

Society of Toxicology NEWSLETTER

NOVEMBER/DECEMBER 1989

ad hoc Tox 90's Educational Issues Task Force Initiates Multi-Faceted Projects to Encourage Future Scientists

Throughout the course of 1989, the ad hoc Tox 90's Educational Issues Task Force has effected a multifaceted campaign to ensure continued growth and development of the toxicology profession. The Task Force was originally formed by SOT Council in response to the decreasing numbers of students entering graduate programs in toxicology and choosing toxicology as a profession.

1989 SOT Membership Directory Updates

The following members were inadvertently omitted from the Membership Directory. Headquarters apologizes for the oversight and has enclosed labels that can be placed on the appropriate pages in your directory.

Barbara D. Beck, Ph.D.

Gradient Corp.
44 Brattle St.
Cambridge, MA 02138
(617) 576-1555, fax (617) 864-8469

Michel Charbonneau, Ph.D.

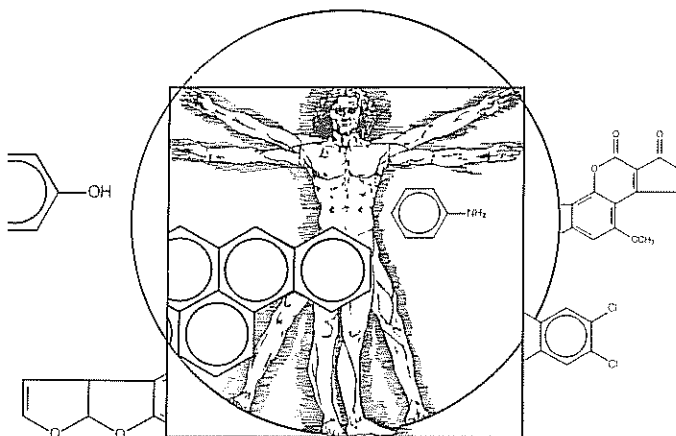
Dept. of Occupational Medicine
University of Montreal
P.O. Box 6128, Station A
Montreal, PQ, CANADA H3C 3J7
(514) 343-7001, fax (514) 343-2200

Roland R. Miller, Ph.D.

Toxicology Research Laboratory
Dow Chemical Company
1803 Bldg.
Midland, MI 48640
(517) 636-3093, fax (517) 636-1875

Mountain West Regional Chapter

Pres: Dean E. Carter
Vice Pres: William M. Hadley
Vice Pres-Elect: James Halpert
Secy/Treas: Patrick Sabourin
Councilors: Gary Yost, Gary Skiles, Jeffrey Stevens
Janet M. Benson (Past President)



The Task Force has focused on three fundamental areas: information, experience, and education. Council believes updated information and new approaches will make more young people aware of potential careers in toxicology. Experience, particularly laboratory experiences for potential graduate students and possibly science teachers, provides the hands-on exposure that captures the attention and cultivates the interest of future toxicologists. Education keeps high school, undergraduate, and minority students informed of the abundant career opportunities in the field of toxicology.

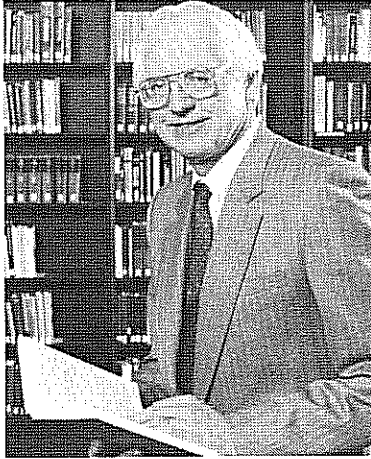
Information

After determining that existing wall posters, brochures, and documents about graduate programs in toxicology had become dated, the Task Force, with the assistance of SOT headquarters staff, developed striking new informative materials. This new

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Society of Toxicology
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FAX (202) 371-1090

**Deadline for next
issues: February 15, 1990
April 15, 1990
June 15, 1990
August, 15, 1990**

1990 SOT Annual Meeting
February 12-16, 1990
Fontainebleau Hilton Hotel
Miami Beach, FL

President's Message

Dear Fellow Members,

Without question, today there is a high level of interest in toxicology and how it is used to assess health risks associated with various societal activities. I have been particularly impressed with the considerable degree of interest among students. Members of the Society of Toxicology can play an important role in encouraging students to become better informed about the basic concepts of the science of toxicology and how it is applied to important societal issues.

The more familiar students become with toxicology, the better prepared they will be to participate in an informed manner in resolution of societal issues that involve toxicology. This will be the case irrespective of the career path the students ultimately follow. With appropriate encouragement, some students will seek formal training in toxicology and will be our colleagues in the future.

You can participate in several ways in informing students about toxicology even if you are not formally associated with an academic institution. One way is to volunteer to speak to students, either in formal courses or special interest student groups that meet on campus. Most members of the Society are located within short driving distance of one or more college campuses. I urge you to make contact with faculty members and indicate your enthusiasm for talking to students about some aspect of what is going on in the world of toxicology. You are very likely to find receptive faculty members and students at the many institutions that do not have formal toxicology programs.

To make it easy for you to prepare a presentation, the *ad hoc* Tox 90's Educational Issues Task Force, chaired by **A. Jay Gandolfi**, has prepared a set of fifteen 35mm slides on career opportunities in toxicology. These are available on loan from SOT headquarters. You can readily use the SOT-provided slides as a starting point for your presentation and complement them with material related to your own personal activities in toxicology. The "personal" touch will vary from member to member, recognizing that SOT members are involved in a wide range of activities, from the conduct of research and teaching to an increasing emphasis on using toxicological information generated by others. I submit that every SOT member is involved in some activity that students will find of interest and some will recognize as a potential career opportunity.

A second way to encourage students is to provide them a summer experience working side-by-side with you or fellow toxicologists. Details concerning the SOT Summer Student Internship Program were provided with the last Newsletter. A number of organizations have already indicated a willingness to sponsor one or more students in the summer of 1990 and applications from students are coming in. If your organization would like to sponsor a student and you have not already submitted an application, I urge you to do so at an early date.

I am confident that the SOT's new initiatives in educational activities will yield major benefits in the future. The number of students that will be reached during the next year is directly related to our participation and support of these activities. The groundwork has been laid by the *ad hoc* Tox 90's Educational Issues Task Force—the rest is up to us. I challenge every member of the Society to do their part.

I extend best wishes to each of you for a Happy Holiday Season. ●


Roger O. McClellan, D.V.M.

ad hoc Tox 90's Educational Issues Task Force

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material includes wall posters with tear-off request cards, brochures about careers in toxicology, recruiting slides, and a detailed *Resource Guide to Careers in Toxicology*. The Society is grateful to the Burroughs Wellcome Foundation for its generous grant to underwrite the printing and distribution of the Resource Guide. A poster display about careers is also underway for use at scientific fairs, career opportunity fairs, and minority scientist meetings. This new material effectively conveys the dynamic "spirit" of toxicology to budding young scientists and represents a vital first step of the Task Force's multifaceted initiative.

Experience

Perhaps the most dramatic and tangible success of the ad hoc Tox 90's Educational issues Task Force's efforts was seen in the SOT Summer Internship Program. In its inaugural year, 1989, the Program met with unqualified success as 31 graduate and undergraduate students were sponsored by 21 SOT members representing a cross section of toxicology. The 1990 Summer Internship Program already looks extremely promising, and the Summer Internship Program is intended to expand to involve high school and undergraduate science teachers so they may relate their experiences directly to interested students.

Education

The newly developed "information package," employing slides and brochures, will involve a broad spectrum of the SOT membership with various high school and undergraduate college educational programs. As a result students will gain an important early awareness of toxicology as a profession. Extra efforts have aimed at universities with high percentages of minority students.

Attending National Science Teachers Association (NSTA) national meetings has helped Committee members determine what type of information high school science teachers need in order to make students more aware of toxicology. NSTA offers an excellent resource for helping carry the toxicology banner into the fertile fields of high school science curriculums. The Task Force has taken steps in this direction by developing lesson plans in toxicology for distribution at NSTA meetings. NSTA has informed the Task Force that they would consider having an SOT-funded scientist address teachers during a special lecture at NSTA meetings.

Throughout the course of 1989, various members of the Task Force attended other SOT Committee meetings to prevent overlap or duplication of efforts. Despite the extraordinary member and headquarters resources expended to date, the need to ensure

a talented succeeding generation of toxicologists remains. SOT member involvement in this process is encouraged and your comments are welcome. Interested parties should contact **A. Jay Gandolfi, Ph.D.**, Chairperson, ad hoc Tox 90's Educational Issues Task Force, or Members: **Robert E. Dudley, Ph.D.**; **David L. Eaton, Ph.D.**; **Michele Ann Medinsky, Ph.D.**; **Harihara M. Mehendale, Ph.D.** ●

New SOT Printed Materials Available

Careers in Toxicology

As noted elsewhere in this newsletter the Tox 90's Educational issues Task Force has produced, with Council approval, several new and exciting printed materials regarding careers in toxicology. Enclosed with this newsletter is a copy of the brochure on Careers in Toxicology, which was distributed to nearly 7,000 institutions together with a poster with return post cards. Additional copies of the brochure and poster are available at no cost; please call or write SOT headquarters to request these.

The *Resource Guide to Careers in Toxicology*, a detailed listing of degree programs in toxicology, will be available after the first of the year and will be mailed to all SOT members at that time.

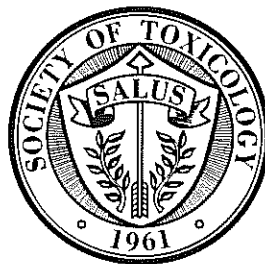
A set of 15 slides illustrating information regarding careers in toxicology has been sent to the regional chapters in order to broadly disseminate information regarding opportunities for students in toxicology. Sets are available for loan from the SOT headquarters office. They will be displayed in a special SOT booth at the 1990 Annual Meeting in Miami Beach. ●

Animals in Research

The Animals in Research Committee, with Council approval, produced the brochure, "A Look at the Use of Animals in Research," which was enclosed in the September/October newsletter. The SOT position statement on the LD50 test, which has been published in *Fundamental and Applied Toxicology*, will be mailed with the January/February Newsletter. The SOT position statements regarding the use of animals in research noted in the September/October issue of the newsletter, are enclosed with this newsletter.

These documents effectively explain the SOT position regarding the use of animals in research. SOT members are encouraged to distribute these materials within their communities and to use them as background documents when communicating with legislative and regulatory personnel. ●

Society of Toxicology



29th Annual Meeting
Fontainebleau Hilton,
Resort and Spa
February 12-16, 1990
Miami Beach, Florida

Annual Meeting Banquet

All meeting registrants may sponsor and prepay for tables of 10 at the Annual Meeting Banquet and Awards Presentation, which will be held this year on Wednesday, February 14. Registrants who purchase tables may choose their seating arrangements prior to the banquet by stopping by the SOT office at the Fontainebleau. Requests will be honored on a first come, first served basis. ●

SOT Accepts Visa and MasterCard

The Society of Toxicology now accepts Visa and MasterCard payments for Annual Meeting registration, payment of annual dues, and other Society expenses. Using your credit card is convenient and efficient. International members also avoid the problems of converting funds to U.S. dollars.

Please remember to complete the appropriate form (e.g., registration or dues renewal) and return it to headquarters to ensure proper credit. ●

Guest Hospitality Center and Program

Guests must be registered for the Annual Meeting to have access to the Hospitality Center and to be eligible for the discounted tour rates. Guests can register by using the Annual Meeting registration form.

The Hospitality Center will be open daily beginning Sunday afternoon.

The Center will be staffed Sunday through Wednesday with a representative from All Florida Adventure Tours. They will provide you with information on the city, register you for the tours offered through the Society, or distribute tour tickets purchased in advance of the meeting.

A special Guest Program has been planned for this meeting and will be printed in the Preliminary Program, to be mailed in early December. It will include a tour on Sunday, February 11 to the Florida Keys. ●

Social Evening

The social evening on Tuesday, February 13, will be a spectacular Latin Fiesta in the heart of Little Havana, featuring continuous international music and dancing and a super all-u-can-eat Cuban dinner. IT'S HOT . . . IT'S COOL . . . IT'S EXCITING . . . IT'S MIAMI LATINO! ●

SOT Public Communications Committee Workshop: Discussion Session, "Toxicology, Toxic Substances and the Public"

The presence of chemical residues in foods, problems with hazardous waste disposal, and other aspects of environmental contamination have become increasingly important public issues.

Toxicologists are being called upon to deal with these public problems and to help communicate complex ideas, often to scientifically uneducated audiences. Public education programs are an important responsibility for scientists who often must serve as expert advisors to public policy makers.

The Society of Toxicology Committee on Public communications has been involved in organizing and assembling information about public education programs in toxicology for grade schools, non-science major undergraduates, the general public, and the news media. An overview of these programs will be presented on Tuesday, February 13 from 9:00 am - 12:00 noon, followed by an open discussion between speakers and workshop participants on how we, as trained toxicologists, can facilitate public understanding of the complexities of the issues surrounding environmental contamination, residues in foods, and chemical safety, and what our responsibilities are in the area of public policy development and promoting public understanding. ●

Special Programs Scheduled for Presentation by SOT Education Committee

Two special programs will be presented by the SOT Education Committee at the Annual Meeting in Miami Beach. The first will be an Educational Program for Minority Students, with presentations primarily directed toward an audience of undergraduate science students and advisers from the local area. This program will be Monday, February 12, at 4 pm. Topics include: Introduction to Toxicology, a Scientific Discipline of Great Diversity; Opportunities for Minorities in Toxicology, and Perspectives from Graduate Students and Recent Graduates.

Undergraduates attending this program will be invited to attend scientific sessions during the SOT meeting. SOT members, graduate students, and others interested in toxicology education and early recruitment of minorities are invited to attend this program as well.

The second special program presented by the SOT Education Committee will be a forum for new investigators seeking funds for research and training. This program will be presented Wednesday, February 14, at 4:30 pm. Panel members will include representatives from SOT, NIH, USAF, and private agencies. Each will briefly describe areas of emphasis and then answer questions from the audience. ●

Regional Chapters and Specialty Sections to Meet

This year, the Mechanisms and Risk Assessment Sections will meet on Tuesday, February 13, from 5:00 - 6:30 p.m., immediately before the special evening out in Little Havana. The other sections will meet on Thursday, February 15, 5:00 - 6:30 p.m.

Regional Chapters who wish to meet will do so on Wednesday, February 14, from 5:30 - 7:00 p.m. ●

Placement Service Seminar

The Placement Service will again sponsor a seminar on Career Planning in Toxicology at the SOT Annual Meeting. The Seminar will be held on Monday, February 12, 5:30 - 6:30 p.m.

A panel of guest speakers will present their views on the present and future career opportunities and necessary requirements for entry into the areas of academic, industrial or governmental toxicology. The speakers will also present an overview on what an employer looks for in a candidate interview, an employer's

expectations of job performance and the potential financial remunerations. A professional career planner will discuss strategies and approaches for seeking and obtaining the job for which you are best suited. The speakers for the 1990 Placement Seminar are: **Frank N. Dost, DVM**, Academia; **Robert A. Scala, Sc.D.**, Industry; **Penelope Fenner-Crisp, Ph.D.**, Government; and **Terry Leyden**, Career Marketing Associates. ●

Poster Session for Minority Students at Miami Meeting

Now that abstracts for the 1990 Annual Meeting in Miami have been submitted, the Tox 90's ad hoc Educational Issues Committee wishes to remind SOT members of the Poster Session it is organizing for minority students. In conjunction with the SOT Education Committee's Toxicology Workshop at the Annual Meeting for Miami area minority students, a Poster Session of 10-15 posters, preferably from minority scientists, who would like to interact with these minority students is being organized.

The primary object of such a poster session is to offer a specific opportunity for the minority students, who would have participated in the Education Committee's Workshop, to attend a specific scientific session and to interact with other scientists. We are seeking minority and other scientists who would be willing to put up their posters for this special Poster Session lasting approximately 90 minutes. Minority scientists, graduate students, post-docs or established scientists interested in participating in this Poster Session should contact **Dr. H. M. Mehendale** (601) 984-1618 or **Dr. A. Jay Gandolfi** (602) 626-6696 as early as possible. All SOT members are welcome to be involved with this session, either to present their research or to interact with the minority students. ●

SPECIAL NOONTIME SESSIONS AT THE 1990 ANNUAL MEETING

Tuesday, February 13

Predictive Value of Animal Studies in Toxicology

The SOT Committee on Animals in Research sponsors this presentation by Professor Gerhard Zbinden, M.D., Institute of Toxicology, University of Zurich, on the benefits of using animals in toxicology/safety testing protocols.

Wednesday, February 14

SOT Issues Session

Robert C. Barnard, Esq., Cleary, Gottlieb, Stein and Hamilton, will give a presentation on government conflict of interest guidelines and their impact on toxicologists. This will be followed by a discussion.

Thursday, February 15

5th Annual Burroughs Wellcome Toxicology Scholar Award Lecture by I. Glenn Sipes, Ph.D.

Society of Toxicology Bulletin



1990 Dues are Due!

A reminder: your 1990 dues must be received at headquarters by March 31, 1990, in order for you to continue to receive your journals. Please note that you may pay via MasterCard or Visa.

1988-89 Annual Report

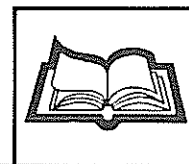
Due to significant printing and mailing costs, the 1988-89 Annual Report will not be mailed to the entire SOT membership. It will be available upon request after December 1 from the SOT headquarters office. Please contact Donna Thomas in the headquarters office for a copy.

The Treasurer's Report for the 1988-89 fiscal year is enclosed with this newsletter. ●

Bylaws Change

SOT Council has reviewed and approved a change in the Bylaws that would extend the term of Student membership for one year beyond conferral of the degree. This amendment would permit sufficient time for these members to apply for Associate membership status and remain active in SOT affairs. Article Third, Section 4, is proposed to read as follows: "Students with an interest in toxicology who are enrolled in a graduate degree program or who are within a 12-month period following completion of a graduate degree program shall be eligible for Student membership subject to conditions set forth in the Bylaws." The recommended change will be sent to the Society membership for a vote following the 1990 Annual Meeting. ●

Publications of Interest



Autoimmunity and Toxicology—*Immune Disregulation Induced by Drugs and Chemicals*, ed., M.E. Kammuller, N. Bloksma and W. Seinen, Elsevier Science Publishers, Bio-medical Division, P.O. Box 1527, 1000 BM Amsterdam, The Netherlands.

Biological Makers in Pulmonary Toxicology, \$22.50, The National Academy Press, 2101 Constitution Avenue, NW, Washington, DC 20418.

Biological Makers in Reproductive Toxicology, \$27.95, National Academy Press, 2101 Constitution Avenue, NW, Washington, DC 20418.

Canine Research Environment, \$30.00, Scientists Center for Animal Welfare, 4805 St. Elmo, Bethesda, MD 20814; (301) 654-6390.

Catching Our Breath, \$10.00, Office of Technology Assessment, U.S. Congress, Superintendent of Documents, Washington, DC 20402-9325; (202) 783-3238.

Chemical Protective Clothing Performance in Chemical Emergency Response, J.L. Perkins, J.O. Stull (eds), \$39.00, ASTM, 1916 Race Street, Philadelphia, PA 19103; (215) 299-5400.

Environmental Health and Safety Compensation Survey 1989/90, \$350.00, the Foushee Group, Inc., 330 Primrose Rd., Suite 303, Burlingame, CA 94010; (415) 342-7562, Fax (415) 342-5351.

Health Characteristics by Occupation and Industry of Longest Employment, \$5.50, U.S. Department of Health and Human Services, Superintendent of Documents, Washington, DC 20402-9325; (202) 783-3238.

Inhalation Toxicology, D.E. Gardner (ed), \$96.00 (vol I), Hemisphere Publishing Corporation, (Taylor and Francis), 242 Cherry Street, Philadelphia, PA 19106-1906; 1-800-821-8312.

Journal of Toxicology and Environmental Health, \$499 (vols 26-28), Hemisphere Publishing Corporation (Taylor and Francis), 242 Cherry Street, Philadelphia, PA 19106-1906; 1-800 821-8312.

Regulatory Requirements for Medical Devices, \$18.00, U.S. Department of Health and Human Services, Superintendent of Documents, Washington, DC 20402-9325; (202) 783-3238.

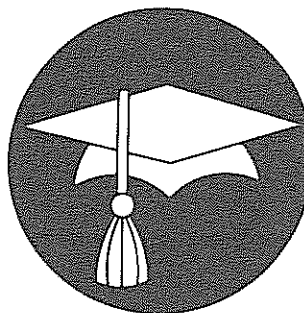
Requirements of Laws and Regulations Enforced by the U.S. Food and Drug Administration, \$2.75, U.S. Department of Health and Human Services, Superintendent of Documents, Washington, DC 20402-9325; (202) 783-3238.

Standard Guide for Conducting Three Brood, Renewal Toxicity Tests with Ceriodaphnia dubia, \$8.00, ASTM, 1916 Race Street, Philadelphia, PA 19103-1187; (215) 299-5585.

Vertebrate Pest Control and Management Materials: 6th Volume, Fagerstone/Curnow (eds), \$22.00, ASTM, 1916 Race Street, Philadelphia, PA 19103; (215) 299-5400. ●

Continuing Education Courses for 1990 SOT Meeting

The Continuing Education Committee (**James Bond (Chairperson), Donald A. Fox, Robin Sheryl Goldstein, Joseph Donald deBethizy, Gerald L. Kennedy, Jr., Kendall B. Wallace**) is pleased to offer nine courses this year for the upcoming SOT meeting in Miami, FL. The course descriptions are given below. In selecting courses for this year, the Committee relied heavily upon suggestions from the membership who responded to last year's course questionnaires. For example, over 90 percent of the respondents were in favor of Advanced courses and having selected courses offered in both the morning and afternoon sessions. This year there will be two Advanced courses (Hepatotoxicity and Metabolism) and two courses that will be offered both in the morning and afternoon sessions (Concepts in Cell Biology and Carcinogen Hazard Assessment). Advanced courses will focus on selected issues or current concepts and individuals signing up for these courses will be expected to have a basic understanding of the area being covered. We also received suggestions related to courses that might be oriented toward target organs and selected toxic agents. The Continuing Education Committee is pleased to initiate this year what will be the beginning of a series of courses related to Target Organ Toxicity and Toxicity of Agents. This year, two courses related to Target Organ Toxicity (Cardiovascular Toxicology and Respiratory Tract Toxicology) and one course related to Toxicity of Agents (Pesticides) will be offered. ●



Target Organ Toxicity: Cardiovascular Toxicity

Chairperson: Daniel Acosta, University of Texas, Austin, TX

General Principles of Cardiovascular Physiology. Nicholas Sperekatis, University of Cincinnati, Cincinnati, OH.

Pathophysiology of the Cardiovascular System. Maximillion Buja, University of Texas, Dallas, TX.

Overview of Cardiac Toxicology. Eugene Herman, USFDA, Washington, D.C.

Basic Concepts of Vascular Toxicology. Paul Boor, University of Texas, Galveston, TX.

Developmental Toxicity: Changing Factors In Embryonic Susceptibility

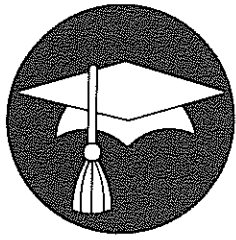
Chairperson: Jeanne M. Manson, Merck Sharp & Dohme, West Point, PA

General Principles and Patterns of Dose-Response. Jeanne M. Manson, Merck Sharp & Dohme, West Point, PA.

Changes in Intermediary Metabolism During the Organogenesis Period. Thomas W. Sadler, University of North Carolina, Chapel Hill, NC.

Changing Factors in Cellular and Molecular Determinants of Craniofacial Development. Robert M. Greene, Jefferson Medical College, Philadelphia, PA.

Developmental Neurobiology: Changing Factors Determining Susceptibility to Maturation of the CNS. Patricia M. Rodier, University of Rochester, Rochester, NY.



Continuing Education

Advanced Metabolism

Chairperson: J. Donald deBethizy, Ph.D., R.J. Reynolds Tobacco Co., Winston-Salem, NC

Metabolism: A Determinant of Toxicity

Overview. J. Donald deBethizy, R.J. Reynolds Tobacco Co., Winston-Salem, NC.

Glutathione-dependent Toxicity. Marion W. Anders, University of Rochester Medical Center, Rochester, NY.

Determinants of Metabolite Kinetics. K. Sandy Pang, University of Toronto, Toronto, Canada.

Methods Based on the Kinetics of Inactivation of Short-lived Metabolites. James R. Gillette, National Heart, Lung, and Blood Institute, Bethesda, MD.

Cytochrome P-450 Enzymes: Current Understanding of Basic Principles with Relevance to Metabolism and Toxicity. F. Peter Guengerich, Vanderbilt University, Nashville, TN.

Advanced Hepatotoxicity

Chairperson: James A. Popp, CIIT, Research Triangle Park, NC

Introduction. James A. Popp, Chemical Industry Institute of Toxicology, Research Triangle Park, NC.

Role of Non-parenchymal Cells in Hepatotoxicity. Debra Laskin, Rutgers University, NJ.

Mechanisms of Hepatocyte Toxicity. Gregory L. Kedderis, Chemical Industry Institute of Toxicology, Research Triangle Park, NC.

Regulation of Hepatocyte Proliferation. Randy Jirtle, Duke University, NC.

Concepts In Cell Biology

Chairperson: Glenn F. Rush, Toxicology Division, Eli Lilly and Co., Greenfield, IN

Cellular Energetics. Glenn Rush, Eli Lilly and Co., Greenfield, IN.

Cell Growth and Differentiation. James Stevens, W. Alton Jones Cell Science Center, Lake Placid, NY.

Signal Transduction and Control. Susan Jaken, W. Alton Jones Cell Science Center, Lake Placid, NY.

Membrane Transport. Jeff Kasher, Eli Lilly and Co., Indianapolis, IN.

Fluorescence Image Analysis and Flow Cytometry. Debra-Laskin/Jeffrey Laskin, Rutgers University/RWS Medical School, Piscataway, NJ.

Carcinogen Risk Assessment

Chairperson: Robert J. Moolenaar, Health and Environmental Sciences, The Dow Chemical Company, Midland, MI

Carcinogen Classification. Robert J. Moolenaar, Health and Environmental Sciences, The Dow Chemical Company, Midland, MI.

Quantitative Dose Response Assessment. Colin N. Park, Health and Environmental Sciences, The Dow Chemical Company, Midland, MI.

Physiologically Based Pharmacokinetic Modeling. Kenneth B. Bischoff, Department of Chemical Engineering, University of Delaware, Newark, DE.

Biologically Motivated Models. Thomas B. Starr, Chemical Industry Institute of Toxicology, Research Triangle Park, NC.

Free Radical Toxicology

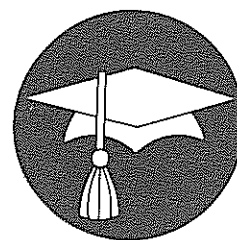
Chairpersons: James P. Kehrer and Terrence J. Monks, Division of Pharmacology and Toxicology, College of Pharmacy, University of Texas at Austin

Overview. Terrence J. Monks, Division of Pharmacology and Toxicology, College of Pharmacy, University of Texas at Austin.

Chemistry of Free Radicals. Craig E. Thomas, Toxicology Department, Rohm and Haas Company, Spring House, PA.

Methodology for Detecting Radicals and Oxidative Injury In Biological Systems. Henry J. Forman, Division of Neonatal/Pediatric Pulmonology, Children's Hospital of Los Angeles, Los Angeles, CA.

Continuing Education



Mechanisms of Tissue Injury and Protection. Charles V. Smith, Department of Pediatrics, Baylor College of Medicine, Houston, TX.

Current Topics In Free Radical Mediated Tissue Injury. James P. Kehrer, Division of Pharmacology and Toxicology, College of Pharmacy, University of Texas at Austin.

Target Organ Toxicity: Respiratory Tract Toxicology

Chairperson: James A. Bond, CIIT, Research Triangle Park, NC

Overview. James A. Bond, CIIT, Research Triangle Park, NC.

Cellular Response of Nasal Tissue to Inhaled Toxicants. Jack R. Harkema, Inhalation Toxicology Research Institute, Albuquerque, NM.

Xenobiotic-Induced Lung Injury. Wanda M. Haschek-Hock, University of Illinois, Urbana, IL.

Current Concepts in the Pathogenesis of Particulate-Induced Lung Injury. David B. Warheit, Haskell Laboratory, DuPont, Newark, DE.

The Nature of Lung Tumors in Man and Animals: Implications for Toxicology. Hanspeter R. Witschi, University of California-Davis, Davis, CA.

Toxicity of Agents: Pesticides

Chairperson: James T. Stevens, CIBA-GEIGY Corp., Greensboro, NC

Agricultural Chemicals: The Evolution of Pesticides. Wayland J. Hayes, Jr., Vanderbilt University, Nashville, TN.

Hazard Identification: Pesticide Toxicity to Humans. Donald J. Ecobichon, McGill University, Montreal, Canada.

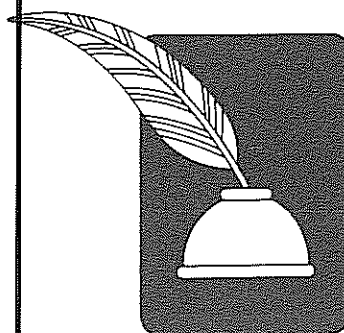
Hazard Identification: Ecotoxicity. Ronald Kendall, Clemson University, Clemson, SC.

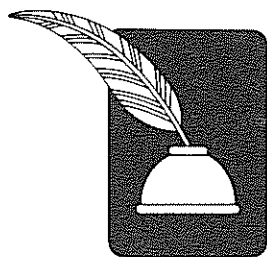
Exposure Assessment: Quality of Food and Water Supply in the U.S., Christopher E. Wilkinson, Varsar, Inc., Springfield, VA.

The Regulatory and Risk Management Process. Penelope Fenner-Crisp, U.S. Environmental Protection Agency, Wilmington, DE.

SOT 1990 Annual Meeting Symposia

Participants at the 1990 Society of Toxicology Annual Meeting will want to reserve adequate time to attend Annual Meeting Symposia. An informative and diverse range of topics will be covered by this year's symposia. They reflect many of today's "hottest" issues in the field of toxicology and also anticipate the growing importance of other areas of research. Once again, members from SOT's full professional spectrum have contributed their time and talents to produce a slate of superior symposia. 1990 Annual Meeting Symposia begin on Tuesday, February 13 and run through Friday morning, February 16. ●





Symposia

Comparative Dosimetry of Inhaled Materials: Differences Among Animal Species and Extrapolation to Man

Sponsored by the Inhalation Specialty Section

Chairperson: Alan R. Dahl, Inhalation Toxicology Research Institute, Albuquerque, NM

Introduction. Alan R. Dahl, Inhalation Research Toxicology Institute, Albuquerque, NM.

Comparative Deposition, Clearance and Retention of Particle-Borne Toxicants. Richard B. Schlesinger, New York University Medical Center, New York, NY.

Comparative Dosimetry of Inhaled Reactive Vapors. Henry d'A Heck, Chemical Industry Institute of Toxicology, Research Triangle Park, NC.

Comparative Uptake and Fate of Inhaled Metabolizable Vapors. Michele A. Medinsky, Chemical Industry Institute of Toxicology, Research Triangle Park, NC.

Molecular Dosimetry of Inhaled Carcinogens: Implications for Epidemiology-Risk Assessment. George W. Lucier, National Institute of Environmental Health Sciences, Research Triangle Park, NC.

Cellular and Molecular Mechanisms of Learning and Memory: Interactions with Neurotoxic Chemicals

Sponsored by the Neurotoxicology Specialty Section

Chairperson: Hugh A. Tilson, USEPA, Research Triangle Park, NC

Introduction. Hugh A. Tilson, U.S. Environmental Protection Agency, Research Triangle Park, NC.

The Cellular and Molecular Basis of Learning and Memory. Aryen Routtenberg, Northwestern University, Evanston, IL.

The Anatomical Substrates of Learning and Memory. Deborah Rice, Tox. Research Div., Health and Welfare Canada, Ottawa, Canada.

The Neurochemical Substrate of Learning and Memory. Hugh A. Tilson, U.S. Environmental Protection Agency, Research Triangle Park, NC.

Cognitive Effects of Neurotoxicants in Humans. W. Kent Anger, Oregon Health Sciences University, Portland, OR.

Glutathione-Conjugate Mediated Toxicities

Sponsored by the Mechanisms Specialty Section

Chairperson: Terrence J. Monks, Division of Pharmacy and Toxicology, College of Pharmacology, University of Texas at Austin, Austin, TX

Introduction. Terrence J. Monks, University of Texas at Austin.

Glutathione-Dependent Bioactivation of Haloalkanes and Haloalkenes. Marion W. Anders, University of Rochester, Rochester, NY.

Genotoxicity of Amino Acid S-Conjugates. Wolfgang Dekant, University of Wurtzburg, FRGermany

Enzymes of the Cysteine Conjugate B-Lyase Pathway. James L. Stevens, Alton Jones Cell Science Center, Lake Placid, NY.

Quinol-Linked Glutathione Conjugate-Mediated Toxicities. Serrine S. Lau, University of Texas at Austin.

Reversible Glutathione Conjugation: Toxicological Implications. Peter J. van Bladeren, TNO-CIVO, The Netherlands.

Application of Pharmacokinetics in Developmental Toxicity Risk Assessment

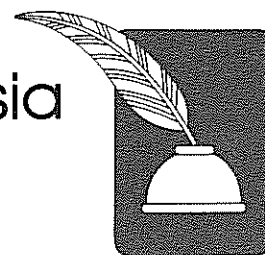
Sponsored by the Reproductive and Developmental Toxicology Specialty Section

Chairperson: Robert J. Kavlock, U.S. EPA, Research Triangle Park, NC

Introduction. Robert J. Kavlock, U.S. EPA, Research Triangle Park, NC.

Physiological Alterations During Pregnancy: Impact on Toxicokinetics. Donald R. Mattison and Carol Cistola, University of Arkansas Medical Sciences, Little Rock, AR.

Symposia



Pharmacokinetic Considerations in the Design of Developmental Toxicology Studies. Heinz Nau, Free University, Berlin, FRGermany.

Correlation of Pharmacokinetic Data With Endpoints of Developmental Toxicity. John F. Young, National Center for Toxicological Research, Jefferson, AR.

Pharmacokinetic Considerations in the Extrapolation of In Vitro Test Data. Robert J. Kavlock, U.S. EPA, Research Triangle Park, NC.

The Application of Physiologically Based Pharmacokinetic Models to Adjust for Species Differences in Estimating Human Developmental Risk. Johan L. Gabriellson, University of Uppsala, Sweden.

Genetic Determinants of Carcinogen Susceptibility in Rodents and Man

Sponsored by the Molecular Biology Specialty Section

Chairperson: Cheryl Walker, Department of Cellular and Molecular Toxicology, CIIT, Research Triangle Park, NC

Introduction. Cheryl Walker, CIIT, Research Triangle Park, NC.

Tumor Suppressor Gene and Cellular Oncogene Interactions in a Rat Model for Renal Carcinogenesis. Cheryl Walker, Chemical Industry Institute of Toxicology, Research Triangle Park, NC.

Genetic Determinants of Chemically Induced Lung Cancer in Mice and Humans. Gary Stoner, Medical College of Ohio, Toledo, OH.

Genetic Control of Murine Hepatocarcinogenesis. Norman R. Drinkwater, University of Wisconsin, Madison, WI.

Human Cells In Vitro: Analysis of Cancer Susceptibility and Mechanisms of Tumorigenesis. Machael A. Tainosky, University of Texas, Houston, TX.

Genetic Determinants of Carcinogen Susceptibility: Implications for Risk Assessment. Thomas Starr, Chemical Industry Institute of Toxicology, Research Triangle Park, NC.

Inhalation Risk Assessment: State-of-the-Art

Sponsored by the Risk Assessment and Inhalation Specialty Sections

Co-chairpersons: Barbara D. Beck, Gradient Corporation, Watertown, MA and Judith A. Graham, U.S. EPA, Research Triangle Park, NC

Introduction. Barbara D. Beck, Gradient Corp., Cambridge, MA.

High Level Particle Inhalation Experiments: Possible Mechanisms and Extrapolation to Man. Gunter Oberdoerster, University of Rochester, Rochester, NY.

The Use of Acute Data to Set Exposure Standards. George M. Rusch, Allied-Signal, Inc., Morristown, NJ.

Use of Probabilistic Exposure-Response Relationships and Exposure Analysis in Risk Assessment for Criteria Air Pollutants. Harvey M. Richmond, U.S. EPA, Research Triangle Park, NC.

Inhalation Reference Dose (RfDi). Annie M. Jarabek and Judith A. Graham, EPA, U.S. EPA, Research Triangle Park, NC.

Predicting Target Tissue Dose for Inhaled Gases Through Physiological Modeling Strategies: Melvin E. Andersen, Chemical Industry Institute of Toxicology, Research Triangle Park, NC.

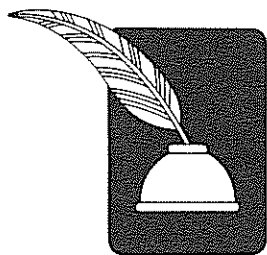
Macrophage-Xenobiotic Interactions: Modulation of Toxicity and Macrophage Functions

Sponsored by the Immunotoxicology Specialty Section

Chairpersons: Lawrence Schook, University of Illinois, Urbana, IL and Peter Bick, Eli Lilly and Company, Greenfield, IN

Activation of Macrophages and Xenobiotics. D.O. Adams, Department of Pathology, Duke University Medical Center, Durham, NC.

Effect of Lead on Macrophage Growth and Function. M. Kowolenko, Bristol-Myers Co., Dept. of Investigative Toxicology, Syracuse, NY and D.A. Lawrence, Albany Medical College, Dept. of Microbiology and Immunology, Albany, NY



Symposia

Organophosphate Modulation of Macrophage Function. Kathleen E. Rodger, Livingston Research Center, University of Southern California, Los Angeles, CA.

Modulation of Chemically-Induced Hepatotoxicity by Altering Macrophage Function. Debra L. Laskin, Graduate Program in Toxicology, Rutgers University, Piscataway, NJ.

Mechanisms for Alteration of Macrophage Differentiation and Activation Following Chemically-Induced Toxicity. Lawrence B. Schook, Laboratory of Molecular Immunology, Dept. of Animal Sciences, University of Illinois, Urbana, IL.

Metal-Induced Alterations in Gene Expression

Sponsored by the Metals Specialty Section

Chairperson: Carol T. Walsh, Boston University School of Medicine, Boston, MA

Introduction. Carol T. Walsh, Boston University School of Medicine, Boston, MA.

Zinc Finger-Loop Domains in Gene-Regulating Proteins as Potential Targets for Metal Toxicity. F. William Sunderman, Jr., University of Connecticut Medical School, Farmington, CT.

Deletion of Heterochromatin and a Senescence/Tumor Suppressor Gene as a Mechanism of Nickel Carcinogenesis. Max Costa, New York University Medical Center, New York, NY.

Regulation of Metallothionein Gene Expression in Man and Yeast. Michael Karin, University of California, San Diego School of Medicine, La Jolla, CA.

The merR Metalloregulatory Protein: Genetic Switch Controlling Expression of Mercurial Detoxification Genes. Thomas V. O'Halloran, Northwestern University, Chicago, IL.

Mechanisms of Hypoxic Cell Injury

Chairperson: James P. Kehrer, University of Texas, Austin, TX

Introduction. James P. Kehrer, The University of Texas, Austin, TX.

Mitochondrial Function During Hypoxia. Dean P. Jones, Emory University School of Medicine, Atlanta, GA.

Digitized Videomicroscopy of Hypoxic Cell Injury: The Role of Intracellular pH. John J. Lemasters, University of North Carolina School of Medicine, Chapel Hill, NC.

Irreversible Cell Injury in Liver Ischemia. John L. Farber, Thomas Jefferson University, Philadelphia, PA.

Oxidative Stress During Hypoxia in Isolated-Perfused Liver Tissue. Hartmut Jaeschke, Baylor College of Medicine, Houston, TX and Jerry R. Mitchell, The Upjohn Company, Kalamazoo, MI.

Transplacental Transport of Toxic Metals and Fetal Effects

Sponsored by the Metals Specialty Section

Chairperson: Robert A. Goyer, University of Western Ontario

Introduction. Robert A. Goyer, University of Western Ontario, London, Ontario.

Biokinetics of Lead During Pregnancy. Kathryn R. Mahaffey, National Institute of Environmental Health Sciences, Research Triangle Park, NC.

Human Fetal Lead Exposure: Intrauterine Growth, Maturation and Postnatal Neurobehavioral Development. Kim N. Dietrich, University of Cincinnati, Cincinnati, OH.

Placental Transport of Mercury and Fetal Effects. Thomas W. Clarkson, University of Rochester, Rochester, NY.

Transplacental Transport of Cadmium and Fetal Effects. Robert A. Goyer, University of Western Ontario, London, Ontario, Canada.

New Directions in Cancer Risk Assessment: Modifying the EPA's Guidelines

Sponsored by the Carcinogenesis Specialty Section

Chairpersons: Theodore M. Farber, Science Regulatory Services International, Washington, DC and Penelope Fenner-Crisp, U.S. EPA, Washington, DC

Symposia



Introduction. Theodore M. Farber, Science Regulatory Services International, Washington, DC.

Classifying Carcinogens by the Weight-of-the Evidence. Gary Flamm, Science Regulatory Services International, Washington, DC.

The Search for Adequate Bioassay Data: Crude Biology Versus Statistics. Ernest Eugene McConnell, Raleigh, NC.

New Developments in Carcinogenic Risk Assessment. Dan Krewski, Health and Welfare Canada, Ottawa, Ontario.

Carcinogen Risk Assessment-Evolution of the Process. Bill Farland, U.S. EPA, Washington, DC.

New Advances in Chemically-Induced Mitochondrial Dysfunction: Relationships to Toxicity

Sponsored by the Mechanisms Specialty Section

Chairperson: Glenn F. Rush, Eli Lilly and Company, Greenfield, IN

Introduction. Glenn F. Rush, Eli Lilly and Company, Greenfield, IN.

Direct Probing of Mitochondrial Function in Intact Cells. Rick G. Schnellman, University of Georgia, Athens, GA.

Overview of Mitochondrial Glutathione. Donald J. Reed, Oregon State University, Corvallis, OR.

Biochemical Alterations in Mitochondrial Function Leading to Lethal Cell Injury. Glenn F. Rush, Eli Lilly and Company, Greenfield, IN.

Biochemical Reactions Leading to Parkinsonian Symptoms Elicited by MPTP. T. Singer, University of California, San Francisco, CA.

The Mitochondrial Toxicity of Cysteine-S-Conjugates: Studies with Pentachlorobutadienyl-L-cysteine (PCBC). A. Wallin, W. Alton Jones Cell Science Center, Lake Placid, NY.

Health Effects of Inhaled Fibrous Materials

Sponsored by the Inhalation Specialty Section

Chairpersons: Neil F. Johnson, Inhalation Toxicology Research Institute, Albuquerque, NM and David B. Warheit, Du Pont Haskell Laboratory, Newark, DE

Introduction. Neil F. Johnson, Inhalation Toxicology Research Institute and David B. Warheit, Du Pont Haskell Laboratory, Newark, DE.

Introduction to Fiber Toxicology. Gerald L. Kennedy, Jr., Du Pont Haskell Laboratory, Newark, DE.

Use of Mammalian Cells in Culture to Assess the Genotoxic and Carcinogenic Potential of Asbestos and Man-Made Vitreous Fibers (MMVF). Tom W. Hesterberg, Manville Technical Center, Littleton, CO.

In Vivo Assessments of Pulmonary Toxicity Following Exposure to Inhaled Fibers: Utilization of Bronchoalveolar Lavage (BAL) and Fixed Lung Tissue to Assess Fiber Deposition Patterns and Early Cellular Responses. David B. Warheit, Du Pont Haskell Laboratory, Newark, DE.

Assessment of the Biological Effects of Inorganic Fibrous Materials in Animal Experiments. Neil F. Johnson, Inhalation Toxicology Research Institute, Albuquerque, NM.

Human Exposure and Disease Associated with Inorganic Fibrous Materials. Jon L. Konzen, Owens-Corning Fiberglass Corporation, Toledo, OH.

Peroxisome Proliferation and Nongenotoxic Carcinogenesis

Sponsored by the Mechanisms Specialty Section

Chairperson: David E. Moody, Center for Human Toxicology, Department of Pharmacology and Toxicology, University of Utah, Salt Lake City, UT

Introduction. David E. Moody, University of Utah, Salt Lake City, UT.

Peroxisome Proliferation: An Overview. Janardan K. Reddy, Northwestern University, Chicago, IL.

Hepatic Peroxisome Proliferation: In Vivo and In Vitro Correlations. Brian G. Lake, BIBRA, Surrey, England.

Liver Tumor Promoting Effect of Chemicals that Cause Peroxisome Proliferation. James A. Popp, CIIT, Research Triangle Park, NC.

Peroxisome Proliferation: A Human Cancer Assessment Perspective. David H. Reese, USEPA, Washington, DC.

Roundtable Discussion.

Upcoming Conferences



Fourth International Meeting on Biological Reactive Intermediates, hosted by the University of Arizona Center for Toxicology, January 14-17, 1990 at the Doubletree Hotel, Tucson, AZ. For further information, contact: Dr. I. Glenn Sipes, College of Pharmacy, University of Arizona, Tucson, AZ 85721, (602) 626-7123.

Second International Conference on Environmental Analytical Chemistry; Workshop on Identification of Problems, Methods and Monitoring Applications within the Pacific Basin Rim Nations, January 17-19, 1990, Honolulu, HI. For information, contact: Dr. S. Hanamura, The Center for Environmental Research, 468 Hollister Hall, Cornell University, Ithaca, NY 14853; (607) 255-6837.

Biological Effects of Dietary Restriction, March 5-7, 1990, Ramada Renaissance Hotel, Washington, DC. For information, contact: Ms. Karen Taylor, ILSI, 1126 Sixteenth St., NW, Washington, DC 20036; (202) 659-3859.

Mid-America Toxicology Course, April 22-27, 1990, Kansas City, MO. For further information, contact: Curtis D. Klaassen, Ph.D., Professor of Pharmacology and Toxicology, University of Kansas Medical Center, Kansas City, KS 66103; (913) 588-7714.

Organophosphates: Chemistry, Fate and Effects, April 22-27, 1990. For further information, contact: ACS Meetings, 1155 16th St., NW, Washington, DC 20036, or Dr. Janice Chambers, Department of Biological Sciences, Mississippi State University, PO Drawer GY, Mississippi State, MS 39762; (601) 325-7572.

Association for Behavior Analysis, 16th Annual Convention, May 27-31, 1990, Opryland Hotel, Nashville, TN. For information, contact: ABA, Western Michigan University, 258 Wood Hall, Kalamazoo, MI 49008-5052. Telephone: (616) 387-4495.

The Third Summer Institute in Environmental Health Studies, sponsored by the Johns Hopkins University Department of Environmental Health Sciences, June 4-15, 1990, Johns Hopkins University. For further information contact: Dr. Jacqueline Corn, Director Continuing Education Program, Department of Environmental Health Sciences, The Johns Hopkins University School of Hygiene and Public Health, 615 North Wolfe Street, Room 1003, Baltimore, MD 21205; (301) 955-2609.

International Symposium on Trace Elements in Health and Disease, June 5-8, 1990, Espoo, Finland. For additional information, contact: Congress Team/AREA Travel Agency Ltd., P.O. Box 227, SF-00131 Helsinki, Finland; phone +358-0176 866, fax +358-0-654 987, telex, 122783 arcon sf. ●

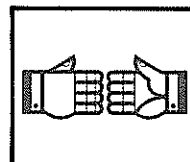
Member News



Dr. Alan G.E. Wilson has recently been promoted to the position of Science Fellow in Toxicology at Monsanto Company, St. Louis. Dr. Wilson is a toxicologist in Monsanto's Environmental Health Laboratory. He also functions as Group Leader for the Biochemical Toxicology and Metabolism Group. Dr. Wilson's scientific expertise is in the area of pharmacokinetics, drug metabolism and biochemical toxicology and their application in risk assessment. Dr. Wilson currently chairs industrial committees concerned with the use of pharmacokinetic and biologically based models in risk assessment.

Robert P. Hanzlik, Ph.D., Professor of medicinal chemistry at The University of Kansas, has been awarded The Olin Petefish Research Award in the field of Basic Sciences "in recognition of research in the basic sciences that may be described as having had a major and substantial impact...characterized as either profoundly influencing later development in a field or as representing a productive record of significant research that has illuminated basic processes or basic phenomena." ●

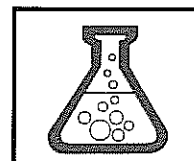
Regional Chapter News



The Allegheny-Erie Regional Chapter held its annual fall meeting at the Lakeview Resort and Conference Center in Morgantown, West Virginia on October 20th. A total of 60 people attended.

Following dinner, chapter members enjoyed an interesting lecture by Mr. Gray Robertson of Healthy Buildings International of Fairfax, Virginia. Mr. Robertson spoke on the "Sick-Building Syndrome" explaining its origins and corrective measures for prevention. Mr. Robertson gave several remarkable case studies to illustrate internal pollution problems in public and commercial buildings. ●

Placement Services



Staff Toxicologist

The California State Department of Health Services is recruiting for Staff Toxicologists for immediate openings. An employment examination is scheduled for fall, 1989, final filing date is December 29, 1989. The examination will be based 100 percent on interviews. Telephone interviews are permissible. Vacancies exist in Sacramento, Emeryville, Berkeley, and Los Angeles. The areas of involvement will be environmental toxicology and risk assessment. The annual salary will start at \$50,748 - \$61,392. To qualify for the Staff Toxicologist exam, you must have a Doctoral Degree in toxicology, biochemistry, pharmacology or a closely related specialty and three years of postdoctoral experience in toxicology. Please send your resume to: State Department of Health Services Office of Environmental Health Hazard Assessment, 714 P Street, Room 442, Sacramento, CA 95814; ATTN: Donna Rowe. For assistance or further information, call Donna Rowe at (916) 323-2249.

Associate Toxicologist

The California State Department of Health Services is recruiting for Associate Toxicologists for immediate openings. An employment examination is scheduled for fall, 1989, final filing date is December 29, 1989. The examination will be based 100 percent on interviews. Telephone interviews are permissible. Vacancies exist in Sacramento, Emeryville, Berkeley, and Los Angeles. The areas of involvement will be environmental toxicology and risk assessment. The annual salary will start at \$38,304 - \$50,748. To qualify for the Associate Toxicologist exam, you must have a Doctoral Degree in toxicology or closely related specialty; or possession of a Masters Degree in toxicology or closely related specialty and three years experience, past the Masters Degree, in the area of toxicology; or certification as a Diplomate of the American Board of Toxicology. Please send your resume to: State Department of Health Services, Office of Environmental Health Hazard Assessment 714 P Street, Room 442, Sacramento, CA 95814; ATTN: Donna Rowe. For assistance or further information, call Donna Rowe at (916) 323-2249.

Faculty Opening, Professor of Industrial Toxicology/Hygiene Texas A & I University Department of Environmental Engineering

Texas A & I University is accepting applications for a tenure track position in Industrial Toxicology/Hygiene for a new Master of Science program in Environmental Engineering. This position requires a Ph.D. degree in either Industrial Toxicology or Industrial Hygiene or a closely allied degree. Salary and rank will be competitive and will depend on teaching, research, and industry experience. Duties will be the teaching of graduate courses in Industrial Toxicology and Indus-

trial Hygiene as core courses in the Master of Science in Environmental Engineering. Opportunities and facilities for relevant research will be available. Applications must be received by January 31, 1990. The position will be appointed by February 28, 1990 to be available for the Fall semester of 1990. Minority and women candidates are encouraged to apply. Send application, vita, and the names of three references to Dr. Ray N. Finch, Chairman of the Department of Chemical and Natural Gas Engineering, and coordinator of M.S. Environmental Engineering program, College of Texas 78363. Deadline: January 31, 1990. Questions: Dr. Ray N. Finch, Associate Professor and Chairman of the Chemical and Natural Gas Engineering Department at 512-595-2002 or 512-595-2094.

Obstetrics and Gynecology

The Department of Obstetrics and Gynecology, Wayne State University, has a position available. Expertise in molecular biology, immunology, toxicology or teratology is important. Appointee will collaborate with basic scientists and clinicians in toxicology and teratology projects, as well as develop an independent research program supported by external funds. Experience with drugs used during pregnancy, and pregnant animal models would be valuable assets.

A Ph.D. degree and minimum of 2 years of postdoctoral or research experience required. Candidates must have proven record of research productivity. Salary and rank commensurate with experience. Send curriculum vitae and brief outline of research activities to: Kamran Moghissi, M.D., Professor and Chairman, Department of Obstetrics and Gynecology, Wayne State University, 4707 St. Antoine, Detroit, MI 48201. Wayne State is an equal opportunity affirmative action employer.

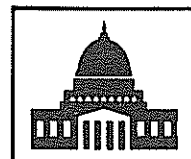
Environmental Scientist

Rapidly-growing environmental consulting firm specializing in toxicology, epidemiology, and risk assessment seeks experienced Environmental Scientists.

Candidates must possess a masters or Ph.D. degree in toxicology or a related environmental field and extensive experience in environmental sciences and hazard and risk assessment, with consulting experience highly desirable. Excellent oral and written communication and personal skills required. Position responsibilities include scientific duties, and client relations. Prime downtown location near Metro, excellent benefits. Equal Opportunity Employer. Please send CV to: Mrs. Brown, Karch and Associates, Inc., 1701 K Street, NW, Suite 1000, Washington, DC 20005.

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Watching Washington



SOT Members Lead Exploration of Biological Markers

The NAS/NRC Board of Environmental Studies and Toxicology Committee on Biological Markers has released the reports of its Subcommittee on Biological Markers in Reproductive Toxicology, chaired by **Donald R. Mattison, M.D.**, and of the Subcommittee on Biomarkers in Pulmonary Toxicology, chaired by **Rogene F. Henderson, Ph.D.** These subcommittees explored the potential role of biological markers in enhancing our understanding of the effects of chemical and physical agents and evaluated the opportunities presented by new advances in the basic science of toxicology and in analytical techniques.



Bernard D. Goldstein, M.D.

A short report by the Oversight Committee, chaired by Bernard Goldstein, M.D., included in the reproductive markers report describes basic definitions and concepts. The Committee's membership included SOT past presidents **Emil A. Pfitzer, Sc.D.** and **James E. Gibson, Ph.D.** Both reports are available from National Academy Press, 2101 Constitution Avenue, NW, Washington, DC 20418. ●

Pro- and Anti-Animal Research Lines Form on Capitol Hill

Offering "a common sense voice" in response to animal rights activists, the Animal Welfare Caucus has been formed by Representative Vin Weber (R-MN). Weber and other members of Congress feel that "the use of animals for legitimate purposes" is unfairly vilified by animal rights activists to the general public. Weber is concerned about the potential impact that the animal rights movement could have on medical research and farming.

The formation of Weber's group was followed by formation of a congressional animal rights group by Annette Lantos, wife of Representative Tom Lantos (D-CA). This group is headed by Reps. Tom Lantos and Robert Smith (R-NH). ●

Animal Rights Coalition Seeks "Mainstream" Position

A new Animal Rights Coalition has been formed to "represent a 'mainstream' position on animal rights." The group will serve as a strategy forum for the animal rights movement.

In attendance at the first meeting were U.S. Humane Society President John Hoyt, American Society for the Prevention of Cruelty to Animals President John Kullberg, the Massachusetts Society for the Prevention of Cruelty to Animals and various grassroots organizers. Other groups are expected to join the coalition as discussions develop. ●

Placement Services

continued from page 15

Aquatic Toxicologist

Attractive opportunity with Union Carbide at our South Charleston, WV Technical Center for an Aquatic Toxicologist to perform acute and chronic bioassays on products and wastewaters. Require environmental chemistry background to conduct fate and effect, and radio labeled studies. Submit resume to W.P. Samuels, Corporate Technology, Union Carbide Corporation F4, 39 Old Ridgebury Road, Danbury, CT 06817. ●

Drug Metabolism Scientist

Seeking self-motivated, innovative scientist to establish laboratory program utilizing basic and applied approaches to study the metabolic disposition of drugs in laboratory animals. Strong background in analytical methods, chemistry and pharmacology needed. Post doctoral experience desirable. Send all inquiries to: Dr. Leonard C. Howard, MC909, Eli Lilly and Company, Corporate Center, Indianapolis, IN 46285. ●

For information regarding submitting a Placement Service advertisement, please contact Donna Thomas at SOT headquarters.