Worldwide Harmonization of Risk Assessment: Is It Possible?

The 1990s have been termed the decade of risk assessment for good reason. Recent US Federal and regional regulations have frequently called for risk assessment to provide assurance of safety of chemical use, emissions and waste disposal. In Europe, recently passed legislation calls for the conduct of risk assessments on both new and existing chemicals at the level of the Economic Community (EEC). As new environmental laws are enacted worldwide, proliferation of more requirements to perform risk assessments can be expected.

This proliferation of risk assessment requirements will undoubtedly put a strain on our already limited expertise worldwide for purposes of compliance. More importantly, the lack of coordination of these requirements may lead to misuse of the scientific underpinnings of risk assessment, encourage trade barriers and result in adverse and costly action against those chemicals found to present an unfavorable outcome, whether or not good science is employed. Without some standards of science, regulators and industry alike will have to deal with possible assessments of inferior quality. Assessments providing insufficient safeguards are likely to give inadequate protection, while overly conservative assessments will prevent use of substances that could enhance the quality of life and even our well-being.

The upcoming Annual Meeting in Dallas offers exciting sessions on present activities in the global development of risk assessment methodologies. First, on Sunday, March 13, two Continuing Education courses on “International Harmonization Update on Scientific and Regulatory Issues” will be held. Part I, from 8:30 a.m. to 12:00 noon, will focus on food, drugs, cosmetics, and devices. Part II, from 1:30 p.m. to 5:00 p.m., will focus on toxic substances and environmental issues.

Next, on Monday, March 14, from Noon to 1:00 p.m., a special SOT Roundtable Discussion entitled “Is International Harmonization of Risk Assessment Possible?” will be held. Distinguished speakers from the US EPA, the EEC’s chief author of new risk assessment guidelines, and from the internationally regulated

Continued on page 9

Pulitzer Prize-Winning Science Writer Jon Franklin to Provide Public Communications Focus

Jon Franklin, who will deliver the Plenary Lecture at the 1994 SOT Annual Meeting in Dallas, is a two-time Pulitzer Prize-winning journalist and the author of several science-related books. For the past thirty years he has written about science and scientists for an impressive array of magazines, newspapers, and journals. Although Mr. Franklin is not a scientist—he terms himself a “science watcher” and is a Professor of Journalism at the University of Oregon—he is at the forefront of a movement calling for science to focus on the vital importance of public communications.

If science doesn’t make public communications a priority—nearly as much a priority as research—Mr. Franklin believes that science will wither. Ineffective communications on the part of the international science community has allowed what Mr. Franklin broadly defines as “anti-science” causes (certain animal rights groups, for example) to make great strides in turning public sentiment against science and against enlightenment. “The enlightenment is under a great deal of fire,” he says, “And if scientists believe in it, they had better fight for it.”

What follows is a brief interview SOT Newsletter Editor Terry Banks recently conducted with Mr. Franklin:

In Earth, Animals and Poisoned Apples: How The Luddites Are Trashing Science you indicate that, because science has not made public communications a priority, it is very easy for anti-science causes to take what appears to the general public and legislators to be a moral or ethical “high road.” As a result, science has an “image problem” in the eyes of some. How can science, as a collective discipline, better communicate its achievements, agenda, and goals?

“I used to answer ‘more and better PR.’ I don’t anymore, because I think the problem is more fundamental than that. What science does is counter-intuitive; what its enemies do...
President's Message

This represents my last president's letter, since my term of office will end before publication of the next newsletter. I take this opportunity to thank the members of SOT for entrusting me with the honor of serving as your President. You provided me with a very dedicated and talented Council. I am grateful to them for the wise advice they provided and for their willingness to work very hard. This Council and the dedicated SOT Headquarters' staff made my job much easier.

In a previous Newsletter, I indicated that my presidency would focus on implementing many of the objectives of the strategic plan developed by Council at its Long-Range Planning Retreat. One objective was to establish mechanisms to allow SOT to speak proactively on issues impacting the discipline of toxicology. An opportunity arose when SOT was invited by FDA to review and comment on its draft document: “Toxicological Principles for the Safety Assessment of Direct Food Additives and Color Additives Used in Food,” commonly referred to as Redbook II. Council accepted this invitation because of the issue’s general importance to the SOT membership and because it could serve as a test case for preparing a response to an important issue.

Since the Redbook issue related to food safety, among other issues, Council called upon Dr. Jerry Exon, president of the Food Safety Specialty Section, to coordinate SOT’s response. Dr. Exon requested input from Specialty Sections and from the Regulatory Affairs and Legislative Assistance Committee, chaired by Dr. James Lamb. After comments were received from the Specialty Sections, Drs. Exon and Lamb drafted a response that was approved by Council and forwarded to the FDA. The comments submitted by SOT reflected the more general philosophy of SOT, rather than addressing specific, individual points in Redbook II. A large number of SOT members submitted more specific comments on an individual basis as well as through other organizations.

Another important objective of SOT’s Strategic Plan was to develop a long range plan to assure SOT’s financial stability. Under the leadership of SOT Treasurer, Dr. Judy MacGregor, the Finance Committee made several recommendations which were acted upon by Council. During the year, financial reserves were moved from low interest-bearing CDs to U.S. Treasury notes with varying maturities. This move will more than double our interest income. In addition, recommendations were received from professional financial advisors as to the appropriate strategy for financial investments. The Finance Committee and Council will consider these recommendations.

Other important Society activities to report include the renegotiation of SOT’s contracts with Academic Press, Publisher of our two official journals and with the International Management Group (IMG), which provides our executive and support staff. Two positive developments in the new five-year Academic Press contract are a greater return of royalty income to SOT and a gradual phase-out, over three years, of the
manuscript handling fee. Our contract with IMG has been extended for two years, instead of the usual one-year extension. A longer contract provides greater stability for both SOT and the staff of IMG.

These represent just a few of Council's most important activities during the past year. I am pleased we made some progress on implementation of our Strategic Plan. I am confident that you will receive further updates from my successors. Best of luck to the new SOT Council under the leadership of Dr. Meryl Karol.

Sincerely,

I. Glenn Sipes, Ph.D.

**SOT Bylaws Revisions Proposed**

Each year, SOT Council reviews thoroughly the Constitution and Bylaws of the Society. This review is undertaken by the Vice President-Elect and is an excellent method used to ensure complete understanding of these foundations of the Society.

During its September 1993 meeting, Council reviewed and approved the following proposed amendments to the Bylaws of the Society of Toxicology:

**ARTICLE FIRST—OFFICERS**

Section 6 (and throughout the Bylaws, where applicable), Council voted to change the title of the Executive Secretary to Executive Director, to more properly reflect the broadened duties and responsibilities of the position.

**ARTICLE FOURTH—STANDING COMMITTEES**

Section 3. Finance Committee. Council voted to change the fiscal year from May 1 - April 30 to July 1 - June 30, in order to permit sufficient time for budgeting following the Annual Meeting. The Annual Meeting is scheduled for March for all of the forward years and is the principal source of revenue for the Society. More time is needed to close out the statements on the Annual Meeting and assess the budgetary requirements for the coming year. This change does not affect the Society's operating year for Council and committee elections and appointments, which will continue on the May 1 - April 30 schedule; it affects the fiscal year only.

**ARTICLE SIXTH—DUES**

Section 2. Council voted to establish a deadline of December 15 for applications for Retired Member status, for those wishing this status to be effective the following calendar year. This change is necessary both for operating efficiency and because of provisions in our contract with Academic Press concerning journal subscriptions.

Section 4. Council voted to change the deadline by which dues shall be paid to December 15 preceding the calendar year for which the dues are assessed. This change is suggested due to the contractual arrangement with Academic Press. Under the current system, SOT is liable for the subscription fees for members who do not renew. By moving the deadline to December 15, Academic Press can be notified in advance to delete from the distribution list the members who have not renewed, thus removing the financial penalty to the Society. Dues notices would be mailed October 1, instead of the traditional November 1, in order to provide sufficient time for processing. This change would take effect for the 1995 dues year.

All of the amendments are formally presented on the enclosure to this newsletter, entitled "Proposed Amendments to the By-Laws." In accordance with the Bylaws, these amendments will be discussed during the Annual Business Meeting, Tuesday, March 15, at 4:30 p.m., at the Loews Anatole Hotel, Dallas, Texas. A mail ballot will be circulated to the voting membership within one month following the Annual Business Meeting.

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**INTERNATIONAL CONGRESS OF TOXICOLOGY — VII**

*Abstracts Due: January 1, 1995*

*Meeting Dates: July 2-6, 1995*

**For more information, please contact:**

ICT-VII Management Support Staff
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Jon Franklin Interview — continued from page one

is intuitive. This makes it very easy for anti-science groups to appeal to a very large number of people. Science needs to communicate more effectively with society as a whole. The problem is that when science has PR efforts, they are generally cast in terms of information, as though science is the “oracle” and, as a result, tend not to be very effective. There needs to be a cultural transformation, but scientists can’t educate the public until they educate themselves in how to communicate with the public.

In your book The Dagger Of The Mind, you state that scientists don’t have a very strong sense of community, as opposed to their adversaries. You seem to suggest that, for example, a scientist in California would not be overly concerned about a scientist in Texas who is being harassed by extremists. In your thirty years as a science reporter, have you ever found anything to indicate why anti-science groups have a very highly-developed infrastructure of support and communication on behalf of their causes, while scientists remain largely unconnected satellites — thereby making it very easy to target one university, one facility, one scientist?

“I think there are two basic reasons. One is very human — people tend to blame the victim and they like to be not involved. Historically, science has been supported by business, but in terms of the scale of sub-society that it is now, science is supported by government. As a result, science has gone for its support to Congress, and then Congress goes to society for support. That support used to be there because it was something that the politicians could ‘sell’ to the public. What’s happening now is that society is changing. Scientists know how to deal with the Washington sub-culture, but they don’t know how to deal with the basic constituency. Generally, when scientists talk about addressing the problem of communicating with the public, they are really talking about going to Washington and getting them [the Federal Government] to do it for them. Scientists need to understand that politicians have a constituency. They’re doing what they’re doing [being ‘anti-science’] because it’s popular, because it ‘plays well.’ Science is rapidly losing its constituency. The anti-science side spends a lot of money getting their point across, PETA would be an example, and while there are pro-science groups making rebuttals, they aren’t very well-funded or very effective.”

What are the economic implications? Is it necessary for science as a whole to reach into its coffers and spend more money getting its point across to legislators and to the general public?

“That’s what’s going to happen ultimately. In my mind the question is, will they catch on in time? There is a serious question about what happens to the enlightenment at this point in history, and that’s very largely a question of what happens to science.”

In your opinion, where is science headed in the years to come if the status quo remains?

“Socially we are entering a “neo-victorian” period. We went through a period like this in the 1950s and there are a lot of parallels — repression of expression, repression of information, a suspicion of worldly authority. There are people who are arguing, very effectively, that what society should do, in essence, is to return to the medieval — where science and enlightenment effectively comes to a halt. If this trend continues, and this is the easy way for society to go, we must ask ourselves what would characterize a neo-medieval period? Well, we can be fairly certain it wouldn’t be characterized by a great number of scientists.”

In a number of your speeches you mention the gulf between spirituality and science as being a prime component in some people’s mistrust, or misunderstanding, of science. Can science encompass spirituality, or are the two mutually exclusive?

“The essence of the dilemma is that science cannot encompass spirituality. So, somehow, science has to compensate. It has compensated so far by telling people that science can make life better. The problem is that now people take scientific achievements for granted. Because science cannot ‘make room’ for spirituality, it has to, instead, encompass art. My guess is that the thing that would do the most good for science would be for science to forge an alliance with art. The reason science is in the trouble it is in now, is because art has become almost entirely anti-science. When you look at popular movies which use any type of science theme, they are universally anti-science — Jurassic Park comes to mind as a recent example. Spielberg, like many popular creative types, comes right out and says he is ‘anti-science.’ Society is influenced by the films these people make, by the books they write, by the songs they sing.”

How does the way scientists view themselves differ from the way the general public views them?

“Generally, scientists believe they are liberal, by the modern definition of the word, and get very upset when they find that they’re considered by most people outside the sciences to be conservative and very much a part of the establishment. That’s not how they view themselves at all. The irony is that often times scientists themselves don’t believe in science. They believe in their own bailiwick, or field of specialty, but, science is a belief system and some people believe in one area, but not necessarily in the entire field.”

Public communications and the challenges it presents to scientists of all types is the special focus of the 1994 Society of Toxicology Annual Meeting, March 13-17, 1994 in Dallas, Texas. The Plenary Lecture by Mr. Franklin will be presented on Wednesday, March 16, 1994, at 8:30 a.m. See page 15 of this newsletter for a list of Public Affairs Sessions at the Annual Meeting.
SOT Thanks Sponsors!

The Society of Toxicology would like to thank the following organizations for their generous sponsorship of activities at the Annual Meeting in Dallas, to date sponsors include:

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Sterling Winthrop Pharmaceutical Division
Stonybrook Laboratories
(formerly Mobil Environmental and Health Sciences Laboratories)

WORKSHOPS

Evolution of Methodology for Quantitative Cancer Risk Assessments

Monday, March 14, 1:30 p.m. - 4:30 p.m.


Sponsored by the Carcinogenesis, Risk Assessment, and Regulatory and Safety Evaluation Specialty Sections

The goal of this workshop is to discuss in an open forum the approaches used in quantitative cancer risk assessment that have evolved in recent years with the introduction of biologically-based models. Two defaults of primary concern pertain to the dose scaling procedure for interspecies extrapolation and the routine use of the linearized multistage procedure for low-dose extrapolation. The EPA is mandated to produce specifically credible assessments that incorporate the available scientific information while maintaining the health protective stance required of government regulatory agencies. Previously, the inability to accommodate information on underlying biological processes that provide important insights into the carcinogenic process hampered a scientific approach to risk assessment. The US EPA has held a series of open scientific workshops to re-evaluate its methods for quantitative risk assessment with the goal to: (1) ensure that the default methods reflect current scientific information and consensus, (2) provide flexibility to incorporate additional data as a natural extension of the default approach, and (3) better characterize the uncertainty associated with projections of potential human risk. Proposed revisions to the EPA guidelines have undergone extensive public discussion and debate and the results will be presented at this symposium. A new, interspecies scaling factor, developed through a consensus of Federal regulatory scientists and other experts, and reflecting a wider database than before, has been proposed. In addi-
tion, a new low-dose extrapolation procedure is being developed that employs biologically-based modeling of the data when the mechanism has been identified. The intent of the workshop is to communicate and debate the theory and application of EPA's new proposals with the community of toxicologists, and to stimulate discussion on the evolved procedures.


Empirical/Theoretical Basis for Interspecies Dose Scaling, L. Rhomberg, US EPA, Washington, DC

Tissue Dosimetry, Pharmacokinetic Modeling and Estimation of Interspecies Scaling Factors, M. Andersen, US EPA, Research Triangle Park, NC

Discussant, T. Farber, Toxachemica, International, Rockville, MD


Examples of the Use of Mechanistic Data in Quantification, R. Connelly, CIIT, Research Triangle Park, NC

Report on the IARC Meeting on Cancer Quantification, H. Vainio, International Agency for Research on Cancer (IARC)

Panel Discussion:
International Implications, H. Vainio, IARC;
Industry Viewpoints, C. Frederick, Rohm & Haas Co., Spring House, PA;
Regulatory Agency Viewpoints, W. Farland, US EPA

Audience Discussion

Establishing the Safety of Fat and Macronutrient Substitutes

Wednesday, March 16, 1:30 p.m. - 4:30 p.m.


Sponsored by the Risk Assessment and Food Safety Specialty Sections

The introduction of macronutrient or fat substitutes into the food supply will provide consumers with appealing dietary choices to aid in the desirable reduction of fat intake. The safety evaluation of these new food additives will provide an unprecedented challenge. The traditional 100-fold safety factor between nontoxic dosages in animals and the anticipated human exposure from macronutrient substitute consumption may not be obtainable. Alternative or additional considerations beyond the traditional assumptions and testing procedures may be needed to provide a relative "certainty of no harm." This workshop will provide a forum for the discussion and evaluation of the key issues and methods that might be used to demonstrate the safety of a macronutrient substitute for human consumption. A modified food additive safety evaluation program will be reviewed highlighting alternative methods and models. Human mimetic animal models will be examined that more closely represent the potential impact on human physiology. The role of clinical studies in safety assessment will be examined. The potential benefits, risks, and perception of risks of macronutrient substitutes will be addressed from the public health and consumer perspectives. A Responders Panel of experts will provide a catalyst for open discussion with the audience and the Speakers Panel about the issues presented.

Introduction: Issues and Considerations in the Evaluation of Macronutrient Substitute Safety, L. Fix, Frito-Lay, Plano, TX

A New Model for the Safety Assessment of Macronutrient Substitutes, J. Borzelleca, Medical College of Virginia, Virginia Commonwealth University, Richmond, VA

Safety Factor Alternatives and Human Mimetic Models, I. Munro, CarTox Inc., Mississauga, Ontario, Canada

Human Clinical Trials in the Safety Assessment of Macronutrient Food Additives, W. Glinsmann, US FDA, Washington, DC

Potential Impact on Public Health: Benefits, Risks, and Perceptions, M. Pariza, University of Wisconsin, Madison, WI

Potential Benefits, the Consumer's Perspective, K. McNutt, Consumer Choices Unlimited, Inc., Ypsilanti, MI

Responders Panel Discussion, Responders: G. Pauli, US FDA; B. Schneeeman, UC Davis; G. Williams, American Health Foundation; S. Taylor, University of Nebraska Speakers: J. Borzelleca, I. Munro, W. Glinsmann, M. Pariza, K. McNutt

Concluding Remarks, J. Allen, Nutrasweet Co., Deerfield, IL

Incineration of Municipal Solid Waste

Thursday, March 17, 1:30 p.m. - 4:30 p.m.

Chairpersons: J. Zurlo, Johns Hopkins University, Baltimore, MD and B. Shane, NIEHS, Research Triangle Park, NC

Sponsored by the Committee on Public Communications

More than 410,000 tons of solid waste is generated daily in the US. To date, the major method of disposal of this waste has been its storage in insecure landfills. As many of these landfills are not lined, potentially toxic substances can be leached from the waste following rain or flooding of the landfill. If a ground water supply is located below the surface of the dump or if the landfill is sited in a geological formation in which leachate could reach the ground water, toxic compounds in the waste could contaminate potable water. A second issue that
has arisen is the decrease in suitable sites for the establishment of new and future landfills. The public does not want the landfills sited near their homes, the NIMBY ("not in my back yard") syndrome, but often cannot agree with other potential solutions. Recycling aids in relieving the pressure on landfills, but suitable markets have yet to be found for some recycled products.

A realistic and possible alternative to landfills is incineration of solid municipal waste. The advantages of this approach are the decrease in volume of the waste by approximately 90%, the destruction of certain toxic components of the waste, and the harvesting of energy produced from burning the waste. However, the public and many scientists are concerned that incineration can result in the formation of hazardous compounds at the temperatures used in incineration. There is definitive evidence that dioxins and PCB's can be formed at 600° C during incineration. New commercial incinerators operate in the region of 800°-900° C.

This controversial issue will be addressed by five speakers who will discuss the permitting and engineering of incinicators, health aspects of exposure to incinerator emissions, the perceived risks of exposure, the economics of solid waste disposal, and political issues relating to incineration.

Permitting Issues and Engineering Aspects of Incineration Technology, D. Ferrell, Texas Natural Resource Conservation Commission, Austin, TX

Evaluating the Health Impact of Incinerator Emissions, P. Valberg, Gradient Corporation, Cambridge, MA

Communication of Risk to the Public, G. Lage, Environ Corporation, Princeton, NJ

Economics of Recycling Versus Disposal, J. Morris, Sound Resource Management, Seattle, WA

Risks of Solid Waste Disposal: Political and Environmental Issues, P. Temple, Louisiana State University, Baton Rouge, LA

Media Training for Scientists
Saturday, March 12, 2:00 p.m. - 5:00 p.m.

Sponsored by the Committee on Public Communications

While risk communication can be thought of as reporting on the hazards of everyday life, organizations face their own "hazards of communication." Among them are: not fully understanding how to present the facts to the news media; the problem of making journalists understand or care about your particular risks; and, perhaps most important, understanding journalists' limitations and what to do about them.

This three-hour workshop is designed to train the participant in the most effective methods of communicating with the media. The facilitator, William C. Adams, has conducted this program for numerous organizations and is the co-author of a recently-published handbook on how academics can better work with the news media: "An Academic's Resource Guide to the News Media." His article on "The Role of Media Relations in Risk Communication" was published last year in Public Relations Quarterly. Mr. Adams spent 25 years in corporate communications and public relations positions with AMOCO, Phillips Petroleum and ICI Americas. He is an associate professor in the School of Journalism and Mass Communication at Florida International University.

The cost of the workshop is $50. Attendance is limited to 100 participants; therefore, early registration is recommended. To register, please complete the Media Training Workshop portion of the registration form located in the Annual Meeting Preliminary Program. (SOT reserves the right to cancel this session if registration does not exceed a threshold. In the event of cancellation, all fees will be refunded.)

Media Training for Scientists, William C. Adams, Florida International University, North Miami, FL

American Medical Association/SOT Workshop: The Animal Rights Activist, Public Perception and Your Research—Medical Progress: A Miracle at Risk

Tuesday, March 15, 8:30 a.m. - 11:30 a.m.

Chairperson: I. G. Sipes, President, Society of Toxicology

Sponsored by the Animals in Research Committee

The animal rights movement is taking advantage of public ignorance to present the case that all research using animals is crude, cruel and unproductive. This interactive workshop will explain the history, reasoning and methods used by activists. The presentation, "Handling the Tough Questions," will train the audience in communicating the utility and value of animal studies to medical progress. Armed with the Resource Kit (slides, video, fact sheets) provided, toxicologists will be able to state the contributions of and requirements for care of laboratory animals to a lay audience and the media in a professional and authoritative manner. Those who are principal investigators, serve on institutional animal care and use committees, promulgate or use safety regulations developed using in vitro tissue or whole animal data and may be called upon to speak with the media or to the public should attend this workshop.

Welcome and Introduction, I.G. Sipes, President, Society of Toxicology

Overview of Workshop Goals, K.A. Gorell, American Medical Association, Chicago, IL
The Price of Ignorance: Medical Progress vs. Animal Activism, J. M. Loeb, American Medical Association, Chicago, IL.

Handling the Tough Questions, D. Maier, American Medical Association, Chicago, IL, C. May, Chicago, IL.

The Importance of Animal Research to the Development of New Pharmaceuticals, L. W. Dixon, Sterling Winthrop, Collegeville, PA.

Patient-Driven Research Advocacy, L. M. Rumpf, Thank You Research, Arlington, VA.

Getting the Most Out of the Resource Kit, K. A. Gorell, American Medical Association, Chicago, IL.

There is no registration fee; however, preregistration is required. Attendance is on a first-come, first-served basis and is limited. If you would like to attend, please complete the AMA Workshop portion of the registration form located in the Annual Meeting Preliminary Program.

ROUND TABLE DISCUSSIONS

**Multistage Modeling of Carcinogenesis: Is There Life After Two Stages?**

*Thursday, March 17, 12:00 noon - 1:30 p.m.*

*Chairpersons: M. Andersen, USEPA, Research Triangle Park, NC and C. Portier, NIEHS, Research Triangle Park, NC*

Mechanistically based mathematical modeling of carcinogenesis has recently focused on the use of the stochastic two-stage model as its basic paradigm. Recent evidence has suggested that this theory of carcinogenesis needs to be extended. Specific areas under consideration include true stem cell models, multiple pathway models and models with time-dependent rates. Speakers at this roundtable will cite evidence suggesting alternatives to the two-stage model and present directions in which they feel modifications should be made to this theory. Controversy will arise in terms of whether there are sufficient data to support these more complicated models, whether, even if the biology is correct, we need to go to these more complicated forms. It is expected that the session will lead to considerable audience participation in suggesting additional theories and complementary data. The roundtable will also provide a forum for sharing ideas between biomathematicians and toxicologists concerning the interpretation of carcinogenicity data.

**Multi-Pathway Carcinogenesis, C. J. Portier, NIEHS, Research Triangle Park, NC**

**A Stem Cell Model of Carcinogenesis, A. Kopp-Schneider, DKFZ, Heidelberg, Germany**

Biological Realism in Models for Cancer Risk Assessment: Does it Help or Get in the Way?, R. B. Connolly, CIIT, Research Triangle Park, NC.

**The Question of Multiple Chemical Sensitivity**

*Tuesday, March 15, 12:00 noon - 1:30 p.m.*

*Chairperson: K. Rodgers, USC, Livingston Lab, Los Angeles, CA, and L. E. Sikorski, Proctor & Gamble*

Sponsored by the Immunotoxicology Specialty Section

The constellation of symptoms, which has come to be known as multiple chemical sensitivities (MCS), is increasingly recognized, although the definition of the phenomenon is elusive and its pathogenesis as a distinct entity is unconfirmed. Reports of patients with MCS are increasing, but information on its natural history is lacking. Prominent symptoms among patients are those involving the central nervous system and respiratory tract. Two hypotheses invoked to explain these symptoms are altered immune regulation and neurologic sensitization of the limbic system by odor. Diverse pathogenic mechanisms have been postulated, but experimental models for testing them have not been established thereby slowing research into mechanisms. The purpose of this roundtable discussion is to have some of the leading researchers in this field present data regarding patient studies and their current hypotheses of the mechanism by which MCS may occur followed by audience participation in the discussion.

**Introduction, K. Rodgers, University of Southern California School of Medicine, Los Angeles, CA**

**Controlled Evaluation of Patients with Multiple Chemical Sensitivities, Howard Kipen, UMDNJ, Robert Wood Johnson Medical School, Piscataway, NJ**

**The Many Faces of Multiple Chemical Sensitivity, J. Selner, Allergy Respiratory Institute of Colorado, Denver, CO**

**Time-Dependent Sensitization and Research Using an Environmental Medical Unit, C. Miller, University of Texas Health Science Center at San Antonio, San Antonio, TX**

**Is International Harmonization of Risk Assessment Possible?**

*Monday, March 14, 12:00 noon - 1:30 p.m.*

*Chairperson: F. R. Johannsen, Monsanto Europe S.A., Brussels, Belgium*

Sponsored by the Risk Assessment and Regulatory and Safety Evaluation Specialty Sections

Experts in the risk assessment of chemicals will discuss possible harmonization of terminology, principles and practices on an international scale. Dis-
cussants selected represent key international regulatory and regulated communities in the U.S. and Europe to provide the broadest spectrum of viewpoints, both from a national and international perspective. Each participant will be asked to identify critical areas in need of harmonization from his or her own unique perspective, as well as those identified through audience participation, and to discuss key issues and barriers to future progress. Further, as active participants, several of the panel members will bring first-hand perspectives of the most recent IPCS efforts in global harmonization of risk assessment.

Panelists:
F. Johannsen, Monsanto Europe S.A.
International, Brussels, Belgium
P. Fenner-Crisp, US EPA, Washington, DC
B. Moolenaar, AIHC, Washington, DC
P. Murphy, Commission of the European Communities, Brussels, Belgium
I. Purchase, Zeneca International, Macclesfield, England

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<td>9:00 a.m. - 11:30 a.m. Minority Program Tour</td>
<td>9:00 a.m. - 11:30 a.m. Poster Session for Visiting Students</td>
<td>12:00 noon - 1:30 p.m. SOT/EUROTOX Debate</td>
<td>Closes at 3:30 p.m. Placement Service Message Center</td>
</tr>
<tr>
<td>7:00 a.m. - 7:00 p.m. Registration</td>
<td>12:00 noon - 1:30 p.m. Graduate Student Luncheon</td>
<td>12:00 noon - 1:30 p.m. Roundtable Discussion</td>
<td>12:00 noon - 1:30 p.m. Roundtable Discussion</td>
<td>12:00 noon - 1:30 p.m. Roundtable Discussion</td>
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<tr>
<td>8:00 a.m. - 11:00 a.m. Minority Program Tour</td>
<td>12:00 noon - 1:30 p.m. Roundtable Discussion</td>
<td>1:30 p.m. - 4:30 p.m. Scientific Sessions</td>
<td>1:30 p.m. - 4:30 p.m. Scientific Sessions</td>
<td>1:30 p.m. - 4:30 p.m. Scientific Sessions</td>
</tr>
<tr>
<td>8:30 a.m. - 12:00 noon Continuing Education Courses</td>
<td>1:30 p.m. - 4:30 p.m. Educators' Forum</td>
<td>4:30 p.m. - 6:00 p.m. SOT Annual Business Meeting</td>
<td>5:00 p.m. - 7:00 p.m. Chapter Meetings</td>
<td>12:00 noon - 1:30 p.m. SOT Issues Session: K-12 Animals in Research Education</td>
</tr>
<tr>
<td>9:00 a.m. - 3:30 p.m. Guest Hospitality</td>
<td>1:30 p.m. - 4:30 p.m. Scientific Sessions</td>
<td>6:30 p.m. - 8:00 p.m. Specialty Section Meetings III</td>
<td>5:30 p.m. - 7:00 p.m. Chapter Meetings</td>
<td>12:00 noon - 1:30 p.m. Roundtable Discussion</td>
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<tr>
<td>10:00 a.m. - 4:30 p.m. Placement Service Registration</td>
<td>5:00 p.m. - 6:30 p.m. Speciality Section Meetings I</td>
<td>6:30 p.m. - 8:00 p.m. Specialty Section Meetings II</td>
<td>7:00 p.m. - 10:00 p.m. SOT Banquet and Awards Presentation</td>
<td>1:30 p.m. - 4:30 p.m. Scientific Sessions</td>
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<tr>
<td>11:30 a.m. - 1:30 p.m. Educational Programs for Minority Students</td>
<td>6:30 p.m. - 8:00 p.m. Speciality Section Meetings II</td>
<td>6:30 p.m. - 8:00 p.m. Speciality Section Meetings II</td>
<td>7:00 p.m. - 10:00 p.m. SOT Banquet and Awards Presentation</td>
<td>1:30 p.m. - 4:30 p.m. Scientific Sessions</td>
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<td>1:30 p.m. - 5:00 p.m. Continuing Education Courses</td>
<td>6:30 p.m. - 8:00 p.m. Speciality Section Meetings II</td>
<td>6:30 p.m. - 8:00 p.m. Speciality Section Meetings II</td>
<td>7:00 p.m. - 10:00 p.m. SOT Banquet and Awards Presentation</td>
<td>1:30 p.m. - 4:30 p.m. Scientific Sessions</td>
</tr>
<tr>
<td>2:00 p.m. - 5:30 p.m. Education Program for Minority Students</td>
<td>7:00 p.m. - 10:00 p.m. SOT Banquet and Awards Presentation</td>
<td>7:00 p.m. - 10:00 p.m. SOT Banquet and Awards Presentation</td>
<td>7:00 p.m. - 10:00 p.m. SOT Banquet and Awards Presentation</td>
<td>1:30 p.m. - 4:30 p.m. Scientific Sessions</td>
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<td>5:00 p.m. - 6:30 p.m. Placement Service Seminar</td>
<td>6:30 p.m. - 8:00 p.m. Speciality Section Meetings II</td>
<td>6:30 p.m. - 8:00 p.m. Speciality Section Meetings II</td>
<td>1:30 p.m. - 4:30 p.m. Forum on Grantsmanship and SOT Issues Session: K-12 Animals in Research Education</td>
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<tr>
<td>6:00 p.m. - 7:30 p.m. SOT Welcoming Reception</td>
<td>7:00 p.m. - 10:00 p.m. SOT Banquet and Awards Presentation</td>
<td>7:00 p.m. - 10:00 p.m. SOT Banquet and Awards Presentation</td>
<td>7:00 p.m. - 10:00 p.m. SOT Banquet and Awards Presentation</td>
<td>1:30 p.m. - 4:30 p.m. Scientific Sessions</td>
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Guidelines for the Organization of Annual Meeting Scientific Sessions

Introduction

The Society of Toxicology encourages member organization of scientific sessions on timely topics at its Annual Meeting. Proposals may be submitted by any member, Committee, Specialty Section or Chapter of SOT. Proposals intended for presentation at the following year's Annual Meeting must be submitted by April 15. Proposals must be communicated in writing to the chairman of the Program Committee, the Vice President of the Society.

Proposals

Proposals should present reasons as to why the session is desirable and give some details on the proposal. The following points should be addressed:

1) Justification of need for a session in the particular field. The number of sessions approved will be limited and the justification will be important in the Committee's evaluation. The justification should include the timeliness of the topic and whether a similar session has been presented at a scientific meeting in the recent past. Consultation with the appropriate SOT Specialty Section is encouraged.

2) Proposed title.

3) Chairperson(s) (must be members of SOT).

4) Names of proposed speakers, their professional affiliation, SOT membership status, title of their presentations, and a one or two sentence synopsis of their topic (a maximum of two speakers per institution is recommended).

5) The intended year of presentation of the session.

6) Financial requirements, if any. (SOT will provide financial assistance, on average, to one non-SOT member speaker per session.)

7) Specialty Section endorsement or Specialty Section financial sponsorship, if appropriate.

8) Publication plans, if any.

Types of Sessions

Symposia —

Subject Matter:
• "Cutting edge" science, new areas for toxicologists; new concepts or approaches, new data.

Total presentation time:
• Three hours or less

Speakers and presentations:
• Chairperson and 4-5 speakers
• Approximately 40 minutes per speaker
• Summary of symposium by last speaker

Comments:
Format designed for presentation of new information. Short period for questions and discussion suggested following each presentation. Symposium should be concluded with a brief summary and short period for general discussion.

Workshops —

Subject Matter:
• Topic requiring intensive study and discussion

Total presentation time:
• Three hours or less

Speakers and presentations:
• One-to-five speakers
• Informal, interactive presentations
• Emphasis on discussion

Comments:
• Format designed for conveying detailed "how-to" information.

Roundtables —

Subject Matter:
• Controversial subjects

Total presentation time:
• Approximately 1 hour

Speakers and presentations:
• Moderator and 2-4 speakers
• Moderator presents overview
• Each speaker makes a 3-5 minute statement (Moderator coordinates the comment).
• Balance of time for questions and discussion

Comments:
Format designed for discussion of controversial information between speakers, with audience participation encouraged.

Approval of Sessions

After receipt of a proposal, the chairman will present it to the next meeting of the Program Committee in May. The results of committee action will be transmitted promptly to the initiator(s) by the chairman of the Program Committee. If the session is approved, the chairman of the Program Committee will then provide further instructions concerning follow-up correspondence with speakers, completion of the symposium overview and speaker abstracts, finalization of the program, date of the session, and publication procedures if it is to be published.
Publication

All SOT-sponsored sessions come under the general guidelines for publication of SOT-related activities, i.e., the editors of the official journals, TAP and FAAT, have first right of refusal regarding publications from the SOT sessions.

Financial Assistance from SOT

It is SOT's policy to encourage the participation of SOT members as speakers at the Annual Meeting. However, to assure that the program includes the highest quality science at each of our sessions, it is sometimes necessary to invite non-member speakers to participate at key sessions. Financial assistance may be available to support the participation of non-member speakers; however this amount must be negotiated between the initiator and the chairperson of the Program Committee PRIOR to making firm commitments to speakers. SOT policy is to fund, on average, the travel of one non-member per session. Additional non-member speakers may be self-funded or may be funded by a sponsoring Specialty Section. There is no financial support for the participation of SOT members in any session.

Guidelines for the Organization of a CE Course

Introduction

The Society of Toxicology presents Continuing Education Courses to the membership and other interested individuals at its Annual Meeting. The emphasis is on quality presentations of generally accepted, state-of-the-art knowledge in toxicology. These courses meet the requirements of the membership for information on new developments in toxicology and related disciplines, as well as provide education applicable to the requirements of certifying and licensing boards.

Courses run for three and one-half hours and a detailed syllabus of course content is provided. Each course is classified as basic or advanced. A brief overview (10-15 minutes) by the course chairperson precedes presentations by the instructors (usually four). The emphasis is on teaching excellence. Clarity of presentation, attention to detail and organization are priorities.

Typically, six courses are offered in the morning and another six in the afternoon. The Continuing Education Committee is responsible for screening courses proposed by the membership and identifying additional priority areas of instruction. In the latter instances, the Committee solicits assistance from qualified professionals who contact potential instructors. The Committee proposes a slate of courses to Council for consideration.

Organizing Continuing Education Courses

Courses may be proposed by any member, Specialty Section or Chapter of SOT. Proposals intended for consideration for the following year's meeting must be submitted to the Continuing Education Committee by April 15. A cover letter should state why the proposed course is a priority and summarize major aspects of course content. The proposal should contain the following items:

1. Proposed title. Suggest whether this should be a basic or advanced course.

2. Chairperson(s) (must be SOT members).

3. Names, affiliations, SOT membership status, presentation titles and presentation summaries (two to four sentences) for proposed instructors. Please remember that the emphasis is on selecting excellent teachers.

4. Specify the year the course is to be offered. Please be aware that rigid timelines are imposed for preparation of the course syllabus. Drafts for each presentation are due in early November and final copy is required in early December. Take this into account when planning a proposal and contacting potential instructors.

5. Financial requirements. If any, SOT will provide travel assistance for up to one non-SOT member per course; all SOT members are responsible for their own travel expenses. A $300 consideration is provided to each instructor to offset the cost of slide and other material preparation.

Approval of a Continuing Education Course

The chairperson of the Continuing Education Committee presents proposals to committee members for consideration in May. Both proposal quality and the need for balance in course offerings are major considerations in the evaluation process. A matrix of past course offerings and the responses of students to these courses is used. There is a concerted effort to provide courses in each year's offerings that update fundamentals, integrate advanced technologies, and provide new perspectives. Meeting the needs of a diverse audience with evolving careers is paramount. The committee forwards a slate of proposed courses to Council in May. Recommendations of the committee and decisions of Council are forwarded to initiators of proposals soon thereafter.

Course Organizers

A member of the Continuing Education Committee serves as a course organizer for each course. She/he is the immediate link between SOT and the chairperson for each course. While the chairperson selects and organizes instructors, review and revision of the course syllabus is a coordinated activity of the chairperson and course organizer. The course organizer will assist in communications between SOT and the chairperson and assure logistical support for the course by SOT staff before and during presentation at the Annual Meeting.
Member News

Dr. Johnnie L. Early, II, has been appointed dean of the Medical University of South Carolina in Charleston. Dr. Early was previously dean of the Florida A&M College of Pharmacy and Pharmaceutical Sciences and is a member of the board of directors of the Florida Education Fund, Inc., which manages a $14 million endowment supporting African American studies for the Ph.D. degree.

The University of Arkansas for Medical Sciences held its second annual Arkansas Toxicology Symposium honoring the research contributions of Dr. James R. Gillette, October 14-15, 1993. The title of the Symposium was “Drug Metabolism as a Cause of Drug Toxicity.”

The Franklin M. Loew Veterinary Medical Education Center of Tufts University was dedicated on October 8 in North Grafton, Massachusetts. The building was named in honor of Dr. Loew, who has been dean of the veterinary school since 1982.

David Serota has been appointed director of the Toxicology Research Department of Southern Research Institute. Dr. Serota has been with SRI since 1991 and was previously senior staff toxicologist at Hazleton Laboratories Washington for 15 years.

ad hoc Tox 90s Educational Issues Task Force Renamed

At the September 1993 meeting of the SOT Council, the name of the ad hoc Tox 90s Educational Issues Task Force was officially changed to the Toxicology Initiatives Task Force. This new name better reflects the mission of the Task Force which is to develop and implement new initiatives for the Society to further the discipline of toxicology.

Publications of Interest


Pharmacology and the Skin: From Molecular Biology to Therapeutics, B.A. Bernard, B. Stroot, S. Karger AG, Basel, Allschwilerstrasse 10, P.O. Box Ch-4009 Basel, Switzerland.

Second International Symposium on Senna, K. Ewe, J. Lemli, E. Leng-Peschlow. K.-F. Sewing, S. Karger AG, Basel, Allschwilerstrasse 10, P.O. Box Ch-4009 Basel, Switzerland.

Temperature Regulation in Laboratory Rodents, Christopher J. Gordon, Press Syndicate of the University of Cambridge, 40 West 20th Street, New York, NY 10011-4211.

Scala Award Nominations

The Scala Award and Lectureship in honor of SOT Past President Robert Scala will be given at the Environmental and Occupational Health Sciences Institute, Piscataway, NJ, in the Spring of 1994. This annual award honors the work of industry toxicologists and promotes continued outstanding scientific contributions to the field by industrial organizations. The 1993 Scala Award recipient was Dr. Cecil Pickett. The selection committee for the 1994 award includes Drs. Edward Bresnick, John Doull, Michael Gallo, Bernard Goldstein, Henry Heck, Emil Pitzler, Robert Scala, and Robert Snyder. The deadline for nominations is February 15, 1994. For further information contact Victoria Leyton at (908) 932-0202.

Change of Address

The deadline for changes in the membership database for publication in the 1994-95 Membership Directory is March 31, 1994. Please in writing to SOT prior to that date.

Code of Ethics Reminder

The Society of Toxicology is dedicated to developing knowledge for the improvement of the health and safety of living beings and the protection of their environment.

In attaining this objective, each member is expected to maintain high ethical standards, and to this purpose, a code of ethics, which requires a personal commitment, is printed annually in the SOT Membership Directory.

Animals in Research Literature

The SOT Animals in Research Committee has assembled a compilation of literature concerning the use of animals in research. If you are interested in receiving this information, please contact SOT Headquarters, 703/438-3115; Fax: 703/438-3113.

Section Award Announcement

The Regulatory and Safety Evaluation Specialty Section will present cash awards for the best student abstracts in the area of regulatory Toxicology and product safety evaluation at the SOT Annual Meeting in Dallas. Interested students should submit a copy of their abstract by March 1 to Dr. Joyce Mordenti, Dept. of Safety Evaluation, Genentech, Inc., 460 Pt. San Bruno Blvd., South San Francisco, CA 94080, (415) 225-2771.
Upcoming Conferences


Roundtable of Toxicology Consultants Symposium, February 4-5, 1994, University of Scranton, Scranton, PA. Contact: Patricia Lang, Roundtable of Toxicology Consultants, P.O. Box 17597, Fountain Hills, AZ 85268, Telephone: (602) 837-0147, Fax: (602) 837-0147.

Workshop on Asthma as an Air Toxics End Point, February 4, 1994, Houston, TX. Contact: Andrzej Hollar, Ph.D., Director of Research, Mickey Leland National Urban Air Toxics Research Center, P.O. Box 20286, Houston, TX 7725-0286, Telephone: (713) 792-7459, Fax: (713) 792-4407.


Infusion Technology in Preclinical Research, March 12, 1994 (9:00 a.m. - 5:00 p.m.), Loews Anatole Hotel, Dallas, TX. Contact: Jill Guimont, Pharmacia Deltec, 1265 Grey Fox Rd., St. Paul, MN 55112, Telephone: (612) 628-7090, Fax: (612) 638-0364.


Second International Symposium on Irritant Contact Dermatitis, April 14-16, 1994, Zurich, Switzerland. Contact: Dr. P. Elser, Department of Dermatology, University Hospital, Gloriastrasse 31, CH 8091 Zurich, Switzerland. Telephone: +41-1-255 3305, Fax: +41-1-255 4412.

International Symposium on Health Hazards of Glycol Ethers, April 19-21, 1994, Prémontrés Cultural Centre, Pont-à-Mousson, near Nancy, France. Telephone: 1-800/35NIOCH.

Mid-America Toxicology Course, April 24-29, 1994, Kansas City, MO. Contact: Curtis D. Klaassen, Ph.D., Professor of Pharmacology & Toxicology, University of Kansas Medical Center, Kansas City, KS 66160-7417, Telephone: 913/588-7714, Fax: 913/588-7501.


XIIth International Congress of Pharmacology, July 24-29, 1994, Montréal, Canada. Contact: Nicole A. Sarault, National Research Council Canada, Ottawa, Canada K1A 0R6, Telephone: 613/993-7271, Fax: 613/957-9828.


Placement Services

ENVIRONMENTAL TOXICOLOGIST

Duke University's School of the Environment seeks applicants for a tenure track or tenured faculty position in environmental toxicology. Preference will be given to applicants at the junior level, but applications from outstanding individuals with established research programs are also encouraged. The successful applicant is expected to develop a nationally recognized externally funded research program, and to teach and advise graduate-level research and professional students. Training and/or experience in the application of molecular biological techniques to the effects of contaminants in aquatic, marine or terrestrial ecosystems are especially desirable. Suitable areas of research include, but are not limited to, molecular aspects of xenobiotic metabolism and mechanisms of action in ecologically-relevant organisms, molecular/cellular adaptations of free-living organisms to environmental stressors, and molecular-based approaches for assessing exposures to and effects of contaminants in ecosystems.

The School of the Environment at Duke University offers a combination of multidisciplinary graduate and professional programs in environmental toxicology, chemistry and risk assessment; water and air resources; resource ecology; resource economics and policy; forest resource management; coastal environmental management; and ocean sciences. The School houses the ecotoxicology track of the University's Integrated Toxicology Program and several interdisciplinary research centers including the Marine Biomedical Center, The Wetlands Center, The Center for Topical Conservation, and the Center for Resource and Environmental Policy Research. This position in environmental toxicology will be located in the Levine Science Research Center, a state-of-the-art facility scheduled for completion in Spring, 1994 that will be the new home for the Durham component of the School of the Environment.
Applicants should send a curriculum vitae, statement of research and teaching interests, and three letters of reference. All materials and requests for information should be directed to: Dr. Richard T. DiGuilio, Chair, Environmental Toxicology Search Committee, School of the Environment, Duke University, Durham, NC 27708-0328. Search will continue until a suitable candidate is identified. Duke University is an Equal Opportunity/Affirmative Action Employer. This announcement is reprinted from the November/December 1993 issue.

**ANALYTICAL CHEMIST**

The School of Veterinary Medicine at the University of Pennsylvania is seeking a senior chemist (MS or PhD) to work in the Toxicology Section of the Pennsylvania Animal Laboratory System (PALS). The Toxicology Section, located at New Bolton Center, is responsible for diagnostic toxicology for the PALS, which includes the University of Pennsylvania, Penn State University and the State Diagnostic Laboratory at Harrisburg. The incumbent in this position will be responsible for management in the Toxicology Laboratory under the supervision of the Veterinary Toxicologist. Management duties will include coordination among analytical groups in the laboratory and application of theoretical and applied principles in solving real analytical problems. The individual will be responsible for ensuring that all analytical work is performed using appropriate and prompt analyses and quality control. The incumbent will be expected to actively participate in chemical analyses and will be responsible for continual inspection, maintenance and proper operational methodology for a diverse group of complex, computer-controlled analytical instruments. The incumbent will be responsible for communicating all diagnostic toxicology operations, needs, methods, technical advice, development requests and other concerns to the supervisor. The individual must have demonstrated ability to manage a production-oriented analytical laboratory, including the use of strong communication skills to effectively consult and direct. The individual must have demonstrated knowledge of analytical procedures using a variety of techniques, particularly gas chromatography - mass spectroscopy, and the ability to effectively develop new analytical toxicology methods. Please send CV and three letters of reference to Dr. Helen Acland, New Bolton Center, University of Pennsylvania, 382 West Street Road, Kennett Square, PA 19348-1692. Applications will be accepted until the position is filled. However, review of applications will begin December 31, 1993. UNIVERSITY OF PENNSYLVANIA IS AN AFFIRMATIVE ACTION/EQUAL OPPORTUNITY EMPLOYER.

**SANDOZ PHARMACEUTICALS, JAPAN**

Sandoz Pharmaceuticals, a Japanese affiliate of Sandoz, Ltd., a Swiss-based, multi-ranged pharmaceutical firm, plans to strengthen its research activities as part of the continued success and growth of business in Japan. This new research institute, a state-of-the-art research facility, opened in mid-1993 in Tsukuba City. Career opportunities are available in the field of toxicology. Candidates with Doctoral/Masters level degrees, with experience in this area, and who are interested in spending a period of their career in Japan, are invited to acquire more specific information by contacting: Mr. John F. McGough, 591 Oyster Rake, Johns Island, SC 29455. Enclose a CV and indicate level of fluency with the Japanese language. Mr. McGough will meet qualified candidates in Dallas, Texas during the March SOT Meeting.

**CONSULTING TOXICOLOGIST**

Exxon Biomedical Sciences, Inc., has an immediate opening for a qualified toxicologist in our chemical and petroleum groups. The successful candidate will have a MS or PhD in toxicology with a minimum of 3-5+ years of experience in a contractor/consulting firm. The position requires extensive consulting with Exxon affiliates worldwide. Client interactions are an important aspect of our work, thus, we are seeking an individual who possesses excellent oral and written communication skills. The successful candidate will have experience in marketing toxicology consulting services to clients in the petroleum, chemical, food additives, or pharmaceutical industries. The candidate will also have demonstrated ability to identify, develop, and manage the delivery of human health/product toxicology studies. Desirable attributes include: Experience in evaluation of human health risks associated with product manufacture, end use and disposal, working knowledge of U.S., European, and Canadian regulations related to manufacture, use and classification of potentially hazardous substances, and ability to progress/manage several technical programs simultaneously.
We offer a competitive salary, attractive benefits, and a chance to join a dynamic organization in a position with opportunities for career growth. Please send resume to Francesca T. Cohen, Human Resources, Exxon Biomedical Sciences, Inc., Mettlers Road, CN2350, East Millstone, NJ 08875-2350. Equal Opportunity Employer M/F/H/V.

INDUSTRIAL TOXICOLOGIST

Exxon Biomedical Sciences, Inc., has an immediate opening for a qualified toxicologist in our chemical and petroleum consulting groups. The successful candidate will have a MS in toxicology with 3-5+ years of experience, be knowledgeable in the design of toxicology studies for petroleum and chemical products, and apply these skills to human risk assessment. Consulting activity includes interactions with governmental/regulatory agencies, development of literature evaluations, design and monitoring of toxicology research programs, as well as involvement in generalized risk assessment programs. The position requires extensive consultation with Exxon affiliates worldwide. Client interactions are an important aspect of our work, and thus, we are seeking an individual who possesses excellent oral and written communication skills.

We offer a competitive salary, attractive benefits, and a chance to join a dynamic organization in a position with opportunities for career growth. Please send resume to Francesca T. Cohen, Human Resources, Exxon Biomedical Sciences, Inc., Mettlers Road, CN2350, East Millstone, NJ 08875-2350. Equal Opportunity Employer M/F/H/V.

SANDOZ POST-DOCTORAL FELLOWSHIP IN MOLECULAR TOXICOLOGY

Sandoz Post-Doctoral Fellowship in Molecular Toxicology. The division of Pathology and Toxicology of the American Health Foundation has a one or two year opening for a post-doctoral fellow to study molecular effects of pharmaceuticals in relation to their potential hazard to humans. The division has a broad-based program on chemical safety assessment involving research on peroxisome proliferators, antioxidants, antiestrogens and quinoline antibiotics. The laboratory utilizes in vivo, in vitro, biochemical and molecular techniques in these studies. The stipend for the fellowship is $25,000 or greater depending upon qualifications. Candidate should be a highly qualified recent graduate with experience in molecular techniques.

Inquiries should be addressed to: Dr. Gary M. Williams, Director of Medical Sciences, American Health Foundation, 1 Dana Road, Valhalla, NY 10595.

POSTDOCTORAL POSITIONS

The Chemical Industry Institute of Toxicology (CIIT) is an independent non-profit research institute. Our mission is to improve the scientific basis for understanding the potential adverse effects of chemicals, pharmaceuticals, and consumer products on human health. We are currently seeking postdoctoral fellows to participate in various aspects of the CIIT program. Research on chemical carcinogenesis is a major component of the CIIT program with investigations on mechanisms of action of DNA reactive, mitogenic, cytotoxic, and receptor-mediated agents. The Institute also has programs in respiratory tract toxicology, neurotoxicology, and developmental toxicology.

The postdoctoral program is open to individuals who have recently completed a DVM, MD, or PhD in toxicology or a related discipline. Application may be made at any time during the year. Applicants are encouraged to apply at least six months prior to completion of their advanced degree. CIIT is located in Research Triangle Park, NC, which offers access to three major universities as well as many cultural and recreational activities. We offer a base salary of $27,000, competitive benefits, and a stimulating work environment. Interested applicants should submit a curriculum vitae, the names of three professional references, representative reprints, and a summary of research interests to Human Resources Manager, CIIT, PO Box 12137, Research Triangle Park, NC 27709. CIIT is an Equal Opportunity Employer (M/F/H/V).

RESEARCH SCIENTIST, TOXICOLOGY

As study director in a GLP toxicity laboratory, you will be responsible for protocol design, study monitoring, data evaluations, reports and documents for FDA submissions. You will supervise personnel responsible for the technical conduct of the studies; act as the toxicity liaison on ALZA product development teams; interact with scientists at partner companies; and organize/monitor contract toxicity studies. A PhD in toxicology or related biological science coupled with 3-5 years of industry experience required. Please send your resume to: ALZA Corporation, Attn: Human Resources, 950 Page Mill Road, PO Box 10950, Palo Alto, CA 94303-0802.

Public Affairs Sessions at the Annual Meeting

Media Training Workshop
Public Communications Award
AMA Workshop
Plenary Lecture
SOT Issues Session
Educators Forum
Incineration Workshop
In Memoriam:
Gerhard Zbinden, 1924-1993

The wise counsel of an international giant in the field of toxicology, and an honorary member of the Society of Toxicology, has been lost to our scientific discipline. After a series of bouts with cancer, Gerhard Zbinden died on September 28, 1993. Gerhard grew up in a farming area in the heart of Switzerland as the son of a teacher. He received his medical training at the University of Bern, and after an internship and residency in surgery and pathology, he joined Hoffmann-LaRoche in Basel as head of a group for experimental pathology, toxicology and hematology in 1954. In 1959 he transferred to the Research Division in Nutley, New Jersey as the Director of Biological Research, and in 1963 was promoted to the Vice-Presidency and Director of Research. His stay at Roche in Nutley was marked by the development and marketing of the benzodiazepine drugs, Librium and Valium.

In 1967 he decided to move to academia, first in the Department of Medicine at Cambridge University and then as co-director of the Institute of Pathology at the University of Zurich. In 1975 he was one of three founding members and director of the Institute of Toxicology of the Swiss Federal Institute of Technology and the University of Zurich, where he remained until his retirement in 1991. During this period and continuing after retirement, he maintained an active international consulting role for industry and government, with very frequent trips to the United States. His many scientific appointments for advice included NCI, WHO, DFG and FAO/WHO. He had just been appointed to the Board on Environmental Studies and Toxicology for NRC/NAS. In addition to being an honorary member of the Society of Toxicology, he held memberships in many international societies of toxicology, pathology and pharmacology.

Dr. Zbinden was an author or co-author of more than 300 papers and monographs in the field of experimental toxicology, pathology and pharmacology. Many of us first learned of his astute insight into toxicological problems through his collection of short essays published in 1973 and 1976 as Progress in Toxicology: Special Topics, Vols. 1 and 2. He was at all times clear that the practice of toxicology must be based on sound scientific concepts, but he was also realistic. In 1987, in his typical style of pragmatism and wit, he stated, “On balance, one comes to the conclusion that the predictive value of animal tests is not perfect, but better than its reputation.” While recognizing the need for experimentation with animals, he became one of the most significant scientific spokesmen for considering alternatives to the use of animals. He was outspoken about the lack of utility of the classical LD50 test, and recommended alternative acute toxicity tests that would provide more useful information with less animals. In 1985 the Hildegard Doerenkamp - Gerhard Zbinden Foundation for Realistic Animal Protection was founded. Each year at least one prize is awarded to a scientist or scientists who have contributed to the goals of the Foundation in a specific area of research decided by the Board of Trustees. While acknowledging that in vitro methods cannot solve all the problems of biomedical research, Dr. Zbinden outlined his views on the place of in vitro methods as an introduction to his editing of a book entitled, The Brain in Bits and Pieces: In Vitro Techniques in Neurobiology, Neuropharmacology and Neurotoxicology, published in 1992.

Dr. Zbinden was concerned about the gap between scientists and laypeople on the understanding of and for science. He founded the association “Research for Life” and a publishing house, M.T.C. Verlag in Zollikon, Switzerland. M.T.C. stands for Mensch, Tier und Chemie (man, animals and chemistry). He left us with an additional delightful present, a full novel with a decidedly autobiographical flavor entitled, The Source of the River Po: Winning, Losing and High Living in Drug Research, published in 1992.

Gerhard Zbinden was a dedicated, productive scientist who willingly shared his knowledge and experiences with his colleagues. While never hesitating to point out the errors or lack of scientific rigor in others, he was a kind, thoughtful human in all of his interactions that has endeared him to all of us who benefitted from his counsel over many years.

Submitted by Emil A. Pfitzer, Sc.D.

Watching
Washington

President Clinton and Congress Recognize Biomedical Research — October 21, 1993 was officially designated “National Biomedical Research Day” by both Houses of Congress and signed by President Clinton, who issued a proclamation stating, in part, “Unraveling the mysteries of living organisms remains a daunting task. But through biomedical research, the ceaseless whooping coughs of children have been silenced, smallpox no longer exacts a human toll anywhere on the Earth, and vaccines, treatments, and cures are at hand for many diseases. As the struggles continue against AIDS, cancer, heart and lung diseases, arthritis, diabetes, Alzheimer’s disease, epilepsy, multiple sclerosis, and a host of other afflictions, we look to the successes of the biomedical community for inspiration.”