



RISK *newsletter*

Published by the SOCIETY for RISK ANALYSIS

Volume 18, Number 3

Third Quarter 1998

Editors Named for *Risk Analysis*

Editor-in-Chief Elizabeth Anderson

Area Editors John Evans and Bill van der Schalie

A new Editor-in-Chief and two new Area Editors have been chosen for *Risk Analysis: An International Journal*, the official journal of the Society for Risk Analysis (SRA).

Elizabeth L. Anderson, Editor-in-Chief

Dr. Elizabeth L. Anderson follows Dr. Curtis C. Travis, Director of the Center for Risk Management at Oak Ridge National Laboratory, as Editor-in-Chief of



Risk Analysis. Her appointment will officially begin on 1 January 1999. "I have had an opportunity to meet with Curtis and solicit his help in making the transition and in continuing to assist me with the Journal," Anderson said. "He has been very helpful and has agreed to continue. Both he and former Senior Editor Bob Cummings will be Editor-in-Chief Emeriti and I look forward to their continued involvement. Currently, Curtis has in-hand papers that have been peer reviewed that will make up both the December and January issues of the Journal. As I have the opportunity to meet throughout the fall with our Area Editors, the Publications Committee, and Curtis and his staff, we will

lay the groundwork for the transition. I will probably reflect some of our thoughts in an editorial in the February issue. I will also begin receiving peer-reviewed papers from our Area Editors to assemble the April issue."

When Anderson meets with the Publications Committee and the Area Editors, they will discuss definitive plans and goals. "I believe the Journal benefits from publishing papers that focus on prominent and compelling issues in risk analysis," she explained. "I will recommend that we commence a program to identify issues and invite prominent individuals in the field to submit papers on these topics and invite response papers from other well-known experts. Also, I believe we will want to invite a series of editorials discussing special interests. We also want to continue to focus on publishing special issues of the Journal that present a collection of papers on specific topics of interests. To accomplish some of these goals, I am going to recommend to our Area Editors and our Publications Committee that we appoint four outstanding experts in the field as Associate Editors to assist us in these efforts."

Anderson's main goal is to maintain the Journal's status in the international community and to enhance its role as the most respected resource in risk analysis

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See you in Phoenix for the 1998 SRA Annual Meeting

"Assessing and Managing Risks in a Democratic Society"

6-9 December



Society for Risk Analysis Advisory Board

The Society for Risk Analysis (SRA) Advisory Board, chaired by Dr. B. John Garrick, held two telephone conference meetings in 1998.

The purpose of the first meeting, held in February 1998, was to review the SRA President's response to the Third Interim Report of the Advisory Board, to discuss the progress made on the international initiative on the development of risk analysis standards which was introduced at the 9 December 1997 SRA Advisory Board meeting, and to review new initiatives to be considered by the Board. It was decided by the Board that the risk standards proposal should be recommended to the SRA Council as one to go forward with, at least through the workshop. It was also announced at this meeting that Robin Cantor has been appointed to the SRA Advisory Board as the liaison with the Council to facilitate and champion the Advisory Board's efforts.

The agenda for the August 1998 Board telephone conference meeting was to review the Draft Fourth Interim Report which was issued to the members on 1 August, discuss suggested candidates for the 1999 Advisory Board to replace those rotating, and consider new initiatives for the Board. The new initiatives being addressed are (1) risk assessment issues of biotechnology, (2) integration of the risk disciplines with stakeholder participation, (3) the state and status of risk assessment, (4) expanding *Risk Analysis*, the SRA journal, and (5) the SRA Web site. Topics carrying over from previous Board recommendations included the Society's involvement in the natural hazards field, risk education, and the Society's role in government agencies' transitioning to risk-based regulations. ◇◇

Update SRA Membership Handbook Information

In preparation for the 1999 Society for Risk Analysis Membership Handbook, please take a moment and look at your current listing and make any changes or additions necessary. Please e-mail the changes by 1 December to <SRA@BurkInc.com>. Thank you.

President's Message

The Role of Universities in Risk Education

In the cover story in the last issue of the *RISK newsletter*, I shared with you the news that the Society for Risk Analysis (SRA) is seeking support for national centers for risk analysis. I would like to expand on the thoughts I have had on the educational needs in risk analysis by describing what I see as the role of universities in risk education.

Very few university programs (including engineering and applied science) in the United States and around the world have acknowledged in their curricula the imperative need to respond to the complexity and the cross-disciplinary nature of risk assessment and management. Consequently, even fewer schools have considered extending, expanding, and integrating courses in reliability, stochastic processes, and applied probability and statistics, taking them beyond mathematical rigor and into the art and science of decision making under uncertainty.

How many universities offer courses on the subject of risk assessment and management that integrate (1) new knowledge in the perception of risk and in the judgments associated with the acceptability of risk (e.g., the works of Slovic, Tversky, Kahneman); (2) the mathematics that help in the quantification of risk (e.g., the works of Bernoulli, Bayes, Savage); and (3) the holistic systems approach (e.g., the works of Russel, Wiener, von Neumann, Raiffa)?

If the number of universities that incorporate such courses in their curricula is very limited, the questions are, Why? and What are the long-term societal implications? Could we expect a less chaotic state of affairs in government and industry in dealing with risk assessment and management if universities were to treat this subject in the curricula more seriously, methodically, and systematically? For example, could it be treated in the same way that systems engineering is being treated, as an important body of knowledge that every engineering student must acquire, either within the student's own department or discipline or as a separate department or discipline? Or is it too utopian to suggest that such a change in our approach to a more holistic framework be initiated by universities?

Indeed, although universities seem to be the most logical and natural place for educating such a cadre of cross-disciplinary professionals, present trends and evidence do not support this premise. Most university faculty members today are the prisoners of their own disciplines and institutional department setups. The present university system of rewards, including promotion and tenure, provides strong disincentives for change, especially if initiated by a young, developing faculty.

Universities seem more likely to respond to government initiatives (when adequately funded) or to follow the strong, emerging leadership of professional organizations, such as the National Academies of Engineering and Sciences, and the numerous professional societies, than to initiate and assume the leadership role themselves. Universities today seem to have lost some of their ability to identify urgent educational needs and the pedagogical framework that is conducive to cross-disciplinary learning and growth; with this, they have also lost some of their ability to pioneer responses to emerging societal challenges.

These thoughts form part of the basis for the approach to better meet the educational needs in risk analysis. I look forward to hearing your views on this important topic and the initiative by SRA to seek support for establishing a national, university-based program of interdisciplinary training and research in risk analysis. Please contact me with your views and ideas by phone at 804-924-3803 or by e-mail at <haimes@virginia.edu>.


Yacov Y. Haimes

(Editors, continued from page 1)

over the next five years. "As we attempt to do this, we will solicit the help of the full membership of the Society," she said. "I would very much like to receive the thoughts and recommendations of all members as we plan our future, both on the broad issues of structure and circulation, and on the specific issues such as selecting topics of special interests for editorials, discussion papers, and round tables of papers covering special topics from different perspectives. I would also encourage our members to help us identify experts who should be invited to write papers and editorials on these topics. My e-mail address is <elanderson@sciences.com>. I look forward to hearing from the membership."

An extensive knowledge of the SRA and its membership has prepared Anderson for her job as Editor-in-Chief. "Perhaps the greatest advantage is that I know our membership and the disciplines and interests our members represent," she commented. "I have had the privilege of a long history with the Society, having been a member of the founding committee and later serving as an early President. I have also had the opportunity to work closely with many SRA colleagues and feel that over the years I have learned so very much about the scientific and intellectual content of much of their work. I have also very much enjoyed my participation on a number of committees, most notably the Conferences and Workshops Committee, which has given me an opportunity to work with our interdisciplinary members on issues prominent in the Society. We try to focus our forums, workshops, and symposia on these topics and invite leading experts in each field to be on our faculty. This is the third year that I have chaired this Committee; I know these collegial ties will be important resources for the Journal. I hope my background with the Society's membership and my experience working across disciplines will prove helpful in facing the challenges during my tenure as Editor. After all, we want our Journal to continue to be the most prominent in the field of risk analysis; and it is the scholarship that makes the Journal a respected resource on diverse topics addressing methods to detect, manage, and understand risks from many perspectives."

Anderson is President and Chief Executive Officer of Sciences International, Inc., Alexandria, Virginia, and has over 20 years of experience, both government and corporate, in health and the environmental sciences. She was formerly President, Chief Executive Officer, and Chairman of the Board of Clement International Corporation, where she directed an interdisciplinary group of 200 senior scientists and engineers. At the U.S. Environmental Protection Agency (EPA), she established and directed the central risk assessment program for ten years. Anderson is an internationally recognized lecturer and consultant and has published numerous journal articles in the areas of risk assessment and carcinogenicity. Among her many honors and awards, she is the recipient of the EPA Gold Medal for Exceptional Service. Anderson has served on a number of boards and committees for EPA and for the Wildlife Trust of North America. She currently serves on the Dean's Advisory Council for the School of Engineering and Applied Sciences at the University of Virginia. She is a founding member and Past President of the Society for Risk Analysis and has chaired both the Gifts and Grants Committee and the Conferences and Workshops Committee. Anderson holds a B.S. degree in chemistry from the College of William and Mary, an M.S. in organic chemistry from the University of Virginia, and a Ph.D. in organic chemistry from American University.

John Evans, Area Editor for Health Risk Assessment

Dr. John Evans is Senior Lecturer in Environmental Science at the Harvard School of Public Health. He earned his B.S. in industrial engineering and M.S. in water resources management at the University of Michigan in Ann Arbor. He served from 1972 to 1976 as a bioenvironmental engineer in the U.S. Air Force where he was stationed at Pease Air Force Base in Portsmouth, New Hampshire. Following his tour of duty, Evans returned to school at the Harvard School of Public Health, where he earned the S.M and Sc.D. in environmental health sciences in 1980.



After postdoctoral fellowships with Harvard's John F. Kennedy School of Government and the Nuclear Regulatory Commission, Evans joined the faculty of the Harvard School of Public Health. At Harvard, his research has focused on characterization of uncertainty in estimates of human health risks from environmental contaminants and on the use of such estimates of uncertainty in support of decisions about prioritization of research and selection of control strategies. Recently he has become interested in developing procedures for estimating environmental health risks that could be used to guide environmental policy in developing countries and other situations where exposure data are sparse.

In 1996 Evans established, and now co-directs with Professor Jim Hammitt, the Program in Environmental Science and Risk Management at Harvard. This program, which is jointly sponsored by the Departments of Environmental Health and Health Policy and Management offers students interested in the interface between science and policy an integrated education in environmental health science and in risk and decision science.

Evans is a charter member of the SRA, has served as President of the New England Chapter of SRA, and recently was appointed to the Science Advisory Board (Drinking Water Committee) of EPA.

(see Editors on page 4)

(Editors, continued from page 3)

Bill van der Schalie, Area Editor for Ecological/Environmental Risk Assessment

As an ecologist with EPA's National Center for Environmental Assessment, Dr. Bill van der Schalie helped develop and finalize EPA's recently published "Guidelines for Ecological Risk Assessment." Since arriving at EPA in 1990, he has



coordinated numerous colloquia, workshops, and reports addressing various aspects of the ecological risk assessment process and has applied the process to assessments involving non-chemical stressors (e.g., pathogenic viruses that affect shrimp). His other interests include evaluating animals in the environment as sentinels of human health hazards and using automated biosensors for monitoring the toxicity of environmental media. Prior to working at EPA, he was chief of the Research Methods Branch at the U.S. Army Biomedical Research and Development Laboratory. Research at the Branch included the development of toxicity assays and biomonitoring techniques for evaluating the potential human health and ecological effects of chemicals.

Van der Schalie earned a B.S. in biology from Michigan State University and a Ph.D. in zoology from Virginia Polytechnic Institute and State University. He also served as a National Research Council Resident Research Associate. He is an adjunct faculty member at Hood College in Frederick, Maryland, where he has taught graduate courses in freshwater ecology and aquatic toxicology.

In addition to membership in SRA, van der Schalie is a member of the American Association for the Advancement of Science, the American Society for Testing and Materials' Committee E-47 on Biological Effects and Environmental Fate, the American Fisheries Society, and the Society of Environmental Toxicology and Chemistry. He has served on the editorial boards for the journals *Human and Ecological Risk Assessment* and *Environmental Toxicology and Chemistry*. ◇◇◇

Risk Analysis Editors

Risk Analysis now has five editors—the Editor-in-Chief and four Area Editors. Manuscripts should be sent to the appropriate Area Editor. Articles that do not clearly belong to one of the four areas should be sent to the Editor-in-Chief. For more complete information on manuscript submission refer to the inside back cover of *Risk Analysis*.

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Thank you to the following Publications Committee members who undertook the Editor-in-Chief and Area Editor searches: Chair Rae Zimmerman, William Farland (SRA Councilor), Ann Fisher, Tim McDaniels (SRA Secretary), and Mitchell Small.

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Regulatory Risk Review

Risk and Racism

David Clarke, Editor, Risk Policy Report

Environmental justice, an issue kicking around the halls of the Environmental Protection Agency (EPA) since the administration of William K. Reilly, has been attracting increasing attention nowadays, and for anyone who hasn't yet heard, it's an issue that demands the best and the brightest ministrations of risk analysts. That's because at the heart of environmental justice charges, which are no longer just kicking around EPA but threatening to kick in the door, are claims that minority and poor communities are subjected to disproportionately high risks of adverse health effects—perhaps deliberately, or at least with knowing disregard, according to the worst suspicions of critics, who are demanding an end to dumping in Dixie.

Much of the environmental justice focus of late has been on EPA's "Interim Guidance for Investigating Title VI Administrative Complaints Challenging Permits," published in February for a 90-day public comment period. The guidance was intended to help EPA's Office of Civil Rights process complaints under Title VI of the Civil Rights Act, many of which "allege discriminatory effects from the issuance of pollution control permits by state and local governments that receive EPA funding."

The period for EPA's guidance ended 6 May, but the comments have not. In fact, the Environmental Council of the States (ECOS), representing EPA Administrator Carol Browner's counterparts at the state level, is circulating an alternative set of "Principles of Environmental Justice." In its draft document, ECOS notes that "the issue of environmental justice has increasingly become one of dealing with different levels of alleged, perceived or real exposures caused, in large measure, by economics." That perennial question arises: What are the real risks? And one can hear the echo of social scientists shouting back, "There are no objective risks, only the complex social phenomenon of perceived risk!" ECOS discussed its principles, which call for measurable definitions of adverse effects, at a workshop in Indianapolis on 3 September 1998.

ECOS and other organizations also spoke their minds about environmental justice at a 6 August hearing on EPA's guidance

held by the House Commerce Committee's subcommittee on oversight and investigations hearing. Among those testifying was Harry Alford, representing the National Black Chamber of Commerce, who submitted testimony to the effect that envi-

... at the heart of environmental justice charges, which are no longer just kicking around EPA but threatening to kick in the door, are claims that minority and poor communities are subjected to disproportionately high risks of adverse health effects—perhaps deliberately, or at least with knowing disregard, according to the worst suspicions of critics, who are demanding an end to dumping in Dixie."

ronmental justice claims drive away business investments from minority and low-income communities and, as such, are at odds with government policies designed to attract industrial facilities, such as empowerment zones and brown-fields redevelopment projects. Vernice Miller, Director of the Natural Resource Defense Council's Environmental Justice Initiative, agreed that communities need employment opportunities but argued that "we refuse to accept that the only area of economic growth and development available to us is to build, site, and permit waste storage, treatment, process-

ing, and chemical manufacturing." Expect to hear lots more on this subject.

As anyone who follows environmental policy developments knows, poor and minority communities aren't the only focus of high-level activity. On 10 August, Vice President Gore and EPA's Browner, accompanied by several children, announced that the federal government will finance "Centers of Excellence in Children's Environmental Health Research" at eight leading research institutions. The initiative flows from President Clinton's 21 April 1997 Executive Order on the Protection of Children from Environmental Health and Safety Risks. The announcement of the new centers was coupled with Gore's widely reported announcement that July 1998 was "the hottest month on record" in nearly 120 years. We can expect these issues to be even more in the limelight as the presidential elections heat up.

For Regulatory Reform proponents, there was some warmth recently as key Democrats, including those in the White House, endorsed a modified version of S. 981, the battle-weary legislation on regulatory reform put forward by Senators Carl Levin (D-Michigan) and Fred Thompson (R-Tennessee). But, endorsements notwithstanding, few are unfurling their victory flags yet. Why risk it?

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Send us your photos!

If you have interesting photos from your Chapter, Section, Committee, and Specialty Group meetings or other SRA events, send them to us with your reports. We would also be interested in receiving photos from the Annual Meeting, including SRA members at meeting events and on the tours being offered. Let us know the names of all people in each photo, and if you need the photos returned, please include your name and mailing address. Although we can't promise to use every photo received, we do feel some photos will make the RISK newsletter even more interesting for SRA members. —RISK newsletter editors

1998 Society for Risk Analysis Annual Meeting

The 1998 Society for Risk Analysis Annual Meeting, with the theme "Assessing and Managing Risks in a Democratic Society," will be held 6–9 December in Phoenix, Arizona. The meeting will include two Plenary Sessions: "Cultural Legacies: Shaping the Future of Risk Analysis" on Monday morning and "Assessing and Managing Risks: Science, Public Values, and the Marketplace" on Wednesday morning.

The Third Annual University Round Table on Tuesday evening will feature presentations from three universities offering full-course programs in risk analysis or related subject areas. Carnegie Mellon, the Harvard School of Public Health, and the Johns Hopkins School of Public Health will each present highlights of their programs to the group. Adequate time will be allowed for an open discussion to follow the three presentations. Students are especially encouraged to attend this session.

A Membership Forum and Opportunity to Identify Issues/Ask Questions will also be held during the meeting. This forum provides the opportunity to meet with Council members of both the Membership and Electronic Media Committees to let them know of issues important to members and to provide feedback on how they are doing. Attending the Membership Forum will allow members to get involved in instituting change they may want to see happen.

Many other workshops and sessions taking place at the Annual Meeting are outlined in the Preliminary Program which has been mailed. If you have not received your copy, please contact the Secretariat (703-790-1745, e-mail: sra@BurkInc.com).



SRA-Europe

"Risk Analysis—Opening the Process" 1998 SRA-E Annual Conference

Lynn Frewer, SRA-E Secretariat

The 1998 SRA-Europe Annual Conference, "Risk Analysis—Opening the Process," will be held in Paris, France, 11–14 October. Over 300 abstracts have been received, and the conference promises to be of great interest to all those concerned with current and emerging issues in risk analysis. ◇◇



SRA-Japan

New Section Officers and "The Ten-Year Anniversary Symposium"

The SRA-Japan Section celebrated its ten-year anniversary by opening the special spring symposium, "Globalization of Environmental Risk & Issues in the 21st Century," on 19 June 1998 at Tokyo University. The Symposium Convenor was Masanori Kabuto, Senior Researcher, National Institute of Environmental Studies, and the Chairperson was Hirotada Hirose, President, SRA-Japan Section, and Professor, Tokyo Women's University.

Before opening the memorial symposium, new officers were elected at the annual general meeting of the Japan Section, which had 420 members at that time. The officers for 1998–2000 are President: Professor Tohru Morioka, Osaka University (Speciality: environmental engineering and chemical risk management, Past Vice-President, SRA-Japan Section, and SRA councilor from 1993–1995); Vice-President: Professor Yasuhiro Sakai, Institute of Social Sciences, University of Tsukuba, (Speciality: economics in uncertainty, insurance economics. He has served section officers for years since the Section's foundation); Treasurer: Mr. Kazuhiko Chikamoto, Japan NUS Corp.; Secretary-General: Professor Saburo Ikeda, Institute of Policy and Planning Sciences, University of Tsukuba. (He has served for many years in this position as a section officer or a president since the Section's foundation); Councilors: 28 members. Among them, we have eight new members who cover a wide range of disciplines such as chemi-

cal, electric generation, business administration, social psychology, waste management, etc. The rest, including the three former presidents (Dr. E. Yokoyama, Professor T. Kinoshita, and Professor H. Hirose) have served continuously.

The Ten-Year Anniversary Symposium was open to all SRA members and the general public as well and had over 80 participants.

Topics and Lectures included:

1. "New Environmental Risk Issues and Factors in the 21st Century—Dioxin, Chemicals and Environmental Hormone Disruptors"; Dr. Tsugumi Suzuki, Ex-Director, National Institute for Environmental Studies, Environmental Agency, Japan.
2. "Ten-Year History of the SRA-Japan and the New Research Agenda Toward the 21st Century"; Professor Saburo Ikeda, Institute of Policy and Planning Sciences, University of Tsukuba, Past President (the 4th) of SRA-Japan.
3. "Global Risk Problems—From the Viewpoint of Environmental Security"; Dr. Yasuko Kawashima, Chief Researcher, Division of Socio-Environmental Systems, National Institute of Environmental Studies, Environmental Agency, Japan.
4. "Citizen's Participation and Risk Communication Toward the 21st Century"; Professor Tomitaro Sueishi, Shiga Prefecture University, Past President (the 1st) of SRA Japan.

The contents of these lectures will appear in Japanese in the next issue of the *Japanese Journal of Risk Analysis*.



SRA-Japan

China-Japan Conference on Risk Assessment and Management

The China-Japan Conference on Risk Assessment and Management (CJCRAM '98) will be held 23–26 November 1998 at the China Hall of Science and Technology in Beijing. The conference is being organized by Beijing Normal University, the Society for Risk Analysis-Japan Section, the Department of Earth Sciences, and the National Natural Science Foundation of China, and is underwritten by the Open Research Laboratory of Environmental Change & Natural Disaster, State Education Commission of China.

The Conference program includes:

Plenary Session 1

Opening and Welcome Address:

1. "Ten Years of Risk Analysis in Japan and the Research Agenda Toward the 21st Century"; Professor Saburo Ikeda, Institute of Policy & Planning Sciences, University of Tsukuba
2. "Disaster Insurance in China"; Liu Enzheng, Reinsurance Company, PICC, China
3. "Historical and Future Perspectives on Risk Perception and Communication"; Dr. Rae Zimmerman, SRA Past President

Plenary Session 2

1. "Japan-China Environmental Cooperation and Role of the Shino-Japan Friendship Center for Environmental Project"; Hideaki Koyanagi, Senior Officer, the Environmental Agency, Japan
2. "The Concepts and Methods of Fuzzy Risk Analysis"; Professor Huang Chongfu, Institute of Resource Sciences, Beijing Normal University, China
3. "Risk Tradeoffs in Public Health"; Dr. Gail Charnley, SRA President-elect

Closing Special Session: "Toward Developing Asian Cooperation in Risk Analysis"

1. Japanese Discussants: Dr. Sadayoshi Kobayashi and Dr. Taketoshi Taniguchi
2. Chinese Discussants: Professor Zhao Chunian, National Natural Science Foundation of China, and Professor Shi Peijun, Beijing Normal University, China

Oral Sessions:

Session 1: Risk Perception in Asia (1)—Presentations by Michinori Kabuto, et al., Shiyu Li, Yong-Jin Cha, Li Guoqi, An Shuqing, Chen Xinglong, Zhang Jiu Hai, Tan Jiankang, Zhu Xuelei, Zhang Jilin, and Yasushi Honda

Session 2: Risk Perception in Asia (2)—Presentations by Hirotsada Hirose, et al., V.V. Hambartsoumjan, Yu.P. Koslov, A.P. Khaustov, Nahoko Nakaune, et al., Rumiko Murayama, and Shoji Tsuchida, et al.

Session 3: Risk Assessment (Chemicals and Ecosystems)—Presentations by Masayuki Ikeda, Hu Erbang, Marcus Cooke, Jinglun Zhou, Pengcheng Luo, and Hongbin Cao

Session 4: Risk and Insurance (1)—Presentations by

Yasuhiro Sakai, Liu Lian, Li Shuangcheng, Wang Wei, Shang Yanrui, Atshishi Takao, Yu Xulan, and Chen Zhiyong

Session 5: Risk and Insurance (2)—Presentations by Mahito Okura, Xu Jiang, Ronghui Lin, Qibao Cao, Nobuko Aoba, Zheng Xiaoping, and Zhou Limin

Session 6: Strategies in Risk Management (1) (Risk-Based Decision Making)—Presentations by Tohoru Morioka, Xiang Gang, Xu Renping, Si Duk Lee, Wu Dianting, and Rao Kolluru, et al.

Session 7: Strategies in Risk Management (2) (Risk and Resource Allocation)—Presentations by Yoko Fujita, Zhang Xu, Cheng Xiaotao, Hiroyuki Sakakibara, et al., Deng Guo, and Li Shikui

Session 8: Methodology and Practices in Risk Management (1)—Presentations by Eizo Hideshima, Huerbang and Gao Zhanrong, Humiaki Yasukawa, Zhang Jianmin, Li Shikui, Susan E. Pickett, and Tatsujiro Suzuki

Session 9: Methodology and Practices in Risk Management (2)—Presentations by V.V. Hambartsoumjan, Vitaly Eremenko, Kiyotaka Tsunemi, Xu Renping, Xiang Gang, Yasunobu Maeda, and Wu Xiaoyue

Session 10: Methodology and Practices in Risk Management (3)—Presentations by Teruo Oshima, Igor I. Suskov, Alexandre I. Glouchchenko, N.I. Vavilov, Chen Shixing, Xu Peider, Sha Jichang, Jiyang Xia, Dennis Y.C. Leung, and Yin Liwei

Session 11: Disaster Risk Management (1) (Risk and Information)—Presentations by Hirokazu Tatano, et al., Yoshimi Hagihara, et al., Xu Yanjun, Zhao Shipeng, and Akira Sakai

Session 12: Disaster Risk Management (2) (Earthquake Risk Problems)—Presentations by Yao Qinglin, Norio Okada, et al., Luchuan Ren, Yijun He, Jingping Ren, S.Q. Guo, Yoshinobu Kumada, and Shipeng Zhao

Session 13: Disaster Risk Management (3) (Case Studies)—Presentations by Lu Yalong, Shi Jianping, Xu Jiang, Dorte Aller, Xu Renping, and Xiang Gang

Poster Sessions:

Session 1: Risk Profiles in Asia—Japan, China, and Others—Presentations by Sadayoshi Kobayashi, Zhan Xiang, Wang Qizheng, Yuko Souma, et al., Zhang Yuxin, Gao Wei, Xing Yunyi, Kami Seo, Mizue Oe, Zhai Guafung, Wu Menghuan, Noboru Yoshida, Guang Jin, and Jingun Zhou

Session 2: Tools and Models in Risk Analysis—Presentations by Cheng Hao, Liu Shukueng, Sousuke Hanai, Chunsheng Zhang, Rong Wu, Li Xu, Saburo Ikeda, Liiu Shukun, Chen Hao, Yuan Ximin, Jun Sekizawa, Zong Lianggang, Koji Nakau, Zhong Jinxian, Wu Cisheng, and Liu Yong ◇◇



Committees

Nominations Committee

John Graham, Chair

Nominations for SRA Officer Elections

New officers and councilors for the Society for Risk Analysis will be announced at the 6–9 December 1998 Annual Meeting in Phoenix, Arizona. The nominees for election are:

President-elect (one-year term):

Ann Bostrum, Georgia Tech, vs.

Roger Kasperson, Clark University

Councilor (three positions, each with a three-year term):

Owen Hoffman, Senes Oak Ridge, Inc., vs.

Steve Hrudey, University of Alberta

Lauren Zeise, California EPA, vs.

Pertti Hakkinen, Procter and Gamble

Paul Locke, Environmental Law Institute, vs.

Wayne Roth-Nelson, Roth-Nelson Risk Science

Treasurer (two-year term):

Richard Belzer, Office of Management and Budget, vs.

Richard Williams, Food and Drug Administration

Members of the Nominating Committee are Chair John Graham, Robin Cantor, Alison Cullen, Dale Hattis, Katy Kunzer, Jonathan Wiener, and James Wilson.

Conferences and Workshops Committee

Elizabeth L. Anderson, Chair

The Conferences and Workshops Committee is having a very productive year. We have arranged three forums, a repeat of the annual health risk assessment symposium, and a joint workshop with the Environmental Law Institute. Following is a summary of the key events of the year, including one that has already taken place and the programs to look forward to for the remainder of the year.

Protecting Sensitive Groups as Mandated by the FQPA and the SDWA: Can Science Meet the Challenge? 29–30 June 1998, Alexandria, Virginia

Jack Fowle, Chair

The forum “Protecting Sensitive Groups as Mandated by the FQPA and the SDWA: Can Science Meet the Challenge?” was held 29–30 June in Alexandria, Virginia, and focused on the use of science for decision making. The provisions of the recently passed Food Quality Protection and Safe Drinking Water Acts charge the U.S. Environmental Protection Agency (EPA) to use science to identify subpopulations at greater risk than the general public and protect them from harm. The speakers and nearly 60 attendees explored the extent to which science is up to this task.

In the first of five sessions, “Hill Perspective—Tension Between Statutory Public Health Provisions and Science Tools to Meet the Challenge,” Dr. David Goldston, Legislative Director for Congressman Sherwood Boehlert (R-NY), talked about science and the legislative process. He noted that members share an unrealistic desire to use science as a way to achieve certainty that the laws they pass are protecting the public from harm. The implication for scientists in general and risk assessors in particular is that they need to be very explicit with members that science is a tool, not an answer.

The second session—“Congress Says Use Science to Protect Public Health: If There are Great Uncertainties What is the Proper Role for Science in Decision Making?”—explored the differing views about the role of science in environmental decision making held by members of the public, advocacy groups, and the regulated community. Dr. David Wallinga, of Public Health Program, National Resources Defense Council, and Dr. Marc Roberts, of the Harvard School of Public Health, were the speakers.

“Making Policy in the Face of Scientific Uncertainties: What is the Proper Role for Science?” was the title of the third session. Dr. Lynn Goldman, Assistant Administrator for Pollution Prevention, Pesticides, and Toxic Substances, EPA, and Dr. Penelope Fenner-Crisp, also of EPA, spoke about the challenge facing EPA in its efforts to establish a regulatory program and an endocrine disruptor screening program that is scientifically sound. See <www.epa.gov/pesticides/sap> for information concerning their efforts. Dr. James Lamb of Jellinek, Schwartz, and Connolly; Dr. James D. Wilson, Resources for the Future; and Dr. Lawrence Elworth, Director, Program for Strategic Pest Management, examined the requirements placed on regulatory agencies by federal, state, and local laws to help keep human health and the environment safe.

Given the current state of the science, they questioned whether the current suite of legislation helps regulatory agencies ask the right questions, because it has placed requirements on science that can't be met. Data simply do not exist to assess all exposures, and we don't know how to evaluate the cumulative risk associated with exposures to multiple chemicals. There are significant impacts on farmers and the agricultural industry that should be discussed transparently and dealt with as risk management issues, not couched as something to be addressed by risk assessment.

Dr. Thomas Grumbly, President of the Environment and Facilities Group at ICF Kaiser, opened the fourth session—“What Are the Broader Implications for Implementing Specific Statutory Requirements When the Science is Uncertain?”—by sharing his experiences using risk information to inform his decisions when he served as Undersecretary of the Department of Energy. His experience as the senior manager responsible for the environmental management and clean up of nuclear weapons sites convinced him that in the end managers have to make policy calls. He suggested that it would be helpful for risk assessors to explain their findings as simply as possible.

Dr. Dorothy Patton, Director of the Office of Science Policy, EPA, noted that risk managers need more than just numbers. Science can't meet the challenge of providing answers because exposures are from multiple sources, to multiple stressors, by multiple pathways, on multiple populations and may result in

multiple outcomes. Risk assessors should explain their findings clearly, but they should tell the full story and not oversimplify. Dr. Don Barnes, Staff Director of the EPA Science Advisory Board, addressed the issue of cumulative risk. He described the Agency's early efforts to address cumulative (i.e., aggregate) risk. Dr. Steve Lewis, Exxon Corporation, wrapped up this session by discussing risk characterization and the need to be transparent and to honestly describe the strengths and limitations of each risk assessment.

In the final session, "Examining Science in the Context of Who Is Telling the Story (Is Science the Focus Only When it Suits Our Purpose?)", Dr. Ken Sexton, University of Minnesota, talked about interpreting science for policy and points to consider when talking to managers about risk. Dr. Curt Suplee, *Washington Post*, discussed the things that science reporters consider when writing a story and the constraints they are under to fill the news hole, or the space left in the paper after the ads are sold. He generally has about an 800-word limit to capture even the most complicated story. Perhaps the best way to help a reporter is to never speak in jargon and keep six things in mind:

1. Prepare an English translation of what you said (e.g., if you say the relative risk is 1.5 the reporter will probably say the risk is 150 times normal).
2. Provide the real actual numbers to the extent possible, or if you don't know, say for instance that we think the risk is 50 in a million, but nobody really knows and our estimates range from 10 to 250 cases per million.
3. Make sure the reporter understands whether the events predicted by the risk assessment are grounded in real recorded events (e.g., traffic deaths) or hypothetical events (e.g., cancer deaths from an environmental exposure).
4. Provide a context for the risk (e.g., how many cases of X would occur if Y did not exist? What is the natural incidence? What is the cost?). A textbook case is aboveground nuclear testing and thyroid cancer.
5. If you extrapolate a dose-response down to where there are no recorded cases, say so.
6. Give the policy implications of what you are doing. Say we don't know if the dose-response is real, but we're paid to protect you. There is a plausible correlation so we're erring on the side of safety and setting the policy this way.

If you're really worried about your statements being misinterpreted you may wish to remind a reporter that getting the facts grossly wrong ranks right up there with ethics violations.

The Forum ended with the speakers participating in a panel discussion about the right questions to ask of science, how the legislation has helped make things work well, and how improvements can be made.

**Risk Assessment and Risk Management in
Environmental Law, 7-9 October 1998,
Washington, D.C., to be held jointly with the
Environmental Law Institute**

Virginia Sublet, Chair

The Society for Risk Analysis (SRA) is cosponsoring a forum titled "Risk Assessment and Risk Management in Environmental Law" with the American Law Institute-American Bar Association and the Environmental Law Institute. The forum will take place 7-9 October 1998 in the Madison

Hotel, Washington, D.C. The new course offers attorneys, consultants, and environmental managers a bridge to modern-day risk management practice. This program will consist of an evening session on 7 October that has been developed by the SRA to provide attorneys with education on the basics and hot topics in risk assessment that these professionals need to know in order to effectively practice environmental law. The program on 8 October examines how changes in risk assessment and risk management translate into decisions that affect the practice of law. On 9 October the program will focus on administrative and regulatory practice issues. This forum is important because in today's world it is no longer adequate to understand how to comply with the law and regulations; risk scientists and lawyers need to communicate in terms of risk. A solid foundation in risk management and its implications for litigation, administrative hearings, and regulation development is imperative. For more information, contact Virginia Sublet, Ph.D., 703-848-3534.

**The 11th Annual SRA Symposium
"Health Risk Assessment: Current Issues"
25-28 October, Williamsburg, Virginia**

Elizabeth L. Anderson, Chair

The 11th Annual SRA Symposium, "Health Risk Assessment: Current Issues," will be held 25-28 October in Williamsburg, Virginia. The Symposium topics include the latest guidance on predicting risk, the use of mechanistic data to reduce uncertainty in risk assessment, EPA's latest cancer risk assessment guidelines, the advances in characterizing human exposure, the role of the new National Toxicology Program (NTP) Center for Reproductive Toxicology, how to best assess childhood risk, the latest in communicating risk in the courtroom and to the public, and new issues in risk management.

The first two days will cover current issues and the third day will focus on children's health. The extended-day workshop seeks to present a balanced array of perspective on the scientific (not policy) issues associated with the special topic. The children's health workshop is organized to answer topical questions from three segments:

1. Are infants and children uniquely susceptible to agents, as compared with adults? What is the evidence for children having special sensitivities?
2. What are the special exposure issues for infants and children? How are the children's exposures unique, compared with adults?
3. What are the current risk assessment practices regarding children and do they adequately protect children from excess risks? If not, how might they be modified and why? What kinds of research issues need to be addressed, and with what kinds of data? How should we be doing child health risk assessment, given the data that we presently have?

Some speakers in the first two days include Dr. Christopher DeRosa, Division of Toxicology, Agency for Toxic Substances and Disease Registry, who will speak on new guidance in risk assessment from a public health perspective, and Dr. Richard Jackson, Director, National Center for Environmental Health, Centers for Disease Control, who will discuss how biomarkers can be used to improve exposure assessment. EPA's new Cancer Risk Guidelines will be addressed by Dr. Jeannette Wiltse, Director, Health and Ecological Criteria Division, Office of

Water, EPA.

Three case studies applying biologically based modeling with generic lessons learned will be presented by Drs. Suresh Moolgavkar, Mel Andersen, and Rory Connolly. Reproductive risk receives special emphasis from three speakers: Dr. Mildred Christian, who will discuss testing protocols to meet recent legislative mandates, Dr. Michael Shelby, who will discuss the objectives of the new NTP Center for the Evaluation of Risk to Human Reproduction, and Dr. Dan Krewski, who will discuss the benchmark approach for reproductive toxins. Also speaking are Dr. Jane Lovell, Partner, McCutchen, Doyle, Brown & Emerson, on the use and abuse of risk assessments in civil litigation; Dr. Lester Lave, Professor of Economics, Carnegie-Mellon University, on recent developments in risk management; and Dr. Rae Zimmerman, New York University, on social dimensions of risk.

The workshop is recommended for anyone who wants to understand the basic principles and the newest developments in the field of risk assessment, risk management, and risk communication. Speakers on the topic of children's susceptibilities during the extended day are Dr. Jennifer Seed, Head, Children's Health, Office of Pollution Prevention and Toxic Substances, EPA, and Dr. George Daston, Senior Toxicologist, Procter & Gamble.

Other speakers on Children's Health Risk Assessment and Children's Exposures include Dr. Carole Kimmel, Senior Scientist, National Center for Environmental Assessment, EPA; Dr. Steven Galson, Scientific Director, Office of Children's Health Protection, EPA; and Dr. Roy Albert, Chairman Emeritus and Professor, School of Environmental Medicine, University of Cincinnati.

Risk of Extreme and Rare Events with Application to System Acquisition, Natural and Man-Made Hazard Mitigation, and Infrastructure Rehabilitation

Yacov Haimes, Jim Lambert, Chairs

For 1999, the SRA is organizing the workshop "Risk of Extreme and Rare Events with Application to System Acquisition, Natural and Man-Made Hazard Mitigation, and Infrastructure Rehabilitation." The workshop will focus on rare and extreme events within the overall risk-based decision-making process, where trade-offs among costs, benefits, and risks can be generated and evaluated. Hands-on application of extreme-event analysis to problems in system acquisition (e.g., software acquisition, cost overrun, and schedule delay), natural and man-made hazard mitigation (e.g., floods, drought, earthquakes, industrial accidents), and infrastructure rehabilitation (e.g., water-distribution and navigation systems) will be part of the workshop experience.

The workshop is recommended for contracting officers, engineering and management consultants, technology managers, systems analysts, environmental analysts, hazardous waste managers, and educators.

For information contact Dr. Yacov Y. Haimes, Director, Center for Risk Management of Engineering Systems, Olsson Hall, University of Virginia, Charlottesville, VA 22903; 804-924-3803; fax: 804-924-0865; or Dr. James H. Lambert, Research Assistant Professor, Center for Risk Management of Engineering Systems.

Wrangling Variability and Uncertainty: How Risk Analysis Draws Quantitative Conclusions from Sparse, Incomplete, and Qualitative Information, 9-10 November, Washington, D.C.

Scott Ferson, Chair

"Wrangling Variability and Uncertainty: How Risk Analysis Draws Quantitative Conclusions from Sparse, Incomplete, and Qualitative Information," will be held 9-10 November in Washington, D.C. This two-day workshop features in-depth introductions to several of the most important tools for quantitative uncertainty analysis, including two-dimensional Monte Carlo methods, the maximum entropy criterion, fuzzy arithmetic, Bayesian approaches, rule-based modeling, and bounding methods. The workshop will explain the advantages of each particular method, review its assumptions and data requirements, and illustrate its use with an example problem drawn from the pages of *Risk Analysis*. These examples will include discussions of how input distributions are selected and how they are manipulated in calculations. The workshop will also consider the practical limitations and drawbacks of each approach and spell out the situations in which it cannot or should not be used. By emphasizing the differences among the methods, the discussions will explore the circumstances in which one approach might be favored over the others as well as the possibilities for combining the approaches. Participants will have opportunities for hands-on experience with the important software tools that make these methods accessible to practicing risk analysts. There will be ample time for open discussions about the methods and the underlying philosophical issues about variability and uncertainty. The workshop is recommended for analysts wanting to expand their repertoire of methods for handling uncertainty and variability in assessments, managers and decision makers needing to understand the implications of using a particular analytical approach, and public information officers or liaisons seeking a better appreciation for how quantitative assessments are performed and how their results should be interpreted.

Uncertainty: Its Nature, Analytical Treatment, and Interpretation, May 1999, Long Island, New York

Scott Ferson, Chair

The SRA is planning a forum titled "Uncertainty: Its Nature, Analytical Treatment, and Interpretation" which will take place during May 1999 on Long Island, New York. This two-day forum will bring together theorists and practitioners in risk analysis, policy making, philosophy, and computer science to address the emerging issues about what it means to admit we're unsure. The forum will be focused by short presentations by invited speakers and will allow ample time for open-format discussion and debate among all participants. The questions to be addressed include (1) What's the real difference between wishful thinking and a prudent assumption?, (2) Is it essential to distinguish uncertainty from variability and ambiguity?, (3) Can Bayesian rationality be consistent with democratic decision making?, (4) Is probability theory the only consistent calculus for handling uncertainty? (5) What are the practical implications of epistemological constraints?, and (6) When is a decision defensible even if the data it's based on are incomplete? ◇◇



Specialty Groups

The Food/Water Safety Risk Specialty Group

Debra Street, Interim Secretary

The Food/Water Safety Risk Specialty Group is planning to hold a workshop immediately preceding the Society for Risk Analysis Annual Meeting in Arizona in December 1998. Peg Coleman and Richard Williams, Jr., are organizing this technical workshop which will emphasize methodological issues that impact microbial risk assessment from farm to table. The Specialty Group is also voting on bylaws, and the results of this vote will be available this fall.

Michael McElvaine met with the IAMFES Risk Assessment Professional Development Group in August 1998. He initiated a dialogue between our Specialty Group and the IAMFES group in order to begin to establish communication and sharing of information between the two groups. The IAMFES group is planning a workshop that will compare and discuss the United States and Canada risk assessment documents regarding *Salmonella enteritidis* in eggs. This workshop will be held in early 1999 in Washington, D.C.

If you would like to know more about or join the Food/Water Safety Risk Specialty Group, please contact Debra Street, interim secretary, at 202-205-5327 or e-mail: <das@cfsan.fda.gov>.

Risk Communication Specialty Group

Robert J. Griffin, Chair

Schedule variety of papers, posters, platforms, symposia for Phoenix

The Risk Communication and Perception track at the 1998 SRA Annual Meeting in Phoenix, 6-9 December, will include 48 papers in 11 paper sessions, 11 papers in a poster session, and 9 papers in a poster/platform session in which presenters first give a brief oral synopsis of their papers to the audience before standing next to their poster displays to discuss their work with interested individuals. Also included on the schedule are two symposia, one examining the role of trust in risk communication and the other the significance of "stigma" in risk perception and policy making.

Among the paper session topics are "Risk Communication in Democratic Decision-Making," "Stakeholder Involvement in Risk Assessment and Management," "Media Coverage of Risk," "Risk Perception Across Cultures," and "Communicating Health Risks."

"Section officers were especially pleased that the Risk Communication and Perception track will include 15 papers and posters presented by students," said Richard Rich of Virginia Polytechnic University in Blacksburg, Virginia, who is vice-chair/chair-elect of the Risk Communication Specialty Group (RCSG). Rich helped plan the convention sessions at the SRA programming meeting held in Alexandria, Virginia, last June.

Offer preconvention sessions in risk communication

Risk Communication Specialty Group members have organized a couple of preconvention sessions for Sunday, 6 De-

ember, that focus on communicating with the public about risks.

A morning-only workshop on "Communicating about Health, Safety, and Environmental Risks to the Public" is being offered by Sharon and Kenneth Friedman of Lehigh University. The Friedmans have conducted numerous workshops of this type throughout the country and via satellite. Sharon Friedman explained that this workshop will introduce technical experts, managers, and others to the problems of communicating about complex and uncertain health, safety, and environmental issues with various stakeholders, including the public and the mass media.

This workshop "will give those who attend an understanding of what is currently known from research about the effectiveness of risk communication techniques and provide suggestions about what it takes to be a successful risk communicator," she said. "It also will examine how to communicate about health and safety issues to many stakeholders, including employees, and how to get ahead of the curve with long-term planning." Finally, it will review mass media coverage of health, safety, and environmental risk information and provide guidelines for interacting successfully with the media. "The workshop will include useful principles for anyone who must communicate about health, safety, and environmental issues to a variety of audiences," she said.

The second workshop, a daylong offering titled "Communicating Risk Management Programs to the Public," is designed to help U.S. companies comply effectively with the Risk Management Program (RMP) Rule, which is part of the U.S. Environmental Protection Agency's (EPA) Clean Air Act Amendments of 1990. This rule was passed to protect the general public from accidental chemical releases by increasing preparedness levels of companies with high-risk operations, explained workshop organizer Virginia Sublet of the School of Medicine and Public Health at Ohio State University in Columbus, Ohio. RMP must be submitted to the EPA by 21 June 1999.

"The goal of the Risk Management Program is to provide information about potential health and safety risks to communities located near plants," Sublet said. "As a result, several thousand U.S. companies are faced with the challenge of communicating worst-case accident scenarios to the public. The objective of this one-day workshop is to teach attendees the necessary skills to develop successful community partnerships."

Sublet said that the workshop will provide those who attend with an understanding of the basic principles of risk communication, the successful routes of communication, how to define publics, the skills necessary to build effective messages, and the lessons learned from communicating with the public. "The skills learned at this workshop can be applied to all areas where effective communication with stakeholders is desired," she observed.

Along with Sublet, presenters at this workshop include Richard Rich, Virginia Polytechnic University in Blacksburg, Virginia; Jan Temple of the Medical University of South Carolina in Charleston, South Carolina; Carol Macao, EPA team leader for risk communication; and Caron Chess and Bill Hellman of the Center for Environmental Communication at Rutgers University in New Brunswick, New Jersey.

Announce nominees for fall elections

The Risk Communication Specialty Group (RCSG) will be electing one vice-chair/chair-elect and three members of the specialty group's five-person executive committee in mail balloting this fall. Those elected will take office at the RCSG annual business meeting in December. The current vice-chair/chair-elect, Richard Rich of Virginia Polytechnic Institute, will become chair at that time. The new RCSG vice-chair/chair-elect will serve for one year in that position and then take over duties as chair the following year. The three new executive committee members will serve for two years.

Nominated and running unopposed for vice-chair/chair-elect is Jan Temple, Director of Professional Development for Continuing Medical Education at the Medical University of South Carolina in Charleston. Temple is currently a member of the RCSG executive committee, with a term expiring at the end of 1999. On the ballot for the RCSG executive committee will be Caron Chess, director of the Center for Environmental Communication at Rutgers University in New Brunswick, New Jersey; Jon Klauenberg, Brooks Air Force Base, Texas, lead risk communicator for the U.S. Air Force; Katherine McComas, doctoral student in communication at Cornell University in Ithaca, New York; and Virginia Sublet, associate professor in the School of Medicine and Public Health, Ohio State University, Columbus. RCSG members will be mailed ballots in the fall. Members who have not received ballots by 31 October and want to vote should contact RCSG chair Robert Griffin at 414-288-6787 or <GriffinR@vms.csd.mu.edu>.

Risk Science & Law Specialty Group

Wayne Roth-Nelson, Chair

The proposed program for the Risk Science & Law Specialty Group (RS&LSG) at the SRA Annual Meeting in Phoenix, 6-9 December, follows:

Risk Science & Law I: Hot Topics in Toxic Tort Litigation

Presentations by a judge and a leading expert witness who specialize in toxic injury lawsuits will be featured in this segment, followed by a panel including both lawyers and scientists. Greater authority of trial judges to exclude expert testi-

mony following the Daubert and Joiner decisions of the U.S. Supreme Court will be highlighted. Other issues may include the presentation of risk distributions and risk comparisons to a jury, the value of hypothetical versus actual risks as trial evidence, and the role of clinical medical testimony in toxic risk litigation.

Risk Science & Law II: Law & Science Policy Issues in Regulatory Reform

This segment will focus on issues raised by legislative and administrative initiatives to reform public risk assessment and risk management practices. Topics may include the use of cost-benefit analysis in risk assessments and the utility of risk distributions or central tendencies in making regulatory decisions, as well as peer review and judicial review of risk assessments.

Risk Science & Law III: Poster Session on Risk and the Courts

This segment will repeat last year's popular poster session to provide analysis of benchmark regulatory and toxic injury cases argued with evidence of health and environmental risk. The updated, expanded version of its poster session on risk science in case law will be presented by numerous members of the RS&LSG. The poster materials are organized into an overall topical outline.

Wendy Wagner and John Applegate are assembling the poster materials. Wendy and John will be contacting RS&LSG members in the near future to solicit their contributions, but all SRA members who wish to participate are welcome to contact John at <johnapplegate@law.indiana.edu> or Wendy at <wew@po.cwru.edu>.

Election for RS&LSG Chair

At the Annual Meeting the Specialty Group will elect a new Chair to succeed Wayne Roth-Nelson, founder and first elected Chair. RS&LSG members soon will receive a Nomination Form by e-mail that will be returned to Katy Kunzer, the current Secretary-Treasurer.

Ballots will be furnished at the Annual RS&LSG Business Meeting in Phoenix. Absentee ballots will be supplied on request. All other RS&LSG officers have terms that expire in 1999 or 2000. ◇◇◇



News and Announcements

IGES Announces Its 1999 Open Meeting

The Japanese non-government organization, the Institute for Global Environmental Strategies (IGES), through its International Scientific Planning Committee, announces its 1999 Open Meeting of the Human Dimensions of Global Environmental Change Research Community to be held 24-26 June 1999 at Shonan Village in Kanagawa, Japan.

Plenary talks and commentaries are planned on the following topics: Conflict and the Environment; Lifestyles, Attitudes, and Behavior; Decision-Making Processes in Response; Land Use and Land Cover Change; Valuation of Ecosystem Services; and Demographic Change and the Environment.

In addition to plenary talks, there will be a large number of sessions devoted to the presentation of research results. The Committee encourages the participation of researchers from a broad range of disciplines, including researchers from developing countries and countries with economies in transition, as well as young researchers from all over the world. For these latter categories of researchers, the aim is to provide financial support for some participants whose abstracts are selected for the meeting. The deadline for submission of abstracts is **1 November 1998**.

For further information, including instructions for the submission of abstracts, consult the IGES Web site at <<http://www.iges.or.jp/>>, or send an e-mail to <hdgec@iges.or.jp>, or mail/fax your inquiry to "99 Open Meeting Secretariat, IGES" at Shonan Village Center, 1560-39, Kami-yamaguchi, Hayama, Kanagawa 240-0198, Japan; fax: +81 468 55 3709. ◇◇◇



Chapter News

Metro Chapter

Rao Kolluru, President

During 1997–98, the Metro Chapter (NY-NJ-CT) combined full-day seminars with informal evening meetings. We have also broadened the field of coverage to include not only chronic human health and ecological risks but also acute risks and social concerns. This was exemplified by the meeting last February at New York University where Yacov Haimos expounded on “Risk of Extreme and Catastrophic Events,” focusing on infrastructure and cyber risks, and Rae Zimmerman spoke about “Integrating Social and Engineering Concerns in Risk Management.” The Metro Chapter list now includes 150 members and prospects. We would like to remind current and potential members that the dues (\$15/year) can now be paid with the national SRA annual dues.

Our next meeting is expected to be in late October to discuss compliance with the Clean Air Act 112 (r) regulations including the Risk Management Plan. (For additional information, contact Rao Kolluru at 973-316-9300 or David Lipsky at 914-773-4436.) Water and wastewater treatment facilities, among others, have expressed strong interest in this topic. Our survey of members also revealed interest in endocrine disruptors, mold and mildew indoor air pollution, landscape-scale risk assessment, and repetitive strain injury. These and other topics will be considered for upcoming meetings. We will explore joint sponsorship with the Air and Waste Management Association, the Society of Environmental Toxicology and Chemistry, the Society of Toxicology, New York and New Jersey departments of environmental protection, and others. Two of our meetings have been cosponsored by Columbia University and New York University.

New England Chapter

Marilyn Lourandos

The past season the New England Chapter and the Boston Risk Assessment Group had an exciting lineup of speakers from academia, government, and industry, arranged by our outgoing President, Lorenz Rhomberg of the Harvard School of Public Health. A special thanks to our retiring President for a job well done.

A special feature this year was a symposium on expert testimony that featured mock direct and cross examination of a scientific witness followed by a panel discussion on “Standards of Proof in Science and Law.” Participants included Janet Keating-Connolly (who organized the symposium), David Governo, Eileen Kavanagh, Chuck Caldart, and Nick Ashford.

Jo Anne Shatkin arranged a joint meeting with the Licensed Site Professional Association. A distinguished panel discussed the data obtained from the most recent “round robin” analytical testing organized by the state of Massachusetts for quantifying EPH (extractable petroleum hydrocarbons) and VPH (volatile petroleum hydrocarbons) found in petroleum contaminants.

Other meetings in the fall focused on endocrine disruptors (with talks by Rey de Castro on in vitro methods and Ruthann

Rudel on Cape Cod groundwater), statistical models for joint analysis of continuous and quantal endpoints in developmental toxicity (Meredith Regan), and assessing public health impacts of Superfund sites (Dave Brown).

Spring speakers included Ronnie Levin, U.S. Environmental Protection Agency, who discussed a cost-benefit analysis of filtering public water supplies, arguing that savings in prevented illness are large compared to the cost of implementing the filtration system. Josh Cohen, Gradient Corporation, discussed a hypothetical comparison of cancer risks incurred by residents living near a Superfund site to risks of occupational fatality incurred by workers employed in that site’s remediation, concluding that risk managers should consider occupational hazards when evaluating remedial alternatives.

Charlie Menzie, Menzie-Cura & Associates, talked about shrimp viruses imported into the United States with foreign shrimp catches and the risks they pose to our native shrimp industry. He addressed application of ecological risk assessment and involvement of stakeholders in the process. To involve the audience, Dr. Menzie brought a very large plate of delicious shrimp for everyone to sample!

Paul Price and Russ Keenan, then of ChemRisk, discussed their methods for simulating exposure histories as a series of separate exposure events that vary randomly from day to day, seasonally, and with age. These histories can be used to determine relevant dose rates from peak exposure to lifetime average daily dose from multiple sources in different populations or age groups and can be combined with toxicokinetic models to predict fluctuating body burdens.

Dale Hattis, Clark University, discussed his work for the California Environmental Protection Agency (CA-EPA) on a probability-tree model for cancer potency of diesel particulates that endeavored to represent the reported views of the CA-EPA analysis as relative weights given to choices of data sets, mathematical models, and past-exposure assumptions for epidemiological studies. Harlee Strauss discussed her experience as an “expert witness” for four families of children with neuroblastoma alleged to have resulted from exposures during remediation of a nearby contaminated site.

In a session on arsenic, Barbara Beck described Gradient Corporation’s work in the development of a multi-pathway arsenic exposure model at a former copper smelter site that accounts for medium-specific absorption and bioavailability of arsenic in soil and dust, resulting in a good fit between predicted and measured arsenic excretion rates. Andy Smith, Maine State Toxicologist, described work on the exposures children receive by rubbing their hands across “pressure-treated” lumber, wood preserved with chromated copper arsenate. Measurements of dislodgeable arsenic and hand-to-mouth activity suggest that children who have frequent contact with wood surfaces can get significant exposures. Andy recommends that wooden structures be routinely coated with a sealant to reduce exposure to arsenic. (Andy tested his children’s hands for arsenic exposures on his own deck.)

David R. Brown, Sc.D., of NESCAUM and ATSDR took over the Presidency of the Northeast section in September. If anyone will be in the Boston area and would like to come to or present at our meetings, please contact Dave at <NPAWLET@aol.com> or 203-259-5698. Jo Anne Shatkin,

Menzie-Cura & Associates, Inc., (jashat@ma.ultranet.com) is our new President-elect as of September 1999. Congratulations Jo Anne.

Northern California Chapter

Elizabeth Miesner, Treasurer

On 3 October 1998, the Northern California Chapter presented "Probabilistic Risk Assessment: A Hands-On Workshop." The workshop was divided into two parts, with the morning session focusing on an introduction to probabilistic risk assessment and the afternoon on model application. Topics and speakers included: "Workshop Overview" (Leonard Levin, EPRI); "What is Probabilistic Risk Assessment?" (Thomas McKone, University of California at Berkeley); "Conducting a Probabilistic Risk Assessment" (David Burmaster, Alceon Corporation); "Development of Probabilistic Risk Assessment for California's Hot Spots Program" (Melanie Marty and Bob Blaisdell, Office of Environmental Health Hazard, California Environmental Protection Agency); "Hands-On Case Study: California's CALTOX Model" (Ned Butler and Kimi Klein, Toxic Substances Control Division, California Environmental Protection Agency); and "Hands-On Case Study: Probabilistic Exposure and Risk Via Ingestion of Food and Water" (Christian Seigneur, Atmospheric and Environmental Research). The workshop was held in the computer laboratory at the Lawrence Hall of Science at the University of California at Berkeley. Participants had access to current-version PowerPCs and Windows95 machines for suggested exercises. Support software was provided through the generous cooperation of Decisioneering, Inc. For further information contact Robert Howd, Office of Environmental Health Hazard Assessment, Cal/EPA, 2151 Berkeley Way, Annex 11, Berkeley, CA 94704; <bhowd@berkeley.cahwnet.gov>; or 510-849-5193. Also coming up soon will be election of officers for the new calendar year. Suggestions for nominations from chapter members are welcome.

Ohio Chapter

Cathy Pickrel, President

The Ohio Chapter is busily planning an event for October 1998 on "Assessing and Managing Everyday Human Exposures and Risks" to be held Thursday, 15 October, at Battelle Memorial Institute, 505 King Avenue, Columbus, Ohio. The event will be a day of presentations with lunch and possibly a poster session. There are plans for at least five issue areas to be covered (including food, pesticides, weather, microbes/diseases, and travel). Speakers are being asked to cover how they assess risk for their topic area, how they characterize the risks (to give to risk communicators), and/or how the risk is communicated to the applicable audience. The Ohio Chapter is also pursuing the development of an Internet Web site on the Society for Risk Analysis' home page. Steve Brown has provided welcome feedback and instruction on what it will take to get it off the ground. The Chapter sees this as a good opportunity for allowing Chapter members greater interaction and communication opportunities. For information contact Cathy Pickrel, President, at 614-790-4555 or <cpickrel@ashland.com>.

Research Triangle Chapter

Jonathan Wiener, President

The Research Triangle Chapter (SRA-RTC) will resume its monthly seminar series this fall. In addition, we are helping to organize a conference on the use of risk assessment in North Carolina environmental management. The conference will be held in November 1998 at the University of North Carolina - Chapel Hill (UNC), and is being organized collaboratively by UNC, state agencies, business groups, and others. For information on this conference, contact SRA-RTC Councilor Douglas J. Crawford-Brown, UNC, at 919-966-6026 or <douglas_crawford-brown@unc.edu>, or SRA-RTC Secretary Martin Clauberg, Ensafe Inc., at 919-851-1886 or <mclauberg@ensafe.com>.

Another conference being held in the Research Triangle area this fall and of interest to SRA members is "Societal Implications of Hormesis," 5-6 October 1998, at NIEHS. For information on this event, contact Edward Calabrese, University of Massachusetts, 413-545-3164.

For further information on SRA-RTC activities, contact SRA-RTC President Jonathan Wiener, Duke University, at 919-613-7054 or <wiener@faculty.law.duke.edu>; or SRA-RTC Secretary Martin Clauberg, Ensafe Inc., at 919-851-1886 or <mclauberg@ensafe.com>.

Chapitre Saint-Laurent

Sylvain Loranger, President of the 1999 organizing committee
Louis Martel, President of the Chapitre Saint-Laurent

As the first regional chapter accredited by two international associations, the Society for Risk Analysis (SRA) and Society of Environmental Toxicology and Chemistry (SETAC), Chapitre Saint-Laurent aims to stimulate and facilitate the exchange and communication between Quebec's experts involved in all aspects of environmental chemistry and toxicology, ecotoxicology, and risk analysis. Since its foundation in November 1996, Chapitre Saint-Laurent has already held two annual workshops.

In May 1997, the first workshop was held jointly with the Laurentian Chapter of SETAC in Montreal on the theme "The Environment: a Resource to Manage." More than 100 participants were present to assist in more than 40 platform presentations, a poster session, and a workshop titled "Is Risk Analysis a Valuable Tool to Manage Environmental Risk?" The second workshop was held in Quebec city last June. This year's theme was "Environmental Management in Quebec: The Role of the Risk-Based Approach." With a plenary presentation by Mr. Michael Cloghesy, President of the Quebec Center for Industry and the Environment; 24 platform presentations on risk analysis perspectives, environmental management, biomarkers, and more; and a poster session, this two-day workshop was a great success.

More than 110 environmental scientists and managers from academia, industry, consulting, and government attended the workshop. One of the highlights of this workshop was the official announcement by Mr. Paul Bégin, Deputy Minister of the Environment and Wildlife of Quebec, of the new provincial guidelines for the management of contaminated sites which includes explicitly ecological and human risk assessment in

addition to traditional criteria-based evaluation for soil and groundwater contamination.

The annual meeting was held during the Quebec workshop. It was the occasion to elect new members to the Board of Directors. The 1998–1999 Board of Directors includes President Louis Martel, Quebec Ministry of Environment and Wildlife, President-elect Anne-Marie Prud'homme, Hydro-Quebec, Past President Louise Houde, Hydro-Quebec, Treasurer Raynald Chassé, Quebec Ministry of Environment and Wildlife, Secretary Guy Lefebvre, Hydro-Quebec, Councilor Jacques Bureau, École Polytechnique de Montréal, Councilor André Fortin, University of Quebec at Chicoutimi, and Councilor Pierre-Yves

Robidoux, Biotechnology Research Institute.

We expect for 1998–1999 to have many other activities, including bimonthly conferences (one was held on 16 September with Dr. Geoffrey I. Sunahara of the Biotechnology Research Institute who discussed ecotoxicological tools for soil toxicity assessment), the formation of scientific comity on different topics related to risk assessment, the creation of a student comity, and, of course, the next annual workshop to be held in Montreal in May or June 1999.

Finally, we encourage you to visit our Web site to learn more about us and about our next activities (www.ebisoft.com/saint-laurent). ◇◇



Member News

Rao Kolluru

Dr. Rao Kolluru will be presenting the paper "Applying Risk Assessment and Management Toward Sustainable Development" at the First China-Japan Conference on Risk Assessment and Management in Beijing in November 1998.

Rao's new book, *In Quest of the Infinite*, is fresh off the press. Combining science and spirit, the book offers practical guidance for everything from business to wellness with illuminating parables. The book is available from BookMasters at phone: 800-247-6553.

Russell Keenan and Paul Price

SRA members Russell Keenan, Ph.D., and Paul Price, SRA treasurer, have joined the New England operations of Ogden Environmental and Energy Services.

Keenan, Vice President, Senior Risk Assessment Scientist, is an expert in the risk assessment of dioxins, furans, and PCBs, with 15 years of experience as a biologist and toxicologist. He is adept at using recent scientific findings to help his clients develop cost-effective strategies for site remediation and environmental risk management. He has conducted over 100 human health and wildlife risk assessments for CERCLA and RCRA sites, and for exposures to environmental emissions, effluents, and soil contaminants from industrial activities. He provides regulatory negotiations and expert witness support

for clients on environmental toxicology and risk assessment issues. Keenan's new e-mail address is <rekeenan@ees.com>.

Price, Senior Risk Assessment Scientist, has 18 years of experience. He is an expert in exposure assessment and probabilistic modeling for characterizing exposure and toxicity criteria. He is the developer of microexposure event modeling and other advanced techniques for characterizing exposure. Price has extensive experience in pesticide registration, policy analysis, and litigation support. Price's new e-mail address is <psprice@ees.com>.

Keenan and Price are among six new staff members who will be working from a Portland, Maine office. All were formerly with McLaren-Hart/ChemRisk.

Ralph L. Keeney

Ralph L. Keeney is a co-author of the new book, *Smart Choices: a Practical Guide to Making Better Decisions* (Harvard Business School Press). Other authors are John S. Hammond and Howard Raiffa.

Smart Choices offers risk analysts (1) a relatively simple way to introduce and motivate the concepts of prescriptive decision making for their students, family members, and clients, (2) easy-to-understand and easy-to-use techniques for implementing these ideas on personal or professional decisions, and (3) the basic foundation for any course on decision making. ◇◇

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 150 words. Camera-ready ads are accepted. There is a charge of \$100 for each additional 50 words.

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. Ads placed on the Web site will usually appear several days after receipt.

Members of SRA may place, at no charge, an advertisement seeking employment for themselves as a benefit of SRA membership. For additional information see the Web site at <www.sra.org/policy.htm#events>.

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).



RISK newsletter
is published by
the Society for
Risk Analysis

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SRA Web Site: <http://www.sra.org>

Deadline for RISK newsletter submissions

Information to be included in the **Fourth Quarter 1998** SRA RISK newsletter, to be mailed at the beginning of January 1999, should be sent to the Editor at the address above no later than **20 November**.



Advertisements

Life Sciences at Ecology and Environment

Ecology and Environment, Inc. (E & E), an international environmental consulting firm, has an immediate opening for an experienced Ph.D. in the Life Sciences with training/work in biophysics, toxicology, pharmacology, or molecular biology.

The position requires sound scientific skills and the ability to apply innovative approaches to complex litigation and risk assessment involving environmental and human health issues.

Prior litigation support experience and trade association participation are highly desirable.

If interested, please send your résumé, salary expectations, and writing sample to:

Ms. Janet Steinbruckner
Director of Human Resources
Ecology and Environment, Inc.
368 Pleasant View Drive
Lancaster, NY 14086
Fax: 716-684-0844
E-mail: JSTEINBRUCKNER@ene.com
Web: www.ecolen.com

Scientific Project Manager

A nonprofit scientific institute working in the areas of health and environmental sciences seeks a mid-level scientific project manager with scientific consulting/association background and understanding of basic toxicology, risk assessment, and regulatory issues.

This responsible mid-level position requires the ability to work as part of a team, as well as experience in all aspects of committee management and coordination including research project development and management, literature reviews, technical writing, conference organization, arrangement of committee meetings, minute writing, budget preparation and monitoring, and development of correspondence and reports. **Master's degree in scientific field such as chemistry, toxicology, environmental health, etc., required.** WordPerfect and Quattro Pro for Windows helpful. Salary commensurate with experience; outstanding benefits.

Send résumé and salary history to Human Resources, ILSI, 1126 Sixteenth St., N.W., Washington, DC 20036, or fax to 202-659-3859. EOE.

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