of Clonal Growth Models to Cancer Risk Assessment

*Chairperson:* Rory B. Conolly and Fred J. Miller, CIIT, Research Triangle Park, NC.

Multistage Cancer Models and Quantitative Assessment, Suresh H. Moolgavkar, Fred Hutchinson Cancer Research Center, Seattle, WA.

Regional Dosimetry of Formaldehyde in Rat and Rhesus Monkey Nasal Passages and Human Respiratory Tract, Julia S. Kimbell, Chemical Industry Institute of Toxicology, Research Triangle Park, NC.

Need for Identification of Target Cell Populations When Developing Clonal Growth Models of Carcinogenicity, Fred J. Miller, Chemical Industry Institute of Toxicology, Research Triangle Park, NC.

Formaldehyde Cancer Dose-Response Assessment Using a 2-Stage Clonal Growth Model, Rory B. Conolly, Chemical Industry Institute of Toxicology, Research Triangle Park, NC.

Risk Assessment with Mechanistic Models: Issues for Acceptance in Regulatory Applications, Annie M. Jarabek, National Center for Environmental Assessment, US EPA, Research Triangle Park, NC.

## Assessing the Safety of Gene Therapy

*Chairpersons:* James E. Sanders, Rhône-Poulenc Rorer, Collegeville, PA and Martha E. I. Leibbrandt, Chiron Corp., Emeryville, CA.

Overview of Gene Therapy, Pia Delaère, Rhône-Poulenc Rorer Gencell, Vitry-Sur-Seine, France.

Pre-Clinical Evaluation of the Human Factor VIII Retroviral Vector, Martha E. I. Leibbrandt, Chiron Corp., Emeryville, CA.

Pre-Clinical Studies on DNA Plasmid Distribution and Integration, Warren Nichols, Department of Genetic & Cellular Toxicology, West Point, PA.

Regulatory Considerations for Gene Therapy Clinical Trials, Anne M. Pilaro, Ph.D., US FDA, Center for Biologics Evaluation and Research, Rockville, MD.

## Dendritic Cells: Targets for and Mediators of Immunotoxicity and Allergy

*Chairpersons:* Ian Kimber, AstraZeneca Central Toxicology Laboratory, Macclesfield, Cheshire, United Kingdom and Nancy I. Kerkvliet, Oregon State University, Corvallis, OR.

Dendritic Cells in Immunobiology and Pathology, Stella C. Knight, Imperial College School of Medicine, Northwick Park Institute for Medical Research, Harrow, United Kingdom.

Alteration of Dendritic Cell Cytokine Secretion by Total Body UV Exposure, Steven E. Ullrich, M. D., Anderson Cancer Center, Houston, TX.

Dendritic Cells as a Potential Target for the Immunotoxicity of TCDD, Nancy I. Kerkvliet, Oregon State University, Corvallis, OR.

Dendritic Cells and the Induction and Regulation of Allergic Responses to Chemicals, Ian Kimber, AstraZeneca Central Toxicology Laboratory, Macclesfield, Cheshire, United Kingdom.

Dendritic Cells and the Development of Alternative Strategies for Skin Sensitization Testing, G. Frank Gerberick, The Procter & Gamble Company, Cincinnati, OH.

## From Epidemiology to the Gene: Mechanisms by Which Particulate Matter Induces Adverse Effects

*Chairperson:* Daniel L. Costa and Robert Devlin, US EPA, Research Triangle Park, NC.

Population Studies Examining PM-Induced Changes in Cardiac Function, Doug W. Dockery, Harvard School of Public Health, Boston, MA.

Dosimetry of Inhaled Particles in Susceptible Populations, William D. Bennett, University of North Carolina at Chapel Hill, Chapel Hill, SC.

Cardiac and Thermoregulatory Effects Following Exposure to Particulate Matter in Healthy and Compromised Rats, William P. Watkinson, US EPA, Research Triangle Park, NC.

The Role of Calcium and Antioxidants in Ultrafine Particle-Mediated Pulmonary Inflammation, Kenneth Donaldson, Napier University, Edinburgh, Scotland.

Differential Activation of Mitogen Activated Protein Kinase (MAPK) Pathways and Transcription Factors by Specific Particulate Matter (PM) Components, James M. Samet, NHEERL, Chapel Hill, NC.

## Human Health and Ecological Impact of Harmful Algal Blooms

*Chairpersons:* Robert C. MacPhail, US EPA, Research Triangle Park, NC and Peter S. Spencer, Oregon Health Sciences University, Portland, OR.

Brevetoxins are Human Neurotoxins that are Active Orally, By Injection, and By Inhalation, Daniel G. Baden, Center for Marine Science Research, University of North Carolina at Wilmington, Wilmington, NC.

Human-Health and Ecological Impact of Cyanobacteria, Wayne W. Carmichael, Wright State University, Dayton, OH.

Domoic Acid (DA): Environmental Exposures, Neurotoxic Effects and Mechanisms of Susceptibility, John S. Ramsdell, Marine Biotoxins Program NOAA-National Ocean Service, Charleston, SC.

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## Symposium Sessions

Continued from page 7

**Human-Health and Ecological Impact of *Pfiesteria* Toxin(s)**, Joann Burkholder, North Carolina State University, Raleigh, NC.

### Immunotoxicity of Ethanol: Lessons from a Structurally Simple, but Functionally Complex Immunotoxicant

*Chairperson: Stephen B. Pruett, Louisiana State University Medical Center, Shreveport, LA.*

**Suppression of NK Cell Activation and MHC Class II Expression on B Cells by Acute Ethanol Exposure in Mice: Mechanisms of Action and Involvement of Endogenous Corticosterone**, Stephen B. Pruett, Department of Cellular Biology and Anatomy, Louisiana State University Medical Center, Shreveport, LA.

**The Effects of Sub-Chronic Ethanol Feeding on Immune-Mediated Host Defenses to Intracellular Bacteria and Viruses**, Thomas R. Jerrells, Omaha VA Medical Center and University of Nebraska Medical Center, Omaha, NE.

**Results from a Chronic Liquid Diet Model—Indirect, Time-Dependent Effects on the Humoral Immune Response**, Michael Holsapple, Dow Chemical Company, Midland, MI.

**Role of NF- $\kappa$ B in Inhibition of Inflammatory Mediator Production by Alcohol in Human Monocytes**, Gyongyi Szabo, University of Massachusetts Medical School, Worcester, MA.

**Chronic Ethanol Exposure—Comparisons of Human and Experimental Data**, Robert T. Cook, Department of Pathology, University of Iowa and Veterans Administration Medical Center, Iowa City, IA.

### Interaction with Ionotropic Neurotransmitter Receptors by Environmental Toxicants: Consequences for Neuronal Function

*Chairpersons: William D. Atchison, Michigan State University, Pharmacology/Toxicology, East Lansing, MI and Janusz B. Suszkiw, University of Cincinnati, Cincinnati, OH.*

**Perturbation of Excitatory and Inhibitory GABA<sub>A</sub> Receptor Responses in Cortical Neurons *In Vitro* by Polychlorinated Biphenyls (PCBs)**, Timothy J. Shafer, US EPA, Research Triangle Park, NC.

**Disruption of Cerebellar Granule Cell GABA<sub>A</sub> Function by Methylmercury Induces Early Onset Synaptic Excitation**, William D. Atchison, Michigan State University, East Lansing, MI.

**Neuronal Nicotinic Acetylcholine Receptors: A Novel Target of Insecticides**, Toshio Narahashi, Northwestern University, Chicago, IL.

**Interactions of Pb<sup>2+</sup> with Nicotinic Receptors and with Gabaergic and Glutamatergic Synapses: Implications for Synaptic Plasticity in The Developing Hippocampus**, Edson X. Albuquerque, University of Maryland, Baltimore, MD.

### Metallothionein Subcellular Localization and Regulation of Cell Cycle and Apoptosis

*Chairpersons: Y. James Kang, University of Louisville, Louisville, KY and Michael Waalkes, NCI at NIEHS, Research Triangle Park, NC.*

**Regulation of Nuclear and Cytoplasmic Localization of Metallothionein**, John S. Lazo, Department of Pharmacology, University of Pittsburgh, School of Medicine, Pittsburgh, PA.

**Inhibition by Metallothionein of Oxidative Stress-Induced Apoptosis**, Y. James Kang, University of Louisville, Louisville, KY.

**Nuclear Translocation of Metallothionein During Cell Cycle Progression and Differentiation**, M. George Cherian, University of Western Ontario, London, Ontario, Canada.

**Regulation of Nuclear Factor- $\kappa$ B Activity by Metallothionein**, Nobumasa Imura, University Kitasato, Tokyo, Japan.

**New Horizons in Metallothionein Research**, Michael Waalkes, NCI at NIEHS, Research Triangle Park, NC.

### Molecular Approaches to Studies of Glutathione Metabolism and Function

*Chairperson: Charles V. Smith, Baylor College of Medicine, Houston, TX.*

**Glutathione and Apoptosis in  $\gamma$ -Glutamyl Trans-Peptidase-Deficient Mice**, Donald J. Reed, Oregon State University, Corvallis, OR.

**The Effects of Overexpression of Glutamate-Cysteine Ligase on Cell Survival, Cell Growth and Apoptosis**, Terrance J. Kavanagh, Department of Environmental Health, University of Washington, Seattle, WA.

**Glutathione Peroxidase-I Regulation and Function**, Michael J. Kelner, Department of Pathology, University of California, San Diego, CA.

**Glutathione Reductase Modulation by Modern Molecular Methods**, Charles V. Smith, Department of Pediatrics, Baylor College of Medicine, Houston, TX.

### Molecular Mechanisms of Chemical Teratogenesis

*Chairpersons: Peter G. Wells, University of Toronto, Toronto, Ontario, Canada and Phillip E. Mirkes, University of Washington, Seattle, WA.*

**Reactive Oxygen Species and Oxidative Damage**, Peter G. Wells, University of Toronto, Toronto, Ontario, Canada.

**Signal Transduction Pathways in the Conceptus**, Barbara F. Hales and T. R. S. Ozolins, McGill University, Montreal, Quebec, Canada.

**Apoptotic Signaling Pathways**, Phillip E. Mirkes, Department of Pediatrics, University of Washington, Seattle, WA.

**Altered Gene Expression Patterns to Predict and Understand Chemical Teratogenesis**, Richard H. Finnell, G. D. Bennett, and J. G-van Waes, University of Nebraska Medical Center, Omaha, NE.

### Mycotoxins: Recent Advances and Their Relevance to Carcinogenesis and Toxicology

*Chairpersons: Ken Voss, USDA, Athens, GA and Yvonne Dragan, The Ohio State University, Columbus, OH.*

**Carcinogenicity of Fumonisin B<sub>1</sub> in F344 Rats and B6C3F<sub>1</sub> Mice**, Paul C. Howard, FDA, Jefferson, AR.

**Apoptosis and Its Implications for Toxicity, Carcinogenicity and Risk: Fumonisin B<sub>1</sub> as an Example**, Sam M. Cohen, Department of Pathology/Microbiology, University of Nebraska Medical Center, Omaha, NE.

**Inhibitors of Sphingolipid Biosynthesis as Research Tools for Understanding the Mechanism of Action of Fumonisin**, Ronald T. Riley, USDA, Athens, GA.

**Relating Molecular Mechanisms to Pathophysiological Effects: Fumonisin as a Case Study**, Peter D. Constable, University of Illinois, Urbana, IL.

**Wrap-Up**, Wanda M. Hascheck-Hock, University of Illinois, Urbana, IL.



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## Surrogate Biomarkers for Drug Safety

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*Chairpersons:* Raymond Tennant, NIEHS, Research Triangle Park, NC and Harry M. Olson, Pfizer, Inc., Groton, CT.

**Concordance of Pharmaceuticals Toxicity in Humans with Animal Data**, Harry M. Olson, Pfizer, Inc., Groton, CT.

**Research Needs and Applications of Toxicity Biomarkers in the Evaluation of Novel Therapeutics**, Gregory J. Downing, Office of Science Policy, Office of the Director, National Institutes of Health, Bethesda, MD.

**Determination of Serum Cardiac Troponin-T as a Biomarker of Anthracycline Cardiotoxicity**, Steven E. Lipshultz, Pediatric Cardiology, University of Rochester Medical Center, Rochester, NY.

**Toxicogenomics in Safety Assessment**, Ronald D. Tyler, Medicines Safety Evaluation, Glaxo Wellcome Research and Development, Ware, United Kingdom.

## The Role of Endotoxin in Occupational and Environmental Lung Disease: Exposure-Response Relationships and Susceptibility Factors

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*Chairpersons:* Peter S. Thorne, The University of Iowa, Iowa City, IA and M. Ian Gilmour, US EPA, Research Triangle Park, NC.

**Structure and Function of Endotoxin and Molecular Responses in the Lung**, M. Ian Gilmour, US EPA, Research Triangle, NC.

**Endotoxin as a Causative Agent for Occupational and Environmental Lung Disease**, Peter S. Thorne, College of Public Health, The University of Iowa, Iowa City, IA.

**The Genetics of Endotoxin-Induced Airway Disease**, David A. Schwartz, Department of Internal Medicine, The University of Iowa, Iowa City, IA.

**Inflammatory and Epithelial Responses in Airways Exposed to Endotoxin and Ozone**, Jack R. Harkema, Department of Pathology, Michigan State University, East Lansing, MI.

**The Role of Endotoxin in Asthma and Allergy**, David B. Peden, Department of Pediatrics and Center for Environmental Medicine and Lung Biology, The University of North Carolina, Chapel Hill, NC.

## Toxicological Database Mining in the 21st Century

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*Chairpersons:* Mary Jane Cunningham, Incyte Pharmaceuticals, Palo Alto, CA and Jonathan R. Greene, Schering-Plough Research Institute, Kenilworth, NJ.

**Identifying Therapeutic Proteins and Targets in DNA Databases**, Jonathan R. Greene, Schering-Plough Research Institute, Kenilworth, NJ.

**Fundamental Gene Expression Analysis for Toxicological Profiling**, Roland Somogyi, Incyte Pharmaceuticals, Inc., Palo Alto, CA.

**Applying Visual and Numerical Pattern Recognition Tools to Gene Expression Data**, Thomas J. Downey, Partek Incorporated, St. Peters, MO.

**Combining Chemical Structure and Gene Expression Analyses for Toxicological Profiling and Prediction**, Evan W. Steeg, Molecular Mining Corporation, Kingston, Ontario, Canada.

## Values and Limitations of Transgenic Animals in Immunotoxicology

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*Chairpersons:* Debra L. Laskin, Rutgers University, Piscataway, NJ and Allen E. Silverstone, SUNY Health Science Center, Syracuse, NY.

**Studies on the Role of Inflammatory Mediators in Chemically-Induced Toxicity: Transgenic Models versus Pharmacologic Approaches**, Debra L. Laskin, Environmental and Occupational Health Sciences Institute, Rutgers University, Piscataway, NJ.

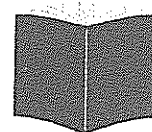
**Radiation Chimeras and Transgenic Knock-Outs as Tools to Define Immune System Targets for Dioxin Receptor and Estrogen Receptor Activation**, Allen E. Silverstone, State University of NY Health Science Center, Syracuse, NY.

**Using Transgenics and Other Approaches to Study Regulation of Antigen-Specific T Cell Apoptosis by Glucocorticoids**, John D. Ashwell, Laboratory of Immune Cell Biology, National Institutes of Health, Bethesda, MD.

**Identifying Chemical Carcinogens and Assessing Potential Risk in Short-Term Bioassays Using Transgenic Mouse Models**, Raymond W. Tennant, NIEHS, Research Triangle Park, NC.

**Lessons from TGF $\beta$ 1-Deficient Mice: Strain Differences and Genetic Modifiers of Responsiveness**, Thomas Doetschman, University of Cincinnati, Cincinnati, OH.

## Workshop Sessions



### Airborne Particulate Matter: Physico-Chemical Characteristics and Human Exposure Issues Related to Health Effects Research and Assessment

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*Chairpersons:* Judith A. Graham, US EPA, Research Triangle Park, NC and Joe L. Mauderly, Lovelace Respiratory Research Institute, Albuquerque, NM.

**Airborne Particulate Matter: What Do We Know About What's Really Out There?**, Glen R. Cass, Environmental Engineering Science Department, California Institute of Technology, Pasadena, CA.

**What Have Gases Got to Do with It?**, Eric Fujita, Desert Research Institute, Reno, NV.

**Biological Particles: Time to Come Out of the Closet**, Ruprecht Jaenicke, University of Mainz, Mainz, Becherweg, Germany.

**Personal Exposure to Particulate Matter: What do We Really Breathe?**, Paul Lioy, Environmental & Occupational Health Sciences, Piscataway, NJ.

**Panel Discussion**, Joe Mauderly, Lovelace Respiratory Research Institute, Albuquerque, NM.

### An Analysis of the C x T Concept and of Mechanisms in Free Radical Toxicology: The Legend of Fritz Haber

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*Chairperson:* Hanspeter Witschi, Institute of Toxicology and Environmental Health, University of California, Davis, CA.

**Haber's Rule (C t = k): A Special Case in a Family of Curves Relating Concentration and Duration of Exposure to a Fixed Level of Response**, Fred J. Miller, Chemical Industry Institute of Toxicology, Research Triangle Park, NC.

Continued to page 10

## Workshop Sessions

Continued from page 9

**The Use of Haber's Rule in Standard Setting and Risk Assessment**, David W. Gaylor, National Center for Toxicological Research, US FDA, Jefferson, AR.

**The Haber-Weiss Reaction and Mechanisms of Toxicity**, James P. Kehrer, The University of Texas at Austin, Austin, TX.

**The Role of Time in Toxicology or Haber's  $C \times T$  Product**, Karl K. Rozman, University of Kansas Medical Center, Kansas City, KS.

### Arsenic: Applications of Carcinogenic Mechanisms to Risk Assessment

*Chairpersons:* Kirk T. Kitchin, US EPA, NHEERL, Research Triangle Park, NC and Barbara D. Beck, Gradient Corporation, Cambridge, MA.

**Proposed Carcinogenic Mechanisms for Arsenic**, Kirk T. Kitchin, US EPA, Research Triangle Park, NC.

**Rodent Carcinogenicity of Dimethylarsinic Acid, an Organic Arsenic Metabolite**, Shoji Fukushima, Osaka City University Medical School, Abeno, Osaka, Japan.

**A Physiologically-Based Pharmacokinetic Model for the Four Major Arsenic Metabolites in Animals and Man**, Sabine Mann, Le Borgeau, Switzerland.

**Requirements for a Biologically-Realistic Cancer Risk Assessment for Inorganic Arsenic**, Harvey J. Clewell, III, ICF Consulting, Ruston, LA.

**The Arsenic (As) Maximum Contaminant Level (MCL) Proposed by the US EPA**, Charles O. Abernathy, US EPA Human Risk Assessment Branch, Washington, DC.

### Current Status of Model Development for Photobiology Risk Assessment with Relevance to Humans

*Chairperson:* G. Frank Gerberick, The Procter & Gamble Company, Cincinnati, OH.

**Effects of Ultraviolet (UV) Light on Biological Systems**, Irene E. Kochevar, Harvard Medical School, Boston, MA.

**Phototoxicological Risk Assessment: Limitations of Current Models**, J. Frank Nash, The Procter & Gamble Company, Cincinnati, OH.

**The FDA/NIEHS Phototoxicology Research Center: Understanding and Developing Animal Models for Photocarcinogenesis Testing**, Paul C. Howard, NCTR/FDA, Jefferson, AR.

**Regulatory Considerations on Photobiology Risks**, Abigail Jacobs, FDA, Rockville, MD.

**Photocarcinogenicity of Drugs—Human Experience**, Robert S. Stern, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA.

### Harmonization of Cancer and Non-Cancer Risk Assessment: Moving Beyond the NRC Book

*Chairpersons:* Hal Zenick, NHEERL, Research Triangle Park, NC and Matthew S. Bogdanffy, E.I. Du Pont de Nemours & Co., Newark, DE.

**Harmonization in Risk Assessment—Overview Historical Assumptions and Practices**, Gary L. Kimmel, US EPA, Washington, DC.

**Mode of Action and Tissue Dosimetry—Linchpins of Harmonization of Chemical Risk Assessment**, Melvin E. Anderson, Colorado State University, Fort Collins, CO.

**Mode of Action as a Guide to Quantitative Analytical Approaches**, Lorenz Rhomberg, Gradient Corporation Cambridge, MA.

**Integrative Approaches to Risk Assessment Based on Mode of Action: Cancer and Non-Cancer Endpoints**, William Farland, US EPA, Washington, DC.

Panel Discussion

### Human Immunotoxicity: Examples and Strategies for Determining Risk

*Chairpersons:* Marylane Selgrade, US EPA, Research Triangle Park, NC and Michael J. McCabe, Wayne State University, Detroit, MI.

**Immunologic Effects of Polychlorinated Biphenyl (PCB) and Dioxin Exposure in Dutch Toddlers**, Nynke Weisglas-Kuperus, Department of Pediatrics, Neonatal Division, Erasmus University and University Hospital/Sophia Children's Hospital, Rotterdam, The Netherlands.

**The Health Consequences of Stress Induced Immune Modulation**, Ronald Glaser, The Ohio State University, Columbus, OH.

**Mechanisms of Human Immunotoxicity Induced by Polycyclic Aromatic Hydrocarbons (PAHs): Lessons From Murine *In Vitro/In Vivo* and Human *In Vitro* Studies**, Scott Burchiel, University of New Mexico, Albuquerque, NM.

**Allergy to Enzymes: Use of Pre-Clinical and Clinical Data to Assess the Risk to Man**, Katherine Sarlo, The Procter & Gamble Company, Cincinnati, OH.

### Integration of Mechanistic, Toxicological and Epidemiological Data into the EPA's Trichloroethylene Cancer Assessment

*Chairpersons:* William Farland, US EPA, Washington, DC and Clay B. Frederick, Rohm & Haas Company, Spring House, PA.

**What Do the Human Data Tell Us?**, Cheryl S. Scott, US EPA, Washington, DC.

**Integration of Genotoxicity Data**, Martha Moore, US EPA, Research Triangle Park, NC.

**Overview of the Toxicological Information and the Integration of All Data to Select and Conduct the Dose Response Evaluation**, V. James Cogliano, US EPA, Washington, DC.

**Where Do We Go from Here?**, Richard J. Bull, Battell-Pacific Northwest National Laboratory, Richland, WA.

Panel Discussion

### Latex Allergy in the Workplace

*Chairpersons:* Mark Toraason, NIOSH, Cincinnati, OH and Dori R. Germolec, NIEHS, Research Triangle Park, NC.

**Latex Allergy: Clinical and Epidemiological Data**, Gordon Sussman, University of Toronto, Ontario, Canada.

**Molecular Characterization of Latex Allergens**, Donald H. Beezhold, Guthrie Research Institute, Sayre, PA.

**Complications in Interpretation of Diagnostic Tests for Latex Allergy**, Ray E. Biagini, National Institute for Occupational Safety and Health, Cincinnati, OH.

**Animal Models and Mechanisms of Latex Allergy**, B. Jean Meade, National Institute for Occupational Safety and Health, Morgantown, WV.

### **The Influence of Co-Pollutants of the Toxicity on Airborne Particulate Matter**

*Chairpersons:* Michael C. Madden, US EPA, Research Triangle Park, NC and Kent E. Pinkerton, University of California, Davis, Davis, CA.

**Epidemiologic Evidence of Co-Pollutant Influence on Particulate-Induced Toxicity**, Clive A. Pope, III, Brigham Young University, Provo, UT.

**Effect of Co-Pollutants (SO<sub>2</sub>, NO<sub>2</sub>, and NH<sub>3</sub>) on The Acute Pulmonary Toxicity of Particles and Particulate Matter (PM)—Associated Metals**, Kevin Dreher, US EPA, Research Triangle Park, NC.

**Exposure to Environmental Tobacco Smoke (ETS) Enhances the Sensitivity of the Lungs to Ozone-Induced Injury**, Kent E. Pinkerton, University of California, Davis, CA.

**The Effects of Oxidants on Modifying the Toxicity of Ambient PM**, Andrew J. Ghio, HSD, NHEERL, US EPA, Chapel Hill, NC.

**Interaction of Endotoxin, Ozone, and Ultrafine Particles**, Gunter Oberdörster, University of Rochester, Rochester, NY.

### **Toxicology for Kids. Part II. The Classroom Experience**

*Chairpersons:* Charlene A. McQueen, The University of Arizona College of Pharmacy, Tucson, AZ and Garold S. Yost, University of Utah, Salt Lake City, UT.

**Toxicology: Questions and Answers**, Charlene A. McQueen, The University of Arizona, College of Pharmacy, Tucson, AZ.

**Get the Lead Out!**, Mary O. Dereski, Institute of Chemical Toxicology, EHS Center for Molecular and Cellular Toxicology with Human Applications, Wayne State University, Detroit, MI.

**Going Toxic in the Middle School Classroom**, Mary L. Haasch, University of Maryland Center for Environmental Science and the Program in Toxicology, Solomons, MD.

**The Teacher-Mentor Relationship: How to Bring Toxicology into the Middle School Classroom**, Ann T. Williams, Northern Middle School, Owings, MD.

### **Toxicological Considerations of Pharmaceuticals for Pediatric Patients**

*Chairpersons:* Hilary V. Sheevers, Milestone Biomedical Assoc., PAI, Frederick, MD and Melissa Sherman Tassinari, Pfizer Central Research, Groton, CT.

**Skeletal Growth and Growth Dynamics: Aspects to Consider for the Design of Juvenile Animal Studies**, Melissa S. Tassinari, Pfizer Central Research, Groton, CT.

**Animal Models and Consideration of Immune System Development**, Ken L. Hastings, US FDA, Rockville, MD.

**CNS Development: Development of The Hypothalamic-Pituitary-Adrenal Axis and Consequences of Early Drug Exposure**, Charles V. Vorhees, Children's Hospital Research Foundation, Cincinnati, OH.

**International Regulatory Considerations of Pharmaceuticals for Pediatric Patients**, Hilary V. Sheevers, Milestone Biomedical Assoc., A Division of PAI-SAIC, Rockville, MD.

**Case Studies: Juvenile Animal Testing for Pharmaceutical Products**, Sandra L. Morseth, Quintiles Consulting, Rockville, MD.

## **Innovations in Applied Toxicology**



### **Toxicology in the Next Millennium: Toxicogenomics and Proteomics**

*Chairpersons:* I. Y. Rosenblum, Schering-Plough Research Institute, Lafayette, NJ and J. Carl Barrett, National Institute of Environmental Health Sciences, Research Triangle Park, NC.

**Microarray Technology in Molecular Toxicology**, Richard S. Paules, National Institute of Environmental Health Sciences, Research Triangle Park, NC.

**Use of Gene Expression Profiling in Predictive Toxicology**, Donna L. Mendrick, Gene Logic, Inc., Gaithersburg, MD.

**Applications of Expression Profiling**, Stephen H. Friend, Rosetta Inpharmatics, Inc., Kirkland, WA.

**The Use of Proteomics in Molecular Toxicology**, Mary Jane Cunningham, Incyte Pharmaceuticals, Palo Alto, CA.

**Pharmaceutical Proteomics**, Sandra Steiner, Large Scale Biology Corp., Rockville, MD.

## **Innovations in Toxicological Sciences**



### **Role of Co-Repressors and Co-Activators in Regulation of Soluble Receptor Mediated Transcription**

*Chairpersons:* Gary H. Perdew, Penn State University, University Park, PA and Oliver Hankinson, UCLA, Los Angeles, CA.

**Hormones, Transcriptional Repression, and the Role of Co-Factors in the Function of Nuclear Hormone Receptors**, Martin Privalsky, University of California, Davis, CA.

**A Pharmacological Dissection of RXR Signaling Pathways with Retinoids**, Richard A. Heyman, X-Cepto Therapeutics, San Diego, CA.

**Role of Transcriptional Co-Activator Proteins in Functioning of the Aryl Hydrocarbon Receptor/Aryl Hydrocarbon Receptor Nuclear Translocator (AHR/ARNT) Dimer**, Oliver Hankinson, UCLA, Los Angeles, CA.

**Nuclear Receptor Co-Activators RIP140 and SRC-1 Interact with the Glutamine-Rich Domain of the Aryl Hydrocarbon Receptor and Modulate its Transcriptional Activity**, Gary H. Perdew, Penn State University, University Park, PA.

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## Roundtable Sessions



### Are Dietary Supplements Safe?

*Chairperson: Robert E. Osterberg, US FDA, Rockville, MD.*

Dietary Supplement Safety—Improper Use of the Adverse Effects Reporting System, Theodore M. Farber, ToxaChemica, International, Rockville, MD.

Dietary Supplements—Human Health Risk Standards and Methods of Assessment, Michael Bolger, US FDA Washington, DC.

Botanical Dietary Supplements—Issues of Safety, John H. Cardellina, II, Council for Responsible Nutrition, Washington, DC.

Dietary Supplement Safety, Lorna C. Totman, Consumer Healthcare Products Association, Washington, DC.

### Are There Autoimmune Consequences of Toxicant Exposure in Human Populations?

*Chairpersons: Kathleen E. Rodgers, University of Southern California, Los Angeles, CA and Michael A. Lynes, University of Connecticut, Storrs, CT.*

Autoimmune Disease and Environmental Chemicals, Noel R. Rose, Department of Pathology, Johns Hopkins University, Baltimore, MD.

Consequences of Occupational and Environmental Exposures in the Development of Autoimmune Diseases, David M. Ozonoff, Boston University, School of Public Health, Boston, MA.

Critical Issues for the Evaluation of Environmentally-Related Autoimmune Diseases, Glinda S. Cooper, National Institute of Environmental Health Sciences, Research Triangle Park, NC.

## Request for Continuing Education Course Proposals

*Continued from page 6*

If you have suggestions and ideas about content or speakers for topics that would be of interest to the SOT membership at large, then please submit a CE course proposal for inclusion in the 2001 SOT Annual Meeting. Instructions and proposal forms will be included in the Special Issue of the *SOT Communiqué* and on the SOT Web site. Submit all course proposals to SOT Headquarters by **April 15, 2000**.

Please contact any member of the CE Committee (Judy Zelikoff, Chair; Darlene Dixon; Rakesh Dixit; Yvonne Dragan; Patricia Ganey; Thomas Jones; Robert Kavlock; William Mattes; and William Slikker, Jr.) if you wish further information.

## Continuing Education Courses



*These Continuing Education Courses will be offered Sunday, March 19, 2000, at the SOT Annual Meeting.*

For complete abstract and speaker information, please see the Fall 1999 *Communiqué*, the Preliminary Program, or the Annual Meeting section of the SOT Web site.

- SR 01—Introduction to Proteomics
- SR 02—Metabonomics—A New Approach to Drug Toxicity Screening Using NMR Spectroscopy, Pattern Recognition, and Expert Systems
- AM 03—Environmental Epidemiology and Toxicology: The Interface and the Interactions
- AM 04—Pulmonary Immunotoxicology
- AM 05—Molecular Genetics, Metabolism, and Cell Signaling in Renal Carcinogenesis: A Lesson in Synergistic Toxicology
- AM 06—Molecular Approaches to a Comprehensive Understanding of Cardiotoxicity
- AM 07—Advanced Neurotoxicology: Biomarkers and Mechanisms of Oxidative Stress-Induced Neurotoxicity
- AM 08—Rodent Toxicity and Nongenotoxic Carcinogenesis: Knowledge-Based Human Risk Assessment from Molecular Mechanisms
- AM 09—Advances in Non-Invasive Micrometer and Nanometer Scale Cellular/Tissue Vital Imaging
- AM 10—Tips for Effective Risk Communication
- PM 11—Antibodies as Reagents to Evaluate Toxicant-Mediated Signal Transduction Pathways
- PM 12—Phototoxicology: Basic Principles of Light, Photobiology, and Regulatory Issues
- PM 13—Toxicokinetics and Physiologically-Based Toxicokinetics in Toxicology and Risk Assessment
- PM 14—Metal Exposure and Toxicity of the Respiratory Tract
- PM 15—Safety Pharmacology and Risk Assessment
- PM 16—Toxicogenomics in the Trenches
- PM 17—The Application of Philosophy to Risk Assessment, Management and Communication

### TAP: Search for New Editor

*Continued from page 1*

Individuals interested in being considered for this important position should submit a letter stating their interest in the TAP Editor position and a *curriculum vitae* to **Dr. Bob Roth**, Chair, Board of Publications, c/o the SOT Headquarters Office, 1767 Business Center Drive, Suite 302, Reston, Virginia, 20190-5332. Applications will be reviewed as received, and interviews will be scheduled during the SOT Annual Meeting in Philadelphia, March 19-22, 2000.

# WOMEN IN TOXICOLOGY

## SOT 2000: Increasing the Visibility of Women in the Professional Environment

Women in Toxicology (WIT) will be hosting a roundtable discussion at the Annual meeting on Monday, March 20, from 6:00 PM-7:30 PM. The following women will be participating as members of the roundtable: **Lorrene Buckley** (Eli Lilly), **RuthAnn Rudel** (Silent Spring Institute), **Julie Kimbell** (CIIT), **Linda Birnbaum** (US EPA), **Nancy Kerkvliet** (Oregon State University) and **Gina Pastino** (McLaren/Hart, Inc.) The roundtable discussion will be preceded by an informal reception. WIT will be providing refreshments and snacks.

### Activities

Although much of the effort thus far has focused on establishing the group (e.g., defining the mission and goals outlined below, getting the E-mail list up and running, etc.), WIT has already been actively working on implementing the goals. Some of the projects include the following:

- WIT has been planning the roundtable discussion to be held at the meeting in March;
- WIT has been discussing with the Placement Committee ways in which the groups can work together;
- WIT has been working with the Minority Health Profession Foundation on participation at their annual conference in April, 2000;
- WIT is already in the planning stages for SOT 2001 and will be submitting a proposal to the program committee on sponsoring a scientific session focusing on gender issues and risk assessment;

- WIT Working Group members (two) will be attending a workshop in December entitled "Advancing Women's Contributions to Science through Professional Societies," which is being sponsored by the Office of Research in Women's Health, Office of the Director, National Institutes of Health in conjunction with the National Institute of Environmental Health Sciences and the American Society for Cell Biology; and
- WIT is working on developing a presence on the SOT Web site.

### Dues/Membership

As of the end of September, WIT had 132 members signed up for the E-mail list! If you are not signed up but would like to, please send an E-mail to **Gina Pastino** (gina\_pastino@mclaren-hart.com). Please remember that WIT is open to all SOT members. WIT has been provided startup funding from Council for this year only. Thus, the future is dependent upon donations/dues from the membership. The suggested donation is \$15/year. SOT is a non-profit 501(c)3 organization. Donations to WIT are therefore tax deductible to the extent provided by law.

### How Can You Get Involved?

WIT welcomes input from ALL members. If you have an idea on what WIT should be doing, please feel free to pass it along. We will certainly be looking for your presence at the meeting in March and also welcome any donations! Also, do not limit your SOT involvement to WIT. We encourage and support the participation of women in all SOT activities. For example, consider increasing the visibility of women within the profession by getting involved in the K-12 Program or the Minority Education Program.

### Who Do I Contact?

If you have an idea to pass along, a donation to give, would like copies of the minutes from the teleconferences, or would like to sign up for the E-mail distribution list contact:

**Gina Pastino, Ph.D.**  
McLaren/Hart, Inc.  
ChemRisk  
25 Independence Boulevard  
Warren, NJ 07059  
(908) 647-8111 X336  
E-mail: gina\_pastino@mclaren-hart.com

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# PLACEMENT SERVICES

## Position Available:

### Research Scientist/Senior Research Scientist

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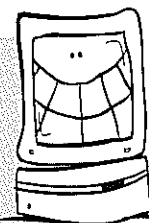
You will plan appropriate program for residue, metabolism, pharmacokinetic, assay validation and toxicology studies for Animal Health development candidates in collaboration with internal study directors and/or CROs. This will involve providing input on study design and assay methodology as well as interacting with Animal Health Regulatory Affairs, worldwide regulatory agencies and trade associations to ensure that evolving regulatory requirement updates are incorporated into development programs and risk assessments. Ph.D. in Chemistry or Toxicology or the equivalent education/experience should be supported by a background in analytical chemistry and

demonstrated experience in designing/conducting pharmacokinetic, residue and/or drug metabolism studies. Good written and oral communication skills are essential. Pfizer is proud to offer competitive salaries, exceptional benefits, tremendous opportunities for learning and advancement, and the rewards of living only hours from Boston, Providence and NYC, on the beautiful Connecticut seashore.

Please send your resume in confidence to: Pfizer Inc., Ad Code: 9928723SOT, Central Research Division, c/o Aon Consulting, P.O. Box 25, Findlay, OH 45839, or E-mail to: [Pfizer@aon-hros.com](mailto:Pfizer@aon-hros.com). Pfizer offers a workplace rich with diversity and potential—an Equal Opportunity Employer. [www.pfizer.com](http://www.pfizer.com).

### Using the SOT On-Line Placement Service Yet?

Access to the Placement Service site can be achieved through the SOT Web site at [www.toxicology.org](http://www.toxicology.org). Simply go to the Home page and locate the Career Resources page, then Placement Service description. Select the link and you will be directed to our on-line job bank.



## Education and Community Outreach Activities at the SOT Annual Meeting

### Public Lecture

Living Safely with Chemicals in the New Millennium: How Toxicologists Help Decide What is Safe?

Tuesday, March 21, 5:30 PM–7:30 PM

Auditorium of the Academy of Natural Sciences, 1900 Benjamin Franklin Parkway, Philadelphia.

### Undergraduate Education Program for Visiting Minority Students

Sunday, March 19, 8:00 AM–4:00 PM

Undergraduate minority students will be introduced to toxicology and encouraged to prepare for graduate school and a research career.

### Education Outreach Workshop for Members

Toxicology for Kids Part II: The Classroom Experience

Monday, March 20, 1:30 PM–4:30 PM

Hear about the experiences of scientists who have engaged in classroom outreach and try the educational tools they have found effective.

### Workshops for Teachers

Paracelsus Goes to School

Tuesday, March 21, 8:00 AM–4:30 PM

Workshops using classroom materials related to toxicology will be offered for Philadelphia area teachers in sessions for grades K-3, 4-6, and 7-12.

### NIEHS Grantees Poster Discussion Session

Wednesday, March 22, 8:30 AM–11:30 AM

NIEHS grantees will present posters explaining nine projects that provide environmental health and health lessons for teachers and students in grades K-12.

### K-12 Subcommittee Exhibit

Monday, March 20–Wednesday, March 22, 9:30 AM–4:30 PM

Stop by the Exhibit Hall to try out materials for toxicology education outreach in K-12 classrooms.

**SOT Fax-On-Demand**

**(800) 529-8635**

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

# Responding to Environmental Issues: Lessons Learned

Reprinted from the October 1999 issue of Environmental Health Perspectives.

Submitted by B.A. Schwetz, US FDA

Allocation of resources to address scientific issues is highly important in many ways, given that committing resources to one project often means another issue will go unattended. The potential impact on human health and environmental quality can be significant when one issue warrants attention at the expense of another. Admittedly, research career goals provide a subtle but distinctive driving force in priority setting and allocation of resources. Careers are affected by the nature of the scientific issues addressed—association with a highly visible problem is often more career enhancing than association with a less noteworthy issue. Thus, the scientific community's response to emerging issues has a tremendous influence on the allocation of

resources and the availability and capability of our workforce for future issues.

The premise of this editorial is that we, as a scientific community, should responsibly address new scientific issues by zeroing in on the highest priority needs with strategies that are in proportion to the "size" of the problems. Some examples may be illustrative.

Our response to the endocrine disruptor (ED) issue is a case in point. Signals of adverse effects on wildlife species began to appear in the published literature in the 1970's (1-7). Effects in humans that were claimed to be associated with EDs in the environment were reported more recently (8-16). Attention to EDs hit the national radar screen with the passage of two laws—the Food Quality

Protection Act in 1996, and the 1996 amendments to the Safe Drinking Water Act. Enormous amounts of human and laboratory resources were plowed into developing agreement on test batteries to detect hormonal activities of chemicals, through EPA's Endocrine Disruptor Screening and Testing Advisory Committee. Determining whether there were, in fact, adverse effects in humans from exposure to EDs in the environment, and if so, characterizing the scope of the problem, seemed a much lower priority. While there is general agreement that EDs cause certain adverse effects in wildlife species (8), there is no such consensus about adverse effects in humans. As the issue gained momentum, many scientists active in ED-related

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## President's Message

Continued from page 3

formulating a chloroform risk assessment; and 2) my August 1999 memorandum to the membership urging people to express their views concerning a proposal to reorganize NIH study sections. Additionally, in my view, it is imperative that the leadership of the Society continue to speak out in a timely fashion when basic principles of toxicology are misused and/or ignored egregiously. An example of this is SOT Council's response to the Consumers Union (CU) February 1999 report entitled "Do You Know What You Are Eating? An Analysis of U.S. Government Data on Pesticide Residues in Foods." In March 1999, we issued a letter stating that the "report's conclusions concerning the dangers of pesticides in food are not credible and are unnecessarily alarmist." This was followed-up in June 1999 with a detailed evaluation of the methodology employed by CU.

I would like to close by restating an opinion presented in my first President's Message. We can strengthen SOT (and the discipline of toxicology) by placing an emphasis on four "**BASIC THEMES**" and, importantly, communicating these to our scientific colleagues in other disciplines and to the public. **First**, we need to better publicize the key concept in toxicology "*it is the dose that makes the poison.*" **Second**, toxicology is a part of the solution. Toxicology has played a key role by defin-

ing the conditions of use under which we may employ chemicals for good causes. Yes, some mistakes have been made; yes, there are places where we should improve; and, importantly, yes, we are striving to improve. **Third**,

*exaggerated estimates of risk can be "toxic"*, e.g., these can foster the public's misunderstanding of science. **Fourth**, *enhancing the scientific basis of risk assessment can provide a win-win situation.* Enhancing the scientific basis of risk assessment can result in more sound decisions leading to both improved protection of human health and the environment, and a wiser utilization of our limited financial resources, i.e., a win-win situation.

Our scientific program for the 2000 Annual Meeting is excellent! I look forward to seeing you there!

### Basic Themes

- The dose makes the poison.
- Toxicology is part of the solution.
- Exaggerated estimates of risk can be "toxic."
- Enhancing the scientific basis of risk assessment can provide a win-win situation.



Jay I. Goodman, Ph.D.  
1999-2000 President

# Animals in Research Slides Available for Presentations

SOT members provide a valuable service when they are willing to speak to groups about the role and importance of animal use in research. Recent acts of animal rights extremists such as the mailing of razor blades and the November destruction at the Washington State University egg safety research labs can be balanced by reasoned presentations to community and school groups.

The Animals in Research Committee now has helpful resources to loan for such presentations. "People & Animals: United for Health" is a package produced by the Massachusetts Society for Medical Research, Inc., that provides background information on the use of animals in biomedical research, education and testing. Designed for middle and high schools, the materials can be effectively used for public presentations as well. The package includes a 13-unit reference manual, a set of 169 slides, a discussion outline, and suggestions for critical and creative thinking activities. "People and Animals, Sharing the World" is an interdisciplinary program for elementary students introducing concepts in veterinary medicine and exploring value judgments as they relate to animals. This item is produced by the American Veterinary Medical Association and distributed by Massachusetts Society for Medical Research.

SOT members should contact **Betty Eidemiller** at Headquarters [bettye@toxicology.org](mailto:bettye@toxicology.org); (703) 438-3115 to schedule loans of these items.

## Responding to Environmental Issues: Lessons Learned

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research segregated into camps that focused on discrediting the results of other researchers (17). Time and resources could have been better spent on building a database for use in evaluating the conditions under which chemicals with weak hormonal activity might cause adverse effects in wildlife, domestic animals, and humans. After several years and many millions of dollars spent on research, conferences, and meetings, we still do not have validated test methods for detection of endocrine disruptor activity. We don't know if there is a causal relationship between adverse health effects in humans and exposure to EDs in our environment. It seems obvious that our focus should be on determining whether such a relationship exists and if so, characterizing the extent of the problem. Right now, we don't have the definitive information needed to do that.

Could we have better framed the issue and avoided the passage of laws that drove a process perhaps magnitudes larger than the problem warranted? Could we have developed a research strategy that was more constructive and less defensive? As we continue to debate whether endocrine disrupting chemicals are a real threat to human health, the public is presented with confusion rather than resolution. Situations like this erode the public's confidence in our interest and ability to solve problems that, in their minds, came from the science community in the first place.

The ED issue is but one example of a scientific strategy with mixed agendas. There are other science-based issues from the recent past that appear to be driven by debatable agendas or mandates, e.g., the controversy over the use of recombinant bovine somatotropin, the continued emphasis on TCDD many years after we understood the sources and risks of exposure, the minimal response to the threat of "mad cow disease," and the failure to use mechanistic data to regulate environmental chemicals such as chloroform. Our responses to these issues have raised questions in the minds of some of our colleagues about priorities of science, communication with the public, and the relationship between research results and regulatory decisions.

There is increasing effort today among the federal laboratories to coordinate research directions and encourage collaboration rather than competition. Congressional appropriations targeted for specific research areas encourage more cooperation between federal agencies but restrict freedom to anticipate new problems. We need to fight the fires of the day, but still be proactive in identifying those issues that truly warrant the level of attention we have given to EDs. Rather than waiting for a public outcry to drive legislative activity, experts from federal laboratories could provide background information and perspective to members of Congress, about the need (or lack thereof) for legislation related to new environmental and human health issues. Antimicrobial resistance is a problem that requires such a strategy now. A recent GAO report summarizes the background and current status of this issue (18). There is no shortage of controversy about antimicrobial resistance and opinions about the size of the problem range from "no concern" to "major medical disaster."

As we devise strategies to resolve problems that are in the early stages of evaluation, such as the impact of antimicrobial resistance, we should heed the lessons learned from our response to the endocrine disruptor issue and maintain a balanced approach that will maximize our efficiency and effectiveness in the future.

*Continued to page 18*



## Women in Toxicology

Continued from page 13

### Mission and Goals of WIT

After discussion at the 1999 annual SOT WIT meeting and consulting with other similar groups, WIT formally defined the mission and goals of the group. These missions and goals can be modified as the needs of the membership change. However, they will serve as guidance during this three year trial period. The missions are:

- To promote the recruitment and retention of women to a profession in the toxicological sciences;
  - To provide leadership for career development opportunities for women toxicologists; and,
  - To promote and recognize the accomplishments of women toxicologists.
- Goals were also developed to address the key issues related to these missions and include:

**Mentoring**—WIT will serve as a resource for women within SOT to aid in career development opportunities. WIT members will serve as role models for women entering the field and will assist those women already established in the field to achieve their professional goals.

**Visibility**—WIT will actively work to increase the visibility of women within SOT and the scientific community. This will be achieved by encouraging and supporting the participation of women in all activities sponsored by SOT, as well as encouraging women to become members of the SOT.

**Leadership**—WIT will provide the opportunity for members to gain leadership experience within SOT by making it possible for women to participate at all levels. For example, this will include the encouragement of women to serve as SOT Council members, scientific sessions chairs, and to participate in various other SOT activities. WIT will also support and encourage members to serve as leaders within their respective disciplines.

**Education**—WIT will actively work with the Education Committee to advance and promulgate education in toxicology. Specifically, WIT will work with the K-12 Education Program to increase the visibility of women in toxicology and to encourage young women to consider a career in the toxicological sciences.

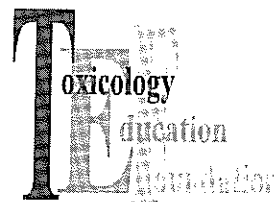
### Metals Specialty Section

*Student Award Deadline  
Extended to  
January 15, 2000*

*See Preliminary Information Booklet  
for More Information.*

## Undergraduate Minority Program Students Sought

Do you know students that attended the SOT meeting as a participant in the Undergraduate Minority Program? The Education Subcommittee for Minority Initiatives is investigating the impact of the program. Any information you have about those who participated would be of great value for the grant submission to NIH to request support for continuing the program. Especially of interest is whether the students pursued a career in toxicological sciences or in other biomedical sciences. A list of the program participants is included as an insert in this newsletter. Please convey to headquarters any contact or career path information you can provide (bettye@toxicology.org, Fax (703) 438-3113).



### \$ Contributions to TEF Matched by SOT

SOT will match your contribution to the Toxicology Education Foundation dollar for dollar. (Up to a total of \$100,000)

*Consider adding TEF  
to your holiday  
gift list.*



# COUNCIL HIGHLIGHTS

## Highlights from the September Council Meeting:

- 1 Council approved a \$500 contribution to Americans for Medical Progress.
- 2 Council approved the Board of Publications' recommendation to increase institutional subscriptions from \$825 to \$895.
- 3 There was Council consensus that a "health assessment" for Specialty Sections should be established and the Specialty Sections should submit their annual budget to Headquarters for review.
- 4 Council appointed a subcommittee to work with members of the TEF board to develop a memorandum of understanding to better clarify the working relationship between SOT and TEF.
- 5 Council approved the establishment of a 40th Anniversary Task Force with **Dr. Dan Acosta** as the Council liaison working with a combination of past-presidents, students, and 25-year members.

## Responding to Environmental Issues: Lessons Learned

Continued from page 16

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## Thanks to the

### Harmonization of Cancer and Non-Cancer Risk Assessment Meeting Sponsors

- ★ American Industrial Health Council
- ★ National Institute of Environmental Health Sciences
- ★ Society for Risk Analysis
- ★ US EPA

# UPCOMING CONFERENCES

- **Fumonisin Risk Assessment Workshop**, January 10-12, 2000, College Park, MD. Sponsored by FDA, JIFSAN, USD, and WHOT. Contact: University of Maryland Visitor Services Center, 101 Annapolis Hall, College Park, MD 20742-9811; Tel: (301) 314-7884; Fax: (301) 314-6693; Web site: [www.jifsan.tumd.edu](http://www.jifsan.tumd.edu).
- **Technology Expo and International Symposium on Small Drinking Water and Wastewater Systems**, January 12-15, 2000, Phoenix, AZ. Contact: Wendy Raeder, Conference Services Manager, Center for Public Health Information at NSF International, 789 Dixboro Road, Ann Arbor, MI 48105; Tel: (734) 827-6888; Fax: (734) 827-6840; Web site: <http://www.nsf.org>.
- **Surrogate Markers of Safety and Efficacy for Successful Drug Development**, January 24-25, 2000, Holiday Inn, Victoria, London. Accurately Predict Drug Safety and Efficacy by Developing Technology Platforms in Drug Discovery, January 26, 2000, Rubens Hotel, London. Contact: James Burrows, Sponsorship Manager; Tel: +44(0) 171 915 5053; E-mail: [jburrows@tir-conferences.com](mailto:jburrows@tir-conferences.com).
- **25th Annual Winter Toxicology Forum**, February 7-9, 2000, Westin Hotel. Contact: The Toxicology Forum, 1575 Eye Street, NW, Suite 325, Washington, DC 20005-1105; Tel: (202) 659-0030; Fax: (202) 789-0905; E-mail: [toxforum@clark.net](mailto:toxforum@clark.net); Internet: <http://www.toxforum.com>.
- **2000 AAAS Meeting and Science Innovation Exposition**, February 17-22, 2000, Marriott Wardman Park, 2660 Woodley Road, NW, Washington, DC 20008. Contact: Registrar, AAAS Meetings Department, 1200 New York Avenue, NW, Washington, DC 20005. Web site: (to register online): <http://www.aaas.org/meetings>.
- **Society of Toxicology 39th Annual Meeting**, March 19-23, 2000, Pennsylvania Convention Center, Philadelphia, PA. Early registration deadline: January 10, 2000. Contact: SOT Headquarters, 1767 Business Center Drive, Suite 302, Reston, VA 20190-5332; Tel: (703) 438-3115; Fax: (703) 438-3113; E-mail: [patricia@toxicology.org](mailto:patricia@toxicology.org); Web site: <http://www.toxicology.org>.
- **Achieving A Competitive Edge with GLPs**, March 30-31, 2000, Philadelphia, PA. Contact: Harvey Mathason TBD Enterprises, Tel: (215) 752-5309 or E-mail: [tbd4glp@aol.com](mailto:tbd4glp@aol.com).
- **31st Annual Meeting of the Environmental Mutagen Society**, April 8-13, 2000, New Orleans, Louisiana. Contact: Jim Tucker, Lawrence Livermore National Laboratory, BBR Program L-452, PO Box 808, 7000 East Avenue, Livermore, CA 94551-9900; Tel: (925) 423-8154; Fax: (925) 424-3130; E-mail: [tucker5@llnl.gov](mailto:tucker5@llnl.gov); Web site: <http://www.ems-us.org>.
- **Mechanisms of Nephrotoxicity and Nephrocarcinogenicity, An SOT Contemporary Concepts Consensus-Building Workshop**, April 15-18, 2000, Harbor View Hotel, 131 North Water Street, Edgartown, Martha's Vineyard, MA 02539. Contact: Tonia Masson, Society of Toxicology, 1767 Business Center Drive, Suite 302, Reston, VA 20190-5332; Tel: (703) 438-3115; Fax: (703) 438-3113; E-mail: [tonia@toxicology.org](mailto:tonia@toxicology.org); Web site: <http://www.toxicology.org>.
- **Mid-America Toxicology Course**, April 30-May 5, 2000, Kansas City, Missouri. Contact: Curtis D. Klaassen, Ph.D., Professor of Pharmacology & Toxicology, University of Kansas Medical Center, Kansas City, KS 66160-7417; Tel: (913) 588-7714 or Fax: (913) 588-7501; E-mail: [cklaasse@kumc.edu](mailto:cklaasse@kumc.edu).
- **Conflict Management in the World of GLPs**, May 8-9, 2000, Philadelphia, PA. Contact: Harvey Mathason TBD Enterprises, Tel: (215) 752-5309 or E-mail: [tbd4glp@aol.com](mailto:tbd4glp@aol.com).
- **Good Laboratory Practices in Analytical Laboratories**, March 30-31, 2000, Philadelphia, PA; April 27-28, 2000, San Francisco, CA; May 8-9 in Philadelphia, PA; and May 18-19, 2000 Orlando, FL. Contact: Harvey Mathason TBD Enterprises, Tel: (215) 752-5309 or E-mail: [tbd4glp@aol.com](mailto:tbd4glp@aol.com).
- **Neurobehavioral Teratology Society, 24th Annual NBTS Meeting**, June 24-29, 2000, Breakers Hotel, Palm Beach, Florida. Contact: Karen Acuff-Smith, Ph.D., The Procter and Gamble Company, SWTC, C1N39 Reed Hartman Highway, Cincinnati, OH 45241; E-mail: [smith.kd@pg.com](mailto:smith.kd@pg.com).
- **13th International Symposium on Microsomes and Drug Oxidations**, July 10-14, 2000, Stresa, Lago Maggiore, Italy. Contact: Prof. Francesco De Matteis, Pharmacology, Via P. Giuria 13, University, Torino, Italy. Tel: (39) 011-670-7792; Fax: (39) 011 670 7788; E-mail: [fдем@medfarm.unito.it](mailto:fдем@medfarm.unito.it) or Dr. Di Paolo e/o M.A.F. Servizi, Torino, Italy. Tel: (39) 011-505900; Fax: (39) 011-505976; E-mail: [mdipaolo@mafservizi.it](mailto:mdipaolo@mafservizi.it).
- **EUROTOX 2000**, September 17-20, 2000, Imperial College of Science, Technology and Medicine, London, United Kingdom. Contact: EUROTOX 2000 Secretariat, Congress House, 65 West Drive, Chesham, Sutton, Surrey, SM2 7NB, United Kingdom; Tel: +44(0)181 661 0877; Fax: +44(0)181 661 9036; E-mail: [info@conforg.com](mailto:info@conforg.com).
- **RASS VIII, IUTOX (International Union of Toxicology)**, September 30-October 8, 2000, Pueblo Acantilado, Alicante, Spain. Contact: Birgitta Lewander, Malmfors Consulting AB, Vastmannagatan 48, S-113 25 Stockholm, Sweden; Tel: +46 8 31 19 90; Fax: +46 8 30 11 33; E-mail: [malmfors.consulting@exbox.trainet.se](mailto:malmfors.consulting@exbox.trainet.se); Web site: <http://www.global-rass.org>.
- **Third Asian Conference on Food Safety and Nutrition**, October 3-6, 2000, Beijing, China. Sponsored by: International Life Sciences Institute (ILSI), ILSI Focal Point in China, Chinese Academy of Preventive Medicine and in cooperation with ILSI branches in Australasia, India, Japan, Korea, Southeast Asia, and Thailand; and other regional and international organizations. Contact: International Life Sciences Institute, 1126 Sixteenth Street, N.W., Washington, DC 20036-4810; Tel: (202) 659-0074; Fax: (202) 659-3859; E-mail: [ilsi@ilsio.org](mailto:ilsi@ilsio.org).
- **Environmental Fate and Degradation Handbook**, by Donald Mackay and Wan Ying Shiu, Dept. of Chemical Engineering and Institute for Environmental Studies, University of Toronto, Ontario and Kuo-Ching Ma, Environmental Researcher, Toronto, Ontario. Contact: CRCnetBASE, 2000 N.W. Corporate Blvd., Boca Raton, FL 33431-9868; Tel: (800) 272-7737; Tel: (561) 994-0555 (outside continental U.S.); Fax: (800) 374-3401; Web site: <http://www.crcpress.com>.
- **Handbook of Chemistry and Physics**, Editor-in-Chief David R. Lide. Contact: Chapman and Hall/CRCnetBASE, 2000 N.W. Corporate Blvd., Boca Raton, FL 33431-9868; Web site: <http://www.crcpress.com>.
- **Human Toxicology Handbook**, edited by Edward J. Massero, Senior Research Scientist. Contact: Chapman and Hall/CRCnetBASE, 2000 N.W. Corporate Blvd., Boca Raton, FL 33431-9868; Tel: (800) 272-7737; Tel: (561) 994-0555 (outside continental U.S.); Fax: (800) 374-3401; Web site: <http://www.crcpress.com>.
- **The Keller Letter**, published by John G. Keller, Ph.D. Monthly analysis of regulatory, legislative and judicial impacts on toxicology and risk assessment. Contact: [toxicol@msn.com](mailto:toxicol@msn.com).
- **New Publications from Current Protocols**, published by John Wiley & Sons, Inc. Contact: John Wiley & Sons, Inc./Ann P. Spillane, 9th Floor, 605 Third Avenue, New York, NY 10158-0012; Tel: (800) 825-7550 or (212) 850-6347; Fax: (212) 850-6021; Attn: P. Spillane (USA); E-mail: [protocol@wiley.com](mailto:protocol@wiley.com).

## MEDIA OF INTEREST

## SOT Internship Starts Career in Toxicology

SOT promotes summer internships in toxicology each year to encourage bright young scientists to consider a career in toxicology. It works! **Jennifer Leonard** from Colorado College not only interned for the summer at SmithKline Beecham Pharmaceuticals (King of Prussia, PA), she has continued in a full-time position. Her summer mentor was **Dr. Howard Solomon**. An article in the Fall 1999 *Communiqué* featured many of the students who found placement this past summer through the SOT program (p. 16).

Intern sponsors can check the SOT Web site at <http://www.toxicology.org/AboutSOT/about.htm> for details about submitting a description for the Summer 2000 listing. The list will be posted to the SOT Web site by February 2000 and will also be available by request from SOT Headquarters.



*from the SOT  
Headquarters Staff*

## *In Memorium*

**Dr. David Platt Rall**, 73, a cancer researcher who simultaneously headed both the federal National Institute of Environmental Health Sciences and the National Toxicology Program, died Sept. 28 in Bordeaux, France, as the result of injuries suffered in an automobile accident ten days earlier. For 19 years, before his retirement in 1990, Dr. Rall headed the National Institute of Environmental Health Sciences, an arm of the National Institutes of Health located in Research Triangle Park, NC, and held the rank of Assistant Surgeon General in the US Public Health Service.

More recently, Dr. Rall chaired the World Health Organization's Program on Chemical Safety, and held a variety of other positions including foreign secretary of the National Academy of Sciences' Institute of Medicine, board member of the Environmental Defense Fund, and a member of the board of scientific counselors of the National Institute of Occupational Safety and Health. He was an officer of the Collegium Ramazzini, an organization devoted to the scientific study of occupational and environmental health globally, and a member of the Society of Toxicology. Dr. Rall was also a board member of the Alliance to End Childhood Lead Poisoning and scientific director of the Hawaii Heptachlor Study.

In his scientific career of nearly half a century, Dr. Rall was principal or sole author of some 180 scientific papers and the recipient of many national and international honors.

**Theodore (Ted) Wernick**, Director, Scientific Regulatory Affairs, Gillette Medical Evaluation Laboratories, Gaithersburg, Maryland died after a short illness on October 13. Ted was a native of New York and received his bachelor and master's degrees from Long Island University. He joined The Gillette Company in 1969 as Medical Review Officer, and was promoted to Chief, Compliance Coordination in 1977 and to Director, Scientific Regulatory Affairs in 1989. During his tenure as Director, Ted was instrumental in developing the Scientific Regulatory Affairs Department, and in increasing its worldwide regulatory capabilities and responsibilities. He was active in the American College of Toxicology, Society of Toxicology, Regulatory Affairs Professionals Society and various other trade associations including The Cosmetic, Toiletry and Fragrance Association and the Chemical Specialties Manufacturers Association, Inc. in which he chaired or was a member of various committees and task forces.

Ted is survived by his wife Thea and two children, Marc and Mara.