



RISK *newsletter*

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1999 Society for Risk Analysis Officers Announced

Roger E. Kasperson, President-Elect

“The Society for Risk Analysis faces important challenges and new opportunities,” according to Dr. Roger E. Kasperson, the 1999 Society for Risk Analysis (SRA) President-elect. “These include promising opportunities for the greater use of risk analysis in public policy and government practice, potential to attract new scholars and practitioners to the field, new risk paradigms and areas of application, a stronger international role for the Society, and initiatives by which the Society can function more inclusively and with greater involvement for all its members.”



From 1993 to 1997, Kasperson served as Provost at Clark University and currently directs its George Perkins Marsh Institute. He has been Visiting Senior Scientist at the Beijer Institute in Stockholm, Sweden, and has served on advisory committees for the Energy Division of Oak Ridge National Laboratory, the University of Tennessee’s Institute for Waste Management, the Los Alamos/Massachusetts Institute of Technology study of the Department of Energy’s (DOE) management of the cleanup of its

facilities, and the New York State Energy and Development Authority.

Kasperson holds his B.A. from Clark University and his M.A. and Ph.D. from the University of Chicago. Among his published works are *Equity Issues in Radioactive Waste Management*; *Nuclear Risk Analysis in Comparative Perspective*; *Corporate Management of Health and Safety Hazards*; *Understanding Global Environmental Change: The Contributions of Risk Analysis and Risk Management*; *Communicating Risks to the Public*; *Managing Nuclear Accidents*; *Preparing for Nuclear Power Plant Accidents*; and *Regions at Risk: Comparisons of Threatened Environments*. He has also authored more than 100 journal articles and book chapters on issues connected with technological hazards, risk communication, public responses to risk, radioactive wastes, and global environmental change.

Currently, Kasperson is on the editorial boards of *Risk Research*, *Global Environmental Change*, and *Land Degradation and Rehabilitation* and is a member of the Social Science Research Council’s Committee on Critical Situations/Regions in Global Environmental Change. He also directed the International Geographical Union’s Commission on Critical Environmental Situations. He was a member of the Subcommittee on Risk Reduction Strategies of the Environmental Protection Agency’s (EPA) Science Advisory Board’s report on Reducing Risk and serves as a consultant on risk management to the Board. Currently, he is a member of the National Research Council’s Board on Radioactive Waste Management.

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In our next issue: Highlights and photos from the 1998 SRA Annual Meeting in Phoenix

1998 SRA Award Winners

Congratulations to the following Society for Risk Analysis (SRA) members who received awards at the 1998 Annual Meeting of the SRA, held 6-9 December in Phoenix, Arizona:

Lester B. Lave

**Distinguished
Achievement Award**

Peter Preuss

**Outstanding Risk
Practitioner Award**

Paul F. Deisler, Jr.

Outstanding Service Award

Adam Finkel

Chauncey Starr Award

Ali Mosleh

Fellow of the SRA

David Okrent

Fellow of the SRA

The next issue of RISK newsletter will include photos and profiles of these award winners.

President's Message

I want to thank again all of you who helped to make this year's Society for Risk Analysis (SRA) Annual Meeting a roaring success. While the Secretariat and I can take credit for some of the organizational skill, it is really the presenters and attendees who contributed the intellectual substance and creativity. I look forward to seeing you all next year in Atlanta at another energizing and engaging annual meeting.

The theme of this year's annual meeting, "Assessing and Managing Risks in a Democratic Society," will be the theme of my presidency. I think this theme reflects well our current struggle to learn how best to integrate social, political, economic, and technical concerns into fair risk-management decisions.

The movement over the last few years toward stakeholder involvement in risk management decision making reflects our democratic society in action. Plato described democracy as "a pleasant form of government, varied and without rulers, dealing out its own special brand of equality to equal and unequal alike." What that means, among other things, is that in a democracy, people expect to be a part of decisions that affect them. Today, more and more regulations and risk-management decisions are developed and implemented using transparent processes that include opportunities for consultation and cooperation among regulators, regulated parties, and the general public. Many believe that this approach leads to better, more efficient, and more accepted decisions about managing risks, in addition to promoting social trust and public confidence.

At the same time, however, there is a feeling that involving the public in decision making threatens the scientific basis of risk management by politicizing it, resulting in misdirected risk-management resources. There is a call by our legislators and by the scientific community for regulatory agencies to rely on the "best available science" and to address the worst risks first. Strengthening the scientific basis of decision making by reducing scientific uncertainty and then using that science in risk-based decisions are important goals. But how do we reconcile good science and public values? Do we have to reconcile good science and public values? And if so, why are they different in the first place? Those are the quandaries I hope you will help me address in my upcoming year as SRA President.

I want to thank outgoing SRA President Yacov Haimas again for his leadership, hard work, and service to the Society in 1998. Yacov worked hard to promote integration of the various cultures and disciplines within the society, he presided over a change in the structure and leadership of our journal's editorship, he helped keep us on track financially, and he worked hard toward the goal of strengthening risk education by promoting the establishment of national centers for risk analysis.

In addition to building on Yacov's achievements, I am committed to a number of goals as President. I will continue to increase our involvement as an educational resource on Capitol Hill and to support increased and improved risk communication among stakeholders of all stripes. I will help guide the Society in its continuing exploration of the impact environmental justice considerations are likely to have on risk analysis and in its quest to find the right balance between science and public values in risk-based decision making. And, I will work on increasing diversity (both ethnic and intellectual) within the SRA by working with the membership committee to develop and implement a strategy for attracting more diverse members.

I look forward to your support.



Gail Charnley

Past President's Message

Yacov Y. Haimes

1. National Centers for Risk Analysis

The Educational Committee, chaired by Tim McDaniels, has done a superb job in the development of a comprehensive proposal for the establishment of ten National Centers for Risk Analysis. With the help of the Congressional Directory, I signed over 200 letters addressed to selected cabinet members, committee and subcommittee chairs in both Houses, as well as to many other federal agencies.

About two dozen responses have been received so far; all are encouraging, however, without specific commitments. Although we have more work ahead on this endeavor, I believe that we have made an excellent start.

2. SRA 2000 Symposium

The originally planned SRA 2000 Congress has been transformed into a symposium. The Planning Committee, with the concurrence of the Council, believed that a symposium preceding the Congress was needed in order to ensure the success of the Congress. The purpose of the Symposium is to assess the latest advances in the theory and methodology of risk analysis as applied to institutional settings for major national and international decision making. About 60 to 80 experts in the field of risk analysis will be invited to assess the state of knowledge in the various subareas of the field.

3. Development of Technical Standards for Risk Analysis

The Society for Risk Analysis (SRA) Advisory Board, chaired by former SRA President John Garrick, has prepared for the Council's consideration a discussion paper on the development of technical standards for risk analysis. The ultimate objective is to formulate such technical standards for application to select industries.

4. SRA is Reviewing USDA's Office of Risk and Cost Benefit Analysis

The SRA Council approved a contract with Dr. Nel Ahl, Director of the U. S. Department of Agriculture's Office of Risk and Cost Benefit Analysis (ORACBA) to review the technical programs and activities of ORACBA over the last two years of the new office's operation. A panel chaired by Dr. Elizabeth Anderson has already begun the review process.

5. Chapters and Sections

Charles Menzie, Chair of the SRA Chapters and Sections Committee, continues to nourish the program with his energy, and new chapters are being formed. The SRA now has 15 chapters and more are in the formation stage.

During my presidency I visited three SRA chapters and presented seminars in two of the three (the New York City Chapter, the Chicago Chapter, and the Los Angeles Chapter). My visits have been most beneficial to all parties. For this purpose, we produced about 30 pages of transparencies that explain the mission and activities of SRA. I encourage not only council members, but also all of us who have opportunities to introduce SRA to uninitiated audiences to make use of these visual aids. The set of transparencies is available at the SRA Web site.

6. SRA Membership

Our membership continues to increase, reaching a level of 2,200 members. Polling exiting members to ascertain the reasons for their leaving SRA, the SRA Secretariat found no significant reason for that loss.

7. Web Site

Our Web site is continually being improved and updated. For example, all SRA Forums can be found on the Web site and many registrations and more than half the abstract submittals have been received this way.

8. Student Support to Attend Our Annual Meeting

The Council appropriated additional funds for scholarships to help students and international members attend the SRA Annual Meeting. This year the registration fees of nine domestic students and three international attendees have been waived. Each domestic student was awarded a scholarship of \$500, and the three international awardees received a total scholarship of \$2,250.

9. 1998 Annual Meeting

This year we had another very successful annual meeting with ten concurrent sessions during the three-day meeting, with a total of 87 sessions. We received over 400 abstracts and 525 individuals registered for the meeting. I want to thank Gail Charnley, the Chair of the 1998 Annual Meeting, for her outstanding job of organizing an excellent program this year. We all look forward to benefiting from her leadership and energy as the incoming SRA President.

(Past President's Message, continued on page 11)

(Officers, continued from page 1)

Kasperson has served as consultant or advisor to numerous public and private agencies on energy and environmental issues, is a Fellow of the American Association for the Advancement of Science, and has been honored by the Association of American Geographers for his risk analysis research. He is a Charter Member of the SRA, has served on its Council, and recently was a member of its Advisory Board. He also served as General Chair of the SRA 1986 Annual Meeting in Boston.

Kasperson's experience in SRA and in risk analysis provides the needed background for his new position, and his goals for the Society are many. "Risk analysis, it is clear, is enjoying new-found importance in the federal government," he explained. "The potential exists, however, for this new role to generate either enlightened and wise practice or for it to unintentionally result in overly simplistic applications or even misuse. Whether by federally funded risk centers or by other vehicles, nodes of excellence in risk analysis are needed in industry, government, and academia. For all our progress, many issues remain to be addressed: how best to integrate the technical and social dimensions of risk, how to achieve the wedding between analysis and deliberation suggested by the National Research Council in understanding risk, what guidance the Society should provide for sound risk practice, and what lessons to draw from a decade of experience with risk communication. The Society, as the primary repository of knowledge and best practice in this field, needs to provide active leadership on these developments, not only with Congress and the federal and state agencies but with close relationships with the National Academy of Sciences, the National Academy of Engineering, the National Institutes of Health, the National Science Foundation, the Global Environmental Facility, the United Nations Environment Programme, and industry and environmental groups."

The year 2000 is a time when SRA should redouble its efforts to be a genuinely international society, according to Kasperson. "We need to build and strengthen relationships among North America, the Japan Section, and SRA-Europe while we seek to create new sections in other parts of the world," he said. "The Society also needs to consider specifically how to involve the Third World more fully and to strive that risk analysis skills and capabilities will better serve the global community as a whole. What means exist for greater North-South collaboration in risk analysis and management, and how can the Society lead in identifying and bringing them to fruition?"

Kasperson would also like to see the Society be a force in fostering new directions in integrated and interdisciplinary approaches in risk analysis—at the annual meetings, in the chapters, in the specialty groups, in the journal, in the training of scholars and practitioners, and in society at large. "We need to pay attention to important societal problems, including such issues as global environmental risks, the hazards associated with new information technology, genetic engineering, crime and violence, natural disasters, and the chronic risks of diet and life style," he commented. "Similarly, new risk-management approaches, such as improved ecological risk monitoring, creative uses of the market, pollution prevention, and strategies for enhancing the resilience of vulnerable populations and ecosystems, need our close attention. SRA's Advisory Board already provides important leadership and advice in these areas; this progress needs to continue."

"The Society can be effective and move to greater prominence in international efforts and decision making only if it is open, participatory, and democratic," Kasperson continued. "Some people have left the Society; we need to attract them back. We need to enlist new paradigms and perspectives and to assure more active involvement from engineers and social scientists. Especially, we need to broaden the base of the Society with new generations of younger scholars and practitioners who should assume a stronger place in the work and functions of the Society."

Richard Belzer, Treasurer

Dr. Richard Belzer is Visiting Professor of Public Policy and Regulatory Program Manager at the Center for the Study of American Business at Washington University in St. Louis. Over nearly ten years, Belzer reviewed dozens of major federal regu-



lations intended to manage environmental, health, and safety risks. He focused primarily on the linkage between risk analysis and the social benefits and costs of government intervention. In this capacity, Belzer worked on a wide variety of risk problems, including microbial and other food-safety risks, threats posed by the importation of foreign pests, transportation hazards, and insurance, as well as myriad environmental and occupational risks. This experience provides an unusually broad perspective on the utility of risk analysis as a tool for rational decision making.

At the Office of Management and Budget (OMB) Belzer authored or coauthored numerous papers, guidance documents, reports, and studies that were adopted as government-wide policy. They dealt with risk assessment, risk management, and their integration; guidance for the conduct of regulatory impact analysis; and estimating the magnitude and value of burdens imposed by government information collection requests. Belzer devoted considerable effort while at OMB to improving the quality of federally funded research on risk-related topics. He was actively involved in shepherding EPA's National Human Exposure Assessment Survey and continues to be involved in efforts to collect high-quality exposure data. In the same vein, Belzer has worked diligently to improve the quality of surveys used by federal agencies for epidemiological and economic analyses.

While serving three different presidential administrations holding contrasting policy views, Belzer was responsible for synthesizing complex and controversial issues for senior policy officials throughout the Executive Office of the President. In his new position at Washington University in St. Louis, Belzer manages a research program on regulation. His current focus is on a major, comprehensive study of executive and legislative regulatory oversight.

Belzer received his Ph.D. in Public Policy from Harvard University in 1989. He earned master's degrees in public policy from the John F. Kennedy School of Government and in agricultural economics from the University of California at Davis.

Belzer is highly skilled with the advanced mathematical tools necessary to serve as Society Treasurer—namely, addition, subtraction, multiplication, and division—and has only rarely rounded numbers to the nearest \$100 million.

F. Owen Hoffman, Councilor

Dr. F. Owen Hoffman, President and Director of *SENES* Oak Ridge, Inc., Center for Risk Analysis, has more than 25 years of experience in the evaluation of doses to humans from the release and transport of radionuclides and chemicals in terrestrial and aquatic systems. In the recent Oak Ridge Dose Reconstruction project, Hoffman headed the task to evaluate historical exposures to members of the public in Tennessee from ¹³¹I released from local federal government facilities and from fallout from testing of nuclear weapons in Nevada. Previously Hoffman was a member of the research staff of the Environmental Sciences Division at the Oak Ridge National Laboratory (ORNL) for 17 years. His studies at ORNL concentrated



on environmental transport of radioiodine and other radioactive contaminants and included the development and testing of mathematical models to predict environmental transport, human exposures and doses, and the associated uncertainties.

Hoffman, who is internationally recognized for his work in quantitative uncertainty analysis in human health and environmental risk assessment, has authored more than 70 publications and has presented numerous workshops and lectures on quantitative methods for assessment of uncertainty in exposure, dose, and risk. He is responsible for two major guidance documents in the field: NCRP Commentary No. 14, "A Guide for Uncertainty Analysis in Dose and Risk Assessments Related to Environmental Contamination" (1996), and IAEA Safety Series No. 100, "Evaluating the Reliability of Predictions Made Using Environmental Transfer Models" (1989).

Hoffman advocates the use of risk as an endpoint in dose reconstruction and for establishing regulatory standards and setting priorities for environmental restoration activities. As an advisor to EPA and the Centers for Disease Control, his insistence for full disclosure of uncertainty in risk assessment is unrelenting. In his own work, he encourages involvement by members of affected communities to ensure that research methods, results, and conclusions are transparent and relevant to public concerns. He believes that a commitment to openness in risk analysis research is critical for achieving credibility, especially when this research addresses the public right to know.

Paul Locke, Councilor

Paul Locke, a scientist and attorney, is the Director of the Center for Public Health and Law at the Environmental Law Institute, an international, not-for-profit research, training, and educational organization in Washington, D.C. The Center's work focuses on risk communication, risk assessment and management, and regulatory reform, analyzing how risk sciences affect environmental law and policy, and how law and policy influence risk assessment and management.

The Center also designs strategies to implement improvements in environmental health, spearheads a national risk communication effort to teach real estate professionals about environmental hazards, works with states to improve their indoor air programs, and helps attorneys incorporate risk sciences into

legal practice.

In conjunction with the American Law Institute-American Bar Association Office of Continuing Studies and SRA, Locke co-developed a continuing education course for attorneys and managers titled "Risk Assessment and Risk Management in Environmental Law."

He is an adjunct faculty member at the Johns Hopkins University School of Hygiene and Public Health where he teaches public health and medical students about environmental law and policy. His research interests include the use of biological markers in risk modeling.

Locke is a founding member of the SRA specialty group on risk science and law. He holds an MPH from Yale University School of Medicine and a DrPH from the Johns Hopkins University School of Hygiene and Public Health. He is also a graduate of Vanderbilt University School of Law and is licensed to practice before the bars of the States of New York and New Jersey, the District of Columbia, and the United States Supreme Court.

Locke is currently a member of the editorial board of *Risk Analysis: An International Journal*. He has served as a peer reviewer for the California Public Health Foundation, has authored numerous articles, and writes a bimonthly column called "Science for Lawyers" in *The Environmental Forum*, a policy journal. In addition to his SRA activities, he is involved in the American Public Health Association and his local civic association.



Lauren Zeise, Councilor

Lauren Zeise is Chief of the Reproductive and Cancer Hazard Assessment Section at the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment. In that capacity she oversees the scientific support for a variety of the State of California's risk assessment activities, including Proposition 65 hazard identifications and dose response assessments, as well as the development of the methodological guidelines for ecological and human health risk assessment. She chaired the Human Health Committee of California's Comparative Risk Project and oversaw the process of external review of the State's risk assessment practices and policies by the State's Risk Assessment Advisory Committee.



Her research has focused on cancer risk assessment methodology and applications. She has served on committees of the National Research Council, the EPA Science Advisory Board, the National Academy of Science Institute of Medicine, the National Toxicology Program, and the former Office of Technology Assessment. She is a member and a fellow of the SRA and is on the editorial board for the Society's journal.

Zeise received her B.S. from Loyola University in Los Angeles and her S.M. and Ph.D. from Harvard University. Her doctoral research was on risk assessment methodology. ◇◇◇



SRA-Europe

Society for Risk Analysis-Europe Conference on "Risk Analysis: Opening the Process" Paris, 11-14 October 1998

Claire Mays, Symlog, SRA-E Executive Committee, Conference Co-Organizer
with Philippe Hubert, IPSN, 1998 SRA-E President

Paris graciously left her fur-lined storm coat to welcome almost 300 Society for Risk Analysis-Europe (SRA-E) delegates to their Eighth Conference under clement skies. On Sunday, 11 October 1998, in the evening, the great doors of the Cap15 conference center were thrown open and light spilled down the white marble steps to illuminate a path inside from the Seine just below the Eiffel Tower. Ess Err Ah, Paree (SRA-Paris) made a final tour among the faithful retainers who had labored for months at the Institut de Protection et de Sûreté Nucléaire (IPSN) country seat to bring the organization to a high state of perfection. Everything was in place, and the same serenely determined action went on now unflinching in the kitchens and offices of the center.

Was SRA Paris flushed from her passage before the hot ovens, or from the last meeting of the Executive Committee in a chamber off the reception hall? What importance, now? The delegates streaming in, from 20 countries across Europe, from the United States, Israel, India, New Zealand, and Japan, were all in good humor, dressed in conference finery, delighted to encounter old friends; they noticed only the elegance of their hostess and the easy way she carried an enormous bouquet: a spilling sheaf of abstracts, faxes, programs, mousepads emblazoned with the SRA Paris coat of arms, all spangled with name tags and completed with a dangling microphone. The afternoon started with the Eastern scientists filing in, patiently and insistently awaiting the goodwill envelopes garnished by the IPSN, the French Ministries of Environment, of Agriculture, and of Transport, the UK HSE, and which made their voyage possible. These delegates came laden, too, with gifts: chocolates from Moscow or Kiev, brandy from Armenia. Strongly sensed here, the same blend of appreciation, enjoyment, and scientific enthusiasm would be found throughout the conference, in every delegate.

The working part of the festival lasted two and one-half days. The sessions were organised around the seven pillars of risk analysis; perception of risks, management of risks, analysis of pervasive risks, environment and health issues, personal and collective involvement, assessment and valuation, and risks of objects and products.

The closing lecture of Odette Grzegorzulka, MP, member of the Parliamentary Office for the Assessment of Technological Choices, illustrated how policy makers need scientific analyses not only of risks and technology, but also of the alternative policies and their components.

General questions were raised during the conference and discussed in the closing session, such as the ambiguities behind the shift from "environmental protection" to "public health protection," or the introduction of "proportionality" within the "precautionary principle," or the need to revisit the historical

debate on independence of research. The design of a really cumulative process in risk analysis, facilitating the incorporation of past progress when dealing with new issues, was identified as an important issue to be addressed in the 1999 conference.

Over 200 papers were presented, and a dozen or two posters in a marvelous hi-tech installation were mounted in record time, as usual for this conference, by a handful of devotees and spouses. As SRA-Paris passed through the corridor of her town palace, she heard in each of seven parallel salons animated talk and applause, and glancing in sometimes found delegates seated on the floor, fascinated as they were by the presentations, and unable to find a seat at one of the white-napped tables. The corridor and luncheon rooms themselves (where was served a copious and delicious buffet) were lively places for encounter, furnished with exhibits (IPSN, Shell Global Solutions, and Routledge, publishers of SRA-E/J's *Journal of Risk Research*).

Entertainment was varied and unending. The election of new Executive Committee Members Gisela Böhm (Bremen), Ioannis Papazoglou (Athens), and Jean Brenot (Paris) was announced at the business meeting, when Britt-Marie Drottz Sjöberg took her new role of President. A dinner excursion was made to the famous Cirque d'Hiver at the other end of Paris near the Bastille, and musicians, magicians, and exotic dancers wandered among the gleeful guests. Monday and Wednesday mornings all came together to listen and react to the statements on "Opening the Process" by U.S. and British diplomats (Gail Charnley, Jim McQuaid, Christopher Hood) and French MP Odette Grzegorzulka.



Taking a bow—some members of the SRA-E Executive Committee: Philippe Hubert, Ortwin Renn, Jean Brenot, Joyce Tait, Joanne Linnerooth-Bayer, and Ragnar Löfstedt.



Lennart Sjöberg and Marc Poudré accosted by a woman on stilts.

The gala came to an end with the granting of generous merit prizes to Young Researchers Marianne Abramovici (France), Sarah Bonvicini (Italy), and Poster Author Laurence Miossec (France), by Robin D. Smith, gallant envoy of Micromedex, Inc.

Jean-Pierre Pagès, creator of Agoramétrie and devoted to the analysis of risk perceptions in their context of societal conflict, accepted the SRA-E Distinguished Scientist award.

Now, after the conference, the household slowly came back into order, with only the regular work of the past months to make up for. Isabelle Canovas and Nathalie Doucin,



Philippe Hubert and Claire Mays, conference organizers.

who knew each delegate's e-mails, abstracts, and registration file so intimately, kept the fire alive by requesting more and final full papers, to be published early in 1999 in a fine book of Proceedings.

SRA Paris sat back, happy with the thought that her abstracts might soon be readable on <www.ipns.fr/sraparis/> (and on an SRA-E Web site in 1999)—then sat bolt upright and rushed off in her carriage to deliver all her secrets to Louis Goossens, the man from Delft Technical University, who had made the finest gesture in offering to host the Ninth Annual Conference in October 1999 in the Netherlands. ◇◇

1998/99 SRA-E Executive Committee

The newly elected Executive Committee of the SRA-E as of 28 November 1998 includes Britt-Marie Drottz Sjöberg, President 1999; Joyce Tait, Treasurer 1997-1999 and President-elect 1999; Louis Goossens, Co-opted for 1999 Conference; Claire Mays, Secretary 1998-2000; Gisela Böhm, Chair of Nominating Committee; Philippe Hubert, Past President; Ragnar Löfstedt, Liaison Officer, SRA; and Jean Brenot, Lynn Frewer, Joanne Linnerooth-Bayer, and Ioannis A. Papazoglou.

The 1999 Annual Conference of the Society for Risk Analysis-Europe Rotterdam, the Netherlands, 10-13 October 1999

Louis Goossens, Conference Director

Risk Analysis: Ready for the New Millennium

At the time of the 1999 Society for Risk Analysis-Europe (SRA-E) Annual Conference (10-13 October 1999), the year 2000 will be only two months ahead of us. The time has come to make up the balance with respect to where we stand with risk analysis. New risks appear and find their way to the political agendas. Known risks are thought to be covered, but tend to be problematic issues still. Knowledge on risks and risk-related issues is, however, available in the heads of risk analysts and others in liaised disciplines.

Risk analysis is an established tool, at least in the traditional risk arenas of technological risks, including nontechnical issues such as risk perception, risk communication, and decision making under uncertainty. At conferences and in journals dealing with risk issues, less attention is given to these traditional areas nowadays and new areas appear on the scene. This is, of course, a positive and encouraging development showing the vividness of risk analysis as a scientific discipline.

But do we know it all? Are there no challenges anymore? How do we provide the existing body of knowledge to the newcomers in the risk analysis arena? Are we fully equipped to deal with the issue of integral safety of complex systems and decision making regarding the risks associated with large infrastructures in society (high-speed train links, computer networking, and the like)? Risk management is a keyword which needs a broader focus.

The Society for Risk Analysis (SRA) should act as the platform for the education permanente for everyone who is part of the risk arena. Fundamental issues and practical problems are now presented at the SRA Annual Conferences and Meetings in Europe, the United States, and Japan, and reported in both scientific journals: *Risk Analysis* and *Journal of Risk Research*.

Conference Profile

The conference will address all major risk issues. SRA-Europe believes that learning from the past is a strong requirement for addressing risk issues in the new forthcoming century. We introduce a real risk by neglecting existing knowledge in upcoming areas of interest. The 1998 Annual Conference in Paris opened the process; the 1999 Annual Conference must continue this mission and must create a platform for an education permanente in risk analysis.

Contributions are invited in the various disciplines that encompass all traditional risk areas (technical risks, risk perception, risk communication), the integral approach to risk issues (risk management), new areas (multidisciplinary achievements in risk), and education in risk analysis.

The Conference National Organising Committee members are Conference Director L.H.J. Goossens (Delft University of Technology), H. Albering (University of Maastricht), A.H. Havelaar (National Institute of Public Health and the Environment), J. Havenaar (Utrecht University), and H.S. Horst (Wageningen Agricultural University).

The Committee will be supported by the Technical Programme Committee.

For more information on the SRA-E 1999 Annual Conference contact Louis Goossens, Conference Director, or Gemma Vanderwindt, Conference Secretariat:

“SRA-Europe Annual Conference 1999”

Safety Science Group

Delft University of Technology

P.O. Box 5050

NL-2600 GB DELFT, the Netherlands

Phone: +31.15.278.1477

Fax: +31.15.262.2235

E-mail: srae1999@wtm.tudelft.nl

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Committees

Electronic Media Committee

Steve Brown, Webmaster

Thanks to Christie Drew of the University of Washington, the Society for Risk Analysis (SRA) Web site now has a more complete listing of links to other risk-related Internet addresses. Visit <<http://www.sra.org/related.htm>> to see the results of her work. We are retaining the link to Bob Fares' list of government sites as well.

Maybe it's just a coincidence, but the volume of visits to the site seems to have increased since Christie's pages were posted. The average number of visits per day is nearing 100, with most weekdays exceeding that figure. On Halloween, the cumulative total visitation reached 30,000.

One of the most popular pages lists job openings and other opportunities for risk analysts. Go to <<http://www.sra.org/opptys.htm>> if you are interested. About one in four visits reaches this page.

Although visitors occasionally e-mail complaints about the site or suggestions for improvements, more user input would be valuable. And, it's easy to do. Just go to <<http://www.sra.org/contact.htm>> and pick a place to write.

Public Policy Committee

Jack Fowle, Chair

The SRA Public Policy Committee cosponsored a luncheon briefing with the American Chemical Society's Risk Education Project in Washington, D.C., on 20 October 1998. The topic, "Regulation and Science: Challenges and Opportunities for Congress," drew a crowd of about 110 people to the Rayburn House Office Building, including about 50 Congressional staffers.

The briefing is part of an ongoing series of briefings which aim to inform policy makers, Capitol Hill staff, and others interested in public policy about current and emerging environmental issues. It opened with introductory remarks about the importance Congress places on the use of science to inform decision making and then focused on the National Environmental Policy Institute's (NEPI) "Enhancing Science in the Regulatory Process (ESRP)" project to develop user friendly tools to assist Congress in integrating complex scientific and technical information into policy and oversight activities.

A panel then commented on the NEPI approach and the final half-hour of the program was spent in a question-and-answer dialog with the audience.

NEPI and the Primer

The Honorable Don Ritter, former Congressman representing Pennsylvania's 15th district for seven terms and Chairman of NEPI, opened the briefing by describing the mission of his organization to provide a substantive framework for improving environmental policy and management. He stated that NEPI is dedicated to establishing realistic environmental priorities and help focus the national environmental debate.

Dr. Jim Wilson, former Society of Risk Assessment President and chair of the ESRP project Working Group, then described the project and the tools developed from it to help Con-

gress better understand the science of risk assessment and its use to inform decision making. He noted that about 40 leading scientific experts, along with staff from the House Science and Commerce Committees, key professionals, policy makers, and major constituencies involved in the environmental arena participated on the Working Group.

The ESRP Working Group's goals were to:

1. Encourage a greater focus on scientific issues in environmental legislation and regulatory oversight;
2. Raise awareness of environmental policy makers about areas that often present problems or need improvement; and
3. Help Congress and key agencies ensure the integrity, objectivity, and credibility of scientific information.

Two draft documents have resulted to date: the primer, which was the major focus of the talks and was distributed to the briefing participants and is available at <www.nepi.org> or by calling 202-857-4784, and a larger, more inclusive report containing background information about the use of science for risk assessment and a discussion of related issues.

Panel Comments

Dr. Samuel Wilson, Deputy Director of the National Institute of Environmental Health Sciences (NIEHS), National Institutes of Health, noted that NIEHS helped fund NEPI's ESRP project as part of its efforts to help scientists support the needs of decision makers and Congress. Wilson feels that a key ESRP recommendation is its call for expert scientific advisors to be available to Congress for post-hearing support (e.g., to develop a scientific consensus on key topic areas). He also supported the need to develop mechanisms to better share such information broadly with scientists, regulatory personnel, and policy makers.

Dr. James Reisa noted that NEPI's goals were basically the same as those of the Board on Environmental Studies and Toxicology (BEST), which he directs under the auspices of the National Academy of Sciences and the National Academy of Engineering. BEST serves as an independent advisor to federal agencies and Congress by engaging the services of roughly 6,000 of the country's best scientists and engineers. Reisa's experiences at the Academy, and in prior federal service, suggest that caution is needed when trying to make science simply understood. The task is hard and the opportunities to lose critical information are great.

Jimmie Powell, Majority Staff Director of the U.S. Senate Committee on Environment and Public Works, noted that Congress is not well suited to deal with science issues such as outlined in NEPI's ESRP report. He said that Congress only deals with them when there is a fundamental problem in the underlying policy debate. For instance, the debates about the potential risks from ozone and acid rain in the early 1980s and the current debates about the risks from inhaling fine airborne particles occur because knowledge is incomplete. In such cases, Congress usually acts on the precautionary principle calling for protective regulation and more science. But decisions aren't based on science alone. Thus, it is important to sort out what issues being debated are scientific and which are moral, legal, ethical, etc. NEPI's ESRP report makes a good contribution by focusing on the science component of the decision-making process.

Dr. Don Barnes, Staff Director for the Environmental Pro-

tection Agency's (EPA) Science Advisory Board, noted that the NEPI report is a good one. Like Powell, he noted that science is important for decision making but that many other considerations are equally or more important in reaching the final decision (e.g., economics, values, legal requirements, feasibility, politics). He recommended that principles similar to the ones outlined for science in the NEPI report be developed for these other considerations and he noted that the EPA had begun some work on this topic.

Picking up on a theme raised by Wilson and Reisa, Barnes noted that the country is blessed with a cadre of civic-minded scientists willing to provide advice to better inform decision making. Many, but not all, governmental departments and agencies at the international, federal, state, and local levels have outside independent science advisory boards. Perhaps they could build on the NEPI ESRP primer and report recommendations to help achieve a scientific consensus on important issues.

Dialog

Carrie Apostolou, a majority staff member on the Senate Appropriations Committee, opened the question-and-answer period by asking, "When is there enough science to make a decision?" Several speakers responded.

Jim Wilson said there is always enough science to make a decision and never enough science to make a decision. One needs to make a call about whether the costs associated with delaying the decision exceed the costs of making it before more science is done. Powell said that because decisions involve value choices, whether or not to await more science before making a decision is simply a policy call that involves considering what it takes to get the public to buy into a decision. Barnes observed that the answer really depends on how much uncertainty you can stand. Risk science does not provide absolutes, and experience has shown that one often buys more questions with more science. Thus, the question to ask is, What do I want or need to know about uncertainty before I make a decision?

Nandan Kenkeremath of the House Commerce Committee staff asked the speakers what could be done to move more toward codifying the types of information needed for decision making into statutory requirements. Sam Wilson noted that the biggest uncertainties in the human health area usually deal with exposures. He felt that support for studies designed to provide more information linking exposures to effects might be helpful. Jim Wilson felt that the ways that information is considered by Congress and the public is really a question of culture and practice, and thus it is more of a question to ask of political scientists, not natural scientists. Barnes noted that EPA's Science Advisory Board was exploring the issue of how to use science better in decision making in its Integrated Risk Project, which he noted was requested by the Senate Appropriations Committee and by EPA's Deputy Administrator in 1996. Two key points seem to be emerging. First, more than just science goes into decision making (e.g., economics and values are important too). Second, while the philosophy of tackling the worst risks first made sense in the past, future progress will probably occur more quickly and effectively if we better integrate efforts to control or clean up more risks simultaneously, even if they are low risks, and perhaps even cleaning up each to a lesser extent than would be desirable if they were controlled individually.

Conferences and Workshops Committee

Since the last RISK newsletter, the Conferences and Workshops Committee has sponsored two events: the Eleventh Annual Symposium on "Health Risk Assessment: Current Issues" and a workshop titled "Wrangling Variability and Uncertainty." The Committee has also cosponsored a program titled "Risk Assessment and Risk Management in Environmental Law" with the American Law Institute, the American Bar Association, and the Environmental Law Institute. Details of these events are summarized below.

The Eleventh Annual SRA Symposium Health Risk Assessment: Current Issues Chair, Elizabeth L. Anderson

The symposium Health Risk Assessment: Current Issues was held 26-28 October 1998 in Williamsburg, Virginia. The intent of this symposium was to provide a unique opportunity for those involved in risk assessment, management, and communication to hear the latest issues in health presented by the most prominent leaders in the field. This year's program highlighted risk assessment issues from both a public health perspective and a regulatory perspective.

Dr. Elizabeth L. Anderson opened the first session with an overview lecture on "Current Issues in Health Risk Assessment." Dr. Christopher DeRosa, Director of the Division of Toxicology of the Agency for Toxic Substances and Disease Registry, followed with the lecture "New Guidance in Risk Assessment from a Public Health Perspective." His discourse covered general issues in public health and risk assessment, and also focused specifically on guidance for assessing risk to children. Next, Dr. Jeannette Wiltse, Director of Health and Ecological Criteria Office, Office of Water, U.S. Environmental Protection Agency (EPA), gave an overview lecture on the applications of EPA's new cancer risk assessment guidelines. She updated attendees on the latest version of the guidelines and illustrated their application using case studies. Her presentation served as an introduction to the three ensuing lectures concerning the applications of biologically based modeling. Dr. Suresh Moolgavkar, a Principal at Sciences International, Inc., and Professor and Member of the Fred Hutchinson Cancer Research Center, discussed the application of biologically based modeling to man-made fibers. Moolgavkar's lecture reported the first results of his work which will be published later this year in the *Journal of Risk Analysis: An International Journal*. A second case study was provided by Dr. Rory Conolly, Senior Scientist at the Chemical Industry Institute of Technology, who spoke on the application of biologically based modeling to formaldehyde. Connolly's lecture focused on the use of information from a detailed research program. Dr. Mel Andersen, currently Vice President of ICF Kaiser Engineers, followed with an overview of the application of EPA's cancer risk assessment guidelines to case studies that were jointly funded by EPA and the International Life Sciences Institute.

The case studies provided not only insights into the agents they addressed for biologically based modeling, but suggested methods and approaches that could be applied generically to other chemicals. When combined, the case studies provided convincing evidence that incorporation of mode of action information for dose-response modeling is feasible and useful and that the collection of appropriate data should be encouraged.

The first day of the symposium ended with a lecture from Dr. Tom Sinks, of the National Center for Environmental Health of the Centers for Disease Control, who presented a lecture on how biological markers can be used to improve exposure assessment.

The second day opened with a lecture on reproductive testing protocols and the use of data from these protocols in risk assessment by Dr. Mildred Christian of Argus International. Next, Dr. Michael Shelby, Chief, Laboratory of Toxicology, Environmental Toxicology Program, NIEHS, and Project Officer for the NTP Center for Evaluation of Risk to Human Reproduction, discussed the role of the new NTP Center for the Evaluation of Risk to Human Reproduction and issues surrounding the area of reproductive toxicology. Dr. Daniel Krewski, Professor of Epidemiology and Biostatistics at the University of Ottawa, followed Shelby's lecture with a presentation on benchmark dose approaches for establishing safe levels of exposure for developmental toxicity.

The three speakers in the afternoon session of the second day covered the fields of environmental law, risk management, and risk communication. Jane Lovell, partner with the law firm of McCutcheon, Doyle, Brown & Enersen, gave a lecture titled "Risky Business: The Use and Abuse of Risk Assessments in Civil Litigation." Dr. Lester Lave, Professor of Economics at Carnegie-Mellon University, discussed current events in risk management. Dr. Rae Zimmerman, Professor of Planning and Public Administration at New York University, concluded the day with a lecture on the social dimensions of risk and risk communication.

The third day of the symposium focused entirely on children's health risk assessment issues. The first two lectures, by Dr. Ken Poirier of TERA and Dr. George Daston, Senior Toxicologist at Procter & Gamble, focused on children's susceptibilities and addressed the question of whether children are uniquely sensitive. The second topic addressed the question of whether children have unique exposure profiles. The lecturers were Dr. Brad Shurdutt from Dow, and Dr. Roy Albert, Chairman Emeritus and Professor at the School of Environmental Medicine, University of Cincinnati. The final set of lectures addressed how children's health risk assessment was being done and how it should be done. Dr. Steve Galson, Scientific Director, Office of Children's Health Protection, EPA, provided an overview of EPA's current views of this topic. He was followed by Dr. Peter deFur, Associate Professor at the Center for Environmental Studies, Virginia Commonwealth University. The final speaker on the topic was Dr. Carol Kimmel, Senior Scientist at the National Center for Environmental Assessment, EPA. The day closed with a lively panel discussion of these compelling children's health issues.

The symposium evaluations characterized the three-day event as a unique opportunity to interact between an unusually gifted and informed faculty and audience.

Risk Wranglers Hold Rodeo in Washington Chair, Scott Ferson

Over 80 participants attended the SRA workshop, "Wrangling Variability and Uncertainty," held in early November near Washington, D.C., making it the most well-attended workshop ever sponsored by the Society.

The workshop focused on six different approaches used in risk analysis to draw quantitative conclusions from sparse, incomplete, and qualitative information, including the maximum

entropy criterion, Bayesian methods based on subjective probability, probability bounds analysis, two-dimensional Monte Carlo simulation, fuzzy arithmetic, and rule-based modeling. The booklet of illustrations used during the workshop is still available from the SRA Secretariat. Details about the workshop's agenda are available at <<http://www.ramas.com/wrangle.htm>>.

During the first morning of the two-day workshop, the speakers gave a brief introduction to each approach. These introductions were followed by more extensive reviews of case studies which illustrated each method and highlighted its advantages and limitations.

Timothy Barry (EPA) reviewed the use of the maximum entropy criterion for selecting input statistical distributions for a risk assessment. He suggested that the criterion can be most useful as a starting point for evaluating the state of available empirical information and in identifying model distributions that do not make strong assumptions without justification. Barry cautioned, however, that one should always test the sensitivity of findings to changes in the critical inputs.

Lara Wolfson (University of Waterloo and Brigham Young University) introduced the Bayesian approach to risk assessment problems and outlined the principles and methods by which subjective probabilities should be elicited. She favors this approach for making use of prior beliefs and expert opinions which are often relevant for decision making. Wolfson highlighted the advantages of this approach based on subjective probability, including its ease of interpretation, its use of all available information, and the structure it provides for negotiating processes. She suggests, however, that Bayesian methods can be complex in the context of a group decision making.

Scott Ferson (Applied Biomathematics) reviewed the use of probability bounds analysis as a tool for propagating parametric and non-parametric uncertainty about distribution shape, dependencies, and doubt about the model structure. He argued that this approach could be useful as a probabilistic screening method as well as a convenient check on Monte Carlo methods, although it will not yield results that are as detailed as those achievable with other methods when data are abundant.

Christopher Frey (North Carolina State University) reviewed the use of two-dimensional Monte Carlo simulation and demonstrated how it maintains the separation of variability and uncertainty (i.e., lack of knowledge) demanded in a comprehensive risk analysis.

He focused on explaining issues such as why dependence among the parameters must be correctly modeled and how a bootstrap strategy for two-dimensional simulation can do this automatically. Although the approach is more and more widely used in risk analysis, it may not be necessary if variability and uncertainty are sufficiently small or if costs of regulation or remediation are less than the analysis itself.

Lucien Duckstein (University of Arizona and École Nationale du Genie Rural, des Eaux et des Forêts in Paris) and Istvan Bogardi (University of Nebraska) outlined the use of fuzzy arithmetic and rule-based modeling in risk analysis. They argued that these methods could be especially valuable for situations in which there is too little reliable statistical information to support a full probabilistic approach. The methods should also be useful when the focus of the assessment is on ambiguously defined events or events whose definition depends on a graded response. The fuzzy approach is not expected to be optimal when data are abundant however.

**Risk Assessment and Risk
Management in Environmental Law
Chair, Virginia Sublet**

The Risk Assessment and Risk Management in Environmental Law Course, a Continuing Legal Education Course, was held 7-9 October 1998 in Washington, D.C. This program was sponsored by the American Law Institute-American Bar Association, the Environmental Law Institute, and the Society for Risk Analysis (SRA). The objective of the course was to provide attorneys and managers with a better understanding of the issues that have emerged in environmental practice from compliance-driven, pollution control thinking to modern-day risk management (based on risk-based decision making). Recent federal legislation is modeled on risk-based priority setting. Risk management relies on risk assessment and presents new challenges for attorneys and managers. As a result, there is an important need for attorneys to have an understanding of risk assessment and risk management for litigation, administrative hearings, and regulation development.

The first segment of the course given on 7 October utilized representatives from the SRA and was devoted to educating attendees about the concepts of risk assessment that attorneys need to know to effectively practice environmental law. The curriculum was as follows: "Introduction"-Paul Lock, Ph.D., J.D.; "Solving the Mystery of Exposure: Risk Assessment"-Virginia Sublet, Ph.D.; "Modeling in Exposure and Risk Assessment"-Paul Price, M.S.; "Cost-Benefit Analysis: At the Intersection of Risk Assessment and Risk Management"-Richard Belzer, Ph.D.; "Emerging Topics in Risk Science and Their Effects on the Practice of Environmental Law"-Elizabeth L. Anderson, Ph.D., Barbara Beck, Ph.D., and James Lamb,

Ph.D.; and "Integrating Risk Sciences into the Legal Practice"-Gail Charnley, Ph.D., David Roe, J.D., and David Weinberg, J.D.

On 8 October the program was devoted to examining how changes in risk assessment and risk management translate into decisions that affect the practice of law. This segment included an Opening Address by Marcia E. Mulkey, Director, Office of Pesticide Programs, EPA, who discussed the Food Quality Protection Act (FQPA) legislation. This was followed by a Risk Science Panel concerned with how science and risk management are addressed pursuant to various environmental statutes and their implementing regulations—FQPA, Safe Drinking Water Act, Comprehensive Environmental Response, Compensation, and Liability Act, etc. The remainder of the day concentrated on an Administrative Regulatory Panel discussion concerning when rulemaking is required; agency considerations, issues involved; and the implications of EPA's new TSCA 6(a)(2) reporting rule on strategy development.

The last day of the course, 9 October, focused on administrative and regulatory practice issues. The program included "Address: Managing Risk Through Effective Communication" given by Tom Buckmaster. A Litigation Issues Panel followed the opening presentation. This panel discussed the qualifying of scientific experts, obligations in discovery; presenting scientific and technical testimony; new tools and technologies for demonstrative evidence. Subsequently, a panel on Alternative Dispute Resolution/Negotiation discussed the uses of risk analysis in alternative dispute resolution and negotiation. Finally, a panel on Legal Ethics concentrated on the important questions that have emerged in the area of ethical considerations in the legal system. ◇◇

(Past President's Message, continued from page 3)

10. Conferences and Workshops

The Conferences and Workshops Committee, under the leadership of Dr. Elizabeth Anderson, has been most active during the entire year, offering several short courses and workshops. In addition, five successful workshops were organized and conducted during the 1998 Annual Meeting. They are:

- a. Microbial Risk Assessment Methodology
- b. Integrated Human Health and Environmental Impact Modeling
- c. Beyond Point Estimates: Risk Assessment Using Interval, Fuzzy, and Probabilistic Arithmetic
- d. Probabilistic Methods in Risk Assessment
- e. Communicating Risk Management Programs to the Public

11. Publications

Following over a decade of distinguished service as Editor-in-Chief of *Risk Analysis*—our flagship journal—Dr. Curtis Travis was succeeded by Dr. Elizabeth Anderson. Also, the number of Area Editors has been increased from three to four:

Dr. John S. Evans, Area Editor for Health Risk Assessment
 Dr. Bill H. van der Schalie, Area Editor for Ecological/ Environmental Risk Assessment
 Dr. Detlof von Winterfeldt, Area Editor for Social and Decision Sciences
 Dr. Vicki M. Bier, Area Editor for Engineering
 Manuscripts should be sent to the appropriate Area Editors.

Summary

In sum, the Society for Risk Analysis is as healthy as ever. The continued growth and importance of the field of risk assessment and management are reflected in the strength of the Society in terms of its increased membership, presence, and prominence.

Although we are financially secure with reserve funds in excess of \$180,000, we still have more work ahead of us to reach a reserve level of a one-year's annual budget of some \$500,000.



News and Announcements

ITER Independent Database of Human Health Risk Values Expands to Address Critical Need

Toxicology Excellence for Risk Assessment (TERA) and Concurrent Technologies Corporation (CTC) announce the expansion of the International Toxicity Estimates for Risk (ITER) database. The database, found on the Internet at <<http://www.tera.org/iter>>, is the only on-line source of compiled risk values that provides side-by-side comparisons of risk values from federal and international agencies, as well as those developed by independent parties. It provides access to the scientific justification for each agency's values, and an explanation of how the values were derived and for any differences among values from the different sources.

Risk assessors and managers may find it difficult to interpret and compare risk values developed by different organizations, since each organization develops risk values using its own methods and practices. Existing risk-assessment values need updating to incorporate new toxicologic and mechanistic data and to reflect more current risk assessment methods. The ITER database and related peer-review program address these issues by making values easily accessible, facilitating side-by-side comparisons, and providing a venue for independent peer review of new assessments.

ITER was developed by TERA, a nonprofit organization dedicated to the best use of toxicity data for risk assessment, and has been expanded and revised through a cooperative venture with CTC, another nonprofit organization which develops and transfers leading-edge technologies to help the United States be more competitive in the world marketplace. A pilot version with 39 chemicals has been available since early 1996. With this expansion, risk values for over 100 chemicals that are environmental pollutants are included. This expansion was funded through the National Defense Center for Environmental Excellence operated by CTC.

ITER currently contains risk values from several agencies, including the Agency for Toxic Substances and Disease Registry's minimal risk levels, the Environmental Protection Agency's (EPA) risk values from the Integrated Risk Information System (IRIS), and Health Canada's risk values for Priority Substances under the Canadian Environmental Protection Act. Independently derived values, which have undergone an independent peer review, are also included and can only be found on ITER. All of these values are presented in a tabular format for ease of comparison. Independently derived values for methylmercury and acrylonitrile are currently available, and additional values for Telone II (1,3-dichloropropene) and chromium VI will be available later this year. Information about TERA's peer-review program is available at <<http://www.tera.org/peer>>.

Future plans for the database include adding values from additional organizations, including the World Health Organization, the International Programme on Chemical Safety, values from the Dutch RIVM, and possibly others. It is anticipated that all of EPA's IRIS values (over 500 chemicals) will be on the ITER database by the end of 1998.

For more information about the scientific aspects of the database or how to become a partner in this effort, contact Jacqueline Patterson at phone: 513-521-7426 or e-mail:

<patterson@tera.org> or Chuck Tomljanovic (CTC) at phone: 814-269-6834 or e-mail: <chuck-t@ctc.com>.

Burmaster Workshop Handouts Available

Dave Burmaster's handouts from the "Workshop on Probabilistic Risk Assessment" given at the SRA Annual Meeting on Sunday, 6 December, are available from the Secretariat for \$20.00 while supplies last.

Ninth Lukacs Symposium

The Ninth Eugene Lukacs Symposium on Frontiers of Environmental and Ecological Statistics for the 21st Century will be held at the Department of Mathematics and Statistics, Bowling Green State University, Bowling Green, Ohio, USA, 23-25 April 1999, under the direction of Professor G.P. Patil, Distinguished Visiting Lukacs Professor, in collaboration with Professor A.K. Gupta, Distinguished University Professor. Well-known researchers and leaders in the field have been invited to speak. A detailed program will be available in late February 1999. If you wish to participate, contact Arjun K. Gupta (419-372-2820; e-mail: gupta@math.bgsu.edu) or G.P. Patil (814-865-9442; e-mail: gpp@stat.psu.edu).

Workshops on Expert Judgement and Accident Consequence Uncertainty Analysis

Delft University of Technology (the Netherlands) and the European Commission (DGs XI and XII - Radiation Protection), in cooperation with Forschungszentrum Karlsruhe GmbH (Germany), the National Radiological Protection Board (United Kingdom), and the Institut de Protection et de Sûreté Nucléaire (France), are organizing two workshops on Expert Judgement and Accident Consequence Uncertainty Analysis (COSYMA), 21-24 June 1999 at Avifauna, Alphen a/d Rijn, the Netherlands.

A major study has been undertaken to estimate the uncertainty associated with the predictions in probabilistic accident consequence assessment codes. It has been carried out under the auspices of the European Commission's Nuclear Fission Safety Research Programme (Radiation Protection), in collaboration with the U.S. Nuclear Regulatory Commission. Formal elicitation of expert judgement was a central feature of the study and the methods used incorporate the best features of previous European and United States experience. The results of this study will be reported and evaluated in two separate but linked workshops dealing, respectively, with the methods adopted for expert judgement and uncertainty analysis and their use in deriving uncertainty estimates in the predictions of the COSYMA code and each of its sub-modules.

This study represents major progress in these areas and will be of wide interest. In particular, those concerned with the methods for uncertainty estimation will be particularly interested in the first workshop. Users of accident consequence codes (eg., utilities, regulatory authorities), together with specialists in accident consequence assessment and health and environmental impact assessment, may be more interested in the second workshop.

For more information, contact Dr. Louis Goossens or Gemma van der Windt, Faculty of Technology, Policy, and Management; Safety Science Group; Kanaalweg 2b; 2628 EB Delft; the Netherlands; phone: +31 15 278 1477; fax: +31 15 262 22 35; e-mail: <Gemma.vanderWindt@wtm.tudelft.nl>.

China-Japan Conference on Risk Assessment and Management (CJCRAM '98)

The First China-Japan Conference on Risk Assessment and Management (CJCRAM '98) was held in Beijing, China, 23-26 November 1998, with over 90 participants (42 from Japan, 45 from China, and 5 from the U.S., Korea, and Switzerland). The Conference sponsors were the Beijing Normal University, the Society for Risk Analysis (Japan Section), and the Department of Earth Sciences, National Natural Science Foundation of China. The Chairpersons of the Organizing Committee were Yang Zhanru (Beijing Normal University, China), Tomitaro Sueishi (Shiga Prefectural University, Japan), Lin Hai (National Science Foundation of China), and Hirota

da (Tokyo Christian University, Japan). The Vice-chairpersons were Shi Peijun (Beijing Normal University), Saburo Ikeda (University of Tsukuba, Japan), Huang Chongfu (Beijing Normal University), and Tohru Morioka (Osaka University). Rae Zimmerman (Past President of SRA—1997) was invited to present one of the plenary addresses at the Conference.

A volume of papers (the conference proceedings contained over 80 papers) was produced for the Conference by the conference sponsors, and covers natural and environmental disasters, health and ecological risk, finance and insurance problems, resource development and investment risk, risk perception and management issues, etc. CJCRAM is, according to the conference organizing committee, "a recently established bilateral research forum aiming to bring together Chinese and Japanese risk researchers and managers from universities, research institutions, enterprises, and public or governmental agencies to discuss and review basic ideas, methodologies, case studies, and new advances in the field of risk research and management." More information on the CJCRAM will appear in the next issue of the RISK newsletter. ◇◇



Chapter News

East Tennessee Chapter

Maria Leet Socolof, Secretary

The East Tennessee Chapter (ETC) welcomed its new officers at its 3 June meeting: President Fay Martin, President-elect Joe Minarick, Treasurer Jana Hammonds Gouge, Secretary Maria Leet Socolof, and Councilors Denise Crenshaw-Smith, Peter Groer, Owen Hoffman, and Amy Fitzgerald.

At the 20 August meeting, Socolof, of the University of Tennessee's Center for Clean Products and Clean Technologies, presented "Risk Assessment and Life-Cycle Assessment, Where the Twain Shall Meet: Methodology for Comparing Health and Environmental Risks of Cathode Ray Tube and Flat Panel Display Computer Monitors." The presentation was met with lively discussion on the capabilities and limitations of life-cycle assessment in addressing human and ecological risks. At the 4 October meeting, Owen Hoffman of SENES, Oak Ridge presented a very interesting talk on "Estimating Risk From Fallout From 1950's Nuclear Weapons Testing in Nevada." Hoffman discussed the National Cancer Institute's data on fallout from weapons testing at the Nevada Test Site and provided members of the audience with their individual doses and risks. For additional information on ETC activities, contact Socolof at <socolofml@utk.edu>.

Metro Chapter

Rao Kolluru, President

The Autumn season of the Metro Chapter started off with a seminar on "Clean Air Act 112(r) Compliance and Risk Management Programs" at New York University, hosted by Rae Zimmerman, former President of the national SRA. The regulation (and similar requirements under OSHA and State/City programs) is designed to prevent and control catastrophic releases and their consequences. Because even smaller facilities

are covered by the EPA regulation and because of the close deadline of June 1999 for compliance, the seminar proved timely.

John Higgins from the U.S. Environmental Protection Agency presented an overview of what is required. Reggie Baldini of New Jersey DEP talked about the beginnings and the present state of their pioneering program, Toxic Catastrophe Prevention Act (TCPA), spurred by the Bhopal accident. Norman Padnos of New York City DEP discussed changes in the Community Right-to-Know program. David Lipsky of NYC-DEP Bureau of Water Supply identified concerns and potential liability issues. Jay Witherspoon of CH2M HILL brought it all together through an Integrated Approach to RMP, PSM, and State Programs based on his national experience with risk management programs.

If you are interested in a copy of the seminar notebook, call Rao Kolluru at 973-316-9300.

Rocky Mountain Chapter

Yvette Lowney

After a long hiatus, the Rocky Mountain Chapter is considering reactivating. Prior to scheduling meetings, information from area members has been solicited. Specifically, a questionnaire requesting information regarding times and places to meet, as well as the preferred types and schedule of meeting (i.e., breakfast meetings, afternoon meetings, half-day workshops, etc.) has been distributed to individuals on the current mailing list. If you have not received a copy of the questionnaire and are interested in participating with the Rocky Mountain Chapter, please send your address (including e-mail address, if available) to Yvette Lowney. Lowney can be reached via e-mail at <lowney@exponent.com> or by phone at 303-444-7270. Volunteers to help coordinate events in 1999 would also be appreciated. ◇◇



Specialty Groups

The Food/Water Safety Risk Specialty Group

Debra Street, Chairperson

The Food/Water Safety Risk Specialty Group focuses on risk analysis issues posed by hazards in food and water consumed and used by humans and animals. Preceding the Society for Risk Analysis (SRA) conference in December 1998, the Specialty Group held a well-attended workshop, developed by Peg Coleman and Richard Williams, Jr., emphasizing methodological issues that impact microbial risk assessment from farm to table. The 1998 SRA conference had several food-related sessions, suggesting increasing interest in food and water issues.

The Specialty Group's first set of officers under the new by-laws were introduced during the Group's annual business meeting: Debra Street, Chairperson, Terry Harvey, Vice-Chairperson, and Don Schaffner, Secretary. To learn more about this

Specialty Group, please contact Schaffner by phone (732-932-9611 x214) or e-mail (Schaffner@aesop.rutgers.edu).

Dose Response Specialty Group

Resha Putzrath, Past President

The Dose Response Specialty Group (DRSG) is starting the new year under the leadership of Elizabeth Reese (ereese@nas.edu). Other new officers are Lynne McGrath as Secretary/Treasurer and Larisa Rudenko and Jim Wilson as members of the Executive Board. The DRSG has a conference the first Tuesday of each month at 3:30 p.m. Eastern time. If you are interested in joining the group, you can contact Reese or participate in the conference call by calling 202-260-7280; when asked for the code enter 0577#. ◇◇



Advertisements

Affordable Safety by Choice: The Life Quality Method

J.S. Nathwani, N.C. Lind, M.D. Pandey
1997 (\$US 45.00 + S&H) 230 pp.
ISBN 0-9696747-9-1

This book will be of primary interest to decision makers charged with the task of developing strategies and implementing safety policies. A coherent and unified rationale for managing risk in the public interest has been developed in the form of four principles of accountability, maximizing net benefit to society, compensation, and life measure. A new method and the supporting analytical tools have been developed and applied to assess a wide range of risk management problems including U.S. Benzene Standards, transportation, ionizing radiation, health care resource allocation, nuclear waste disposal, cigarette smoking, and smart air bags.

To order contact the Institute for Risk Research: phone: 519-888-4567, ext. 5900; Web site: <http://workbench.uwaterloo.ca/irr>

Calculating and Understanding Risk from Chemicals Released to the Environment

Risk Assessment Corporation will sponsor a four-day course titled "Calculating and Understanding Risk from Chemicals Released to the Environment" to be held in San Antonio, Texas, 12-15 April 1999. This course will focus on the practical application of risk assessment techniques and risk-based decisions for corrective action being used today. A case study will be introduced on Monday and instructors will use the case study throughout the week to illustrate their topics. Emphasis will be placed on the fundamentals of risk calculations and critical data that should be collected and applied. Attendees will be provided with insight into the future of chemical risk assessment and an opportunity to learn about the state-of-the-art methodologies for estimating risk. Course fee \$1,495. For more information, call 312-988-7667 (fax: 312-649-9383) or visit our course Web page at <<http://www.racteam.com>>. Approved for continuing education credits. ◇◇

RISK newsletter and SRA Web Site Advertising Policy

Employment openings, books, software, courses, and events may be advertised in the 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 Editor, with billing instructions, by 1 March for the First Quarter issue (April), 1 June for the Second Quarter issue (July), 1 September for the Third Quarter issue (October), and 1 December for the Fourth Quarter issue (January). Editor, RISK newsletter, RR1 Box 139H, Elysian, MN 56028; phone: 507-362-8958 or 507-362-4176; fax: 507-362-4513; e-mail: gnrsslr@frontiernet.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 placed on the Web site will usually appear several days after receipt.

1999 SRA Officers and Councilors

President: **Gail Charnley**, HealthRisk Strategies, 826 A St. SE, Washington, DC 20003; phone: 202-543-2408; fax: 202-543-3019; e-mail: healthrisk@aol.com

President-elect: **Roger E. Kasperson**, Cented, Clark University, 950 Main St., Worcester, MA 01610; phone: 508-751-4605; fax: 508-751-4600; e-mail: rkasperson@clarku.edu

Secretary: **Timothy L. McDaniels**, University of British Columbia, 6333 Memorial Road, Vancouver British Columbia, Canada V6T 1W5; phone: 604-822-9288, fax: 604-822-3787, e-mail: timmcd@unixg.ubc.ca

Treasurer: **Richard B. Belzer**, Center for the Study of American Business, Campus Box 1027, One Brookings Drive, Washington University in St. Louis, St. Louis, MO 63130-4899; phone: 314-935-5630; fax: 314-935-5688; e-mail: csabindc@iname.com

Past President: **Yacov Y. Haimes**, University of Virginia, Center for Risk Management of Engineering Systems, Olsson Hall, Charlottesville, VA 22903, phone: 804-924-3803; fax: 804-924-0865; e-mail: haimes@virginia.edu

Councilor, 1999: **Robin Cantor**, LECG, 1600 M Street NW, Suite 700, Washington, DC 20036; phone: 202-466-4422; fax: 202-466-4487; e-mail: robin_cantor@legc.com

Councilor, 2000: **Alison C. Cullen**, Graduate School of Public Affairs, 208 Parrington Hall, Box 353055, University of Washington, Seattle, WA 98195-3055; phone: 206-616-1654; fax: 206-685-9044; e-mail: alison@u.washington.edu

Councilor, 1999: **William Farland**, National Center for Environmental Assessment, ORD/USEPA (8601D), 401 M Street SW, Washington, DC 20460; phone: 202-564-3322; fax: 202-565-0090; e-mail: farland.william@epa.gov

Councilor, 1999: **H. Christopher Frey**, Department of Civil Engineering, North Carolina State University, Box 7908, Raleigh, NC 27695-7908; phone: 919-515-1155; fax: 919-515-7908; e-mail: frey@eos.ncsu.edu

Councilor, 2000: **Dale B. Hattis**, Center for Technology, Environment, and Development, Marsh Institute, Clark University, 950 Main Street, Worcester, MA 01610; phone: 508-751-4603; fax: 508-751-4600; e-mail: DHattis@Clarku.edu

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Councilor, 2001: **Paul Locke**, Center for Public Health and Law, Environmental Law Institute, Washington, DC 20036; phone: 202-939-3842; fax: 202-939-3868; e-mail: locke@eli.org

Councilor, 2000: **Dennis J. Paustenbach**, Exponent, Failure Analysis, 149 Commonwealth Dr., Menlo Park, CA 94025; phone: 650-688-1756; fax: 650-326-8072; e-mail: dpaustenbach@exponent.com

Councilor, 2001: **Lauren Zeise**, California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Reproductive & Cancer Hazard Assessment Section, 1515 Clay St., 16th Floor, Oakland, CA 94612; phone: 510-622-3190; fax: 510-622-3211; e-mail: lzeise@berkeley.cahwnet.gov

Executive Secretary: **Richard J. Burk Jr.**, 1313 Dolley Madison Blvd., Suite 402, McLean, VA 22101; phone: 703-790-1745; fax: 703-790-2672; e-mail: RBurk@BurkInc.com

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Annual Meeting: **Roger E. Kasperson***

Awards: **John Graham**, Harvard Schl of Pub Hlth, Center for Risk Analysis, 718 Huntington Avenue, Boston, MA 02115; phone: 617-432-4497; fax: 617-432-2492; e-mail: jgraham@hsph.harvard.edu

Chapters and Sections: **Charles A. Menzie**, Menzie-Cura & Assoc., Inc., Suite 2, 1 Courthouse Lane, Chelmsford, MA 01824; phone: 978-970-2620; fax: 978-970-2791; e-mail: charliemen@aol.com

Conferences and Workshops: **F. Owen Hoffman***

Education: **Timothy L. McDaniels***

Electronic Media: **Steve Brown**, 4700 Grass Valley Road, Oakland, CA 94605-5622, phone: 510-430-8118, fax: 510-430-8063, e-mail: slbrown@idiom.com

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Nominations: **Rae Zimmerman**, Robert F. Wagner Graduate School of Public Service, New York University, 4 Washington Square North, New York, NY 10003; phone: 212-998-7432; fax: 212-995-3890; e-mail: rz1@is2.nyu.edu

Publications: **Yacov Y. Haimes***

Publicity: to be determined

Specialty Groups: **Dale B. Hattis***

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Ad Hoc Committees

Public Policy: **John "Jack" R. Fowle III**, U.S. Environmental Protection Agency (1400), 401 M St. SW, Washington, DC 20460, phone: 202-260-8325, fax: 202-260-7118, e-mail: fowle.jack@epamail.epa.gov

Improving Risk Assessment Practice:

William Farland*

SRA 2000 World Symposium and Congresses: **Rae Zimmerman** (see information above)

*Contact numbers are provided in the list at left.



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Genevieve S. Roessler, *Editor*, gnrsslr@frontiernet.net
Mary A. Walchuk, *Managing Editor*, mwalchuk@mctcnet.net
Sharon R. Hebl, *Editorial Associate*

Society Officers:

Gail Charnley, *President*, 1998-99, healthrisk@aol.com
Roger E. Kasperson, *President-elect*, 1998-99,
rkasperson@clarku.edu
Tim McDaniels, *Secretary*, 1998-2000, timmcd@unixg.ubc.ca
Richard B. Belzer, *Treasurer*, 1998-2002,
csabindc@iname.com
Yacov Y. Haimes, *Past President*, 1998-99, haimes@virginia.edu

Members of SRA Council:

Robin Cantor, 1999, robin_cantor@lecg.com
Alison C. Cullen, 2000, alison@u.washington.edu
William Farland, 1999, farland.william@epa.gov
H. Christopher Frey, 1999, frey@eos.ncsu.edu
Dale B. Hattis, 2000, DHattis@Clarku.edu
F. Owen Hoffman, 2001, senesor@usit.net
Paul Locke, 2001, locke@eli.org
Dennis J. Paustenbach, 2000, dpaustenbach@exponent.com
Lauren Zeise, 2001, lzeise@berkeley.cahwnet.gov

Secretariat: Richard J. Burk Jr., Executive Secretary, Society for Risk Analysis, 1313 Dolley Madison Blvd., Suite 402, McLean, VA 22101; phone: 703-790-1745; fax: 703-790-2672; e-mail: sra@BurkInc.com

Publications Chair: Yacov Y. Haimes, University of Virginia, Center for Risk Management of Engineering Systems, Olsson Hall, Charlottesville, VA 22903; phone: 804-924-3803; fax: 804-924-0865; e-mail: haimes@virginia.edu

Newsletter Contributions: Send to Editor, RISK newsletter, RR1 Box 139H, Elysian, MN 56028; phone: 507-362-8958 or 507-362-4176; fax: 507-362-4513; e-mail: gnrsslr@frontiernet.net

Deadline for RISK newsletter submissions

Information to be included in the **First Quarter 1999** SRA RISK newsletter, to be mailed at the beginning of April, should be sent to the Editor at the address above no later than **20 February**.



Member News

Richard J. Wenning

McLaren/Hart, Inc., a national environmental engineering consulting firm, named Richard J. Wenning to the position of Consulting Operations Manager for the firm's Alameda, California, office. Wenning will assume day-to-day responsibility for operations and the continued growth of the company's 40-person consulting practice in the San Francisco Bay area.



Wenning joined McLaren/Hart's ChemRisk risk assessment consulting group in 1989. He has managed some of the company's largest risk assessment projects, including sediment investigations in the Gulf Coast and northeastern United States. From 1994 to 1996, Wenning advised McLaren/Hart's multinational clients in Sydney and Melbourne, Australia. Since 1996, he has been instrumental in expanding consulting services in Northern California and the Gulf Coast. Widely recognized as an expert in dioxin risk assessment, chemical source identification, and the assessment and remediation of contaminated sediments, Wenning was recently appointed to the editorial board of the *International Journal of Environmental Forensics*. He also serves on the editorial boards of two other scientific journals, *Archives of Environmental Contamination and Toxicology* and *Ecotoxicology & Environmental Safety*. ◇◇

Call for Nominations for SRA Officers

The SRA Nominating Committee invites nominations for the following offices in the Society's 1999 elections:

President-elect Secretary Three Councilors

The Secretary serves for two years. Councilors serve for three years and are ineligible for reelection until one year has elapsed following the completion of their terms.

Please submit nominations with a brief paragraph supporting each by **28 May 1999** to the Chair of the Nominating Committee: Rae Zimmerman, Robert Wagner Grad. School Pub. Svc., New York University, 4 Washington Square North, New York, NY 10003; fax: 212-995-3890; e-mail: <rz1@is2.nyu.edu>.

SOCIETY FOR RISK ANALYSIS
1313 Dolley Madison Blvd., Suite 402
McLean, VA 22101