# RISK *newsletter*

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## Society for Risk Analysis 2000 Annual Meeting

### 3-6 December, Crystal Gateway Marriott, Arlington, Virginia

"Applications of Risk Analysis in Industry and Government" is the theme of the Society for Risk Analysis (SRA) 2000 Annual Meeting being held 3-6 December at the Crystal Gateway Marriott near Reagan National Airport in Arlington, Virginia.

"Particularly for a meeting in the D.C. area, it is important to stress the value of risk analysis as it can be applied to many important issues in government and industry," President-elect John Ahearne said. "The aim of the meeting is to demonstrate that usefulness."

Terry Yosie, John Moore, and Elisabeth Paté-Cornell will be starting off the meeting at Plenary sessions on Monday and Tuesday speaking about the value and usefulness of risk analysis. On Monday Yosie, an officer of the American Chemistry Council (formerly the Chemical Manufacturer's Association), will be discussing "Risk Analysis at the Crossroads: Science, Values, and Choices." On Tuesday Moore, President and CEO of the Institute for Evaluating Health Risks and formerly the Assistant Administrator for Pesticides and Toxic Substances and Acting Deputy Administrator of EPA, will discuss the use and misuse of risk analysis in government. Paté-Cornell's talk on Tuesday will be "Finding and Fixing Systems Weaknesses: Probabilistic Methods and Applications of Engineering Risk Analysis." Paté-Cornell, of Stanford University, is Past President of the SRA.

The program for the rest of the meeting will include two poster sessions during the breaks and several poster platform sessions, oral presentations, symposia, workshops, and an exhibit area.

"On 9 June, nearly 20 members of the Program Committee met in Arlington and spent a full day arranging the program sessions," Ahearne said. "The committee had received in advance of the meeting a book containing 412 abstracts, including those in 30 proposed symposia sessions. With diligence, the committee arranged sessions using all the available rooms in our meeting hotel."

The Committee came up with an exciting program packed with 30 sessions and symposia each day on Monday, Tuesday, and Wednesday. Titles of these sessions and symposia can be found in the preliminary program which will be mailed to SRA members and appear on the Web site (www.sra.org) in mid-September.

## Inside *RISK*



**For the latest in Past President Gail Charnley's series of reports on the Society for Risk Analysis taking positions see page 4.**

The Society for Risk Analysis (SRA) is an interdisciplinary professional society devoted to risk assessment, risk management, and risk communication.

SRA was founded in 1981 by a group of individuals representing many different disciplines who recognized the need for an interdisciplinary society, with international scope, to address emerging issues in risk analysis, management, and policy. Through its meetings and publications, it fosters a dialogue on health, ecological, and engineering risks and natural hazards and their socioeconomic dimensions. SRA is committed to research and education in risk-related fields and to the recruitment of students into those fields. It is governed by bylaws and is directed by a 15-member elected Council.

The Society has helped develop the field of risk analysis and has improved its credibility and viability as well.

Members of SRA include professionals from a wide range of institutions, including federal, state, and local governments, small and large industries, private and public academic institutions, not-for-profit organizations, law firms, and consulting groups. Those professionals include statisticians, engineers, safety officers, policy analysts, economists, lawyers, environmental and occupational health scientists, natural and physical scientists, environmental scientists, public administrators, and social, behavioral, and decision scientists.



# International Symposium on Risk and Governance

The Society for Risk Analysis held an "International Symposium on Risk and Governance" 21-25 June at Airlie House in Warrenton, Virginia. The purpose of the symposium was to begin to assess the state-of-the-art and new directions for risk analysis (including risk management) in preparation for one or more Congresses by the Society.

Representatives of the symposium planning committee included co-chairs Rae Zimmerman and John Graham, Robin Cantor, Gail Charnley, Yacov Haimes, Saburo Ikeda (representing SRA-Japan), and Ragnar Löfstedt (representing SRA-Europe). Timothy McDaniels and Mitchell Small are coeditors of the symposium monograph comprising the ten papers prepared for the symposium. The symposium was organized in the form of paper presentations, issue sessions, and two process sessions that dealt with international institutions and education and training.

Of the 51 people who attended the symposium, 63 percent were from the United States and 37 percent represented other countries (Japan-6, the United Kingdom-2, Canada-2, and India, the Netherlands, Switzerland, Russia, Portugal, Thailand, Germany, and China-1).

Topics addressed included "Risk and Governance: Exploring the Issues," "The Future of Risk Analysis in Different Disciplines and Cultures," "International Institutions: Capabilities in Assessment, Management, and Communication," "Risk and Valuation," "Risk Assessment," "Deliberation and Transboundary Risk," "Toward Equity in Risk Management," "Education and Training," "Toward Efficiency in Risk Management," "Integrating Analysis and Deliberation in Risk Management," and "Future Directions—World Congress Discussions."

A more detailed report on the symposium will appear in a later edition of the RISK *newsletter*.

## RISK *newsletter* and SRA Web Site Advertising Policy

Employment openings, books, software, courses, and events may be advertised in the Society for Risk Analysis (SRA) RISK *newsletter* or on the SRA Web site at a cost of $250 for up to 150 words. There is a charge of $100 for each additional 50 words. Camera-ready ads are accepted at a cost of $250 for a 3.25-inch-wide by 3-inch-high box. The height of a camera-ready ad may be increased beyond 3 inches at a cost of $100 per inch.

Members of SRA may place, at no charge, an advertisement seeking employment for themselves as a benefit of SRA membership.

The RISK *newsletter* is published four times a year. Submit advertisements to the Managing Editor, with billing instructions, by 15 January for the First Quarter issue (mid-February), 15 April for the Second Quarter issue (mid-May), 15 July for the Third Quarter issue (mid-August), and 15 October for the Fourth Quarter issue (mid-November). Send to Mary Walchuk, Managing Editor, RISK *newsletter*, 115 Westwood Dr., Mankato, MN 56001; phone: 507-625-6142; fax: 507-625-1792; e-mail: mwalchuk@mctcnet.net

Ads may be placed both in the RISK *newsletter* and on the Web site for $375 for 150 words and $100 for each additional 50 words.

For additional information see the Web site at www.sra.org/policy.htm#events. Ads submitted for placement on the Web site will usually appear several days after receipt.

# Regulatory Risk Review

## *Step It Up!*

*David P. Clarke, American Chemistry Council*

Impatience with too-slow risk assessments—that theme was heard in several conferences recently, even as speakers emphasized that society must rely on risk assessment for making good regulatory decisions. With governments turning to risk-based decision making in such diverse areas as trade, food safety, and environmental protection and human health regulations, the demand for more risk assessments is now linked to the demand for faster risk assessments, triggering a variety of efforts to solve this problem.

> ***". . . the price of failure could be high."***

Speaking at a 1-2 May "Workshop on the Convergence of Risk Assessment and Socioeconomic Analysis to Better Inform Chemical Risk Management Decisions," Roger Tregunno of the United Kingdom Department of Environment, Transport, and the Regions noted that the good scientific advice provided to risk managers "needs to be presented in a timely fashion to meet political imperatives." Risk assessors, economists, and others whose expertise goes into cost-benefit analyses of regulatory proposals must coordinate their work to produce results at acceptable speed. Otherwise, warned Tregunno, "failure may well lead to more and more action being taken on a less than sound basis—so the price of failure could be high."

Tregunno's remarks were addressed to the right audience—some 80 risk assessors, economists, and policymakers who were convened in Arlington, Virginia, to discuss how the different experts can better collaborate to produce speedier and more useful cost-benefit analyses for risk managers. The experts came from Canada, the United States, Mexico, and Europe to advance a recommendation made at a 1998 Organization for Economic Cooperation & Development workshop. Participants in the 1998 workshop agreed that members should "explore means to establish a mechanism for communication between risk assessors and economists." With guidance from workshop cochairs Gail Charnley, Past President of the Society for Risk Analysis, and Alan Krupnick, a Senior Fellow and division director at Resources for the Future, attendees at the workshop debated key topics and generated recommendations. If acted upon, those recommendations could lead to faster, better socioeconomic analyses to support risk management decisions, thereby averting the failure that Tregunno warned could be costly. The workshop proceedings will be widely disseminated once they are made final.

Concerns about the slowness of risk assessments were also raised at a 17-18 May World Chlorine Council conference on "Assessing the Risks of Chlorinated Substances for Health and the Environment." At the conference, which was held in Porto, Portugal, speaker Peter Calow of the University of Sheffield, United Kingdom, said that risk assessment is increasingly coming under attack in Europe because too much time for analysis is required before decisions can be made.

Attackers are calling for a greater reliance on "the precautionary principle," interpreted to mean that regulatory action—including product and technology bans—should be based on uncertainty about whether products pose threats of serious or irreversible harm to human health and the environment. Expressing concern that the precautionary approach being advocated by European critics of risk assessment would not be cost-effective, Calow commented, "If we want society to remain functional, we need to rely on risk assessment in managing our industrial society." Apparently, if we want society to continue using risk assessment to manage its numerous complex risks, we need to step up the pace—either that, or risk simplistic solutions.

What do *you* think? ◊◊◊

# Chapter News

## Greater Pittsburgh Chapter

### Greater Pittsburgh Chapter Reactivated

Baker Environmental and McLaren/Hart cosponsored a dinner meeting of the Greater Pittsburgh Chapter of the Society for Risk Analysis on 6 April 2000. Nearly 50 risk professionals from industry, government, and academia attended this meeting, which marked the reactivation of this chapter after a period of inactivity. The meeting featured Dr. Roger Kasperson, President of the Society for Risk Analysis, who spoke on "Risk, Trust, and Democracy." The local chapter will provide members in the Pittsburgh area with opportunities for professional development and interaction with other risk assessment/analysis colleagues.

On 28 June, Paul Scott of Exponent, Inc., provided the newly reactivated Greater Pittsburgh Chapter with its first technical presentation. The topic of his presentation was "Weighted PCDD/F and PCB REP Distributions and Their Use in Probabilistic Risk Assessment."

### Upcoming Events

Lisa Nakamura of Acadia Environmental Resources will speak on "Risk Considerations in RCRA Reform" on 31 August.

### Chapter Information

Chapter contacts are Melissa Fredrick (412-269-2007, mfredrick@mbakercorp.com) and Beth Dutton (412-395-1400 ext. 636, beth_dutton@mclaren-hart.com).

Chapter meetings are open to the public. Visit the Greater Pittsburgh Chapter's Web site at www.sra.elet.com.

## Chapitre Saint-Laurent

Chapitre Saint-Laurent officers for 2000-2001 are President Sylvain Loranger, Vice President Monique Boily, Treasurer Raynald Chassé, Secretary Bertin Trottier, President ex officio Louis Martel, and Directors Louise Champoux, Anne-Marie Lafortune, and Daniel Morin. ◊◊◊

# SRA Taking Positions: A Reassessment

*Gail Charnley, SRA Past President*

As part of the discussions and debates since the 1999 Society for Risk Analysis (SRA) Annual Meeting around whether the Society should make public statements, two articles have appeared in this *newsletter* reflecting the different views of the membership on that issue. The first reported on a roundtable debate that took place at the annual meeting and proposed a draft SRA statement on the complementary roles of science and precaution in environmental health risk management, soliciting comments. The second article summarized the comments received and proposed a revised draft statement. One of the reasons a draft statement was proposed at all is because it was easier to have a discussion of whether SRA should make statements by focusing on a possible statement instead of talking in the abstract.

One of the conclusions that has gradually become apparent is that a shared set of SRA principles would facilitate any discussion of what our membership is or is not likely to support. If the SRA membership agreed to shared principles or ideals, they could be used to guide any future statements that the Society might choose to make.

To that end, SRA Councilor Dale Hattis, at the request of President Roger Kasperson, undertook a collaborative process to draft a set of ideals for the field of risk analysis. The ideals were derived by reflecting on how risk practitioners can enrich five sets of relationships: with our subject matter (what we study), with other disciplines, with our audiences and decision-making processes, with our colleagues, and with our clients and sponsors. The draft ideals were developed with the input of many SRA members, to whom we owe a debt of thanks. For those who are interested, the original set of draft ideals, some commentary, and notes on their development can be found on SRA's Web site (www.sra.org).

At the June SRA Council meeting, a draft set of principles and supporting definitions reflecting the ideals developed by Dale Hattis and colleagues were presented and agreed upon. Those draft principles and supporting definitions can be found below. Please note that these are *draft* principles, and that they are intended to provoke discussion and debate within our membership. Before they are finalized, the SRA Council has agreed to the following process:

1. Publish the draft principles in the SRA RISK *newsletter*, soliciting comments from the membership.
2. Hold a special session at the 2000 SRA Annual Meeting to discuss the draft principles.
3. Publish an article in the Winter 2001 SRA RISK *newsletter*, reporting on the session at the Annual Meeting and, if appropriate, presenting revised draft principles.
4. At the Spring 2001 Council meeting, discuss the results of the annual meeting session and the comments received from the membership in response to the *newsletter* articles and vote on the principles. A two-thirds majority vote to approve will be required.

Please take some time to reflect on the proposed principles and definitions and let us know what you think. Again, please e-mail your comments to healthrisk@aol.com. Thank you in advance for your time and thoughtful consideration.

## Draft SRA Principles for Risk Analysis

1. Risk analysis is a fundamentally science-based process that strives to reflect the realities of Nature as accurately as possible. Risk analysts rely on the scientific method to juxtapose observations and predictions about risks and hazards. Risk analysis integrates knowledge about the fundamental physical, biological, social, and economic processes that determine human, environmental, and technological susceptibility and response to a diverse set of hazards. However, because decisions about managing or avoiding risks are often needed when knowledge of those processes is incomplete, we also rely on models reflecting plausible interpretations of the realities of Nature when necessary. We do this with a commitment to continually assess and disclose uncertainties in our knowledge.

2. Risk analysis relies on both basic and applied research, often involving creative integration of information, theories, and analytic tools from a variety of disciplines. Seeking to understand cause and effect relationships often crosses the boundaries among the subject matters dealt with by different traditional academic disciplines, requiring truly interdisciplinary analysis. As we apply information and tools from other disciplines to inform risk-related decisions, we seek to give due respect and acknowledgment to the intellectual contributions of those fields while using information standards and criteria appropriate to the policy choices that are at issue.

3. Risk analysis seeks to inform, not to dictate, the complex and difficult choices among possible measures to prevent risks. Risk analysis enriches fair and transparent deliberative decision-making processes in a democratic society.

4. Risk analysts are committed to maintaining and building our professional community as we contribute to advances in our field. We review the work of our peers and help students develop their skills and values. Unless prohibited, we share the data underlying our published analyses in order to facilitate independent reassessment of our own conclusions.

5. The relationship of risk analysts to the sponsors of our research is subordinate to our commitment to fairly assess and discuss the risks that are the subjects of our analyses. Analysts openly acknowledge our sponsors and sources of support.

## Supporting Definitions for the Draft SRA Principles

Risk Management

Decision makers use two kinds of knowledge when they evaluate the best ways to reduce threats to our health, safety, and environment. One kind of knowledge is factual and scientific, and the other is based on people's values and experiences. Risk analysis is the process by which decision makers consider and incorporate both kinds of knowledge into risk management

actions to reduce or prevent threats. Risk analysis is useful because it provides a framework for showing how both kinds of knowledge are incorporated in decision making. Effective and credible risk management decisions require a careful consideration of both types of knowledge.

Risk Assessment

Risk assessment is the process decision makers rely on to organize and synthesize factual and scientific knowledge about threats to help them make decisions. Factual and scientific knowledge about threats can come from scientists but it can also come from people who are affected by or concerned about a potential threat. Risk assessment characterizes the nature and extent of threats but it does not tell decision makers about the acceptability of different threats. Decisions about the acceptability of threats must be based on societal needs and choices. The role of risk assessment in decision making must be shaped in a way that permits people's values and concerns to be addressed.

Risk Communication

Risk communication engages both the communicator and the audience in listening and in explaining information and opinions about the nature of risks. Decision making is facilitated by being clear about what we know and what we don't know about a potential threat. It is important to identify the ways in which factual knowledge used in a risk assessment is incomplete and how judgments about the nature of threats were made because of incomplete knowledge. The advantages and disadvantages of different actions to reduce or eliminate risks should also be clearly articulated. Actions that are constrained or prevented by legislative requirements, administrative mandates, or judicial precedents should be identified.

Risk-Risk Tradeoffs

Sometimes when one risk is decreased, another is increased. When decision makers consider different actions to reduce or eliminate risks, it is important to consider what new risks may be associated with those actions. ◊◊◊

# Journal Notes

## Current Initiatives and New Directions for *Risk Analysis: An International Journal*

*Elizabeth L. Anderson, Editor-in-Chief,* Risk Analysis: An International Journal

In this column, I want to share some of the current initiatives that your editorial staff is undertaking with our new publisher, Blackwell. I also want to share some of our thoughts about new directions for the *Journal's* contents.

In my last column, I informed the membership of the Society for Risk Analysis (SRA) that our new publisher, Blackwell, had commenced the publication of the *Journal* as of 1 January 2000. Blackwell is jointly based in the United States and in the United Kingdom with core markets in the United States, Canada, Japan, and Europe. Our relationship with Blackwell provides remarkable improvement in the financial profitability of the *Journal* and offers a range of opportunities for the Society and the *Journal* to become better known to communities interested in risk analysis. In selecting the new publisher, your editorial staff, in consultation with the Publications Committee, Secretariat, and Council, recognized these advantages when the choice of publisher was being made. Currently, Blackwell's goals are to work with the SRA to ensure that the *Journal* remains the foremost title in its field and to increase the readership and visibility worldwide through a high-profile international campaign with emphasis on expanding the European and Asian markets while further penetrating North America. Information about the *Journal* will be appearing on Blackwell's Web site together with extensive information about the Society, the *Journal's* aims and scope, editorial staff and Board, and other pertinent information. Blackwell reports that its Web site has over 1,000 visitors per day. Blackwell will also be informing libraries who are not currently subscribers about the *Journal* through its library consortia program. This program is aimed at meeting the needs of the rapidly changing library market which seeks publishers with extensive and in-depth electronic programs such as Blackwell Publishers provides. Blackwell has a short-term goal to use the consortia package to maximize the visibility of the *Journal*. In addition, Blackwell will be providing information about the *Journal* and SRA as they attend more than 150 conferences annually. These conferences are international and should provide high visibility for the *Journal* among other professional groups. Blackwell will also be including information about the *Journal* in an active, direct-mail campaign to audiences that include subscribers to other related journals published by Blackwell and through subscriptions agents, for example, with the Japanese subscription agent Kinokuniya. This active campaign will undoubtedly reach you by one means or another. I would appreciate receiving information from you about professional groups, conferences, and other opportunities that you feel are important to this visibility campaign. It is not entirely clear that Blackwell will be able to identify all or the most appropriate conferences or professional societies without your help.

The editorial staff is also increasing our emphasis in seeking a balance of topics to ensure that the different specialties in SRA are represented in the *Journal*. To this end, we are actively soliciting topics for perspectives articles, collections of papers, book reviews, or topics for invited papers that represent all of the disciplines of the Society and, in particular, the interests of the subscribers to our *Journal*. I am communicating directly with our chapter presidents and the heads of our specialty groups to solicit their help. We are particularly interested in improving the contributions that book reviews on diverse topics can make to our subscribers. I would appreciate your help in identifying high-quality books on risk analysis that you feel should be reviewed in the *Journal*. We are also interested in identifying individuals who are willing to provide book reviews.

In our continuing effort to decrease the time from submission to publication, we are encouraging electronic submission of papers. To the extent possible, we are using electronic submission to expedite the peer-review process as well. Your feedback is important to your editorial staff. We appreciate hearing your ideas. ◊◊◊

# Specialty Groups

## Ecological Risk Assessment Specialty Group

*Bruce Hope, Chair*

The Society for Risk Analysis (SRA) Ecological Risk Assessment Specialty Group (ERASG) is working on scheduling activities for the annual meeting in Arlington, Virginia, 3-6 December 2000. This is part of our ongoing mission to increase and solidify the position of ecological risk assessment within SRA by increasing the number of Ecological Risk Assessment (ERA)-oriented platform sessions, poster sessions, symposia, and workshops at the annual meeting. In a broader context, we are also working to make it better known that SRA welcomes the discussion and presentation of risk-related work (either at the annual meeting or in the journal *Risk Analysis*) and is welcoming to those scientists working in the risk assessment arena.

At this year's annual meeting five symposia will address timely issues in the practice of ERA: "Morals, Values, and Risk Assessment" (Glicken, chair), "Overview of Ecological Soil Screening Levels" (Wentsel, chair), "Invertebrates in Ecological Risk Assessment" (Ryti, chair), "Contaminated Sediments" (Derrick, chair), and "Spatial Patterns" (Ferson, chair). Five platform sessions are planned: "ERA Case Studies" (Lawrence & Fuji, cochairs), "Probabilistic ERAs" (Fares, chair), "Using ERAs in Decision Making" (Menzie, chair); "Ecological Risks and Global Climate Change" (Rogers, chair), and "ERA Modeling and Analysis" (van der Schalie, chair). A poster session will make available additional ERA-oriented abstracts.

Two workshops are currently planned and will be offered if enrollment is sufficient. A half-day workshop, "Introduction to Ecological Risk Management," will provide an overview of the key components of the ecological risk assessment process and a review of current national (U.S. EPA) and international (Canada, Europe) guidelines for ERAs. A full-day workshop, "Performing an Ecological Risk Assessment," will cover methods for conducting ecological risk assessments in the context of U.S. EPA's risk assessment paradigm, with emphasis on practical, step-by-step, cost-effective approaches to the process.

The ERASG business meeting, followed by the Section mixer, is planned for the evening of Tuesday, 5 December. Our thanks to Hart Crowser (Seattle, Washington), Neptune & Company (Los Alamos, New Mexico), CH2M Hill (Corvallis, Oregon), QEA LLC (Montvale, New Jersey), and Menzie-Cura & Associates (Chelmsford, Massachusetts) for helping to sponsor the mixer.

Those who would like to join the Group and become more involved in our plans for the 2000 meeting in the Washington, D.C., area are encouraged to contact Bruce Hope by phone (503-229-6251) or e-mail (hope.bruce@deq.state.or.us).

## Dose-Response Specialty Group

*Peg Coleman, President*

In last quarter's RISK *newsletter*, I mentioned that one of my interests as current President of the Dose-Response Specialty Group (DRSG) is to encourage dialogue and collaborations regarding cross-cutting issues in dose-response modeling for chemical, physical, and microbial hazards. Already, the wisdom of the DRSG membership has assisted microbial risk assessors in addressing the uncertainties of dose-response relationships for foodborne pathogens, as described below in the June Open Forum summary. More plausible dose-response modeling seems crucial as microbial risk analysis continues to evolve and begins to influence policy decisions for microbial hazards.

### Plans from the Program Committee Meeting

Several members of the DRSG participated in this year's Program Committee Meeting on 9 June. A total of 38 submissions for Dose-Response Assessment were received for the 2000 SRA annual meeting. DRSG is sponsoring four symposia this year and additional oral, poster platform, and poster sessions. The DRSG Mixer is planned for Monday evening, 4 December, immediately after the second afternoon session, and our DRSG business meeting will be a Tuesday morning brunch on 5 December. A number of students submitted applications for the DRSG student award. DRSG members will continue to be involved in processes this fall to select the student awardee and recognize the student at the SRA annual meeting.

### June Open Forum

The topic was microbial dose-response modeling, and the task was to obtain DRSG comment on a draft paper on *Escherichia coli* O157:H7 dose-response modeling (Powell and colleagues) before presentation to an audience assembled by the World Health Organization/Food and Agricultural Organization in Bilthoven, the Netherlands. Although some data are available for related pathogens administered to healthy adult volunteers in human clinical trials, no human data exist for the pathogen of interest. The Powell et al. paper considered two pathogens from the human clinical trials, *Shigella dysenteriae* and EnteroPathogenic *E. coli* or EPEC, which share certain virulence genes with the pathogen of interest. The authors assumed that *E. coli* O157:H7 is unlikely to be more pathogenic than *S. dysenteriae* or less pathogenic than EPEC. These datasets were fit to Beta Poisson models and used as upper and lower bounds for the "true" but unknown dose-response relationship for *E. coli* O157:H7. Other assumptions are that the Most Likely Value derived from epidemiologic evidence depicts the risk of illness for this pathogen and that the Most Likely Value predicted from the Exposure Assessment model adequately reflects survival of *E. coli* O157:H7 bacteria in cooked hamburgers. The authors then predicted a theoretical dose-response model that is consistent with the epidemiologic data, the exposure assessment model results, and the human clinical data for related pathogens.

The DRSG members who dialed in for the June Open Forum found the ideas presented in the paper very interesting. Some concern was expressed that uncertainty may be understated. As might be expected in any diverse group, two DRSG members took divergent views of modeling the EPEC data as a threshold model. One member noted that relatively small differences were observed in response (55 percent) with 1,000-fold increase in dose in the *S. dysenteriae* human clinical trials. This "less than linear" response might be attributed to host variability. DRSG members were also quite interested in details about the exposure assessment. The full risk assessment

document will be posted on the Food Safety & Inspection Service Web site (http://www.fsis.usda.gov/OPHS/ophshome.htm) for a 60-day public comment period beginning in early August. The input of SRA members, in addition to DRSG members, would be of great assistance to government agencies as this work continues to evolve.

**Origin and Meaning of "Adverse Effect"**

DRSG recently received a generous donation to support research on the origin and the statutory and administrative meaning of the term "adverse effect" in U.S. regulation. As discussed on our teleconference calls this spring, a student will be recruited to work under the direction of Professor Richard Merrill of the University of Virginia Law School, with additional oversight by two DRSG members.

The question of what kinds of biological observations constitute an "adverse effect" is important for regulatory decisions and is often controversial. Don't be surprised if a law student calls a few DRSG members and other scientists to supplement the legal and administrative literature review that this donation will enable.

The expected outcome is a report suitable for submission to a law review journal. A second important use of the DRSG-sponsored research is as a contribution for a future SRA workshop on "adverse effects." Stay tuned for next quarter's update on this student project.

**Membership**

New members are welcome. Although DRSG does request an additional annual dues fee of $15, feel free to check us out as a guest on our monthly teleconference call on first Tuesdays from 3:30-4:30 p.m. at 202-260-7280, access code 0577#. This monthly teleconference is made possible through the support of the Environmental Protection Agency.

**Contact Information**

For additional information about DRSG activities, please contact Peg Coleman (peg.coleman@usda.gov, 202-501-7379, fax: 202-501-6982).

## Risk Science and Law Specialty Group

*Wendy Wagner, Chair*

The Risk Science and Law Specialty Group officers are busily planning for the Society for Risk Analysis 2000 Annual Meeting and beyond. This spring, the Specialty Group submitted three jam-packed symposia for the annual meeting in December.

The first symposium submission is titled "Risk Analysis and Food Regulation in the U.S. and the European Union" and will bring in speakers from the U.S. Department of Agriculture, the European Commission, academia, and industry to discuss current regulatory and liability approaches to food safety in the United States and Europe.

The second symposium, titled "Judicial Review and Risk Assessment—Chlorine and Beyond," will showcase five speakers who will discuss the recent Chlorine Chemistry Council v. EPA case and the courts' review of risk assessments more generally.

In the third and final symposium, "Improving Inputs for Risk Decisions—Better Experts and Better Public Access," four speakers from nonprofit, consulting, and industry organizations will explore a variety of path-breaking issues arising with respect to the use of risk science in the courts and regulatory agencies. In that session, an American Association for the Advancement of Science (AAAS) project manager will discuss the AAAS' widely publicized "Court Appointed Scientific Experts" project, which endeavors to assist judges in the use of court-appointed experts.

The Specialty Group is also preparing a "new and improved" poster session on "Risk Science and the Courts." This poster session is being prepared with contributions from a diverse group of Specialty Group members. If you are interested in learning more about the project and/or in contributing "case summaries" to add to the growing list of cases, please contact Wendy Wagner (contact information below). The poster project will not begin in earnest until September, and all Specialty Group members will receive a request for submissions at that time.

Membership in the Risk Science and Law Specialty Group is FREE and the e-mail list is used sparingly (you will be contacted by e-mail no more than three to four times a year). If you would like to join the Specialty Group, or if you have ideas or questions or would like to participate in the poster session, please contact Wendy Wagner via e-mail at wagner9@attglobal.net or by phone at 440-892-3433 or fax at 440-892-1158.

## Risk Communication Specialty Group

*Ragnar Löfstedt, Chair*

The call for papers to be considered for a special risk communication issue of the Society's journal *Risk Analysis* attracted over 40 abstract submissions from authors both within and new to Society for Risk Analysis (SRA), in addition to abstracts received for the risk perception and communication track at the annual meeting. Thanks to all of you who contributed. Those who submitted abstracts for the special journal or student calls will receive further notification from the Risk Communication Specialty Group (RCSG) in August.

For the upcoming annual SRA meeting in Arlington, Virginia, the RCSG has organized some 20 sessions. These include a symposium on the West Nile Virus and sessions related to risk communication and the Internet, environmental risk perception, and food risk communication.

Examples of other sessions include public involvement in risk communication and management, cross-cultural studies of risk perception and communication, trust and credibility, and mental models approaches to risk communication.

The abstracts describe methodological and theoretical advances in risk perception and communication research on topics such as social amplification of risk and building social trust, with a wide variety of approaches including narrative, rhetorical, and discourse analyses. Applications range from genetically modified foods, fish consumption, and breast cancer to nuclear weapons complex decisions and high production volume chemicals.

Finally, we will have a first-ever mixer at the RCSG business meeting in December. The mixer is being sponsored by both the SRA Council and the *Journal of Risk Research*. We hope all of you readers interested in risk perception or risk communication will plan on attending.

If you have questions regarding RCSG activities please contact Ragnar Löfstedt (rlofsted@hsph.harvard.edu) or Ann Bostrom (ann.bostrom@pubpolicy.gatech.edu). ◊◊◊

# SRA-Europe

## Memorandum of Understanding with SRA-Europe

*Joyce Tait, SRA-Europe President*
*Gail Charnley, SRA Past President*

The Council of the Society for Risk Analysis (SRA) and the Executive Committee of the European Section are very pleased to announce a new cooperative agreement. Since its establishment, SRA's European Section has grown and thrived and now comprises over 300 members. Accordingly, the nature of the operating relationship between the Section and the Society as a whole has had to grow as well, reflecting the changing needs of the Section as it has matured.

The Council and Executive Committee are committed to working together towards improving their working relationship. The key points of their new agreement are these:

1. The European Section will have an elected councilor to represent it on the SRA Council. Two candidates will be nominated by the European Section and then voted on by the Society membership as a whole during its regular election process.

2. The SRA Council will choose a representative to serve as liaison to the European Section's Executive Committee. The role of the liaison will be to help coordinate the international activities and interests of the groups.

3. The international Secretariat and Treasurer will work together with the European Section to develop an annual budget. The purpose of the annual budget will be to provide support for Section operations and for the annual SRA meeting held in Europe that is sponsored by the European Section. The annual budget will be proposed and approved as part of the normal budget approval process by the SRA Council.

4. The European Section will establish its own Secretariat. The purpose of the European Secretariat will be to provide improved support to European members, to facilitate the operations of the Executive Committee, and to assist with annual meeting planning.

The SRA Council and the European Executive Committee intend that this agreement will improve the international coordination and cooperation needed to continue to promote the effective use of risk analysis worldwide and will serve as a model for operating relationships with future international sections of the Society. There are nascent sections forming in India, New Zealand, South America, and China, reflecting the increasing globalization of risk analysis. SRA is proud to be able to provide an ever-expanding forum for the multidisciplinary interests of risk analysts worldwide.

The full version of the Memorandum of Understanding will appear on the SRA-E Web site (www.sraeurope.com) and the SRA Web site (www.sra.org). ◊◊◊

# SRA-Japan

*Saburo Ikeda, Secretariat, SRA-Japan Section*

## Annual Business Meeting and Spring Symposium

At the Japan Section of the Society for Risk Analysis Annual Business Meeting and Spring Symposium held 2 June 2000 at Sanzyo-Hall at the Hongo Campus of Tokyo University, new Section officers were chosen for 2000-2002.

The new officers are President Prof. Yasuhiro Sakai, (Institute of Social Sciences, University of Tsukuba) who specializes in "Economics of Uncertainty and Risk" and has served as a vice president and councilor since 1993; Vice President Dr. Iwao Uchiyama (Director of Industrial Health Division, The Institute of Public Health, Japan) who has served as a councilor since 1991; Treasurer Dr. Kazuhiko Chikamoto (Japan NUS Corp.); Secretary Prof. Saburo Ikeda (Institute of Policy and Planning Sciences, University of Tsukuba); and 28 Councilors. Among the Councilors, we have three new members who cover laws, industrial regulation, and social psychology. The remaining 25 members have served continuously, including three former presidents, Dr. E. Yokoyama, Prof. T. Kinoshita, Prof. S. Ikeda, and Prof. Tohru Morioka.

After the business meeting, we held a special symposium on "Exploring the Progress of Risk Concepts for the Past Ten Years." Chaired by Dr. Sadayoshi Kobayashi (Councilor and former director of the risk analysis unit at the National Institute of Radiological Sciences), the symposium included five invited speakers: Dr. Jun Sekizawa (National Institute of Health Sciences), "Uncertainty in Chemical Risk Assessment"; Prof. Michiaki Kai (Oita University of Nursing and Health Sciences), "Recent Debates on Cancer Risk"; Dr. Emiko Kanoshima (Safety Research Institute), "Development of Japanese Concept of Safety and Danger"; Dr. Kazuya Nakayaichi (Shizuoka University), "Risk Concept in Psychological Sciences"; and Dr. Toshiko Kikkawa (Keio University), "Toward a New Measure of Risk from the Behavioral and Psychological Perspectives."

The presentations and discussions will be published in the forthcoming issue of the *Japanese Journal of Risk Research.*

## Call for Papers for SRA-Japan 2000 Annual Meeting

The SRA-Japan 2000 Annual Meeting will be held Saturday-Sunday, 18-19 November 2000, on the 13th floor of Liberty Tower at Meiji University, Kanda, Tokyo.

With the theme "Risk Society and Governance," the meeting will include three special sessions: (1) Risk governance in municipal government, (2) Risk sharing and stability in socio-economic issues, and (3) Ecological risk assessment in formal procedures of environmental impact assessment. Regular sessions on risk-related topics based on the applications will also be held.

The deadline for submission of abstracts (200-word limit) is 30 August 2000. Submissions should be sent to the SRA-Japan Section Secretariat, e-mail: srajapan@ecopolis.sk.tsukuba.ac.jp, fax: (81)+298-55-3849.

Please see also the Web site of SRA-Japan: http://ecopolis.sk.tsukuba.ac.jp/~srajapan/.

## New Issue of Japanese Journal of Risk Analysis

The official journal of SRA-Japan, the *Japanese Journal of Risk Analysis*, Volume 12, Number 1, June 2000, has just been published in Japanese with English titles and abstracts. Contents include the editorial "Regional and International Nature of Risk Reduction Measures" (M. Ikeda), the symposium (panel discussion) "Future Perspectives of Social Regulation in our Society" (T. Taniguchi, T. Yokokura, K. Akita, K. Kurata, S. Kondo, H. Takagi, and Y. Sakai), the lecture "The Precautionary Principle and Risk Management Strategy" (S. Ikeda), the review "Challenging the Complexity of Risk Communication" (S. Sugimori), and the following papers: "Analysis of Risk Taking Behaviors via Subjective Expected Utility Models" (H. Yama and N. Yoshimura), "Types of Relationships Between Situations of Risk Communication" (T. Yamamoto and J. Otake), "Participation in Expert Committees for the Administration of Atmospheric Environments" (E. Yokoyama), "Risk Analysis/Evaluation of the Environment from an Epidemiological Point of View" (M. Kabuto), "Mathematical Modeling in Carcinogenesis for Risk Analysis" (M. Kai), "Marriage Problems as a Japanese National Risk: An Economic Approach" (M. Okura), and "A Study on the Management Variability of Endocrine Disrupting Chemicals" (C. Ohtake).

## SRA-Japan Winner for Millennium Proposal

This spring, the project team of the SRA-Japan, headed by Former President Prof. T. Morioka and 15 members, submitted a new research project to the Agency of Science and Technology, Japan, for the competition "Millennium Proposal for Innovation of Science and Technology" and recently received the official announcement that the project was selected as one of the winners for the millennium proposal.

The prize will be a three-year contract with a reasonable amount of research funding as requested. The proposed project is "A Public Consulting System for Risk-Based Diagnosis, Assessment, and Decision Making in Environmental Risk Issues."

SRA-Japan will give its best effort to support the organized team to design and implement this system. Detailed information on this project will appear later on our Web site (http://ecopolis.sk.tsukuba.ac.jp/~srajapan/). ◊◊◊

# Committees

## Public Policy Committee

*Jack Fowle, Chair*

The Society for Risk Analysis (SRA) Public Policy Committee cosponsored a luncheon briefing with the Society of Toxicology and the American Chemical Society's Risk Education Project in Washington, D.C., on 6 June 2000. The topic, "MTBE Alternatives: Environmental and Health Implications" brought a crowd of 75 people to room SH-902 of the Senate Hart Office Building, including 42 Congressional staffers, 5 Executive Branch staffers, and 3 members of the press.

Moderator Dr. Jack Fowle introduced the program by referring to Volume 20, Number 2, of the SRA RISK *newsletter*, Second Quarter 2000, noting that MTBE has been used in gasoline since the 1970s, originally in small amounts to help increase the octane of gasoline. The 1990 Clean Air Act Amendments (CAAA) require gasoline to be reformulated to reduce ozone-forming and toxic air pollutants. MTBE is the most widely used gasoline oxygenate in reformulated gasoline, but evidence that it is contaminating ground and surface water has prompted calls to gradually eliminate it from the fuel supply. Because the necessity for fuel oxygenates—or which substitute, such as ethanol, should be used—remains unclear, this briefing presented a scientific exploration of the costs, benefits, and potential risks associated with alternatives to MTBE.

The briefing featured Donna Drogos, P.E., of the Santa Clara Valley Water District; Dr. Arturo Keller, of the Bren School of Environmental Science and Management at the University of California at Santa Barbara; and Mr. David Rice, of the Environmental Restoration Division at Lawrence Livermore National Laboratory.

Drogos provided a brief history of oxygenates in general, noting that they are gasoline blends, not gasoline additives, because they are added to gasoline in a volume-to-volume ratio of about one pint to every gallon. MTBE is used in 85 percent of all reformulated gasoline (RfG). Over 3.8 billion gallons of MTBE were used in 1998, with over 1.5 billion of those gallons being used in California. The main concerns surrounding MTBE in the environment are that it is persistent, highly mobile, and highly soluble. Drogos stated that "MTBE gets in water, stays in water, and goes where water goes." It also has an objectionable taste so contamination as low as 5 ppb renders water unpalatable.

Drogos noted that problems with MTBE became apparent only after it had become widely used as a gasoline additive. She reported that wherever the Santa Clara Valley Water District has looked for MTBE it has found it, even at operating gas stations with upgraded storage tanks. In her opinion this experience provides many lessons learned, foremost of which is not to allow widespread releases of new chemicals into the environment until fate and transport studies are performed and monitoring networks and investigation methods are developed.

Drogos reported that many other oxygenates are being developed worldwide, including methyl ethers, ethyl ethers, propyl ether, and alcohol oxygenates. Ethanol is the leading contender to replace MTBE because it degrades rapidly in the subsurface environment, aerobically and anaerobically; adsorption to aquifer materials is not expected to occur; and it does not cause taste and odor problems in drinking water. However, preliminary studies show that it is degraded preferentially from the gasoline mix and thus may make the other components of gasoline, such as benzene, more of an environmental problem.

Keller spoke next, describing his cost/benefit analysis of the health and environmental issues of oxygenates and gasoline additives for the state of California. His analysis included the air quality benefits of RfG, human health effects, ecological effects, the extent of contamination of drinking water supplies, exposure assessment, water treatment, cost-benefit of MTBE, and other gasoline alternatives.

His conclusions were that RfG with MTBE is the most expensive option to meet the 1990 CAAA objectives due to water treatment costs, higher fuel prices, and higher fuel consumption. RfG with ethanol is the intermediate option because of cost. There are air quality concerns due to acetaldehyde, and ethanol needs to be subsidized to make it competitive. Nonoxygenated RfG is the least expensive option in the long

term and, in Keller's opinion, the best option considering the current average vehicle technology.

Keller reported the several policy recommendations he made to the state of California, which included (1) restrict the use of RfG with MTBE to ozone nonattainment areas during summer months, (2) waive federal requirements for oxygen content, (3) facilitate production of nonoxygenated gasoline, (4) promote accelerated removal of older, high-emitting vehicles, (5) review funding of the Underground Storage Cleanup Fund Program to consider MTBE's impact, (6) assess groundwater contamination as soon as possible and avoid delays in cleanup, (7) provide incentives to adopt Best Management Practices for surface water reservoirs, (8) establish specific emissions requirements for motorboat engines, (9) fully assess environmental impacts of ethanol as an MTBE substitute, and (10) invest in long-term research programs to determine toxicological effects of untested industrial products and fuel alternatives.

Rice spoke last, noting that California Governor Davis issued an executive order calling for the removal of MTBE in gasoline no later than 31 December 2002 and also calling for an analysis of potential impacts and health risks that may be associated with the use of ethanol as a fuel oxygenate. He informed the audience that his division is charged with evaluating the "Potential Ground and Surface Water Impacts Associated with the Use of Ethanol as a Fuel Oxygenate." The group first developed a comprehensive life-cycle model based on literature reviews, screening models, chemical analysis techniques, and, finally, studies. They then used the model to describe the life cycle of ethanol in ground and surface waters and the impact of a variety of indigenous environmental microorganisms that preferentially metabolize ethanol rather than petroleum hydrocarbons.

The most likely potential release scenarios in California are leaking underground fuel tank releases and rail car releases to rivers. The model predicts:

1. The average annual percentage of public water sources that is impacted by benzene is 0.35 percent and by MTBE is 1.17 percent.
2. The impact of ethanol-containing gasoline on surface water resources is different from MTBE-containing gasoline.
   a. Ethanol is removed by biodegradation while MTBE is removed through volatilization at the water's surface.
   b. Ethanol is 2,000 times less toxic than MTBE.
   c. Washout of ethanol from the atmosphere through rain may be 40 times greater than MTBE.
   d. Compared to MTBE, less ethanol is required to meet a specific oxygen content in gasoline.

Thus, water resource impacts associated with the use of ethanol will be significantly less and more manageable than those associated with the continued use of MTBE. The key factor is the biodegradability of ethanol compared to MTBE. Ethanol's biodegradability is important in other ways, too, because its preferential degradation in groundwater may result in longer benzene plume lengths, depending on the electron acceptor used by the soil microbes.

Davis noted the model's two important simplifying and conservative assumptions, namely that benzene is not degraded in the zone where ethanol is being rapidly degraded and that the biodegradation rate for benzene is uniform over the length of the benzene plume. If those assumptions are not representative of actual processes, then benzene plume lengths may be shorter than estimated by the screening models. He called for a complete life-cycle analysis that examines potential environmental trade-offs for both ethanol and the other possible MTBE alternatives.

If a decision is made to use ethanol as the MTBE fuel oxygenate replacement, several additional analyses and experiments should be performed to help manage its use. These include (1) evaluating the degradation of benzene by ethanol-degrading microbial populations, (2) performing field and laboratory studies to evaluate changes in benzene degradation rates over the length of a benzene plume, (3) identifying and studying a series of field sites to support modeling assumptions, (4) refining the chemical analysis techniques used to measure ethanol in field samples to lower limits of detection, and (5) collecting and analyzing additional historical case data.

## Conferences and Workshops Committee

*Steve Lewis, Chair*

The Society for Risk Analysis (SRA) Conferences and Workshops Committee (CWC) has a busy agenda for the upcoming months. For more information or to offer comments on any of the following, contact Brett Burk (SRA Secretariat, bburk@burkinc.com) or Steve Lewis (sclewis@erenj.com).

Through collaboration with Resources for the Future (RFF), SRA is sponsoring a workshop, "Advanced Methods for Dose Response Assessment," 18-20 September at the RFF Conference Center in Washington, D.C. The registration form and preliminary agenda can be found at http://www.sra.org/bayesian2.pdf.

Plans are advancing quickly for Continuing Education programs for the SRA 2000 Annual Meeting in the Washington, D.C., area. Several excellent proposals have been received, and registration announcements will be issued in the next few weeks. Look for the announcements and register early. Although it's NOT TOO LATE to submit proposals for Continuing Education, time is short; if you have a good idea, please send it AS SOON AS POSSIBLE to either of the contacts above.

Plans are being finalized for two additional programs for the fall of this year. Through collaboration between the National Aeronautic and Space Administration and SRA, a workshop will be held on approaches to streamline planning and execution of highly complicated undertakings such as space exploration. The program will be offered in the Washington, D.C., area. In addition, a reprise is planned for the popular and previously offered program on the principles of uncertainty analysis. On this occasion, the workshop will be offered in the San Francisco area in order to expand the opportunities for participation by our West Coast colleagues.

Program plans are well along for an SRA-coordinated session at the Summer 2001 meeting of the International Congress of Toxicology in Sidney, Australia.

Plans are forming now for an "Off-Season Forum" to be convened in the Washington, D.C., area in early 2001. Agenda ideas include updates on (1) efforts to develop and validate methods for assessing health or environmental risks from possible endocrine disruptors, (2) implementation of advanced Clean Air Act rules for hazardous air pollutants, and (3) legislative proposals related to the role of risk and economic analyses in health and environmental policy making.

Additional workshops are being planned with topics focused on (1) consensus on the practical meaning and use for the widely used but poorly characterized term "adverse effect" and (2) improvements and expansions to the use of "peer review" to assure that health and environmental decisions are always based on high-quality science. ◊◊◊

# Member News

## Bruce K. Hope

Dr. Bruce K. Hope, who is currently serving as chair of the Society for Risk Analysis (SRA) Ecological Risk Assessment Specialty Group, has been selected as an American Association for the Advancement of Science Risk Policy Fellow for 2000-2001. He will be working with the Epidemiology and Risk Assessment Division of the U.S. Department of Agriculture's Food Safety and Inspection Service in Washington, D.C., on issues related to microbial risk and food safety.

Hope will be on leave from the Oregon Department of Environmental Quality (ODEQ), where he serves as an environmental toxicologist in the Waste Prevention and Management Division. Assignments at ODEQ have included technical project manager for the planned investigation of Portland Harbor sediments, as well as review of human health and ecological risk assessments for specific cleanup sites. Hope contributed significantly to development of the risk assessment rule language required by Oregon's Revised Cleanup Law (HB 3352) and developed the risk assessment guidance (ecological, human health, probabilistic) that supports implementation of these rules.

Prior to joining ODEQ in 1995, Hope was employed as a consultant responsible for the planning, conduct, and management of risk assessments for both private and government clients at Comprehensive Environmental Response, Compensation, and Liability Act; Resource Conservation and Recovery Act; and Base Realignments and Closures sites in several states and U.S. territories. These included operating abandoned chemical manufacturing facilities, wood-treating operations, pulp and paper mills, Navy, Air Force, and other Department of Defense installations, Department of Energy sites, and several wildlife refuges. Hope has written over 25 peer-reviewed and technical publications on the subjects of toxicology, risk assessment, and geochemistry and has a special interest in exposure modeling.

## David W. Gaylor, William E. Pepelko, and James F. Lape, Jr.

Sciences International, Inc., a health and environmental firm that specializes in human health and ecological risk assessment, is pleased to announce that Dr. David W. Gaylor, Dr. William E. Pepelko, and James F. Lape, Jr., have joined its staff.

Gaylor has over 40 years of experience as a biostatistician with both the federal government and industry. Most recently, he served as the principal advisor to and spokesperson on risk assessment for the National Center for Toxicological Research (NCTR) Director and the Food and Drug Administration (FDA) Associate Commissioner for Science. He has also been a director of the Biometry and Risk Assessment Division at NCTR and a Chief of the Biometry Branch at the National Institute of Environmental Health Sciences. Gaylor has authored over 80 publications and coauthored over 100 other publications on biostatistics and quantitative risk assessment. He has served on the seminal interagency committees that formulated risk assessment approaches and on numerous committees reviewing quantitative risk assessment methodology and performing risk assessments of many chemicals for the FDA, the U.S. Environmental Protection Agency, the Centers for Disease Control, the U.S. Army National Research Council, the International Life Sciences Institute, Health Canada, the Joint Japan-U.S. Radiation Effects Research Foundation, and the World Health Organization. He has been honored as a Fellow of the American Statistical Association, the Society for Risk Analysis, and the Academy of Toxicological Sciences. Gaylor serves on the editorial board of four technical journals and is an adjunct professor at the University of Arkansas for Medical Sciences. Dr. Gaylor's expertise in regulatory quantitative health risk assessment will be a valuable asset to Sciences International.

Pepelko, a widely published and internationally respected toxicologist, comes to Sciences from the Environmental Protection Agency, where he had a distinguished career of more than 25 years and became known as the Agency's inhalation expert toxicologist. An example of his work includes risk assessment related to fuels and emissions from internal combustion engines. Dr. Pepelko, whose work focused on developing methodology for reducing uncertainty in risk assessment, participated in the development of the 1986 guidelines for carcinogenic risk assessment and the Agency's inhalation reference concentration (RfC) guidelines document. He was a member of both the RfC/RfD and Cancer Risk Assessment Verification Endeavor workgroups and the Agency's Acute Exposure Guideline Committee. He also served as Acting Chief of the Cancer Assessment Toxicology Branch.

Lape adds expertise to Sciences' staff with his knowledge and experience in all aspects of human health risk assessments including exposure assessment, risk characterization, and uncertainty analysis. He has over 15 years of experience in the environmental sciences field, representing government and private clients. Lape began his career conducting atmospheric fate and transport modeling, primarily in support of human health risk assessments, and has provided expert testimony in state and federal venues in this subject area. He has spent more than ten years as the principal investigator or project manager for various types of human health and ecological risk assessments related to chemical exposures from product manufacturing and consumer use, and waste handling and disposal. His background in atmospheric physics, mathematics, and computer science has been used to apply or develop techniques for analytical data analysis, fate and transport modeling in various media, and cumulative and aggregate risk assessments. Lape has applied his risk assessment and modeling expertise on behalf of clients under Comprehensive Environmental Response, Compensation, and Liability Act/Superfund Amendments and Reauthorization Act and Resource Conservation and Recovery Act regulatory programs, in cost allocation actions, in scientifically oriented litigation, and in strategic planning and product liability assessments under product stewardship programs.

## Richard Schwing

After 37 1/2 years in environmental/risk/safety work, coupled with some recent experience as a futurist advocating change in General Motors for a dot-com world, Richard Schwing is leaving General Motors to become sole proprietor of Sustainable Visions, Inc. This new venture will address the need for a sustainability perspective as firms prepare themselves for emerging environmental issues.

Schwing's can be contacted at 2335 Scotch Pine Drive, West Bloomfield, MI 48323; phone: 248-851-9925; e-mail: sustainablevisions@earthlink.net. ◊◊◊

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**Deadline for RISK *newsletter* Submissions**

Information to be included in the **Fourth Quarter 2000** SRA RISK *newsletter*, to be mailed mid-November, should be sent to Mary Walchuk, RISK *newsletter* Managing Editor (115 Westwood Dr., Mankato, MN 56001; phone: 507-625-6142; fax: 507-625-1792; e-mail: mwalchuk@mctcnet.net) no later than **5 October**.

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# Announcements

## American College of Toxicology 21st Annual Meeting

The American College of Toxicology will hold its 21st Annual Meeting 12-15 November 2000 at the Catamaran Resort Hotel in San Diego, California. For more information contact Eve Gamzu Kagan at phone: 301-571-1840, fax: 301-571-1852, or e-mail: ekagan@actox.org.

## U.S. EPA OPPT Makes Screening-Level Exposure Tool Available on Web Site

The United States Environmental Protection Agency (U.S. EPA), Office of Pollution Prevention and Toxics (OPPT), is pleased to announce that the beta version of the Exposure & Fate Assessment Screening Tool (E-FAST) is now available via the Internet at www.epa.gov/oppt/exposure. E-FAST provides screening-level estimates of general population, consumer, and environmental exposure. At the Exposure Assessment Tools and Models home page, users will find a downloadable version of E-FAST, a copy of the E-FAST Documentation Manual, and a list of some frequently asked questions. OPPT encourages you to forward any comments you may have on the beta version of E-FAST to Tom Brennan at the following e-mail address: brennan.thomas@epa.gov. In addition to the E-FAST link, the Exposure Assessment Tools and Models home page has a general discussion about the role of exposure assessment and how to appropriately apply models. The home page also contains detailed information on several exposure assessment tools developed and distributed by OPPT. These tools will be available in the future from this Web site.

## September ESREL Conference in Turin, Italy

Italy will be the host for the European Safety and Reliability (ESREL) International Conference, "Towards a Safer World," to be held 16-20 September 2001 at "Politecnico di Torino, Faculty of Chemical Engineering" in Turin.

The event is jointly organized by the European Safety and Reliability Association, 3ASI, the Italian Association of the Environment, Reliability and Industrial Safety Analysts, Associazione Italiana Di Ingegneria Chimica, the Italian Association of Chemical Engineering, and the Polytechnic of Turin.

Conference topics include a number of risk-related issues. More information can be found on the ESREL Web site (http://www.aidic.it/esrel2001/esrel2001.html). ◊◊◊

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