

SOCIETY OF TOXICOLOGY

Communiqué

Fall 1999

Society of Toxicology

SOT News Search this Site

Membership survey still available

Annual Meeting abstract deadline: October 1, 1999.

Year 2000 Congressional Fellow selected.

39th Annual Meeting
October 1-5, 2000

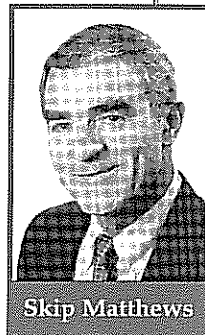
Member's Only

Representing knowledge and education in toxicology.

- About the Society of Toxicology
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- Annual Meeting/Exhibits/Workshops
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Matthews Selected as New Fellow

Hazel "Skip" Matthews, head of the Chemistry Section of the Laboratory of Pharmacology and Chemistry at the National Institutes for Environmental Health and Science (NIEHS), has been selected to serve as the SOT's second Congressional Fellow. Dr. Matthews is scheduled to begin January 2000, at which time he will take a leave of absence from his employer. The SOT's advocacy group, Capitol Associates, is working with the SOT and Dr. Matthews to find him an appropriate placement on Capitol Hill where he can contribute scientific and technical input to the process of developing public policy.



Skip Matthews

Dr. Matthews has nearly 30 years of government research experience in the area of toxicology at NIEHS. For the past 20 years at NIEHS, he has worked with the National Toxicology Program.

Dr. Matthews will follow in the footsteps of the SOT's first Congressional Fellow, Bradley Shurdut, whose service on the staff of the House Committee on Agriculture comes to a close at the end of the year. Dr. Shurdut's presence on the Hill has been of great benefit to the SOT, and we thank him for his efforts.

Face Lift for SOT Web Site!

The SOT Web site has undergone a major overhaul with the intent of providing members and the general public 24-hour access to information. Engineered by the World Wide Web Task Force (WWWTF) and the SOT Headquarters, the site provides user-friendly navigation through the more than 8 MB of information. Besides wearing a new façade, special features include a "Members Only" section with a searchable membership database, on-line registration for the Annual Meeting, on-line Airline and Housing Reservations, and a "News and Information" section that will provide up-to-date information of interest to members. A designated web liaison from each SOT Committee will work with the WWWTF to make the SOT Web site "the on-line source" for toxicology-related information. For more information or suggestions, please contact the SOT Public Affairs Director, Deborah Hyman, at (703) 438-3115, ext. 327 or deborahh@toxicology.org. Check out the new site at <http://www.toxicology.org>.

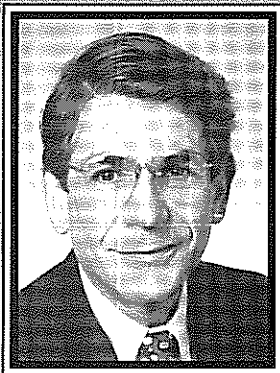
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Jay I. Goodman, Ph.D.
1999-2000 President of the
Society of Toxicology

FUTURE SOT ANNUAL MEETINGS

- 2000: March 19-23
Philadelphia,
Pennsylvania
- 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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PRESIDENT'S MESSAGE

SUPPORT AND ADVANCEMENT OF BASIC AND APPLIED RESEARCH IN TOXICOLOGY IS OUR FIRST PRIORITY

In June of 1997, the SOT Council adopted a Long-Range Plan that placed the support and advancement of basic and applied research in toxicology as our first priority. When I use the word "research," I am using the term in a broad sense to refer not only to laboratory research, but also, for example, to scholarly reviews of issues in toxicological sciences (in this context, I would like to remind you that the Forum Section of *Toxicological Sciences* provides an excellent avenue for this type of publication). Toxicology is a basic biomedical science because

the study of mechanisms of toxicity leads to enhanced insight regarding our understanding of essential aspects of biology. Placing an emphasis upon research as our Society's first priority shows that we are cognizant of the fact that this provides the foundation for our credibility as individual scientists and the credibility of the SOT. The enhancement of the incorporation of sound science into risk assessment is our second priority. Clearly, the first priority provides the foundation for the second. Basic research leading to an enhanced understanding of the mechanism/mode of action of the chemical (or physical agent) of interest, in combination with accurate exposure assessment, provides the basis upon which more rational approaches to risk assessment may be built. This is important because 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.

We need to recognize that the way the general public and, importantly, our colleagues in other scientific disciplines, perceive toxicology is influenced strongly by what they read and hear about risk assessment decisions. The credibility of the discipline of toxicology is diminished when these decisions are seemingly at odds with science and common sense. An example of this is the EPA's December 1998 decision (Federal Register 63: 69389-69476, 1998) to promulgate an MCLG for chloroform of zero, i.e., a linear, no threshold, default assumption. This decision, termed an interim risk management decision, was reached despite the fact that the Agency reaffirmed its earlier (Federal Register, March 1998) appropriate, science-based view that an MCLG above zero is proper. Remarkably, the December 1998 Federal Register write-up actually stated that "EPA believes the nonlinear cancer extrapolation approach is the most appropriate means to establish an MCLG for chloroform based on carcinogenic risk." In light of this unambiguous assertion, what are people to make of the fall back to a linear default? **The continued adherence to default approaches to risk assessment when a persuasive body of scientific data to the contrary is available represents failure. Make no mistake about it, this detracts from our credibility!** I ask all of the membership, in particular my academic colleagues, to join with me and be more vigorous with regard to speaking out in support of the scientific basis

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.

of toxicology and the use of sound science to make improved risk assessment decisions. If we do not rise to this challenge then we run some very real risks, the risk of seeing the discipline of toxicology become marginalized and the risk of missing opportunities to use chemicals for the benefit of people.

In the context of the discussion above, I would like to remind you of my letter enclosed with the previous issue of the *Communiqué* (Summer 1999) concerning a recent draft proposal (<http://www.csr.nih.gov/bioopp/select.htm>) to reorganize NIH study sections. I trust that many of our members heeded my request to review this and followed-up with comments using the electronic format provided on the Web site (these were due October 15, 1999). For those of you who perhaps did not see my letter, I will present its salient features here. I pointed out that a panel chaired by **Bruce Alberts**, President of the National Academy of Sciences, is conducting an examination of the organization and function of the review process carried out by the National Institutes of Health's (NIH) Center for Scientific Review (CSR). The review is being conducted in two phases. *Phase 1* involves the development of 21 Integrated Review Groups (IRGs) which are clusters of scientifically related study sections designed to facilitate the review of contemporary scientific areas and opportunities. In *Phase 2* the study sections that populate each IRG will be created. I went on to indicate that it is important to look at the titles of the 21 proposed IRGs because you will notice that the word "toxicology" does not appear. Even more important, when you review the list of research topics that each individual IRG will consider the word "toxicology" is mentioned in only three of them. This does not bode well for toxicological sciences. Indeed, NIH's emphasis on toxicology could likely decrease if changes are not made. Toxicology is a basic science and advances in toxicological sciences are necessary in order for us to be in a position to enhance the incorporation of sound science into risk assessment. Thus, continued strong support of NIH funding for research in toxicology is a matter that is important for industry and government. This is not simply an academic issue, this is an issue that affects all of us.

We are still in the relatively early stages concerning the formulation of specific changes for NIH's CSR (e.g., see the Policy Forum section of *Science* 285: 666-667, 1999), this process will continue for several years. On the whole, I believe that most of what is being proposed represents forward-thinking, constructive ideas that will lead to enhancements of NIH's scientific review of research proposals. However, I intend to continue to provide comments concerning my opinion that toxicology is multidisciplinary and reaches across, indeed bridges, the biomedical sciences and, therefore, there should be a heightened emphasis on toxicology within the NIH's CSR. In my view, this will facilitate the ability of NIH to carry out its mission to enhance human health. I urge you to keep informed of developments in this arena and to avail yourselves of the upcoming opportunities to voice your opinions.

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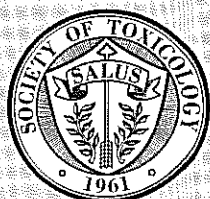
Welcome New Specialty Sections

At its July meeting, the SOT Council unanimously approved the establishment of three new Specialty Sections within the Society: the **Biological Modeling, Dermal Toxicology** and the **Toxicologic and Exploratory Pathology Specialty Sections**. This brings the total number of Specialty Sections to 18, which is a healthy reflection of the scope and depth, as well as the enthusiasm and commitment, of the Society membership.

The **Biological Modeling Specialty Section** has as its objectives to provide members with a focused venue for networking to develop and conduct programs and educational activities that emphasize the latest developments in biological modeling and to apply these to improving the risk assessment process. Members who wish to learn more about this new specialty section and are potentially interested in joining should contact **Dr. Michael Pelekis** (908) 730-1076 or by E-mail at mpeleki@erenj.com.

The objectives of the **Dermal Toxicology Specialty Section** are to provide a forum for the interaction of individuals involved in risk assessment, pharmacokinetics, dermal penetration/absorption, hypersensitivity and dermal toxicity, regulatory issues, basic skin biology and other professionals involved in dermal

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

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A. Jay Gandolfi, Ph.D.

Deadlines for Upcoming Issues:
December 3, 1999 (Special Issue)
April 3, 2000 (Spring Issue)
June 2, 2000 (Summer Issue)

2000 Annual Meeting

SOT activity heightens at Headquarters and among various committees with the approach of the 2000 Annual Meeting. SOT members should begin thinking about their own plans as the Philadelphia location promises to make registrations for this meeting more numerous than ever. A Preliminary Information Packet, including Registration, Housing, Travel and Abstract Forms, was mailed in July. Continuing Education course descriptions are printed on pages 6-9 in this issue of the newsletter. A Preliminary Program with complete Continuing Education course descriptions, as well as symposia, workshop and roundtable abstracts, will be sent in December to members who have not yet registered for the Annual Meeting. The Final Program and *The Toxicologist* (the special edition of *Toxicological Sciences*) will be mailed to members in February 2000. Be sure to check the SOT Web site for complete information and updates.

Exhibits

If your products are science related, the decision makers you need to reach will be at the 2000 Society of Toxicology Exhibition.

The SOT Annual Meeting Exhibition offers your organization several opportunities to bring its name to the attention of toxicologists. Come and see for yourself why your competitors continue to exhibit at the SOT Annual Meeting.

If you would like an Exhibition Package sent to you, please contact **Clarissa Russell Wilson** at the SOT Headquarters office. Exhibit space is already over 80 percent sold out.

Ancillary Meetings

Reserve space for your Ancillary Meeting now! Committees, Specialty Sections, Regional Chapters, alumni organizations and others who wish to hold a meeting or social function during the week of the Annual Meeting should complete the enclosed Ancillary Meeting Form and return it to **Patricia Strong** at SOT Headquarters no later than **November 17, 1999**. Space will be assigned on a first-come, first-served basis, after SOT scientific and social programs have been accommodated.

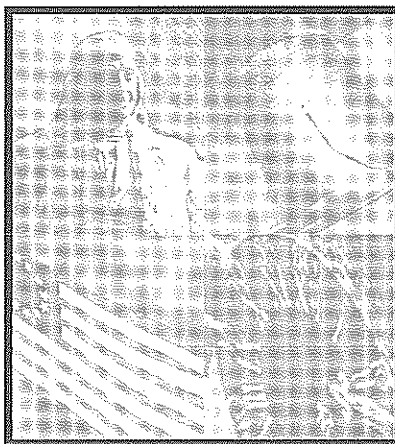
Student/Post-Doctoral Fellow Reception

The Society will again offer a reception for students and post-doctoral fellows on Sunday, March 19 from 7:00 PM-9:00 PM, immediately following the Welcoming Reception. Complimentary food and sodas will be provided by the SOT and sponsors. A cash bar will be available. Meeting badges are required.

Undergraduate Student Program Changes for the 2000 Annual Meeting

The SOT has provided a special program for minority undergraduate students to attend the SOT Annual Meeting since 1990. Across the decade, grants from NIH provided travel funding for the students and their advisors, with additional support from Johnson and Johnson and other companies. Numerous SOT members generously contributed their time to the success of the program, including many who served as host/mentors, and hundreds who participated in the poster session for visiting students. The Subcommittee on Minority Initiatives (SCMI) thanks each of these volunteers for sharing their enthusiasm for a career in toxicology.

With the completion of current grant funding, the program for the 2000 Annual Meeting in Philadelphia will be condensed to one day by dropping the Saturday evening gathering and the Monday poster session. The program on Sunday will include introductory lectures on toxicology research topics, suggestions for preparing successful graduate school applications, and the opportunity to meet with program directors. Due to financial constraints, the number of students participating in the program will be reduced. Host/mentors are not being recruited at this time.



SOT Annual Meeting Hotel Commissions

The SOT Annual Meeting Preliminary Program Packet not only contains a listing of the scientific sessions but also contains hotel and travel information, which allows registrants to receive their first choice hotel by sending in the completed Housing Request Form early.

A block of rooms is reserved at several hotels that offer discounted room rates. The discounted rates include hotel commissions, but the rates are still below the hotels' listed prices. The SOT continues to receive the commissions, using the credits to help support long-range planning initiatives and the cost of the convention center. *Thank you for contributing to this important source of revenue.*

Visit the Web site at

www.toxicology.org

for program details, registration
and travel reservations!

SOT Membership Criteria Change

Criteria Change for Full Membership Based on Years of Experience, Depending upon Applicant's Training.

The SOT Membership Committee recommended to the SOT Council a new stratified membership criteria, which would allow applicants holding a bachelor's degree to qualify for Full membership and which would not hold Master's and Doctorate level applicants at a disadvantage for their time spent in graduate school. The SOT Council has approved the recommendations as follows:

- Ph.D. applicants require 3 years of toxicology experience + publications or 5 years of professional experience.
- Master's degree applicants require 6 years of toxicology experience + publications or 8 years of relevant professional experience.
- Bachelor's degree applicants require 8 years of toxicology experience + publications or 10 years of relevant professional experience.
- All applicants must have at least two peer-reviewed, toxicology-related publications that are not the result of graduate research experience.

President's Message

Continued from page 3

By the time you read this Message you should have completed our recent Membership Survey. Thanks for your cooperation. This survey is an example of our desire to keep in touch with the membership. We shall report back to you on the results, and these will be given careful consideration when Council meets next January to engage in a review of our Long-Range Plan. While the Society is robust and continues to attract new members at a healthy rate, this is precisely the time to take a fresh look at the Plan. I do not foresee fundamental changes; however, some fine tuning is likely to be appropriate. We will keep you apprised.

I would like to conclude this Message on the same note that it started, basic and applied research in toxicology is our first priority. Pursuant to this, I am confident that your review of the Preliminary Scientific Program for our 2000 Annual Meeting has lead to the same conclusion as mine. Thanks to the hard work by the Program and Continuing Education Committees, and most importantly you the membership, it looks like this will be our most successful meeting ever. I look forward to seeing you in Philadelphia.



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

Media Training Workshops at the Annual Meeting

All SOT members have the opportunity to attend the Media Training Workshops being held at the Annual Meeting. "Media Training I: What to Do When the Media Calls?" will be held 3:00 PM-4:00 PM, Saturday, March 18, 2000, at the Pennsylvania Convention Center. This one-hour, free workshop is for beginners and media savvy toxicologists.

The second workshop, "Media Training II: On-Camera Training for Toxicologists," is scheduled for 4:00 PM-6:00 PM, Saturday, March 18, and Sunday, March 19, TBA. These small group sessions will provide toxicologists with skills to deliver key messages during crises and other tense situations when talking to reporters on camera. Participants will receive a videotape of their own on camera sessions. The registration fee for Media Training II is \$75 for all participants.

Register for the sessions on the Annual Meeting registration form. Check the SOT Web site for more information, or contact **Deborah Hyman** at SOT Headquarters at (703) 438-3115, ext. 327.

Congressional Fellow Application Deadline

May 3, 2000

Information is available on the Internet at

<http://www.toxicology.org/awards/awards.htm>

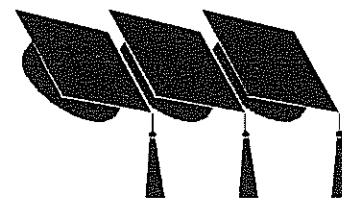
or by calling **Deborah Hyman** at SOT Headquarters at (703) 438-3115, ext. 327.

SPONSORS NEEDED FOR ANNUAL MEETING

The SOT appreciates the generous support of its Annual Meeting sponsors. Sponsorships contribute to the SOT's ability to bring you outstanding science at an economical price.

If your company would like to be a sponsor at the 2000 Annual Meeting, please contact **Clarissa Russell Wilson** at the SOT Headquarters office.

2000 Annual Meeting Continuing Education Courses



Sunday, March 19, 2000

The Continuing Education Program offers a wide range of courses that cover state-of-the-art knowledge in toxicology as well as new developments in toxicology and related disciplines. Courses can be applied toward certifying and licensing board requirements and may also be used for recertification with the American Board of Toxicology (ABT). Both basic and advanced course topics are offered in a 1-hour or 4-hour format. The basic course is intended to assist investigators in developing, implementing, or learning new techniques or approaches, and the advanced course is intended to be a course of interest to individuals with previous knowledge of the subject or already working in the field.

Please note: The Continuing Education Courses are offered in three time blocks: Sunrise (7:00–7:45), AM (8:15–12:00), or PM (1:15–5:00). The edited version of the course abstracts appears here, and the full abstract is provided on the SOT Web site and published in the Preliminary and Final Programs.

Introduction to Proteomics

Sunrise Mini Course 1 Basic

Chairperson/Instructor: Daniel C. Liebler, University of Arizona, Tucson, AZ.

Endorsed by the Mechanisms Specialty Section.

This short, basic course will introduce participants to methods used in proteomics, peptide sequence analysis, and identification of proteins using databases. Applications of the techniques will also be discussed.

Metabonomics—A New Approach to Drug Toxicity Screening using NMR Spectroscopy, Pattern Recognition and Expert Systems

Sunrise Mini Course 2 Basic

Chairperson: Donald G. Robertson, Parke-Davis Pharmaceutical Research, Ann Arbor, MI.

Instructor: Jeremy K. Nicholson, Imperial College of Science, Technology and Medicine, University of London, London, UK.

Endorsed by the Mechanisms Specialty Section.

This basic course on NMR spectroscopy and expert systems, and its application to toxicology, should appeal to those with interests in mechanistic problems, high throughput in vivo screening, and lead candidate selection.

Environmental Epidemiology and Toxicology—The Interface and the Interactions

AM 3 Basic

Chairperson: Richard A. Parent, Consultox, Limited, Damariscotta, ME.

Endorsed by the Epidemiology Specialty Section.

This course will outline several perspectives on the need for multi-disciplinary cooperation between toxicologists and epidemiologists. The goal is to help toxicologists understand how their biological science can provide valuable tools for human population studies of health effects of environmental exposures.

The Need for Disciplinary Interaction between Epidemiology and Toxicology, Christopher Schonwalder, National Institute of Environmental Health Sciences, Research Triangle Park, NC.

Environmental Epidemiology Basics, Genevieve Matanowski, Johns Hopkins University, School of Public Health, Baltimore, MD.

Risk Assessment and Epidemiology, Irva Hertz-Picciotto, University of North Carolina School of Public Health, Chapel Hill, NC.

Developing Biomarkers for Epidemiologic Studies, Regina Santella, Columbia University, New York, NY.

Epidemiological Study Design with Toxicological Input, Matt Longnecker, National Institute of Environmental Health Sciences, Research Triangle Park, NC.

Pulmonary Immunotoxicology

AM 4 Basic

Chairpersons: Mitchell D. Cohen and Judith T. Zelikoff, New York University School of Medicine, New York, NY.

Endorsed by the Immunotoxicology and Inhalation Specialty Sections.

Pulmonary immunotoxicology has been active over the past decade in seeking to elucidate how environmental and workplace agents can modify immune function in the lungs so as to allow for indirect alterations in respiratory health and, subsequently, overall host health. This course will review recent advances in pulmonary immunotoxicology for investigators in the field as well as for those about to enter it.

Respiratory Tract Structure and Defense: An Overview, Richard B. Schlesinger, New York University School of Medicine, New York, NY.

Adverse Effects of Altered Pulmonary Immunity, Meryl H. Karol, University of Pittsburgh, Pittsburgh, PA.

Immunotoxicants—Biologics, Robert L. Sherwood, IIT Research Institute, Chicago, IL.

Immunotoxicants—Ambient Gases, Mark W. Frampton, University of Rochester School of Medicine, Rochester, NY.

Immunotoxicants—Metals, Gregory L. Finch, Lovelace Respiratory Research Institute, Albuquerque, NM.

Molecular Genetics, Metabolism and Cell Signaling in Renal Carcinogenesis: A Lesson in Synergistic Toxicology

AM 5 Basic

Chairperson: Myrtle A. Davis, University of Maryland, Baltimore, MD.

Endorsed by the Carcinogenesis Specialty Section.

The objective of this basic course is to provide a review of cellular responses and other physiologically-relevant aspects of the kidney that are important in mediating renal carcinogenesis. The presentations will provide the attendees with a useful review of several currently emerging topics that are being integrated into mechanistic investigations.

Histopathology and Mechanisms of Renal Carcinogens and Nephrotoxins, Gordon Hard, American Health Foundation, Valhalla, NY.

CE Courses

Continued

Metabolism of Renal Toxicants and Carcinogens, Serrine S. Lau, University of Texas, Austin, TX.

Cell Signaling in Renal Apoptosis and Proliferation, Myrtle A. Davis, University of Maryland, Baltimore, MD.

Molecular Genetics of Renal Carcinogenesis, Cheryl Walker, University of Texas M.D. Anderson Cancer Center, Smithville, TX.

Molecular Approaches to a Comprehensive Understanding of Cardiotoxicity

AM 6 Basic

Chairperson: Y. James Kang, University of Louisville, Louisville, KY.

Endorsed by the Mechanisms and Molecular Biology Specialty Sections.

This CE course will provide: (1) an overview of toxic events in the heart; (2) an overview of the most exciting advances in molecular biology of the heart; (3) a discussion of the molecular tools used to dissect cellular and molecular mechanisms of cardiotoxicity; and (4) a comprehensive discussion of myocardial energy metabolism and oxidative injury and the role of apoptosis in cardiotoxicity.

Molecular Approaches to a Comprehensive Understanding of Cardiotoxicity, Y. James Kang, University of Louisville, Louisville, KY.

Overview of Toxic Events in the Heart, Kendall B. Wallace, University of Minnesota, Duluth, MN.

Overview of Molecular Biology of the Heart, Jeffery Robbins, University of Cincinnati, Cincinnati, OH.

Molecular Approaches to Cardiac Toxicology Research, Y. James Kang, University of Louisville, Louisville, KY.

Energy Metabolism, Oxidative Stress, and Toxicological Consequences in the Heart, James P. Kehrer, University of Texas, Austin, TX.

Advanced Neurotoxicology: Biomarkers and Mechanisms of Oxidative Stress-Induced Neurotoxicity

AM 7 Advanced

Chairpersons: William Slikker, Jr., National Center for Toxicological Research, FDA, Jefferson, AR and Tomas R. Guilarte Johns Hopkins University, Baltimore, MD.

Endorsed by the Neurotoxicology Specialty Section.

The underlying theory and necessary techniques to define necrotic and apoptotic neural cell death will be presented. The behavioral consequences and neurochemical/molecular biological underpinnings of oxidative stress-induced toxicity will also be described.

Neurotoxicology of Oxidative Stress: The Biochemical Basis of Necrosis and Apoptosis, Sten G. Orrenius, Karolinska Institute, Stockholm, Sweden.

Neuropathological Effects of Oxidative Stress: The Pathophysiology of Necrosis and Apoptosis, Andrew C. Scallet, National Center for Toxicological Research, Jefferson, AR.

Electrophysiological Methods to Assess Oxidative Stress Induced Neurotoxicity, Toshio Narahashi, Northwestern University, Chicago, IL.

Behavioral Assessment Techniques for Oxidative Stress-Induced Insults, Deborah Cory-Slechta, University of Rochester, Rochester, NY.

Rodent Toxicity and Nongenotoxic Carcinogenesis: Knowledge-Based Human Risk Assessment from Molecular Mechanisms

AM 8 Basic

Chairpersons: Ruth A. Roberts, AstraZENECA Ltd., Macclesfield, UK and William Farland, US Environmental Protection Agency, Washington, DC.

Endorsed by the Mechanisms and Risk Assessment Specialty Sections.

This course aims to provide useful background on rodent nongenotoxic carcinogenesis, then to illustrate by example how knowledge of the molecular mechanisms of rodent nongenotoxic carcinogenesis coupled with an understanding of species differences can assist in knowledge-based human risk assessment.

Regulation of Hepatocyte Proliferation and Apoptosis by Non-genotoxic Carcinogens: Species Differences and Molecular Mechanisms, Ruth Roberts, AstraZENECA Ltd., Macclesfield, UK.

Chloroform: View Points on Human Cancer Risk Assessment, Jay I. Goodman, Michigan State University, East Lansing, MI.

Dioxin and Oxidative Stress: Species Differences and Molecular Mechanisms, Howard Shertzer and Timothy Dalton, University of Cincinnati, Cincinnati, OH.

Incorporating Mechanism-Based Information Into Risk Assessment for Regulatory Purposes, William Farland, US EPA, Washington, DC.

Advances in Non-Invasive Micrometer and Nanometer Scale Cellular/Tissue Vital Imaging

AM 9 Basic

Chairpersons: Robert C. Burghardt, Texas A&M University, College Station, TX and Martin A. Philbert, University of Michigan, Ann Arbor, MI.

Endorsed by the Molecular Biology Specialty Section.

Non-invasive, real-time imaging tools employing nano-optical/magnetic biosensors and biomarkers are among the most significant emerging technologies in the life sciences for toxicology applications. This basic course will identify these new technologies and provide examples of applications ranging from *in vivo* toxicokinetic monitoring in intact living cells to the detection of gene expression *in vivo* to increase understanding of the mechanisms of cellular toxicity.

Advanced Micrometer to Nanometer Scale Vital Imaging: Practical NanoOptoChemical Systems, Martin A. Philbert, University of Michigan, Ann Arbor, MI.

Real Time Statistical Analysis of Frequency Encoded CO² Signals, Rola Barhoumi, Texas A&M, College Station, TX.

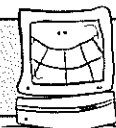
Multiple Photon Microscopy: Practical Considerations and Potential Applications in Toxicology, David Piston, Vanderbilt University, Nashville, TN.

Pharmacokinetic Studies via Real Time *In Vivo* Monitoring of Specific Gene Expression or Biological Processes, Douglas Kawahara, Xenogen Corporation, Alameda, CA.

Seeing is Believing: Monitoring *In Vivo* Gene Expression, Thomas J. Meade, California Institute of Technology, Pasadena, CA.

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Additional information on the Continuing Education Courses is available on SOT's Home page on the World Wide Web at <http://www.toxicology.org>.



CE Courses

Continued from page 7

Tips for Effective Risk Communication

AM 10 Basic

Chairpersons: Mary Jo Miller, Exxon Biomedical Sciences, Inc., East Millstone, NJ and George Gray, Harvard School of Public Health, Boston, MA.

Endorsed by the Regulatory Affairs and Legislative Assistance Committee, Committee on Public Communications, and Risk Assessment Specialty Section.

This basic course provides members with a practical understanding of the importance and necessity of effectively communicating health and environmental risks.

Introduction to Risk Communication, George Gray, Harvard School of Public Health, Boston, MA.

How to Effectively Talk to the Press, Deborah Hyman, Public Affairs, SOT Headquarters, Reston, VA.

How to Effectively Talk to an Elected Official, Bradley Shurdut, SOT Congressional Fellow, Washington, DC.

How to Effectively Talk to the Public, James Bus, Dow Chemical Company, Midland, MI.

Panel Discussion

Antibodies as Reagents to Evaluate Toxicant-Mediated Signal Transduction Pathways

PM 11 Basic

Chairperson: Richard S. Pollenz, Medical University of South Carolina, Charleston, SC.

Endorsed by the Molecular Biology Specialty Section.

This course will provide a springboard for beginning and established investigators to learn state-of-the-art techniques and strategies involved in the analysis of proteins both *in vivo* and *in vitro*. Completion of this course should benefit those interested in establishing the use of antibodies within the laboratory and will also provide enough detail to allow individuals to better critique studies that utilize antibody reagents. Each session will be technique-oriented and presented in a problem solving format based on real experimental successes and failures.

Design and Characterization of Antibody Reagents to Study Receptor Proteins, Richard S. Pollenz, Medical University of South Carolina, Charleston, SC.

Design of Antibody Reagents and Methodologies to Study Toxicant-Induced Proteins, Thomas R. Sutter, Johns Hopkins University, Baltimore, MD.

Utilization of Antibodies for Analysis of Protein-Protein Interactions, Gary H. Perdew, Pennsylvania State University, University Park, PA.

Utilization of Antibodies for Analysis of Protein Expression *In Vivo*, Barbara Abbott, US Environmental Protection Agency, Research Triangle Park, NC.

Phototoxicology: Basic Principles of Light, Photobiology and Regulatory Issues

PM 12 Basic

Chairpersons: P. Donald Forbes, Argus Research Laboratories, Inc., Horsham, PA and Paul C. Howard National Center for Toxicological Research, FDA, Jefferson, AR.

This basic course will assist investigators in understanding fundamental issues and techniques in phototoxicology. The design of methods and protocols to address phototoxicology issues will be presented from both the regulatory and industrial positions.

Fundamental Aspects of Light Generation, Detection, and Impact on Matter, P. Donald Forbes, Argus Research Laboratories, Inc., Horsham, PA.

Photobiological Responses to Light, Frank G. Gerberick, Procter & Gamble Company, Cincinnati, OH.

Regulatory Agency Issues in Phototoxicology, Abigail C. Jacobs, US Food and Drug Administration, Rockville, MD.

Phototoxicology and Product Development, Jay F. Nash, Procter & Gamble Co., Cincinnati, OH.

Toxicokinetics and Physiologically-Based Toxicokinetics in Toxicology and Risk Assessment

PM 13 Basic

Chairperson: Rakesh Dixit, Merck Research Laboratories, West Point, PA.

The objective of this basic course is to describe and compare conventional compartmental toxicokinetic models and physiologically-based toxicokinetic models. Emphasis will be placed on the application of these models in dose selection, International Conference on Harmonization (ICH) guidelines, interpretation of toxicity data, and human health risk assessment.

Basic Toxicokinetics Principles and Methodology, James E. Riviere, North Carolina State University, Raleigh, NC.

Physiological-Based Toxicokinetic Models, Kaman Krishnan, Medicine du Travail et Hygiene du Milieu, Montreal, Canada.

Integration of Toxicokinetics in Safety Assessment, Rakesh Dixit, Merck Research Laboratories, West Point, PA.

Toxicokinetics and Physiological-Based Models: Utility in Chemical and Pharmaceutical Risk Assessment, Melvin E. Andersen, Colorado State University, Fort Collins, CO.

Metal Exposure and Toxicity of the Respiratory Tract

PM 14 Advanced

Chairpersons: Daniel L. Morgan, NIEHS, Research Triangle Park, NC, and Michael P. Waalkes, National Cancer Institute, NIEHS, Research Triangle Park, NC.

Endorsed by the Inhalation and Metals Specialty Sections.

This course will focus on the mechanisms by which inhaled metals cause acute inflammatory lung diseases such as metal fume fever, as well as asthma and chronic respiratory diseases such as pulmonary fibrosis, and cancer of the respiratory tract.

Acute Pulmonary Toxicity of Metals, Terry Gordon, New York University Medical Center, New York, NY.

Metal-Induced Pulmonary Fibrosis, James C. Bonner, NIEHS, Research Triangle Park, NC.

Metal-Induced Asthma, Stephen H. Gavett, US Environmental Protection Agency, Research Triangle Park, NC.

Metals and Cancer of the Respiratory Tract, Janet M. Benson, Lovelace Respiratory Research Institute, Albuquerque, NM.

Safety Pharmacology and Risk Assessment

PM 15 Basic

Chairpersons: Lewis B. Kinter, Astra Pharmaceuticals, L.P., Wayne, PA and Alan S. Bass, Pharmacia & Upjohn, Inc., Kalamazoo, MI.

Endorsed by the Comparative and Veterinary, Regulatory and Safety Evaluation Specialty Sections.

CE Courses

Continued

The instructors will focus upon the impact of the proposed International Conference on Harmonization (ICH) Safety Pharmacology guidelines for toxicologists, and will address in detail the likely core cardiovascular, respiratory, and central nervous system evaluations. The course will be of broad interest to both academic and industrial scientists engaged in animal research, and will present a timely overview of safety pharmacology for toxicologists.

Introduction: Safety Pharmacology and Safety Assessment:

The Road from Obscurity, Lewis B. Kinter, Astra Pharmaceuticals, L.P., Wayne, PA.

Safety Pharmacology Core Evaluations (1): The Cardiovascular/Cardiac Assessment, Dustin Sarazan, Eli Lilly, Greenfield, IN.

Safety Pharmacology Core Evaluations (2): The Pulmonary/Respiratory Assessment, Dennis Murphy, SmithKline Beecham Pharmaceuticals, King of Prussia, PA.

Safety Pharmacology Core Evaluations (3): The Central Nervous System/Neuromuscular Assessment, Joel Mattsson, Dow Agroscience, Indianapolis, IN.

Toxicogenomics in the Trenches

PM 16 Basic

Chairperson: Timothy R. Zacharewski, Michigan State University, East Lansing, MI.

Endorsed by the Molecular Biology Specialty Section.

This advanced course on toxicogenomics will survey the tools and resources essential for research in this new discipline which integrates genomics, bioinformatics, and toxicology to study the mechanisms of action toxicants. Use and design of cDNA arrays and methods of data analysis will be examined in depth.

Basic Bioinformatics: From Sequence Analysis to Genome Analysis, William B. Mattes, Pharmacia & Upjohn, Inc., Kalamazoo, MI.

Toxicogenomic Studies Using cDNA Arrays on Membranes, Timothy R. Zacharewski, Michigan State University, East Lansing, MI.

cDNA Microarrays: Technology Development and Toxicogenomic Applications, Emile Nuwaysir, Michigan State University, MI.

Statistical Analysis of Microarray Data, Peter Saama, Michigan State University, East Lansing, MI.

The Application of Philosophy to Risk Assessment. Management and Communication

PM 17 Basic

Chairperson/Instructor: Marc Saner, Carleton University, Ottawa, Canada.

Instructor: Marin Gillis, University of North Florida, Jacksonville, FL.

Offered in cooperation with the Society of Environmental Toxicology and Chemistry (SETAC).

The goal of this course is to provide the participants with a balanced assessment of the role of environmental ethics within risk evaluation, management and communication. Participants will be provided with an overview of the interface between science and values (ethics), an introduction into environmental ethical theories, and examples of application of this material to concrete issues within risk evaluation, management and communication.

ANIMALS IN RESEARCH

Importance of Animal Research Stressed at High Production Volume Program Hearing

The SOT recently had the opportunity to affirm the message that continued use of laboratory animals in toxicological research and testing is necessary and vital. In late July, **Stephen DiZio**, chair of the Animals in Research (AIR) Committee, was asked by the President's Council on Environmental Quality (CEQ) and the Chemical Manufacturers Association (CMA) to represent the SOT at a meeting with animal rights advocates. These advocates are protesting the *in vivo* animal testing that would take place as a consequence of the High Production Volume (HPV) Challenge Program. This meeting was held at the White House Conference Center on August 3, 1999. SOT expenses were covered by the CEQ and CMA.

As background, the HPV Challenge is a voluntary data recall/testing program developed by the chemical manufacturers, the Environmental Protection Agency (EPA), and the Environmental Defense Fund (EDF). The goal of the HPV is to produce a baseline set of environmental and health effects data for the 2,800 HPV chemicals tracked by the EPA. It is a worldwide effort, and requires using Organization for Economic Cooperation and Development (OECD) *in vivo* and *in vitro* test protocols to generate new information where data gaps are identified. This program carries the endorsement of the CEQ, which is chaired by the Vice President of the United States. As a voluntary effort, the need for the EPA to finalize and promulgate the "test rule" that they were preparing was eliminated. While the test rule might have done no more than restate the agreements reached between the EPA, the EDF, and the chemical manufacturers, the mere act of having legislation or regulation that

Continued to page 15

Congratulations

To the New Media Resource Specialists

Congratulations to the three newest members selected to join the growing list of Media Resource Specialists. **Scott Burchiel**, **MaryJane Selgrade** and **Ernest Foulkes** will use their experience in toxicology and public communication to assist journalists in reporting on issues of public concern.

Welcome

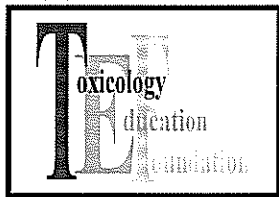
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January 1, 1999–August 31, 1999

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REGIONAL CHAPTER NEWS

ALLEGHENY-ERIE CHAPTER HOLDS ELEVENTH ANNUAL MEETING



The Allegheny-Erie Chapter of the Society of Toxicology (A-E SOT) held its 11th annual meeting at Duquesne University, Pittsburgh PA, on May 14, 1999. The topic of the symposium was

"Toxic Chemicals: Can't Estimate the Risk Till You Know the Mechanism." The following speakers and topics were presented: A-E SOT Past President **Dr. James Barter** (PPG Industries, Inc.) discussed "An Evaluation of the Carcinogenic Hazard of 1,4, Dichlorobenzene to Humans;" **Dr. Lois Lehmann-McKeeman** (Procter & Gamble) spoke on the "Mechanism and Human Relevance of Chemically-Induced Choline Deficiency;" **Dr. Michael Gargas** (McLaren/Hart-ChemRisk) talked about "The Role of Pharmacokinetics in Mechanism-Based Risk Assessment: Are People Simply 70 kg Rats?" and **Dr. James Popp** (DuPont Pharmaceuticals Co.) gave an "Overview on Mechanistic Research." A panel discussion entitled the "Role and Future of Mechanistic Research in Assessing Human Health Risks" concluded the symposium.

There were 21 abstracts submitted for the poster session. Two poster awards were presented at the evening banquet. The winners for the Best Methodology were: **A.J. Wiethoff, J.R. Harkema** and **W.E. Brown**, Department of Biological Sciences, Carnegie Mellon University, Pittsburgh PA, and Department of Pathology, Michigan State University, East Lansing, MI. The title of their poster was "Comparison of Magnetic Resonance Imaging (MRI) and Histology of the Nasal Passages of Mice."

Continued to page 17

NCAC PLANS RISK COMMUNICATION WORKSHOP



The National Capital Area Chapter (NCAC) of the SOT will present "Communicating about Toxicology and Risk" at their annual fall meeting on

November 17, 1999, at the Lister Hill Auditorium, National Library of Medicine, Bethesda, MD.

The workshop will tackle issues such as how can toxicologists better explain the value and significance of what they do in the research and regulatory arenas to the public, media, attorneys, and legislators? And what guidelines and principles can toxicologists follow to be more effective communicators? This one-day meeting will provide opportunities to learn the importance of responsible, effective, coherent, and cogent communication regarding toxicology data and risks associated with exposures to chemicals with which we come into contact. A short media training workshop will conclude the meeting.

The speakers will be **Dr. Jay I. Goodman, Ph.D.**, Michigan State University; President, Society of Toxicology; **Dr. John Young**, Hampshire Research Associates, Arlington, VA; **Brad Shurdut, JD, CIH**; current SOT Congressional Fellow, Washington, DC; **Rena Steinzor, JD**, University of Maryland Environmental Law Clinic, Baltimore, MD; **Sara Thurin Rollin**, BNA-Bureau of Environmental News, Washington, DC; **Joe Slye**, Kalish Communications, Washington, DC.

For more information, contact **Peter Goering**, Food and Drug Administration, Rockville, MD, Tel: (301) 443-7172; E-mail: plg@cdrh.fda.gov.

AAALAC International

Submitted by Loren Koller, SOT Liaison to AAALAC

The American Association for Accreditation of Laboratory Animal Care (AAALAC) was incorporated in 1965 to conduct a voluntary accreditation program for laboratory animals. In 1996, AAALAC changed its name to AAALAC International to reflect the organization's growth in other countries and its commitment to enhancing the life sciences and quality animal care around the world. It's mission is to promote high standards of animal care, use and well being and to enhance the life sciences, research and education of humane care and use of animals through voluntary accreditation and assessment programs. Currently 628 programs worldwide are accredited by AAALAC International. AAALAC International is governed by a Board of Trustees, of which the Society of Toxicology is a participating member. AAALAC International is currently exploring a cooperative effort with public Responsibility in Medicine and research to develop a new system for accreditation in the area of human research protection programs. For more information, visit AAALAC International's Web site at www.aaalac.org.

MRS Deadline Approaching

The Media Resource Specialist (MRS) program is seeking applicants to join the more than 50 SOT members with expertise in a variety of disciplines. The deadline for submitting an application is **December 1, 1999**. The program was launched two years ago to assist journalists in identifying expert toxicologists, from within the SOT membership, who can provide factual information on issues of public concern.

Each MRS serves at least a two-year term. Experience in public communication is required. If you are interested, you should contact your Regional Chapter President, Specialty Section President, Standing Committee Chairperson, an SOT Councilor, or the Committee on Public Communications. Application information is available on the SOT Web site or by contacting **Deborah Hyman** at SOT Headquarters at (703) 438-3115, ext. 327.

PLACEMENT SERVICES

Environmental and Public Health Risk Assessment

The California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (OEHHA) has openings for talented professionals with training in toxicology, and related disciplines. OEHHA toxicologists evaluate data to identify chemical hazards and provide information on safe exposure levels to risk managers and the public. Programs focus on specific areas such as reproductive toxicity or carcinogenicity of substances, and risks posed by exposure to air pollutants, pesticides, and water contaminants. Individuals with graduate degrees in toxicology, pharmacology, biochemistry or a closely related field are especially encouraged to apply. Good working conditions and excellent benefits, with locations in Sacramento and Oakland, California. Starting salaries range from \$47K to \$63K depending on education and experience.

Examination applications are now being accepted for Associate Toxicologist and Staff Toxicologist. An Examination Application may be obtained at www.spb.ca.gov. Applications are accepted on a continuous basis. The application deadline for this testing period is September 10, 1999. The anticipated deadline for the next testing period is December 1999/January 2000. In general, successful applicants will have Masters or Doctoral level degrees in toxicology or pharmacology, or a closely related field. The examination will consist of a supplemental questionnaire and/or an interview to evaluate your knowledge, experience, education, and your familiarity with particular issues. Interested candidates should send an examination application and resume to:

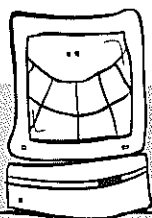
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Regulatory Review Pharmacologist/Toxicologist

The FDA, Center for Drug Evaluation & Research, is recruiting pharmacologists/toxicologists to serve as regulatory drug application reviewers. Reviewers are assigned to multidisciplinary scientific teams, which evaluate studies submitted by pharmaceutical manufacturers in support of New Drug and Investigational New Drug Applications (NDA/INDs). They evaluate the quality and adequacy of claims, write reports and monitor events on marketed drugs. Basic requirement is a degree in pharmacology/toxicology. A doctorate degree in the discipline and experience in pharmaceutical development, testing, coupled with good analytical and communicative skills are highly desired for these positions. Candidates for Civil Service or Commissioned Corps appointments must be U.S. Citizens. Permanent U.S. residents can apply for Staff Fellowship appointment. Civil Service GS-12/13, \$48,796 to \$75,433, including an excellent benefits package. Send *curriculum vitae* with a letter indicating that you are applying under source code 99049 (SOT Newsletter) to: Food & Drug Administration, 7520 Standish Place, Room 225, Rockville, MD 20855, Attention: Recruitment staff.

Technical Director

Product Safety Labs provides contract toxicology and pharmacology services to the agrochemical, chemical, pharmaceutical and dietary supplement industries. We are searching for a Technical Director to manage the scientific and technical activities in the laboratory; provide technical liaison to clients and assist the Sales and Marketing group.



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. 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.

Qualifications include:

- Ph.D. or equivalent in toxicology, pharmacology or related science.
- DABT preferred.
- Minimum 2 years experience in contract or regulatory research and testing.
- Full comprehension and working familiarity with all phases of acute and sub-chronic toxicology testing and GLP regulations.
- Excellent communication skills.
- Strong computer skills.

Specific Responsibilities:

Scientific and Technical:

- Design, develop and implement protocols for acute and subchronic toxicology studies.
- Monitor changes to regulatory guidelines to insure all methods and procedures are current.
- Interpret data and write reports.
- Develop and implement new procedures.
- Provide client liaison.
- Monitor studies to insure they are being properly conducted.

Marketing and Sales Activities:

- Visit sponsors and potential sponsors.
- Identify and develop new markets.
- Assist in preparation of technical and promotional literature.
- Make presentations at scientific meetings.
- Maintain active sponsor liaison in support of sales efforts.

The position is available in central New Jersey. Send resume to Walter Newman at Fax (732) 254-6736 or E-mail: walternewman@eurofins.com.

Outsourcing Specialist—Drug Safety Evaluation

As part of the Drug Safety Evaluation (DSE) outsourcing Group, this person will assist in the selection, coordination and management of toxicology studies conducted under the contract at Contract Research Organizations (CROs). He/she will also assist Therapeutic Zone personnel in defining the work to be conducted and monitoring performance according to protocol. Technical specifications, timeline and budget; and assist the Head of the Outsourcing Group in developing policies and procedures, monitoring budgets, and maintaining a high level of performance at the CRO. Some overnight travel to CRO is involved. BS in biological science or equivalent and 6 years of hands-on experience in performing standard toxicology studies in rodents and dogs are required. 10 years of experience in wide variety (acute, chronic, reproductive) of toxicology studies in rats, rabbits, dogs, and monkeys, and direct experience in monitoring the conduct of such studies by CRP are desired. Toxicology report-writing and data auditing experience along with a high level of verbal and written communications skills are also highly desirable.

The Outsourcing Specialist—Drug Safety Evaluation position is based in our Groton, CT facility.

Pfizer has all the resources needed to bring new and dynamic ideas to fruition. As a company committed to innovation, we share your goal of making this world a healthier place and value the creative drive and professional expertise it takes to get there. Working together, we will continue to develop and launch the products that make such a difference in the lives of so many. At Pfizer, the power to create a better world is as immediate as it is real—and it belongs to you. Pfizer offers exceptional salaries and benefits, as well as tremendous growth potential. Please send your resume in confidence to: Pfizer Inc, Job code: 9927280STN, Central Research, C/O Aon Consulting, PO Box 25, Findlay, OH 45839, or E-mail to: Pfizer@aon-hros.com. As an Equal Opportunity Employer, Pfizer is focused on building a diverse workforce.

Continuing Education Speakers Bureau and the Risk Assessment Task Force

A Reminder and Suggestion

Two years ago, a Continuing Education Speakers Bureau was formed as a service to the Society of Toxicology membership. Individual speakers from the annual Continuing Education courses are nominated by members of the Continuing Education Committee based on their presentations and expertise in a given area. If the nominees agree to participate, they serve a one-year term as members of the Speakers Bureau and are available for regional chapter meetings. In addition, Council has approved a specific budget that will help offset the travel costs for having a Speakers Bureau member participate in such a meeting. Although a relatively new program, there are few if any regional chapters that have taken advantage of this service. The intent of this article is to remind organizers of regional chapter meetings to consider contacting members of the Speakers Bureau (members are listed on the SOT Web site in the Members Only section) as invited speakers for your

meetings. In addition, the Risk Assessment Task Force is encouraging the regional chapters to consider contacting Speakers Bureau members that might be able to address the issue of integrating mechanistic research data into risk assessment, a major goal of the Society of Toxicology (see President's Message, Spring 1999 *Communiqué*, available on the SOT Web site in the President's Section or Publications section). Finally, the Risk Assessment Task Force would like to suggest taking advantage of the expertise of the Speakers Bureau and their visit to the regional chapter meeting by having these individuals also give a talk at your own institution. Cost sharing of travel expenses between the SOT, a regional chapter, and a university or company would represent a cost-effective means of hosting a nationally recognized, outstanding speaker as part of a local seminar program.

For further information, contact Ann Kerstetter at SOT Headquarters at (703) 438-3115, ext. 332.

Animals in Research

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codifies scientific experimentation has two unfortunate consequences. First, rules, by their nature, allow for less flexibility in selection of experiments that define the toxic properties of chemicals, and second, rule making adds credibility to the principle that science can be legislated.

The People for the Ethical Treatment of Animals (PETA) started a campaign against *in vivo* animal testing in the HPV program after the HPV program was announced by the Vice President. This campaign includes targeting Vice President Gore personally in media ads and protest demonstrations at his live appearances (see <http://www.grenomore.com> for details). PETA has been joined by the Doris Day Animal League (DDAL), the Physicians Committee for Responsible Medicine (PCRM), the Physicians for Social Responsibility (PSR), and the Humane Society of the United States (HSUS) in this protest. In addition, members of Congress receptive to PETA's agenda have been sending inquiries to EPA Administrator Browner about the need for animal testing in the HPV program.

These animal rights groups claim that they were disenfranchised by the CEQ and the EPA in the HPV agreement. PETA submitted questions on eight specific issues to EPA. CEQ convened this meeting to address EPA's response and the position of CMA and EDF in an open forum. Attendees included representatives of the

SOT, CMA, PETA, PCRM, PSR, HSUS, EPA and EDF, as well as the National Environmental Trust, the Department of Health and Human Services, and Exxon (the Exxon representative was Marty Miller, a member of our SOT RALA committee). The list of names of all attendees is available from SOT headquarters.

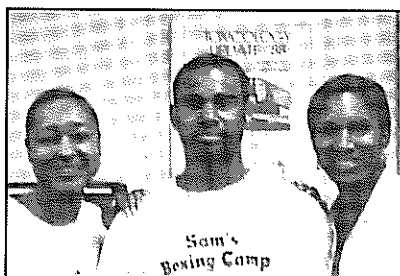
PETA's eight specific issues were never explicitly addressed. The apparent agenda of PETA and other animal rights groups was to push the CEQ, CMA, EDF, and EPA to agree to substitute alternative *in vitro* methods for many of the *in vivo* options available from OECD. One thrust was to restrict tests for genetic toxicity to the OECD *in vitro* protocols. Another was to demand a two-year moratorium on acute and developmental toxicity testing until the validation of new alternative methods that are, according to PETA, "just around the corner." These alternatives were claimed to be under examination by the European Commission for Validation of Alternative Methods (ECVAM). Mark Blazka (SOT AIR Committee) tracks these latter methods and their validation, and served as an information resource to CEQ/CMA for a "reality check" on such claims.

The message we, as the SOT, gave to the attendees was direct and to the point. First, restricting the genetic toxicity test systems to the *in vitro* protocols is not

Continued to page 18

SOT Facilitates Matching for Summer Student Internships

The opportunity to work for a summer in a toxicology research lab attracts a great deal of interest from students. Every year the SOT prepares a list of potential opportunities and mails the packet to



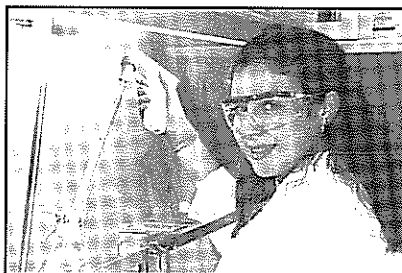
Crystal Burke, J. Rondell Beckles and Aisha Barnes interned at Johns Hopkins University.

students who request the information. Students apply directly to and are chosen by the sponsoring organization. The table below includes the intern placements reported to the SOT for the summer of 1999. Comments from students and mentors alike reinforce the value of the internship program.

Intern **Doug Huberts** found the summer experience at Eli Lilly and Co. extremely useful in identi-

fying the path to take for entering the pharmaceutical research industry. He added, "My compliments to Eli Lilly and Co. and **Ron Wolff** for continuing to support this important program. The inhalation department was very helpful and supportive in helping me complete my summer project."

Jaime Ian said, "This internship was one the greatest experiences that I have ever had. I had the opportunity to work at a great company with many wonderful people. They taught me a lot about the field of toxicology during my ten week internship. I started this internship knowing little about the field, and now I am definitely



Jaime Ian of Holy Cross College, Worcester, MA, worked in the Genetic Toxicology Laboratory at Pfizer under the supervision of Dr. Jiri Aubrecht.



Evelyn Chinyere Nwosu worked with Dr. Jay Hanas, Oklahoma Center for Toxicology, studying the effects of mercury and other metals on transcription factor structure and function.

going to enter a graduate program in some area of toxicology. Thank you for this opportunity, it has helped me immensely."

To be included in the next listing, sponsors can submit their information for 2000 by using the Student Internship Form inserted in this *Communiqué*, the version provided on the SOT web page (<http://www.toxicology.org>; go to "Education" and select "Student Intern Program") or by requesting the template by E-mail from **Betty Eidemiller**, SOT Headquarters at bettye@toxicology.org. The list of internship opportunities for 2000 will be available in January on the SOT Web page.

INTERN

Crystal Burke
Rondell Beckles
Aisha Barnes
Laura A. Wilding

Douglas Huberts

Jennifer Wong
Madelyn Baez
Ryan Hutchinson
Ava Onalaja
Evelyn Chinyere Nwosu

Pinkie Shah
Jaime Ian
Gustavo de Ugarte
Stephanie Immich
John Klabunde

SPONSOR

Johns Hopkins University, Baltimore, MD
Johns Hopkins University, Baltimore, MD
Johns Hopkins University, Baltimore, MD
Lilly Research Laboratories
Eli Lilly and Company, Greenfield, IN
Lilly Research Laboratories
Eli Lilly and Company, Greenfield, IN
Mount Sinai Medical Center, New York, NY
Mount Sinai Medical Center, New York, NY
Mount Sinai Medical Center, New York, NY
Mount Sinai Medical Center, New York, NY
Oklahoma Center for Toxicology,
University of Oklahoma, Oklahoma City, OK
The Procter and Gamble Company, Cincinnati, OH
Pfizer Central Research, Groton, CT
University of Kansas Medical Center, Kansas City, KS
University of Kansas Medical Center, Kansas City, KS
University of Kansas Medical Center, Kansas City, KS

MENTOR

Dr. Keshav Singh
Dr. David Jett
Dr. James Yager
Dr. Mark Carfagna

Dr. Ronald Wolff

Dr. Luz Claudio
Dr. Luz Claudio
Dr. Luz Claudio
Dr. Luz Claudio
Dr. Jay Hanas

Dr. Joseph Ross
Dr. Jiri Aubrecht
Dr. Gregory Reed
Dr. Gregory Reed
Dr. Gregory Reed

ALLEGHENY-ERIE CHAPTER

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Those receiving the Best Overall Poster Award were: H.M. Yang, J.M. Antonini, J.Y.C. Ma, M.W. Barger, J.K.H. Ma and V. Castranova, Health Effects Laboratory Division, National Institute of Occupational Safety and Health and the School of Pharmacy, West Virginia University, Morgantown, WV. Their award winning poster was entitled "Exposure to Diesel Exhaust Particles (DEP) Compromised the Pulmonary Clearance of *Listeria monocytogenes* in Rats."

Dr. Carolyn Shoemaker, a world renown Planetary Scientist from Lowell Observatory in Flagstaff, AZ, gave the after dinner presentation, "The Sky is Falling." Dr. Shoemaker is most noted for her discovery of the comet that crashed into Mercury in 1996.

In conjunction with the A-E SOT annual meeting, a third "Paracelsus Goes to School" workshop was held by the Education Committee for 20 teachers from the Pennsylvania and West Virginia areas.

Welcome New Specialty Sections

Continued from page 3

research. Members who wish to receive more information on the new specialty section should contact Dr. Anna Shvedova at (304) 285-6177 or by E-mail at ats1@cdc.gov.

The Toxicologic and Exploratory Pathology Specialty Section was established with the goals of establishing scientific and educational programs dealing with current advances and policies regarding experimental pathology and guiding discussions regarding the application of these considerations to regulatory policy and risk assessment practices. Dr. Reid Patterson is the contact person for those wishing further information or membership to this new specialty section. Dr. Patterson can be reached at (847) 937-0282 or by E-mail at patterson.reid@igate.abbott.com.

Since specialty sections play a major role in soliciting and developing symposia, continuing education courses and workshops for the program at our annual meeting, as well as maintaining a vital network amongst its membership year-round, adding three new specialty sections can only be perceived as a positive indication for the future of the Society. Each new section will host an inaugural reception at this year's Annual Meeting in Philadelphia. I urge anyone with an interest in either to be sure to join them at their respective organizational reception to help lay the groundwork for what promises to be new opportunities to further advance the understanding, public awareness, and impact of the science of toxicology.

In Memoriam

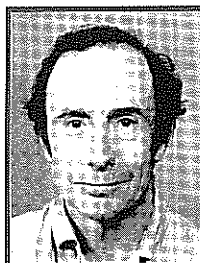
Harold Blumberg, Sc.D.

Hyman J. Zimmerman, M.D.

MEMBER NEWS

Bruce Hammock Elected to NAS

Submitted by Dave Eaton



Bruce Hammock

SOT member Bruce Hammock recently received one of the highest accolades given to US scientists—election to the prestigious National Academy of Sciences (NAS). Dr. Hammock was one of only 60 US scientists, representing virtually all fields of scientific research, elected to the Academy in 1999. The NAS was established in 1863 by Congress. The Academy acts as an official advisor to the federal government, upon request, in any matter of science or technology. The total number of active members in the NAS today is 1,825. Dr. Hammock joins a small but highly prestigious group of SOT members to achieve this high honor. Other SOT members elected to the NAS in past years include Bruce Ames, Allen Conney and Gerald Wogan and honorary members John Casida, Jud Coon and Ron Estabrook. Dr. Casida was one of Dr. Hammock's early mentors.

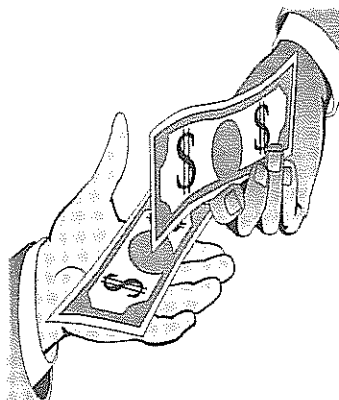
Dr. Hammock received his Ph.D. in entomology from UC-Berkeley in 1963. His research career has focused on the fundamental understanding of insect developmental biology for the control of insect pests. He has made many novel research contributions at the interface of entomology and toxicology. His pioneering work on the biochemistry of insect hormones led to discoveries of the soluble epoxide hydrolases that play important roles in both insect physiology and mammalian toxicology. Using all of the tools of modern molecular biology and immunology, Dr. Hammock has made many important scientific contributions in the areas of xenobiotic metabolism, pesticide analysis and toxicology, and insect biochemistry and physiology. He has published over 325 original research papers, including papers in *Science*, *Nature*, *Nature Medicine*, *JBC* and *PNAS*, as well as a wide variety of distinguished toxicology, chemistry and entomology journals. He has also contributed over 75 book chapters, reviews and proceedings in a variety of areas of toxicology and insect biochemistry. In addition to his many scientific publications, Dr. Hammock holds 9 US patents for discoveries of novel approaches to insect control and immunological analysis of pesticide residues. Dr. Hammock has been recognized previously for his many accomplishments, including his selection as a Burroughs Wellcome Toxicology Scholar for 1987-92, and in 1998 as the recipient of the National Entomological Society of America Award in Insect Physiology.

We are proud to have Bruce as an active member of the Society of Toxicology and congratulate him on this most prestigious honor.

Toxicology in the Classroom™ Initiated by TEF

The Toxicology Education Foundation (TEF), the arm of the SOT directed explicitly to promote educational activities to increase public awareness of toxicology, has started its first independent program. *Toxicology in the Classroom*™ will provide support for projects directed to the following objectives:

1. Improve knowledge of age-appropriate concepts in toxicology, including:
 - a) The dose makes the poison;
 - b) Toxicology is part of the solution—toxicology research is important for protecting and improving the health of humans, animals, and their environment; and
 - c) Use of animals in research is important to ensure the safety of medicines and other products to which humans and animals are exposed.
2. Increase awareness of toxicology as a scientific discipline and career.
3. Increase classroom implementation of the national science standards.



The first project identified as part of *Toxicology in the Classroom*™ will develop regional networks to train teachers to implement the "What is Wrong with the Johnson Family?" module of ToxRAP, a curriculum for Grades 3-6 developed by the Environmental and Occupational Health Sciences Institute (EOHSI) of Rutgers, The State University of New Jersey and University of Medicine and Dentistry of New Jersey. Teams from the Environmental Health Sciences Center at Oregon State University, the Center of Environmental Toxicology at the University of Texas Medical Branch at Galveston, and the Center for Biology Education at the University of Wisconsin-Madison will attend the first training session at Rutgers, Nov. 14-16, 1999. These teams are composed of scientists and educators, including one representative of the corresponding SOT Regional Chapter. The regional leadership teams are committed to training 25-50 teachers per year for three years, and to exhibiting at regional teacher conferences.

TEF trustees are seeking funding to support this type of program. Contributions are tax deductible as allowable by law and may be sent to the Toxicology Education Foundation, 1767 Business Center Drive, Suite 302, Reston, Virginia 20910. The SOT Headquarters contact is **Betty Eidemiller** at E-mail: bettye@toxicology.org; Tel: (703) 438-3115.

Animals in Research

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scientifically sound. I have personal experience in the laboratory on this issue, so was able to discuss the need for whole-animal metabolism in testing many compounds. Second, as to the likelihood that *in vitro* methods could replace developmental toxicity testing, we stated that there are broad categories of compounds for which the *in vitro* developmental systems being suggested (*in vitro* limb bud cultures, roller-bottle cultures of explanted embryos) would never be suitable replacements. My experience with limb bud cultures has shown that there is an issue with unique *in vivo* metabolites, and no sensitivity to many chemicals causing effects near maternally toxic doses. In addition, it is a stretch to define culture systems of pups explanted from sacrificed dams and grown for a few days in culture as an "*in vivo* system" (actually, the same holds true for cultured limb bud cells).

The goal of PETA was clear—to obtain concessions to build upon still more concessions in the future, using the visibility of a presidential candidate as leverage. It is my opinion that the goal of the person from the White House representing the CEQ (**Bradley Campbell**) was

also clear, as he was looking for a concession/compromise to give to PETA, such as the two-year moratorium. We had to speak out on such moratoria, saying there are few guarantees in research and many divergent paths that the results take, so the anticipation of any "validation" within a particular timeline was speculative at best. Many heads nodded, including those from the EPA contingent (headed by **Susan Wayland**, Assistant Administrator) and from the EDF.

In conclusion, the eight issues advanced by PETA were never discussed. The sole thrust of the meeting was to obtain delays and other concessions from the CEQ with the goal of delaying animal testing. While the EPA, the CMA and the EDF were not in favor of the delay, and not convinced by PETA's claims, it is not known what the White House will recommend. SOT's position was that any experimentation needed to insure human health and environmental protection should be based in sound science. Our most recent position statement, public policy statement, and other relevant materials were distributed to all.

COUNCIL HIGHLIGHTS

Highlights from the July Council Meeting:

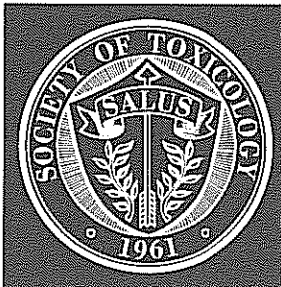
- 1** Council approved the formation of the Biological Modeling Specialty Section. Interested members should contact **Dr. Michael Pelekis**.
- 2** Council approved the formation of the Toxicologic and Exploratory Pathology Specialty Section contingent on receiving support from 50 members of the Society. Interested members should contact **Dr. Reid Patterson**.
- 3** Council approved the formation of the Dermal Toxicology Specialty Section. Interested members should contact **Dr. Anna Shvedova**.
- 4** Council approved the Northland Chapter By-Law change to have the fifth Councilor be a graduate student elected by the student membership annually.
- 5** There was general consensus by Council to allow exhibiting companies at the Annual Meeting to solicit for employees as a service to the membership.
- 6** Council approved \$1,000 funding for the "Calcium Channels as Critical Targets as Toxicants" meeting.
- 7** Council approved \$1,000 funding for the "Toxicology for the Next Millennium" meeting.
- 8** Council approved \$1,000 funding for the "Epigenetic Toxicant-Induced Signal Transduction and Altered Cell-Cell Communication" meeting.

UPCOMING CONFERENCES

- **17th International Neurotoxicology Conference, October 17-20, 1999, DoubleTree Hotel, Little Rock, Arkansas.** Contact: Prof. Joan Cranmer, Department of Pediatrics, University of Arkansas for Medical Sciences, 1120 Marshall, Rm. 302, Little Rock, AR 72202; Tel: (501) 320-2986; Fax: (501) 320-4978; E-mail: CranmerJoanM@exchange.uams.edu.
- **9th North American ISSX Meeting, October 24-28, 1999, Opryland Hotel, Nashville, TN.** Contact: ISSX/ACT-DCT Meeting, P.O. Box 3, Cabin John, MD 20818; Fax: (301) 983-5357; E-mail: nholahan@exec.issx.org; Web site: <http://www.louisville.edu/medschool/biochemistry/ISSX-ACS>.
- **Leadership Conference: Biomedical Research and the Environment, November 1-2, 1999, Natcher Conference Center on the National Institutes of Health Campus, Bethesda, MD.** Contact: NAPE, 6410 Rockledge Drive, Suite 412, Bethesda, MD 20817; Tel: (301) 571-9790; Fax: (301) 530-8910; E-mail: nape@napenet.org; Web site: <http://www.napenet.org>.
- **Harmonization of Cancer and Non-Cancer Risk Assessment, An SOT Contemporary Concepts Consensus-Building Workshop, November 1-2, 1999, Sheraton National Hotel, Arlington, VA.** Contact: SOT Headquarters, 1767 Business Center Drive, Suite 302, Reston, VA 20190-5332; Tel: (703) 438-3115; Fax: (703) 438-3113; E-mail: sothq@toxicology.org; Web site: <http://www.toxicology.org>.
- **American College of Toxicology's 20th Annual Meeting, November 7-10, 1999, McLean Hilton, McLean VA.** Contact: American College of Toxicology, 9650 Rockville Pike, Bethesda, MD 20814; Tel: (301) 571-1840; Fax: (301) 571-1852; E-mail: ekagan@act.faseb.org.
- **Good Laboratory Practices in Analytical Laboratories, November 11-12, 1999, Philadelphia, PA; April 27-28, 2000, San Francisco, CA and May 18-19, 2000, Orlando, FL.** Contact: Harvey Mathason or Deepak Doshi, TBDEnterprises, Tel: (215) 752-5309 or (215) 702-9394; E-mail: tbd4glp@aol.com; Web site: <http://members.aol.com/tbd4glp>.
- **Society for Risk Analysis Annual Meeting, December 5-8, 1999, Marriott Marquis, Atlanta, GA.** Contact: SRA, 1313 Dolley Madison Blvd., Suite 402, McLean, VA 22101; Tel: (703) 790-1745; Fax: (703) 790-2672; E-mail: SRA@Burkln.com; Web site: www.SRA.org.
- **Society of Toxicology 39th Annual Meeting, March 19-23, 2000, Pennsylvania Convention Center, Philadelphia, PA.** Contact: SOT Headquarters, 1767 Business Center Drive, Suite 302, Reston, VA 20190-5332; Tel: (703) 438-3115; Fax: (703) 438-3113; E-mail: annette@toxicology.org; Web site: <http://www.toxicology.org>.
- **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: fdem@medfarm.unito.it; or Dr. Di Paolo c/o M.A.F. Servizi, Torino, Italy; Tel: (39) 011-505900; Fax: (39) 011 505976; E-mail: mdipaolo@mafservizi.it.
- **EUROTOX 2000, September 17-20, 2000, Imperial College, London, England.** Contact: EUROTOX 2000 Secretariat, Congress House, 65 West Drive, Chesham, Sutton, Surrey, SM2 7NB, UK; Tel: 44 (0)181 661 0877; Fax: 44 (0)181 661 9036; E-mail: info@conforg.com.
- **International Congress on Environmental Health, October 1-4, 2000, Hannover Medical School, Germany.** Contact: Jutta Pavel/Gill Teicke, Fraunhofer-Institut Toxikologie und Aerosolforschung, Nikola-Fuchs-Str. 1, D-30625 Hannover, Germany; Tel: (+49) 511-532-4523; Fax: (+49) 511-5350-132; E-mail: pavel@ita.fhg.de.

MEDIA OF INTEREST

- **Exposure to Contaminants in Drinking Water.** Edited by Stephen S. Olin. Contact CRC Press, 2000 N.W. Corporate Blvd., Boca Raton, FL 33431-9868; (800) 272-7737; Web site: <http://www.crcpress.com>
- **Introduction to Neurobehavioral Toxicology: Food and Environment.** by R.J.M. Niesink, et al. Contact CRC Press, 2000 N.W. Corporate Blvd., Boca Raton, FL 33431-9868; Tel: (800) 272-7737; Web site: <http://www.crcpress.com>



Contemporary Concepts in Toxicology

Harmonization of Cancer and Non-Cancer Risk Assessment

The explosion of basic research into molecular mechanisms of toxicity experienced over the past two decades and the more recent application of these advancements to the fields of toxicology and risk assessment have created an expectation that risk assessments will become more scientifically robust and risk management decisions more informed. We are at the crossroads of fundamental insights into mechanisms of toxicity and maturation of the disciplines of quantitative biological modeling and risk assessment. This intersection is being crossed at the cellular, biochemical, and molecular levels and in many cases is challenging the paradigms of separate risk assessment processes for cancer and non-cancer endpoints. These developments have raised the question of whether distinctly different approaches to cancer and non-cancer risk assessments are appropriate.

The "Harmonization of Cancer and Non-Cancer Risk Assessment" workshop, an SOT Contemporary Concepts in Toxicology program, will provide a forum for the exchange of views on the most critical issues involved in developing a unified approach to risk assessment for all toxic endpoints. The Society endorses this workshop as a step toward fulfilling the goals of its Long-Range Strategic Plan and the mission of the Task Force to Improve the Scientific Basis of Risk Assessment. Invited experts from government, academia, industry and consulting firms will discuss critical issues such as the role for mode of action as a basis for integrating various risk assessment approaches, common levels of adverse effect across toxicities and consistent application of scaling and uncertainty factors. The workshop has also received support from the US Environmental Protection Agency, the American Industrial Health Foundation, the National Institutes of Environmental Health Sciences, and the Society for Risk Analysis.

Following an introductory plenary lecture by Dr. Rory Conolly (Chemical Industry Institute of Toxicology), the invited experts will participate in one of three breakout groups. The discussions will be guided by a series of focus questions and case studies provided prior to the meeting. Observers are encouraged to register for and attend the workshop. All sessions will be open to the observers. Opportunity for observers to participate and express their views on these topics will also be made available during the breakout sessions and during plenary sessions. The meeting will be summarized and submitted to *Toxicological Sciences* for publication. For more information regarding registration for this important workshop, visit the SOT Web site (<http://www.toxicology.org>) or contact **Deborah Hyman** at SOT Headquarters at (703) 438-3115, Ext. 327.

November 1-3, 1999

Sheraton National Hotel

**Columbia Pike and
Washington Blvd.**

Arlington, VA 22204

Tel: (703) 521-1900

Fax: (703) 521-2122