RISK *newsletter*

Published by the SOCIETY for RISK ANALYSIS

Volume 22, Number 2 Second Quarter 2002

Economics and Benefits Analysis Specialty Group Formed

Mary Walchuk

The Society for Risk Analysis (SRA) announces the formation of the Economics and Benefits Analysis Specialty Group (EBASG). The officers of the new group are Chair Robert Scharff and Treasurer Scott Farrow.

"The group was formed just prior to last year's annual meeting in Seattle as a result of an increase in the number of SRA members who have an interest in economics," said Scharff. "This is because many people in the SRA have begun to realize that the links between cost-benefit analysis and risk assessment are much greater than previously realized. Risk assessment is a part of estimating economic benefits. In addition, the rapidly growing field of countervailing risk estimation requires both risk assessment and economic analysis to show changes in risk resulting from market responses to regulations."

"The focus of the group is the integration of economics and risk assessment," Scharff continued. "We hope to provide a forum where economists can share their experiences and discuss new developments in the integration of economics and risk assessment. We would also like to improve the dialogue between economists and noneconomists. A better understanding between these groups would lead to a risk analysis process that satisfies the needs of scientists, policy makers, and economists."

Although just formed, the group already has become active in the SRA. At the 2002 Annual Meeting in New Orleans, the EBASG plans to sponsor a symposium and cosponsor a workshop. The group will also be holding a planning meeting in Washington, D.C., at which local members can discuss their preferences regarding the direction of the group. Scharff encourages all SRA members to email him with any ideas they may have (Robert.Scharff@cfsan.fda.gov).

"While this group will probably be most interesting to economists, we hope that others who are interested in the economics of risk will participate," Scharff commented. "We would like to be able to both educate the risk community about what economics can bring to the table and, at the same time, learn what we can from the risk community."

SRA Specialty Groups

The Economics and Benefits Analysis Specialty Group joins seven other Specialty Groups which make up a significant component of SRA: Dose Response, Ecological Risk Assessment, Engineering, Exposure Assessment, Food/Water Safety Risk, Risk Communication, and Risk Science & Law.

"The Specialty Groups came out of a proposal by B. John Garrick, when he was President, to set up several Divisions in order to attract people with differing specialties to the SRA," according to Society Historian Paul Deisler. "There was concern that 'Division' would be too divisive a term for an essentially integrative Society. The first name chosen was therefore 'Interest Groups,' soon changed to 'Specialty Groups.'" Following, on page 4, are descriptions provided by the chairpersons showing how active these groups are in the Society.

*(**Specialty Groups,** continued on page 4)*

Inside *RISK*

ATTENTION SRA MEMBERS

See page 5 for information on the Exposure Assessment Specialty Group survey.

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

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

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

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

Society for Risk Analysis
Web Site
www.sra.org

President's Message

As promised in the last RISK *newsletter*, the Society is encouraging members to share information about events and activities related to the September 11 and anthrax events. There are several relevant discussions in this issue, including a summary of the NATO-Russia Advanced Research Workshop, "Social and Psychological Consequences of Chemical, Biological, and Radiological Terrorism" (page 10). Bringing together international experts and policy makers from 10 countries, the workshop focused on a deeper understanding of perceptions, emotions, and psychological responses in the wake of terrorist events and threats.

Also summarized in this issue is the 22 March Congressional Briefing on Developing Pharmaceuticals for the Fight Against Terrorism (page 14). Part of a broader series on vulnerability and security, this briefing brought together experts to address how industry, academia, and government can develop new countermeasures to biological threats given the cost, time, and risk factors involved.

I thank the authors of these summaries for keeping the Society informed and encourage all of our members to provide similar summaries of their activities for future issues of the *newsletter*.

Also of note in this issue is the announcement of the SRA 22nd Annual Meeting in New Orleans (page 3). The call for abstracts has already been mailed to members, and information has been posted on the SRA Web site. This year's meeting will again feature a Best Paper Competition. A collection of winning and finalist papers from last year's meeting is currently being reviewed for a special issue of *Risk Analysis*.

Planning continues for the first World Congress on Risk. We are actively working with other professional societies interested in the science and practice of risk analysis to develop an international program. The Congress will take place in the third week of June 2003 in Brussels. It will be structured to bring participants together for morning plenary and breakout sessions, followed by concurrent symposia sessions in the afternoon. If you have an interest in assisting with the planning activities, please let me know.

Rob Cantor

The World of Risk Analysis

Society for Risk Analysis 22nd Annual Meeting

8-11 December 2002, New Orleans Marriott, New Orleans, Louisiana

The 2002 Annual Meeting of the Society for Risk Analysis will be held 8-11 December, with the theme "The World of Risk Analysis." Topics to be highlighted include the emergence of bioterrorism, computer viruses, risk harmonization, climate variability, contagious diseases, and systemic risks in air transportation, as well as the usual range of topics.

The meeting will be located at the New Orleans Marriott in New Orleans, Louisiana. The Marriott is centrally located within walking distance of the famous French Quarter and near many affordable restaurants, nightclubs, and shops. The New Orleans Marriott has over 1,300 guest rooms and amenities that include sauna, swimming pool, health club, and in-room Internet access, hair dryers, and coffeepots.

Poster Sessions

Poster sessions will be grouped by subject and presented either in larger groups, with author attendance during meeting breaks, or in smaller groups, as poster-platform sessions. The latter include three-minute descriptions by authors at the start of each session, facilitated by a session chair assigned by the Program Committee.

Oral Presentations

Oral presentations will be grouped by subject and assigned a session chair by the Program Committee. Each oral presentation should take 15 minutes, followed by 5 minutes for audience questions and comments. Speakers will be required by session chairs to adhere to time limits.

Symposia

Symposia address a particular subject of interest through a multidisciplinary format. Symposium proposals are submitted as such and are not organized by the Program Committee. Generally, symposia follow the same format as the oral presentations and are limited to one 1 1/2-hour session to the extent possible. Preference will be given by the Program Committee to symposium proposals that truly reflect several risk-related disciplines.

Best Paper Competition

SRA invites presenters to submit a 5-10 page extended outline by 31 July in any one of the program topic areas to compete for Best Paper Awards. (Members must have submitted the "normal" abstract by 13 May 2002.) These extended outlines will be reviewed by the Program Committee, and a select number will be invited to submit a full paper by 16 October for the competition. The best papers will receive recognition at the meeting and possible publication in the Journal, *Risk Analysis*. Additional information about the Best Paper Competition is on the SRA Web site (www.sra.org).

Workshops

Workshops will take place on Sunday, 8 December, one day prior to the regular meeting sessions. Workshop proposals are evaluated by the Conferences and Workshops Committee, not the Program Committee. Workshops are generally half day (four hours) or full day (eight hours) and are educational in nature.

Exhibits '02

There will be an exhibition of risk- and exposure-related products and services at the Annual Meeting. Companies or individuals may exhibit computer software, data bases, or other products. For further information on exhibiting, contact Lori Strong (LStrong@Burkinc.com) or Sue Burk (SBurk@Burkinc.com) at 703-790-1745, fax: 703-790-2672.

Book Exhibit

The meeting will once again include a combined book exhibit. For $50 per title, books will be displayed and each attendee will be provided information through our list of publications. The list will include prices, any discounts that may be offered, and ordering information. For more information or book reservation forms, contact Lori Strong (LStrong@Burkinc.com) at 703-790-1745, fax: 703-790-2672.

Preliminary Program

Preliminary programs will be mailed to members of the Society, as well as to those nonmembers whose abstracts have been accepted. Final programs will be available at the meeting in December. Preregistration and hotel reservation materials will be mailed as a part of the preliminary program.

Presentation Information

Only high-quality standard 2x2-inch slides or overheads will be acceptable for use in oral presentations. Please be aware that a large number of submissions selected will be presented as posters. Poster board dimensions: 8' wide x 4' high. Poster presenters must be available at designated session times. Authors are encouraged to bring a written version of their papers for handout as there will be no published proceedings of the meeting.

Questions?

Program Chair: Bernard Goldstein, phone: 412-624-3001, fax: 412-624-3009, email: bdgold@pitt.edu
SRA Secretariat: phone: 703-790-1745, fax: 703-790-2672, email: SRA@BurkInc.com

*(**Specialty Groups,** continued from page 1)*

Dose Response Specialty Group

President Ron Brown

The Dose Response Specialty Group (DRSG), founded in 1994, focuses on issues in dose-response modeling for chemical and microbial hazards, particularly regarding low-dose extrapolation, variability and uncertainty, susceptible/resistant subpopulations, and physiologically based pharmacokinetic (PBPK) modeling. The group is open to all members of the SRA interested in biological and mathematical relationships between exposure and effect.

The DRSG offers a merit award to a student conducting graduate research in dose-response assessment. The research may be on any topic broadly related to dose-response assessment, including but not limited to laboratory investigation, methods development, comparative analyses, mathematical analyses, studies on strengthening the role of dose-response assessment in risk assessment, uncertainty analysis, harmonization, cancer and health effects other than cancer, dosimetry, pharmacokinetics, genetics, and molecular biology. More information on the Student Award can be found at http://www.sra.org/drsg/drsgawar.htm or by contacting DRSG Vice President Justin Teeguarden at jteeguarden@environcorp.com.

The DRSG typically sponsors a number of symposia at the SRA annual meeting. The DRSG also sponsors a mixer at the annual meeting to which we invite a speaker to address a timely and/or controversial issue in risk assessment.

Teleconference presentations are held by the DRSG on the first Tuesday of March, June, and September on topics of interest to the group. The next teleconference is scheduled for 4 June 2002. Dr. Rory Conolly from the CIIT will present a talk titled "Computational Modeling of Mechanisms of Nonmonotonic Dose Response: Androgen Receptor Activation and Tumor Incidence." New members and guests are welcome to join our meetings by simply calling 202-260-7280. When asked for the Four-digit code number, enter 0577#. In addition, DRSG members can participate in an online group to discuss issues and papers of interest. Sign up for the DRSG email list/discussion group by registering on YahooGroups at http://groups.yahoo.com/group/DRSG or contact Paul Schlosser (schlosser@ciit.org) for more information regarding the list.

The 2002 Executive Committee of the DRSG is as follows: President Ron Brown (FDA), President-elect John Lipscomb (EPA), Vice President Justin Teeguarden (Environ), Secretary/Treasurer Marc Rigas (EPA), Past President Paul Schlosser (CIIT), and Trustees at Large Ken Bogen (LLNL) and Lynne Haber (TERA). For more information about DRSG, visit our Web page at http://www.sra.org/drsg or contact Ron Brown at rpb@cdrh.fda.gov.

Ecological Risk Assessment Specialty Group

Chairperson Igor Linkov

The Ecological Risk Assessment Specialty Group (ERASG) was formed in the early 1990s in response to rapid developments in ecological risk assessment methods and their increasing application to risk management decisions, particularly at federal Superfund sites. Its presence acknowledges a need to have representation for ecological interests within the broad field of risk assessment and analysis.

The principle objective of the ERASG is to provide a forum for those interested in the application of quantitative risk assessment techniques to ecological and environmental risk management issues. The group's current focus includes a wide range of issues, including harmonization of human health and ecological risk assessment, and ecological risk assessment of physical and biological stressors, including physical disturbance, climate change, invasive species, and bioterrorism. We are also interested in promoting the applicability of newer techniques, such as Bayesian statistics and spatially explicit analysis, in ecological risk assessments.

The ERASG supports platform and poster sessions, symposia, and workshops at the annual SRA meeting. Working with the Conferences and Workshops Committee, the group may cosponsor other events, including SRA forums and conferences. The group's activities are coordinated with the Society of Environmental Toxicology and Chemistry (SETAC) and other professional societies.

Starting in 1999, the ERASG began collecting section dues of $10 to both identify those interested in the work of the group and to build a fund to support the annual business meeting/mixer, as well as other projects. After several years of informality, we hope this year to formalize the Group Chair election procedure. It is proposed that the Group Chair will serve a term of two years, beginning at the end of the annual business meeting that follows the election and continuing through the second annual business meeting that follows taking office. During the first year of his/her tenure, the Chair will organize group activities in strong collaboration with the Past Chair. During the second year, the Chair-elect replaces the Past Chair in working with the Group Chair. We would appreciate receiving your feedback regarding this policy.

At present, the Group operates with one officer, Chair Igor Linkov of ICF Consulting (phone: 617-498-5317, ilinkov@yahoo.com). The Past Chair (1998-2002) is Bruce Hope. The Chair typically recruits the volunteer assistance of several session and symposia chairs to identify topics and gather speakers and posters for the annual meeting.

Engineering Specialty Group

Chair Ali Mosleh

The Engineering Specialty Group was formed in 1989 in response to the general desire of the engineer members of SRA to have a vehicle for coordinating their activities within the Society and to serve as a forum for discussing technical and professional matters of interest to the engineering risk community. Risk analyses of engineered systems share specific characteristics, among which is the logic-based, mathematical formulation of risk scenarios. The applications are widespread, covering technologies such as nuclear power, chemical process, information systems, space, and transportation. Engineers were among the founders of the SRA and have continued their engagement and active participation in all aspects of the Society's life. Several of the SRA presidents, councilors, journal editors, and other officers have been members of the Engineering Specialty Group.

The group has sponsored or cosponsored numerous workshops, symposia, and special sessions as part of the annual meetings of the Society. Over the past 10 years the group has also cosponsored a number of professional gatherings and workshops with other communities outside SRA. The group hosts a gathering of its members during the SRA annual conferences, where plans are discussed for special activities by the group and its members. At the most recent meeting, which took place during the 2001 Annual Meeting in Seattle, the group thanked Dr. Vicki Bier for her great service to the Society as

the Engineering Area Editor of *Risk Analysis* over the past five years and announced that Dr. Ali Mosleh has accepted this responsibility effective January 2002. Mosleh is currently the Chair of the Engineering Specialty Group and can be contacted at 301-405-5215 or mosleh@eng.umd.edu.

Exposure Assessment Specialty Group

Chair Pamela Williams

The current objective of the Exposure Assessment Specialty Group (EASG) is to foster a better understanding of the magnitude and severity of physical, chemical, microbial, and other types of exposures that occur in the environment and to contribute to the improvement and sharing of information related to "state of the art" analysis methods.

For the upcoming annual meeting, the EASG is in the process of organizing several very interesting exposure-related symposia, as well as a fun and unique Mixer event. At the Mixer, we will solicit input regarding appropriate activities for the group, including consideration of sponsoring events.

The EASG is actively seeking new participants and encourages all SRA members to attend this year's exposure-related presentations/symposia and to take a more active role in upcoming events and activities. Chair Pamela Williams can be contacted at 720-406-8115, pwilliams@exponent.com.

ATTENTION ALL SRA MEMBERS: The Exposure Specialty Group is conducting a Web-based survey on how to improve the role of exposure assessment at SRA and would greatly appreciate your input. The results of this survey will be published in the next issue of the RISK *newsletter*. Please take a few moments to complete the survey, which is located at http://www.exponent.com/survey/esg_survey.asp.

Food/Water Safety Risk Specialty Group

Acting Chair Cristina McLaughlin

The Food/Water Safety Risk Specialty Group (FWSRSG) was formed in December 1996 as a response to the increasing interest by SRA members in risk issues related to food and water consumption. The FWSRSG is organized to focus on the particular risk analysis issues and challenges posed by hazards in the food and water consumed and used by humans and animals. Of primary concern are biological, chemical, and physical hazards that are naturally occurring or result from substances intentionally or unintentionally added during production or processing (such as pesticides, food additives, and drinking water disinfectants).

The objectives of the FWSRSG are to foster and promote the development, application, and improvement of risk assessment, risk communication, and risk management approaches and techniques for food and drinking water risks; to facilitate communication and interactions among organizations and individuals interested and engaged in food safety and drinking water risk analysis; and to foster and promote multidisciplinary interaction and collaboration among our colleagues for food and drinking water safety issues.

The group will achieve its goals through active participation in the SRA annual meeting by sponsoring and organizing symposia and workshops. Some group-sponsored events in the past included workshops on microbial risk assessment, symposia on epidemiology and risk assessment, integrating economics and risk assessment, etc.

The FWSRSG is open to all members of the SRA interested in risk analysis issues as they relate to food and water consumption. If interested in finding out more about our group visit our Web page (http://members.tripod.com/Cristina704/Foodrisk/) or go to http://www.sra.org and follow the links.

For more information contact Chair Cristina McLaughlin at 301-436-1978 or Cristina.McLaughlin@cfsan.fda.gov or Secretary Don Schaffner at 732-932-9611 x214 or Schaffner@aesop.rutgers.edu.

Risk Communication Specialty Group

Chair Katherine McComas

Founded by SRA Fellow Ann Fisher in 1993, the Risk Communication Specialty Group (RCSG) focuses on the perception and communication of risk information between technical and lay audiences. RCSG membership represents a variety of theoretical and practical perspectives on risk communication. Members' interests include public participation, social influence, trust and credibility, psychometrics and mental models of risk, and design and evaluation of risk communication messages, programs, and activities.

The RCSG has sponsored mixers, workshops, an annotated communication bibliography for practitioners, special calls for papers, and, since 1998, a student paper competition at the SRA annual meetings. Membership is open to all SRA members.

Risk-Com is an online forum for discussing topics related to risk communication and posting information of general interest to RCSG members. You do not have to be a member of SRA or the RCSG to participate on Risk-Com. To join the list, send an email to risk-com-request@umich.edu with the word SUBSCRIBE as the subject of the message.

RCSG officers include Chair Katherine McComas (mccomas@wam.umd.edu), Vice Chair/Chair-elect Robert O'Connor, Secretary/Treasurer Michaela Zint, and Executive Committee Members Ann Bostrom (Past Chair), Felicia Wu (Student Representative), Cynthia Coleman Sillars, Susan Santos, Joseph Arvai, and Adam Scheffler.

Risk Science & Law Specialty Group

Chair John Applegate

The Risk Science & Law Specialty Group (RSLSG) was first convened in 1997 by Wayne Roth-Nelson, based on his belief that the intersection of risk and law and legal institutions was insufficiently represented in SRA. The main focus of the RSLSG is on the many intersections of risk and law, for example: how risk science shapes legal institutions and standards; how legislatures, agencies, and courts interpret and use risk information; and how legislation and judicial decisions affect risk regulation. Primarily, we convene a number of symposium panels at the annual meeting, addressing both topical issues and areas of importance to risk and law.

The law, legal institutions, and lawyers are important customers of risk analysis, and in some situations they guide risk analysis. It is, in short, pervasive in the world of many risk analysts. We hope that SRA members will find our symposia informative, helping them to understand legal approaches to risk science, and that they will help us to understand better the interactions of law and risk.

Officers of the Risk Science & Law Specialty Group are Chair John Applegate (812-855-9198 or jsapple@indiana.edu), Membership Vice-Chair Vern Walker, International Vice-Chair Michael Rogers, Internet Vice-Chair John Keller, Secretary-Treasurers Katy Kunzer and Susan Poulter, and Executive Committee members Russellyn Carruth, James Hammitt, George Oliver, Wendy Wagner, and Jonathan Wiener. **«»**

Chapter News

Greater Pittsburgh Chapter

Paul Scott, President

The Greater Pittsburgh Chapter held officer elections at the beginning of 2002. The new chapter officers for 2002 are President Paul Scott of Blasland, Bouck, and Lee; President-elect Lee Ann Sinagoga of Tetra Tech NUS; Treasurer Laurie Winslow of the RETEC Group; Councilors Tom Biksey of Environmental Strategies Corporation and Allison Robinson of the University of Pittsburgh; and Student Councilor Rose Ramos of the University of Pittsburgh. For 2002, the chapter is planning several meetings throughout the year including a half-day workshop on environmental statistics in risk assessment and regular meetings on ozone issues in Pennsylvania, GIS applications for risk assessment, and other topics. More information on the future chapter meetings can be found on the Greater Pittsburgh Chapter Web site at http://sra.elet.com.

Research Triangle Chapter

Paul Schlosser, President

The Research Triangle Chapter (RTC-SRA) hosted two seminars on aspects of "biological" risk this winter. On 23 January, Professor Philip B. Carter, Department of Microbiology, Pathology, & Parasitology at North Carolina State University (NCSU), spoke on the topic "Gulf War Illnesses and the Risks of Biological Warfare and Terrorism." The second seminar was by Dr. JoAnn M. Burkholder, Professor & Director of the Center for Applied Aquatic Ecology at NCSU, who presented "Environmental Risk: Pfiesteria and Other Harmful Algae" on 5 March.

The seminars drew a diverse audience, indicating the broad interest in these topics, with the latter focusing on a topic of regional concern.

RTC-SRA also cosponsored the 2002 Water Resources and Environmental Engineering Spring Symposium at NCSU, 19 April 2002. Dr. Lester B. Lave, Higgins Professor of Economics, Graduate School of Industrial Administration at Carnegie Institute of Technology, and Heinz School of Public Policy at Carnegie Mellon University, presented the keynote speech on "Recycling, Electric Cars, and Diapers: Lessons for Improving Environmental Quality and Sustainability."

New England Chapter

Susan Matkoski, Newsletter Contact

The New England Chapter (SRA-NE) now has an active Web site. Thanks to Paul Locke for erecting and shepherding the site and bringing SRA-NE into the 21st century! Next time you're surfing, be sure to visit and bookmark www.sra-ne.org.

We also would like to announce that SRA-NE seminars that take place at CDM (our usual meeting place) are now available on videotape and for the current academic year, 2001-2002, we have videos for most of the seminars. Please contact Joseph Regna, current SRA-NE president, for more information.

SRA-NE sponsored seminars on 16 January, 5 February, 20 February, 13 March, 10 April, and 8 May.

For the 16 January session, we welcomed David Ozonoff, MD, MPH, Professor and Chairman, Department of Environmental Health at Boston University School of Public Health, whose talk was titled "Standards for Judging Science in Court: Neither Relevant nor Reliable." Dr. Ozonoff discussed the Supreme Court's Daubert decision, a watershed in how the judiciary looked at both science and the rules for admitting scientific evidence into the litigative process. He examined the Daubert holdings, including their positive features, the difficulties the ruling has posed for expert witnesses, especially with respect to causation issues in toxic-tort cases, and the Daubert decision's relevance to risk assessment. Ozonoff also discussed the view of science that Daubert presents—including some of the philosophy-of-science issues the ruling touched upon—and contrasted that perspective with science as it is actually practiced.

The 5 February session was the yearly joint session with the Licensed Site Professionals Association. The session featured Louise Ryan, PhD, Professor of Biostatistics at Harvard School of Public Health. Her talk was titled "Using Statistics to Guide Measurement and Decision Making at 21E Sites."

The talk was well attended by both licensed site professionals, the people who manage 21E Sites in Massachusetts, and members of SRA-NE. Dr. Ryan provided a statistician's perspective on how to decide the number and location of samples to be taken at a site, so as to ensure adequate information for reliably quantifying background levels and for estimating average site exposure point concentrations.

The 20 February session, "Epidemiology and the EPA Dioxin Reassessment," was presented by Dick Clapp, DSc, Associate Professor of Environmental Health at Boston University School of Public Health.

Dr. Clapp was a member of the Environmental Protection Agency Science Advisory Board's team that recently reevaluated the dioxin literature. He presented the findings from several key studies and discussed the widely divergent interpretations of the data given by the various members of the team. Clapp critiqued the scientific basis for some of those members' arguments and examined the affiliations, orientations, and potential biases of those who argued in favor of a threshold or protective effect.

On 13 March we welcomed both Howard Hu, MD, MPH, MS, ScD, Associate Professor of Occupational Medicine, Harvard School of Public Health, and Christine Rioux, MS, LSP, Senior Scientist at CDM.

Dr. Hu's presentation, "Progress in Lead Toxicity Research: Much Studied, Much Regulated, but Much Remains Unknown," addressed several questions on lead toxicity, particularly in relation to the epidemiological studies being conducted by his research laboratory, which has been at the forefront of lead toxicity research for the past 15 years. Hu discussed whether cumulative exposure to lead, at even modest levels, is a major risk factor for hypertension, kidney disease, cognitive impairments, and neurodegenerative disorders (such as Parkinson's and Alzheimer's Disease); whether treatment of lead toxicity can reverse outcomes, such as deficits in IQ; whether the accelerated mobilization of maternal bone lead stores that occurs during pregnancy poses a significant hazard to fetal health; and whether certain common genetic traits may predispose some individuals to lead toxicity at much lower doses than are tolerated by others.

Christine Rioux's presentation, "Development of a Risk-Based Contaminated Land Management Program for Hong Kong," focused on the risk-based contaminated land management program she and her colleagues developed for the large-scale urban renewal program that is underway in Hong Kong and that is similar to the U.S. Brownfields initiative. Christine outlined the steps that have been involved in developing this program, including the examination of existing health- and ecological-risk-based programs in five other countries (Australia, Canada, the Netherlands, Germany, and the United States); current and past land use practices in Hong Kong that resulted in soil and groundwater contamination; current analytical capabilities of Hong Kong laboratories; and the identification of (1) the appropriate models for the relevant pathways of exposure, (2) the physical and chemical properties of, and toxicological information about, the chemicals of concern, and (3) the site-specific input parameters used to calculate the risk-based cleanup goals.

She also discussed how this project demonstrated the importance of considering environmental, sociopolitical, and cultural dimensions when generating science-based risk assessment policy.

The 10 April seminar featured Arjun Makhijani, PhD, President of Institute for Energy and Environmental Research in Takoma Park, Maryland, who presented a talk titled "Radiological Health and Cleanup Issues at Nuclear Weapons Sites," and Shuxiao Wang, PhD, Harvard University Center for the Environment's China Project, who spoke on "Local Human Exposures to Industrial Emissions: A Case Study of Five Cities in China." This latter presentation was based on work that is a joint research project of the Institute of Environmental Science and Engineering, Tsinghua University, Beijing, People's Republic of China, and the Harvard University Center for the Environment and that is sponsored by the China Sustainable Energy Program and Energy Foundation. The upcoming seminar dates are 29 May and 12 June.

SRA-NE Membership

To become a member of the SRA-NE Chapter, contact President Joseph Regna (617-623-2856, josephregna@hotmail.com) or Secretary Karen Vetrano (860-298-6351, kvetrano@trcsolutions.com). «»

SRA-Europe

The 12th Annual SRA-Europe Conference will be held 21-24 July 2002 at Humboldt University in Berlin, Germany, and will be hosted by Peter Wiedemann (Research Center Juelich, Germany; Treasurer of SRA-Europe and Councilor of SRA International).

The focus will be on "Integrated Risk Management: Strategic, Technical, and Organizational Perspectives." The preliminary list of topics includes holes in holistic risk management, integrating the precautionary principle in risk-based decision making, opening the process: integrating stakeholders and stake-seekers, early recognition of risks and rare events, and risk management of intangible assets.

Further information on the programme, annual meeting registration, and hotel booking can be found at the SRA-Europe Web site (www.sraeurope.com). Tourist information can be found at www.berlin.de/home/English. «»

SRA-Japan

Saburo Ikeda, Secretariat, SRA-Japan

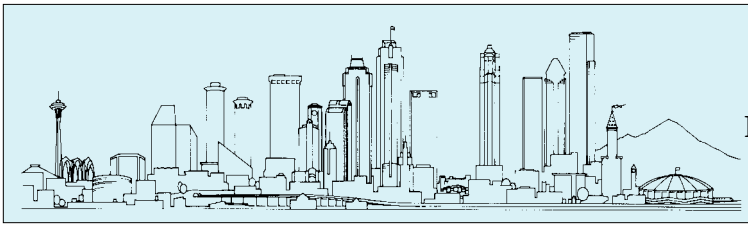
The Society for Risk Analysis-Japan (SRA-J) Spring Annual Symposium with regular business meeting "Looking for Safe Foods: How to manage the recent food risk issues" will be held 13:30-17:00 Friday, 14 June 2002, at San-Zyo Hall, Hongo-Campus, at Tokyo University.

One of the serious concerns of Japanese consumers is the risk management policy for Bovine Spongiform Encephalopathy (Mad Cow Disease), new food infectious poisoning, genetically modified crops, and moral hazards of "deceit labels" associated with food production or processing which clarify origin and quality of the foods.

We will invite five speakers who are actively involved in the food safety problems in Japan. Experts will include food safety scientists at governmental research institutions (Food Policy and Research Inst., National Inst. for Food, Health, and Drug) senior staff members of public relations in the food industry, consumer associations, and a lawyer specializing in environmental cases. The program is open to the public (http://ecopolis.sk.tsukuba.ac.jp/srajapan).

The SRA-J 2002 Annual Meeting will be held 21 and 22 November at Memorial Hall of Kyoto University in Kyoto, Japan, with the theme "Food, Life, and Environment: Towards Better Risk Management." Continuing the theme of the spring annual symposium, we will try to identify the management issues in our society and to put them in the research perspective for risk analysis.

Mid-November in Kyoto is one of the best seasons to visit the old capital in Japan. The details of the program and application form for the Kyoto Annual Meeting will be announced shortly on our home page (http://ecopolis.sk.tsukuba.ac.jp/srajapan) and forwarded via email to members of SRA-Japan. «»



Coming soon to the SRA Web site
Photos of the 2001 SRA Annual Meeting
www.sra.org

Regulatory Risk Review

Data Quality Quandary

David P. Clarke, American Chemistry Council

"People act on government information," Alan B. Morrison, a keynote speaker at a 21-22 March National Academies workshop, told the audience of some 300 registrants. These included many government agency officials wondering how they should implement the Office of Management and Budget (OMB) "Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies" (*Federal Register*, 22 February 2002), which were written to implement the Data Quality Act (*Public Law* 106-554 H.R. 5658).

Behind the new law is not only the fact that government information matters. Equally important is the opinion that too often influential government information lacks the quality—specifically, the objectivity—that it deserves, given its potential to stampede a skittish public. As an example of this power to move audiences, Morrison mentioned doubts that the National Cancer Institute raised about the ability of mammography tests to detect breast cancer, doubts that set off alarm bells. For others, it is Environmental Protection Agency (EPA) risk assessments that are a major cause of concern. Critics complain that Agency science is selectively manipulated to support predetermined policy decisions, whether supported by the science or not (that is, minor risks are exaggerated using analytical legerdemain).

Behind the new law is not only the fact that government information matters. Equally important is the opinion that too often influential government information lacks the quality—specifically, the objectivity—that it deserves, given its potential to stampede a skittish public.

For Data Quality Act skeptics, the concern is that science is never definitive, and that could delay decisions when data supporting them are less than perfect. Under the new law, will anyone who disagrees with an agency conclusion now be able to legally challenge the quality of the underlying information, arguing that it fails to meet the quality standards established by the law and OMB's guidelines and thereby delaying the decision? For these critics, the new law is a potential spanner in the decision-making works. Georgetown University Law Professor Richard J. Pierce, Jr., warned agencies that their critics would hire the best minds to "mousetrap" them using the new law.

One thing is clear: the implications of the new OMB guidelines are unclear. Several speakers at the workshop cautioned that "unintended consequences" would surely befall the information quality guidelines.

Overall, agencies must adopt a "basic standard of quality" as a performance goal, with a general understanding that the more important the information is the higher its quality must be. OMB's guidelines call for "objectivity," which refers to both the presentation and substance of information. It must be presented in an "accurate, clear, complete, and unbiased manner" (for example, "within a proper context"). Substantively, information may be "presumed to be of acceptable objectivity" if it has undergone formal, independent, external peer review, though a petitioner could make the case that, despite such review, the information is not objective.

Joseph V. Rodricks, a principal at ENVIRON International Corporation and a major actor in the evolution of risk assessment practices in the United States, commented that objectivity would be the most difficult issue to deal with. For instance, to the extent that EPA's cancer risk assessment guidelines rely on default assumptions and reject alternatives, would the cancer guidelines conflict with the "objectivity" guidelines? Rodricks asked.

Information deemed especially "influential" (that is, having a "clear and substantial impact" on major public policies and private sector decisions) must meet an even higher standard. For such information, agency guidelines must require "a high degree of transparency about data and methods to facilitate the reproducibility of such information by qualified third parties." This does not mean that "original and supporting data" must all be reproducible, but when the reproducibility requirement kicks in, the information must be "capable of being substantially reproduced, subject to an acceptable degree of imprecision" (that is, someone else can apply comparable expertise and get the same, though not *precisely* the same, result when analyzing data).

Agency guidelines are due 1 October 2002. By that deadline, they must also establish administrative mechanisms for affected persons to "seek and obtain correction of information maintained and disseminated by the agency that does not comply with [the OMB] guidelines." Agencies also must report to OMB "the number and nature" of complaints received and how they were resolved.

As could be expected, agency representatives in the workshop audience wanted to know how to interpret terms and whether "judicial review" would be an option for disgruntled members of the public affected by agency information. Agency panelists provided insights into their initial thinking on these and other questions.

The adage that information is power is acquiring new meaning in light of the Data Quality Act. Ideally, when an agency disseminates information after 1 October that states a risk to public health and the environment of 10^{-6} from exposure to some substance at 0.033 parts per million, the information would pass muster under the new quality guidelines and everyone would nod assent to its plausible veracity. Now *that* would be power! *That* would be quality! «»

News and Announcements

Special Call for Papers for Future Issue of *Risk Analysis* "Cultural Variations in Risk Beliefs, Attitudes, Behaviors, and Communications"

With increasingly diverse populations, particularly but not exclusively in the United States, questions arise as to whether all subpopulations are getting equal or appropriate protection from hazards. Current models of risk "perception" and communication are based primarily upon research on and by the non-Hispanic whites who are a declining proportion of the U.S. population, and a minority of the world's population. These models may be appropriate for all populations, whatever their cultural character, in which case risk managers can focus on such issues as variations in exposure or sensitivity to hazardous activities and substances, or ensuring accurate translation of communication materials.

But if different cultural populations differ in their awareness or tolerance of specific or all hazards, their willingness and ability to take self-protective actions, or their policy preferences and trust in risk managers, these differences might add to the risk burden that some populations carry. Without understanding of these differences and how they might be appropriately addressed, risk managers and their constituents will not be able to achieve as protective and equitable a hazard-management system as desirable.

Although a survey in the mid-90s found risk communication researchers and practitioners ranking "communication with diverse audiences" as among the top three priorities for research, the literature in this and the related fields cited above remains scanty. A few topics (for example, response to fish consumption advisories; farm worker exposure to pesticides; and Native Americans' response to energy issues, such as voluntary siting of radioactive waste storage sites) have tended to dominate the existing literature, and even for these topics "culture" is often ignored or assumed to be coterminous with ethnic, linguistic, and other socioeconomic characteristics (an assumption that might not be true in all or most cases).

The aim of this Special Call is to stimulate attention to this neglected topic, not only by highlighting current or emerging research in a special issue of *Risk Analysis*, but by motivating researchers to initiate new research. The unusually extended deadline for submission of papers is intended to allow current and new scholars in this field to develop and submit proposals for funding studies that could produce draft papers by the deadline.

The scope of submitted papers is intended to be very broad, including but not limited to risk beliefs (hazard attributes, magnitude, probability, vulnerability, etc.); attitudes (hazard "tolerance," risk managers, self-efficacy, etc.); behaviors (self-protective, lobbying, social movement mobilization, etc.); communications (information-seeking or processing, discussion with social networks, etc.); substantive impact, if any, of similarities or differences (for example, on relative risk or behavior); hazards/risks beyond the "usual suspects" (for example, fish consumption, farm workers, energy) though latter not excluded; multiple hazards, or a single hazard in multiple settings (but case studies not excluded); strengths and weaknesses of alternatives for defining and operationalizing "culture" in this area; tests of congruence of culture with ethnic, linguistic, and other socioeconomic factors in risk; and reports of negative (that is, no observed cultural differences) as well as positive results.

The deadline for this Special Call will be 31 June 2005. The aim of this extended deadline is to provide sufficient time that people motivated by the Call could develop and seek funding for relevant research if they did not already have such research underway. However, initial publication will be sought earlier than that date if enough eligible papers have been received. Note that, in any case, ultimate editorial discretion is retained by the Area Editor for Social and Decision Sciences and the Editor-in-Chief of *Risk Analysis*; no papers will be published without their approval.

Candidate papers are to be submitted to Dr. Branden Johnson, Division of Science, Research and Technology, P.O. Box 409, Trenton, NJ 08625-0409 (609-633-2324; bjohnson@dep.state.nj.us). Once he has vetted submitted papers, he will recommend to *Risk Analysis* editors that selected articles be submitted to the Journal's usual review process, as part of a special issue on the topic. Inquiries from potential authors, reviewers, or coeditors of the special issue are welcome.

Grant to Fund Educational Opportunities for African, Latino, and Native American College Students in Risk Analysis and Risk Management Disciplines

The Society for Risk Analysis (SRA) has received a $15,000 grant from the ExxonMobil Foundation for the upcoming year to provide educational opportunities for African, Latino, and Native American college students who are interested in pursuing one of the risk analysis and risk management disciplines. Potential students should be enrolled in a college or university program in biology, chemistry, economics, psychology, geography, physics, environmental management, or other risk analysis-related disciplines. The competition for three student positions is open to all members of SRA.

If you are interested in hosting an intern, please contact Michael Greenberg, the SRA council member who worked with ExxonMobil to obtain the funding and who is administering the program for SRA (phone: 732-932-0387, x673; email: mrg@rci.rutgers.edu). Dr. Greenberg will provide you with the details and some examples. For example, last year an African American female student worked with Greenberg on a comparison of the legal restraints of redeveloping a Superfund site versus a brownfield site. Laboratory projects in toxicology, field studies in epidemiology, water resources, environmental justice, ecological risk analysis, and many other projects are welcome.

We have sufficient funds to support three students, but we hope to increase the size of the funding so that the Society can help increase the representation of African, Latino, and Native American populations in risk analysis and management.

Social and Psychological Consequences of Chemical, Biological, and Radiological Terrorism

Summary of the 25-27 March 2002 NATO-Russia Advanced Research Workshop (ARW) organized by Simon Wessely, Guy's, King's & St. Thomas's School of Medicine and Institute of Psychiatry, UK, and Valery Krasnov, National Academy of Sciences, Russia

Simon Wessely, Igor Linkov, Baruch Fischhoff, Jennifer Lerner, and Ragnar Löfstedt

In the aftermath of the terrorist events of September 11, many scientific conferences have been organized to address different issues related to the handling of terrorism. Most societies vulnerable to chemical, biological, and radiological (CBR) terrorism now have some disaster management plan in place. These plans often focus on early detection of the event and mitigation of the consequences of the terrorist attack. Less attention has been given to risk prevention and to social and psychological consequences of the new threats. The field of risk assessment and the professional experience of risk assessment practitioners may be very valuable in addressing newly developing cross-boundary aspects of this problem.

Attendees at the NATO-Russia Advanced Research Workshop

The recent NATO-Russia workshop provided new insights related to the potential roles of risk assessment and risk assessors in preventing and mitigating consequences of terrorism. The goals of the workshop were to (a) further understanding of the psychological and social consequences of chemical and biological terrorism and, thereby, minimize those impacts and (b) provide suggestions on how scientific research in the field might serve policy makers. The workshop brought together international experts and policy makers from 10 countries. It was also the first event organized under a new collaborative program between NATO and Russia.

The workshop started with the review of lessons learned from previous episodes of CBR terrorism and also from nonterrorist incidents. The case studies include radiation disasters (Chernobyl, Goiania), the Gulf War syndrome, Israel's response to the Scud missile attacks, the sarin attack on the Tokyo subway, and the recent U.S. anthrax attacks. Individuals' fear of exposure to CBR weapons was a major factor in determining their subsequent health and well being. A review of disasters proposed that panic was the exception, providing a competent institutional response.

The associated discussions considered how to minimize terrorists' goal of creating terror, extending far beyond the actual toll in life and property. One aspect of that goal is weakening the sense of cohesion that binds communities together, reducing its social capital, and sowing distrust, fear, and insecurity. In this light, the physical damage is a means to the end of waging social and psychological warfare. Therefore, we need to understand and address vulnerabilities at both the individual and social levels. Some of that understanding comes from areas at the heart of the Society's activities: risk assessment, management, and communication. Some comes from research typically at its fringes, such as the role of emotion in risk perception, physiological responses to stress, and the organization of emergency services.

The theme of maintaining trust between citizens and authorities was echoed throughout the workshop. It was also central to a session on risk chaired by the Society's Ragnar Löfstedt (King's Centre for Risk Management, King's College London, UK). In his plenary presentation, Baruch Fischhoff (Carnegie Mellon University, USA) took the workshop through the science of risk communication. He provided a background to the cognitive processes that people bring to understanding risks, and the challenges that these pose to communicators. He emphasized tight coupling of risk analysis and risk communication in order to ensure that the information most relevant to citizens' decisions is both created and disseminated. He illustrated these principles in the context of the immediate and long-term management of bioterrorism risks. Jennifer Lerner (Carnegie Mellon University, USA) presented the results of a national field experiment which examined the effects of emotions on risk judgments regarding terrorism. Conducted with a random sample of U.S. adults and adolescents, in mid-September and early November, the research showed that whereas fear increased probability estimates for risk, anger decreased probability estimates. These effects held regardless of whether people judged risks for themselves, for the average American, or for the United States as a whole. Finally, the study provided an empirical basis for the marked gender differences in response to risks. Compared to females, males tend to experience greater anger and less fear, which explains greater optimism for risks among males. Igor Linkov (ICF Consulting, USA) showed how risk analysis, developed in response to communities threatened by real or perceived environmental contamination, could be adapted to the modern CBR threat environment. He proposed that CBR terrorism be treated as a public health issue and argued that risk prevention and education should be high on the list of priorities for future research. It is especially important to integrate scientists from the developing countries into the international scientific community through joint scientific projects and by establishing Internet-based education and research networks.

The role of trust in determining the impact of risk communication was widely recognized by workshop participants. It was particularly emphasized by speakers from government and the media. These discussions were illustrated by anecdotal observation, often wide ranging and firsthand. This topic provides another opportunity for input from the systematic research of

the risk management community. The speed required in responding to CBR terrorist events pointed to the need for advance work of preparing and evaluating communication messages. Official sources will face a major challenge to gain "market share" as information sources, in the face of rumors, myths, and legends. These may serve a social purpose, but if there is a major failure in risk communication, these may in turn form the basis for unexplained post-exposure syndromes.

It was heartening to see the many points of agreement among the conference's diverse participants. Scientists and practitioners from both Russia and the NATO nations agreed on the crucial importance of many issues. These included developing monitoring systems for terrorism prevention, providing early timely and accurate information regarding CBR terrorist events, offering assistance to those most distressed, involving families at an early opportunity, and learning from the different relevant disciplines to the issue of response.

This paper summarizes themes and conclusions of the workshop that are most relevant to risk assessors. A detailed summary of the proceedings of the workshop may be assessed at http://www.nato.int/science/e/020325-arw.htm or received from Simon Wessely (s.wessely@iop.kcl.ac.uk). Please visit the NATO Web site (www.nato.int/science) or contact Igor Linkov (ilinkov@yahoo.com) if you have questions about the NATO Science Programme.

American College of Toxicology 23rd Annual Meeting

The 23rd Annual Meeting of the American College of Toxicology will be held 10-13 November 2002 at Hershey Lodge in Hershey, Pennsylvania.

Tentative symposia for the meeting include Emerging Issues in Assessment of Reproductive Toxicology, Application of Evolving Technologies in Safety Assessment, Safety of Pharmaceutical and Food Excipients, Current Issues in Toxicologic Pathology, Regulatory Challenges in the Preclinical Development of Antibodies, Risk Assessment of HPV Chemicals—What Have We Learned?, Safety Pharmacology—Update on Cardiovascular Safety Initiatives, Safety Assessment of Vaccines, Hepatotoxicity—How Predictive are Preclinical Results?, Toxicity Issues with Nutraceuticals, Risk Assessment of Chemical Warfare Agents—Public Health Consequences, and Food Safety.

Tentative education courses to be held on 10 November include Study Director/Monitor Training: Focus on Evaluation of Toxicological Data, Reproductive Toxicity Testing: An Introductory Course, Safety Assessment of Metabolites: Pharmacokinetic and Toxicological Considerations, Regulatory Update: EPA, FDA, and Global Submissions, In Silico Toxicology Workshop, and Regulatory Guidance and Toxicological Requirements for Medical Devices.

To put your name on the mailing list for a registration packet, contact American College of Toxicology, 9650 Rockville Pike, Bethesda, MD 20814; phone: 301-571-1840; fax: 301-571-1852; or email: ekagan@actox.org.

More information can be found on the Web site at www.actox.org.

Midwestern States Risk Assessment Symposium

The Midwestern States Risk Assessment Symposium will be held 24-26 July 2002 in Indianapolis, Indiana. This symposium is an event oriented toward the application of science to risk assessment scenarios. The symposium is sponsored by the Indiana Department of Environmental Management, the U.S. Environmental Protection Agency, Indiana University, Purdue University, and Rose-Hulman Ventures. Registration information, an agenda, and a call for papers may be found at http://www.spea.indiana.edu/msras. For more information call Bill Hayes at 317-233-1513. «»

Member News

Dennis Paustenbach

Dr. Dennis Paustenbach, a founding member of SRA and a former councilor, was given the Arnold J. Lehman Award by the Society of Toxicology (SOT) at its March 2002 meeting. The Lehman Award honors a toxicologist who has made major contributions that improve the scientific basis of risk assessment and/or the regulation of chemical agents, including pharmaceuticals. It can be won by any of the more than 5,000 domestic and international members of the SOT.

John C. Chicken

Since John Chicken wrote the *Risk Handbook* in 1996 (published by International Thomson Business Press) he has written four other books which have a bearing on risk analysis and decision making.

The Philosophy of Risk, written with Tamar Posner and published by Thomas Telford, attempts to give decision makers a logical philosophy for determining risk acceptability.

Management and Entrepreneurism, published by Thomas Learning, examines the constraints on decision making in various environments.

Strategy and Priority, written with Professor Michael R. Hayns, gives a critical assessment of the problems of establishing defensible strategies and priority.

Real Management, which was published this year, examines real-life management and sets out 10 commandments of good management.

Jo Anne Shatkin

Jo Anne Shatkin joined The Cadmus Group in Watertown, Massachussetts, in 2002 as a senior scientist. As a member of the Drinking Water Group, she is providing expertise in developing a risk-based approach for identifying future chemical and microbial drinking water contaminants for the U.S. Environmental Protection Agency's Office of Ground Water and Drinking Water Candidate Contaminant List.

She is also technical lead for health effects on Cadmus' effort to develop fact sheets for Health Canada's Domestic Substances List. She currently serves as a Water Environment Research Foundation Project Subcommittee Reviewer for a Comparative Risk Assessment of Combined Sewer Overflow Treatment Methods and on the Massachusetts DEP Science Advisory Panel for cumulative risk assessment in solid waste facility siting. Shatkin may be reached at jshatkin@cadmusgroup.com. «»

Specialty Groups

Ecological Risk Assessment Specialty Group

Bruce Hope, Past Chair

After three rewarding years as the Ecological Risk Assessment Specialty Group (ERASG) chair, the time has come for me to share the wealth and pass along the opportunity to steer the Group's fortunes. So I am pleased to announce that Igor Linkov has agreed to assume the duties of ERASG chair in 2002. Igor's background and experience in environmental science and ecological risk assessment is extensive, as is his involvement with the Society. He is presently a senior risk assessor and manager with ICF Consulting, Inc., where he conducts ecological risk assessments for contaminated sites in the United States and worldwide. His current research interests include probabilistic modeling, spatially explicit risk assessment, comparative risk assessment, and bioterrorism. His interests also include developing risk-based approaches to the reuse of former military sites and conducting military operations in a sustainable manner. He received BS and MS degrees in physics and mathematics from Polytechnic Institute, an MS-equivalent degree in engineering and public policy from Carnegie Mellon University, and a PhD degree in Environmental, Occupational, and Radiation Health from the University of Pittsburgh. He has served as a scientific reviewer for the Environmental Protection Agency, ATSDR, European Commission, the International Atomic Energy Agency, and eight scientific journals. He has organized three international conferences and is currently organizing an international workshop on Comparative Risk Analysis. He has published three books and over 50 peer-reviewed papers and book chapters.

The 2002 SRA Annual Meeting will take place in New Orleans, Louisiana. This group encourages the presentation and discussion of a variety of ecological risk analysis-related work, whether theoretical or applied, for both technical and policy audiences. Those who would like to join the group and become more involved in our plans for New Orleans are encouraged to contact Igor by phone (617-498-5317) or via email (ilinkov@yahoo.com).

Dose Response Specialty Group

Ron Brown, President

Monthly Teleconferences

The Dose Response Specialty Group (DRSG) holds teleconference meetings on the first Tuesday of every month (3:30-4:30 p.m. Eastern Time) to discuss and plan symposia, proposed workshops, open forums, and other DRSG-sponsored activities on dose-response issues. All are welcome to participate (DRSG members and nonmembers). In addition, teleforum presentations on topics of interest to the group are held on the first Tuesday of March, June, and September. In March, Dr. Wout Slob from the National Institute of Public Health & Environmental Protection in the Netherlands gave a presentation titled "The Problem of Quantal Data and Implications for the Benchmark Approach." The next teleforum is scheduled for 4 June 2002. Dr. Rory Conolly from the CIIT will present a talk titled "Computational Modeling of Mechanisms of Nonmonotonic Dose Response: Androgen Receptor Activation and Tumor Incidence." New members and guests are welcome to join our meetings. To join a DRSG teleconference meeting, simply call 202-260-7280. When asked for the four-digit code number, enter 0577#. The discussions are always provocative and interesting! For notices of upcoming meetings, sign up for the DRSG email list on YahooGroups—see info below under "DRSG Contacts."

Annual Meeting Symposia

The DRSG is currently considering proposals for sponsorship of symposia to be presented at the SRA Annual Meeting. If you would like DRSG sponsorship of your symposia, submit a brief overview of the symposia, along with speakers and the title of their presentations to John Lipscomb, DRSG President-elect (Lipscomb.John@epamail.epa.gov), no later than COB on Friday, 3 May 2002.

Student Award in Dose-Response Assessment

The DRSG is pleased to offer a merit award to a student conducting graduate research in dose-response assessment. The research may be on any topic broadly related to dose-response assessment. The deadline for submission of extended abstracts is 30 May 2002, but submitters must also meet the deadline for submission of abstracts to the SRA office. More information on the Student Award can be found at http://www.sra.org/drsg/drsgawar.htm or contact DRSG Vice President Justin Teeguarden at jteeguarden@environcorp.com.

DRSG Contacts

For more information on the DRSG or to become a member, please contact President Ron Brown (rpb@cdrh.fda.gov). You can also sign up to be on our email list by registering on YahooGroups at http://groups.yahoo.com/group/DRSG. (If you haven't done so previously, you must register with YahooGroups first and then sign up with the DRSG group. Contact Paul Schlosser (schlosser@ciit.org) if you have difficulties or concerns regarding the list.

Risk Communication Specialty Group

Katherine McComas, Chair

The Risk Communication Specialty Group (RCSG) will conduct its 5th Annual Student Paper Award competition for the 2002 SRA Annual Meeting in New Orleans. This is a great opportunity for students, and we are grateful for ExxonMobil's continued sponsorship of the award. You can access details about how to submit to the competition in the 2002 SRA Annual Meeting Call for Papers or via the RCSG Web site at http://www.sra.org/rcsg. Advisors, please encourage your students to submit papers, and students, do take the initiative to submit to the competition.

We are also currently exploring ways to improve the RCSG Web site to make it more useful to RCSG members or SRA members, in general, who are looking for resources in risk communication. We will soon be adding links to Web-based resources in risk communication, as well as a page for risk communication course syllabi. If you would like to provide a syllabus, assist with the Web site, or have any other questions or suggestions related to the RCSG, please contact me at mccomas@wam.umd.edu.

As always, we invite all SRA members to visit our Web site, sign up for the risk-com listserv (visit the Web site for instructions to join), or join our specialty group. «»

Committees

Conferences and Workshops Committee

Scott Ferson, Chair

Peer Review (29 May 2002)

"Conflict, Consensus, and Credibility: A Forum on Regulatory Peer Review" will be held 29 May 2002 at the Sheraton Crystal City Hotel in Arlington, Virginia.

For decades the peer-reviewed label on scholarly work has signaled that it meets high standards for quality and rigor. Today government agencies increasingly rely on peer review to show that the science they use to inform decision making meets high standards, and thus deserves respect and deference.

The elevated status accorded peer-reviewed documents has spawned a set of controversies about regulatory peer review: Do the selected peer reviewers have the necessary expertise to judge scientific quality and rigor? How much depth and rigor do such reviews require? Does conflict of interest pose a threat to regulatory peer review? How should conflict of interest be defined and managed? Are peer reviewers sufficiently independent? What kind of independence are we looking for? Are peer reviewers being asked to resolve nonscientific questions? What is the appropriate role for scientific peer review in the regulatory context? Who should choose the peer reviewers? Who should choose the choosers?

The Society for Risk Analysis (SRA) presents a one-day forum devoted not only to raising these questions, but also answering them. Experts from diverse backgrounds and perspectives will discuss the major complaints that have arisen about regulatory peer review. More importantly, they will offer constructive solutions for the problems they see. Our objective is to discover workable remedies that will assist in resolving these disputes while clarifying the important role of science in the policy-making process.

The intended audience for this forum includes regulatory agency and Congressional staff; scholars and experts who may be asked to serve as peer reviewers; business, trade association, and public interest group staff who deal with science-based regulatory issues that may come under peer review; and scientific consultants who need to understand regulatory peer review.

The Forum is open to the public. The Sheraton Crystal City Hotel is a five-minute shuttle ride (or one metro stop) from Reagan National Airport.

Download the full brochure and registration form at http://www.sra.org/events.htm#workshop.

1st International Conference on Microbiological Risk Assessment: Foodborne Hazards

24-26 July 2002
University of Maryland
Inn and Conference Center, USA

The First International Conference on Microbiological Risk Assessment, focusing on foodborne hazards, to be held 24-26 July 2002 at the University of Maryland Inn and Conference Center, College Park, Maryland, is being cosponsored by SRA, the U.S. interagency food safety Risk Assessment Consortium, the Joint Institute for Food Safety and Applied Nutrition, and the Joint Institute for Food Safety Research. This will be the first international conference on this subject. During the conference there will be sessions on microbiological risk assessments, resources for risk assessors, modeling challenges, nonbacterial microorganisms, intervention strategies for pathogen control, and risk communication.

Early registration ends 14 June 2002.

Poster abstracts are due 3 June 2002.

Further information is available at http://www.foodriskclearinghouse.umd.edu/RACconferencehome.html or http://www.jifsan.umd.edu/meetings.htm.

NATO Workshop in Egypt (Fall 2002)

SRA will cosponsor a NATO workshop, "Comparative Risk Assessment and Environmental Management," to be held this fall in Egypt. Further information is available from Igor Linkov of ICF Consulting at 617-498-5317 (ilinkov@yahoo.com).

Remedial and abatement policies for areas contaminated by chemicals or physically disturbed by industrial development or military operations require management decisions which weigh the benefits of remediation against the risks and disruptions associated with their implementation. In particular, a framework is needed that integrates risk assessment and engineering options, generates performance standards, compares options for risk reduction, communicates uncertainty, and effectively allows reiteration of the decision-making process. The goal of the workshop is to review recently developed concepts and mechanics of comparative risk assessment, assign them to a quantitative analytical framework that meets the above requirements, and help decision makers choose among various environmental policies. Comparative risk assessment (CRA) is a methodology applied to facilitate decision making when various activities compete for limited resources. Application of this approach is extremely flexible. The workshop will discuss how CRA could be applied to prioritize the identified factors and to present alternative policies to decision makers when they make funding decisions. CRA can be used to coordinate alternative policies with municipal governments and to determine the impacts and requirements for each potential project.

Fire Safety Risk Analysis (December 2002)

SRA will cosponsor with the Society of Fire Protection Engineers (SFPE) a two-day symposium, "Issues in Fire Risk Assessment and Management: Addressing the Spectrum from Expected to Extreme Events."

The event is tentatively scheduled immediately before the 2002 SRA Annual Meeting in December in New Orleans. Brian Meacham of Arup Risk Consulting is the chair of the organizing committee. Further information is available from SFPE at its Web site (www.sfpe.org) or from Julie Gordon (jgordon@sfpe.org).

Risk-informed analysis and design methods and risk-in-

formed regulations are gaining momentum in many regulated areas of society, including building and fire safety. This is especially true in the performance building regulatory environment, where performance requirements often have a basis in the levels of risk tolerable to the affected or interested parties, be they the public, building owners and managers, building developers, code developers, code enforcement officials, and/or other policy makers. As a result, this symposium is intended to provide usable information to a broad spectrum of interested and affected parties, but with specific focus on fire protection engineers, risk analysis, building and fire officials, and building and facility owners and managers.

Gordon-Kenan Summer School on Risk Analysis (August 2003)

The Gordon Research Conferences Board of Trustees and the Kenan Institute for Engineering, Technology & Science have approved the proposal by Daniel Byrd, C. Richard Cothern, Louis Anthony Cox, Jr., James Wilson, and Charles Yoe for a new Gordon-Kenan Summer School on Risk Analysis. The initial summer school has been scheduled for 3-15 August 2003 at Roger Williams University in Bristol, Rhode Island. Further information is available at www.grc.org.

Public Policy Committee

Jack Fowle and Leslie Hushka, Cochairs

Developing Pharmaceuticals for the Fight Against Terrorism

On 22 March 2002 the Society for Risk Analysis (SRA) cosponsored a Congressional Briefing on Developing Pharmaceuticals for the Fight Against Terrorism as part of the Science and the Congress Project. This was the fourth Congressional Briefing in a series on Vulnerability and Security developed after the September 11, 2001, terrorist attack on the World Trade Center in New York City and the subsequent use of anthrax as a terrorist agent in letters to Congress. The focus of this briefing was reducing the risks associated with the use of biological agents by terrorists. In addition to the SRA, this seminar was cosponsored by the American Chemistry Council, the American Chemical Society, the American Institute of Chemical Engineers, the American Society of Mechanical Engineers, the Council for Chemical Research, the Institute of Electrical and Electronics Engineers, and the Synthetic Organic Chemical Manufacturers Association.

The most important defenses against the attacks of bioterrorists are vaccines and medicines that prevent or cure diseases caused by biological agents, but our current arsenal of drugs is not adequate for countering this threat. For some agents either no vaccine exists or what is available has dangerous side effects. In addition, doctors have but a few effective treatments to apply once one of these deadly and debilitating diseases has infected a victim. Thus, while stockpiling what medicine is available is essential, discovering, developing, and producing new countermeasures is also a critical national security priority. However, developing medicines is a complicated and expensive research and development process which requires the cooperation and coordination of private, academic, and public scientists and officials. The purpose of this briefing was to bring such experts together to discuss how industry, academia, and government can meet this challenge to national defense.

The session was introduced by Michael Eichberg of the American Chemical Society. After welcoming the participants and explaining the purpose of the briefing, Mr. Eichberg introduced Dr. Carole Heilman, Director of the Division of Microbiology and Infectious Diseases of the National Institute of Allergy and Infectious Diseases (NIAID), who moderated the rest of the session. She provided a perspective for the talks by focusing on "Counter-Bioterrorism: The Response and Role of NIH." She noted that our current focus is on protecting military personnel, but not civilians, against biological agents. The armed forces immunize troops and wait 18 months before sending them into the field to insure maximum immunological protection. Further, unlike the civilian population, the military is a young and healthy population. The challenge in protecting civilians is that the attacks will be sudden and the potential agents of bioterrorism will be more numerous than potential military biological weapons.

Several agencies with complementary roles work within the Department of Health and Human Services to counter bioterrorism. The Centers for Disease Control and Prevention (CDC) conduct surveillance and detection efforts to identify infections early, and they maintain vaccine and antimicrobial stockpiles and train local response teams to try to stop epidemics quickly.

The National Institutes of Health (NIH) conducts basic research to understand infection and ways to control disease and develops medical interventions to stop epidemics. The Food and Drug Administration (FDA) regulates and approves vaccines, therapeutics, and diagnostics to insure they are safe and effective, and the Office of Emergency Preparedness (OEP) mobilizes resources in times of emergency to coordinate state and local responses to disease outbreaks.

NIH's immediate response to the recent bioterrorist attacks was to try to increase the supply of smallpox vaccines, because smallpox is currently viewed as the most potentially dangerous of the known possible bioterrorist agents. NIH determined that the existing supply of smallpox vaccines was still effective even though it is 30 years old and that the vaccine can be diluted 10-fold and still provide immunization against smallpox. NIH accelerated screening of antiviral compounds for activity against surrogates of smallpox and found a new effective drug, Cidofovin, for possible use in treating smallpox. NIH also accelerated the release and preclinical testing of an anthrax vaccine in a joint effort with the Department of Defense (DoD), expanded the genomic sequencing of *Bacillus anthracis* to include multiple strains, and developed seven new initiatives to accelerate bioterrorism research by:

. . . while stockpiling what medicine is available is essential, discovering, developing, and producing new countermeasures is also a critical national security priority.

a. issuing a contract to produce anthrax vaccine

b. funding a rapid-response grant program on bioterrorism-related research

c. establishing partnerships for novel therapeutic, diagnostic, and vector control strategies for infectious diseases

d. funding exploratory/developmental grants on the technology applications of NIAID-funded research

e. funding a small business program on bioterrorism-related research

f. funding U.S.-based collaborations on emerging viral and prion diseases

g. funding NIAID investigator-initiated small research grants.

Heilman noted that NIH Bioterrorism Research funding has increased from about $40 million in fiscal years 2000 and 2001 to $274.5 million in FY2002 and that the President's budget request includes an increase to $1.75 billion in FY2003. This proposed increase includes $440.6 million for basic research and development, $591.9 million for drug/vaccine discovery and development, $194.3 million for clinical research, and $521.1 million for research facilities construction, reflecting a strategy of identifying potential bioterrorist threats and ways to combat them, then developing ways to protect against those agents and finally building the infrastructure needed to protect the population.

Recognizing that the worst bioterrorist might be nature herself, NIH is not limiting its efforts to bioterrorist agents but is also expanding its efforts to emerging infectious diseases.

NIH has developed a strategic plan for bioterrorism research which includes two prongs. The first prong is basic research into microbes with bioterrorism potential and the specific and nonspecific host defense mechanisms against these agents. The second prong is an applied/translational research program with predetermined milestones and the ultimate production of new and improved diagnostics, vaccines, and therapies. This strategy can be found in the February 2002 NIH publication "The Counter-Bioterrorism Research Agenda of the National Institute of Allergy and Infectious Diseases (NIAID) for CDC-Category A Agents."

Recognizing that the worst bioterrorist might be nature herself, NIH is not limiting its efforts to bioterrorist agents but is also expanding its efforts to emerging infectious diseases. NIH has identified over two dozen emerging and reemerging diseases around the world to study and to find ways to combat. The Department of Health and Human Services (DHHS) intends to keep the public informed of its efforts using the World Wide Web.

Heilman then introduced Dr. Richard Colonno, Vice President of Infectious Diseases Drug Discovery at the Bristol-Myers Squibb company in Wallingford, Connecticut. Colonno spoke about "Defensive Biology: Alliance of Industry, Academia, and Government to Confront a National Threat." He gave an overview of the biology of bacteria and viruses, emphasizing the traits that could be used by terrorists. He then distinguished between the treatment approaches available for bacteria compared with those available for viruses, noting that only one new antibacterial has been developed in the past 30 years. He further distinguished between bacteria and viruses by noting that viral infections can be prevented by vaccination but that bacterial infections can't. Next, Colonno described the critical discovery pathway leading to new antibacterial and antiviral drugs. The first step is to decide on what you want to target and then in Stage I (Early Phase) develop a validated functional assay. In Stage II (Lead Generation) millions of potential drug candidates are screened to identify those which show promise as effective agents against the disease. In Stage III (Lead Evaluation) promising candidates are further screened for their selectivity and mechanism of action. In Stage IV (Lead Optimization) various tests are conducted on the chemistry, safety, and pharmacokinetics to winnow down the candidates to those which are effective in various models to identify candidates for preclinical trials on humans. If the drug proves safe and effective in the preclinical trials and if it is approved by the FDA it is then used clinically.

Colonno noted that the discovery and development of drugs is a complex, science-driven, expensive, time-consuming, and high-risk undertaking requiring at least five to ten years to launch a new product. But given the importance of developing effective ways to counter bioterrorism, several companies have volunteered to help by offering their scientists, their resources and their technologies. For instance, vaccine companies have offered to provide and develop vaccines against key pathogens, and companies specializing in therapeutics for infectious diseases have offered to help identify and develop effective drugs to counter bioterrorist agents. Colonno noted that companies have varying capabilities, expertise, and motivation but as a whole the drug industry has extensive capabilities. These include experience and expertise in the discovery, development, registration, and manufacture of anti-infectives and vaccines and proprietary technologies, strategies, and approaches as well as large chemical compound libraries that could be harnessed to develop new and more effective ways to combat bioterrorism. They also have expertise in developing centralized and coordinated complex processes with high capacity and efficiency. By harnessing these capabilities drug companies can help combat bioterrorism by:

a. providing alternative treatment options for anthrax infections, including potential therapies that neutralize toxins

b. providing the government with more effective and safer treatment options for the smallpox virus

c. producing current vaccines and developing improved versions

d. providing insight into how to use therapeutics should a smallpox outbreak occur

e. providing key reagents and assays

f. advising about and facilitating production processes

g. participating on sponsored antiterrorism task forces.

However to be able to do this, industry and, especially, small companies need incentives, especially with respect to intellectual property. They also need liability coverage and research and development credits.

Colonno identified some ways that arrangements could be established among academia, government, and industry that would help the government and the citizens of the United States and also offset the risk and developmental costs normally borne by industry. He suggested that out-licensing at a minimal cost based predominantly on a company's ability to actually develop a drug would be a fair mechanism to establish an industry-government partnership. He described Bristol-Myers Squibb's commitment to fight bioterrorism and the initiatives they have taken to do so, and he concluded his presentation by challenging the government to take a lead role to coordinate and focus the diverse efforts by academic, government, and industrial laboratories to fight bioterrorism. He does not believe that companies will coordinate such efforts by themselves but, if harnessed by the government, industry would join in a coalition comprised of "contributors" from academia, government, and industry to facilitate short-term deliverables that address current threats and to establish a central repository for key reagents and inhibitors as well as a mechanism to facilitate collaborations to get the

needed drugs administered where they are needed quickly.

Heilman then introduced Dr. Maria Freire, Chief Executive Officer of the Global Alliance for TB Drug Development who spoke about how her alliance provided "A New Model for Neglected Diseases." The vision for the TB Alliance is to provide new medicines with equitable access for the improved treatment of TB by the year 2010. The need for this is great, because TB has made the biggest comeback of all infectious diseases, drug development for TB is unattractive for the private sector because the market is small, and there has been no capitalization of public sector research to fight TB. The TB Alliance is a good model for the types of alliances that might be formed to counter bioterrorism. The Alliance was formed as an international public-private partnership to actively raise funds to bridge gaps in research and development for TB. The focus of their efforts is to lend a hand in getting promising candidate drugs past the basic research stage, in getting promising new compounds entered into clinical development, and in getting medicines to patients. With respect to R&D grants, they have eight projects identified for funding, three lead compound deals under negotiation, and investments on infrastructure approved. They also have discussions underway with industry and have an agreement with Chiron on a novel compound and one lead compound deal under negotiation. The TB Alliance focus is on rapid results and their program is focused on R&D pipeline mapping and gap analysis.

Katz said that the U.S. vaccine industry has become seriously fragile, noting the delays in influenza virus vaccines in 2000 and 2001.

Heilman then introduced the final speaker, Dr. Samuel Katz, Professor of Pediatric Policy at the Duke University Medical School, who talked about "Developing Pharmaceuticals for the Fight Against Terrorism." Katz said that his message was considerably less optimistic than the previous speakers, and he referred the audience to a headline in the most recent *Science* magazine which read "US Vaccine Supply Falls Seriously Short." Katz said that the U.S. vaccine industry has become seriously fragile, noting the delays in influenza virus vaccines in 2000 and 2001. They were needed in October but not delivered until December and January. He also noted shortages of several key vaccines such as the tetanus toxoid-containing vaccines. As of today only four companies in the world make vaccines and only two of them are in the United States. In the 1960s there were 26 vaccine companies.

Katz noted that some of the deterrents to vaccine development include the high costs of research and development, the lack of adequate protection for intellectual property rights, small potential market sizes, concerns regarding liability, legal and regulatory issues, and the lack of earning potential for niche, boutique, and orphan products. Unlike antihypertensives, which are taken every day for the rest of one's life, vaccines and anti-infectives are only taken when needed and these drugs are not big moneymakers. Incentives of various sorts are needed to encourage this industry.

Katz opined that our past success has become our worst enemy. He asked when was the last time anyone in the audience saw someone with polio, measles, or diphtheria and yet he noted that such diseases are but a short plane ride from Dulles airport 20 miles to the west of Washington, D.C. And people are now afraid of the side effects of vaccines instead of the diseases they prevent since such diseases in essence no longer occur. A quick look on the Internet reveals far more sites devoted to the dangers of immunizations than to their benefits. Yet, just look at the adenovirus outbreaks that were epidemic in military boot camps. The Army asked for a vaccine and one was developed and administered to all recruits. As a result the incidence of pneumonia in boot camps dropped almost to zero. Due to a lack of disease and a concern over liability, the Army quit administering the vaccine. With no market the vaccine production was discontinued in 1999. Since then, the incidence of adenoviral pneumonia is back to its former rate in military boot camps, and there have been two deaths attributed to the disease. Katz called for a National Vaccine Authority to promote the benefits of vaccines and to remove the disincentives to produce them.

During the question-and-answer period that followed, the discussion focused on possibilities for developing partnerships, the ways government could provide leadership, what steps are being taken to prevent bioterrorists from becoming better terrorists, the need to provide more support for science, and ways to further restrict access to microbes by those who wish to use them for terrorism. **«»**

Advertisements

Advertisements

Employment Opportunity
ENVIRONMENTAL SCIENTIST

Environmental Scientist for small consulting firm specializing in environmental risk management. Preferred candidate will hold graduate-level degree in an environmental science discipline—for example, ecology, toxicology, chemistry, engineering, or geology—and should have experience in performing and/or managing risk assessment projects. Excellent written and oral communication skills a must. Great opportunity for entry into an expanding business with a diverse and challenging workload. This position requires a highly motivated individual with strong analytical skills who is capable of identifying and developing solutions to address the core issues associated with complex and oftentimes unique problems. Send résumés to Hanna Associates Inc. - IRM, F-1, 1000 Germantown Pike, Plymouth Meeting, PA 19462.

Employment Opportunity
CHIEF, Pharmacokinetics Branch

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Experimental Toxicology Division, Pharmacokinetics Branch
Research Triangle Park, North Carolina

The U.S. Environmental Protection Agency (EPA) is seeking an established scientist to lead its nationally recognized Pharmacokinetics Branch in the Experimental Toxicology Division, National Health and Environmental Effects Research Laboratory, Research Triangle Park, North Carolina (http://www.epa.gov/nheerl/etd/). The Branch is responsible for planning and conducting a comprehensive research program focused on understanding and describing the fate and disposition of chemicals in the body and ultimately developing quantitative models for extrapolation/prediction in the context of the Agency's risk assessment activities. The successful applicant will have a unique opportunity to develop and manage innovative research strategies to extrapolate xenobiotic exposure from animal to human effects. He/she will work with multidisciplinary research teams in developing PBPK/dose-response models and other methods for enhancing our knowledge of the health effects of xenobiotics and improving risk assessment methods. The position includes significant administrative and management responsibilities. The incumbent will provide scientific and managerial leadership, facilitate program development to meet the mission-oriented needs of the EPA, present the program to EPA and non-EPA audiences, develop and manage budgets and related resources, and supervise staff.

As Branch Chief, we seek an individual who is a competent research leader/science administrator/manager as demonstrated by the conception and formulation of productive research programs; administrative supervision, management, and support of PhD-level scientists who conduct independent and team-oriented research; budget management experience; and substantial peer-reviewed publications in pharmacokinetics/pharmacodynamics or related areas. The preferred candidate would possess an advanced degree in pharmacology, toxicology, mathematics, engineering, physical/biological sciences, or a closely related field. Eligible candidates must be U.S. citizens. This is a permanent, full-time position with an annual salary range of $76,271 to $116,633 commensurate with qualifications. In addition, we offer a great benefits package.

HOW TO APPLY: Vacancy announcement and application instructions are posted on the U.S. Office of Personnel Management (OPM) Web site at http://www.usajobs.opm.gov/a9epa.htm under announcement number RTP-DE-2002-0098. Application deadline is 05-31-2002.

The U.S. EPA is an equal employment opportunity employer.

RISK *newsletter* and SRA Web Site Advertising Policy

Books, software, courses, and events may be advertised in the Society for Risk Analysis (SRA) RISK *newsletter* or on the SRA Web site at a cost of $250 for up to 150 words. There is a charge of $100 for each additional 50 words.

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.

Employment opportunity ads (up to 200 words) are placed free of charge in the RISK *newsletter* and on the SRA Web site. Members of SRA may place, at no charge, an advertisement seeking employment for themselves as a benefit of SRA membership.

Camera-ready ads for the RISK *newsletter* 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.

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

To place an employment ad on the Web site, fill out the online submittal form at www.sra.org/opptys.htm. To place other ads on the Web site contact the SRA Webmaster at webmaster@sra.org. Ads placed on the Web site will usually appear several days after receipt. For additional information see the Web site at www.sra.org/policy.htm#events.

2002 SRA Officers and Councilors

President: **Robin Cantor**, phone: 202-466-4422, fax: 202-466-4487, email: robin_cantor@lecg.com
President-elect: **Bernard Goldstein**, phone: 412-624-3001, fax: 412-624-3309, email: bdgold@pitt.edu
Secretary: **Michael Dourson**, phone: 513-542-7475 x14, fax: 513-542-7487, email: dourson@tera.org
Treasurer: **Richard B. Belzer**, phone: 202-898-2050, fax: 202-478-1626, email: belzer@regulatorycheckbook.org
Treasurer-elect: **Leslie Hushka**, phone: 908-730-1064, fax: 908-730-1151, email: leslie.j.hushka@exxonmobil.com
Past President: **John Ahearne**, phone: 919-547-5213, fax: 919-547-5290, email: ahearne@sigmaxi.org
Executive Secretary: **Richard J. Burk, Jr.**, phone: 703-790-1745, fax: 703-790-2672, email: RBurk@BurkInc.com
Councilor, 2004: **Ann Bostrum**, 404-894-9629, fax: 404-385-0504, email: ann.bostrom@pubpolicy.gatech.edu
Councilor, 2004: **Jack Fowle**, phone: 919-541-3844, fax: 919-541-1440, email: fowle.jack@epamail.epa.gov
Councilor, 2002: **Michael Greenberg**, phone: 732-932-0387 x673, fax: 732-932-0934, email: mrg@rci.rutgers.edu
Councilor, 2003: **Charles N. Haas**, phone: 215-895-2283, fax: 215-895-2267, email: haas@drexel.edu
Councilor, 2003: **Steven Lewis**, phone: 908-730-1036, fax: 908-730-1151, email: steven.c.lewis@exxonmobil.com
Councilor, 2002: **Mitchell Small**, phone: 412-268-8782, fax: 412-268-7813, email: ms35@andrew.cmu.edu
Councilor, 2002: **John Vandenberg**, phone: 919-966-6209, fax: 919-966-6212, email: vandenberg.john@epa.gov
Councilor, 2003: **Peter Wiedemann**, phone: 00 49-2461-614806, fax: 00 49-2461-612950, email: p.wiedemann@fz-juelich.de
Councilor, 2004: **Jonathan Wiener**, phone: 919-613-7054, fax: 919-613-7231, email: wiener@law.duke.edu

2002 Committee Chairs

Standing Committees

Advisory Board: Charles N. Haas, phone: 215-895-2283, fax: 215-895-2267, email: haas@drexel.edu
Annual Meetings: Bernard Goldstein, phone: 412-624-3001, fax: 412-624-3309, email: bdgold@pitt.edu
Awards: Gail Charnley, phone: 202-543-2408, fax: 202-543-3019, email: healthrisk@aol.com
Chapters and Sections: Jonathan Wiener, phone: 919-613-7054, fax: 919-613-7231, email: wiener@law.duke.edu
Conferences and Workshops: Scott Ferson, phone: 631-751-4350, fax: 631-751-3435, email: scott@ramas.com
Education: Timothy L. McDaniels, phone: 604-822-9288, fax: 604-822-3787, email: timmcd@interchange.ubc.ca
Executive: Robin Cantor, phone: 202-466-4422, fax: 202-466-4487, email: robin_cantor@lecg.com
Finance: Richard B. Belzer, phone: 202-898-2050, fax: 202-478-1626, email: belzer@regulatorycheckbook.org
Grants and Gifts Management: Leslie J. Hushka, phone: 908-730-1064, fax: 908-730-1151, email: leslie.j.hushka@exxonmobil.com
Membership: Michael Greenberg, phone: 732-932-0387, ext. 673, fax: 732-932-0934, email: mrg@rci.rutgers.edu
Nominations: Roger E. Kasperson, phone: 46 8 412 14 04, fax: 46 8 723 03 48, roger.kasperson@sei.se
Publications: John Ahearne, phone: 919-547-5213, fax: 919-547-5290, email: ahearne@sigmaxi.org
Public Policy: John "Jack" R. Fowle III, phone: 919-541-3844, fax: 919-541-1440, email: Fowle.Jack@epamail.epa.gov
Leslie J. Hushka, phone: 908-730-1064, fax: 908-730-1151, email: leslie.j.hushka@exxonmobil.com
Publicity: David Clarke, phone: 703-741-5160, fax: 703-741-6092, email: david_clarke@americanchemistry.com
Specialty Groups: Ann Bostrum, phone: 404-894-9629, fax: 404-385-0504, email: ann.bostrom@pubpolicy.gatech.edu
History: Paul Deisler, phone: 512-480-9810, fax: 512-480-9810, email: sinprisa@earthlink.net,
Richard Schwing, phone: 248-851-9519, fax: 248-851-9925, email: sustainablevisions@earthlink.net,
and Jeanne Kasperson, phone: 46 8 412 14 01, fax: 46 8 723 03 48, email: jeanne.kasperson@sei.se

Ad Hoc Committees

Electronic Media: Mitchell Small, phone: 412-268-8782, fax: 412-268-7813, email: ms35@andrew.cmu.edu
Jim Butler, Webmaster, phone: 630-252-9158, fax: 630-252-4336, email: butler@anl.gov
World Congress: Robin Cantor, phone: 202-466-4422, fax: 202-466-4487, email: robin_cantor@lecg.com
Rae Zimmerman, phone: 212-998-7432, fax: 212-995-3890, email: rae.zimmerman@nyu.edu
Interim Web Editor: H. Christopher Frey, phone: 919-515-1155, fax: 919-515-7908, email: frey@eos.ncsu.edu

Specialty Group Contacts

Dose Response: Ron Brown, President, phone: 301-443-7167, fax: 301-594-6775, email: rpb@cdrh.fda.gov

Ecological Risk Assessment: Igor Linkov, Chairperson, phone: 617-498-5317, fax: 617-498-7021; email: ilinkov@yahoo.com

Economics and Benefits Analysis: Robert Scharff, Chair, phone: , fax: 301-436-8687, email: robert.scharff@cfsan.fda.gov

Engineering: Ali Mosleh, phone: 301-405-5215, fax: 301-314-9601, email: mosleh@eng.umd.edu

Exposure Assessment: Pamela Williams, Chair, phone: 720-406-8115, fax: 303-444-7528, email: pwilliams@exponent.com

Food/Water Safety Risk: Cristina McLaughlin, Chair, phone: 301-436-1978, fax: 301-436-2626, email: Cristina.McLaughlin@cfsan.fda.gov

Risk Communication: Katherine McComas, Chair, phone: 301-405-8077, fax: 301-314-9471, email: mccomas@wam.umd.edu

Risk Science & Law: John Applegate, Chair, phone: 812-855-9198, fax: 812-855-0555, email: jsapple@indiana.edu

Chapter Contacts

Chicago Regional: Margaret M. MacDonell, President, phone: 630-252-3243, fax: 630-252-4336, email: macdonell@anl.gov

Columbia-Cascades: Mr. James S. Dukelow, President, phone: 509-372-4074, fax: 509-372-4439, email: js.dukelow@pnl.gov

East Tennessee: Owen Hoffman, President, phone: 865-483-6111, fax: 865-481-0060, email: senesor@senes.com

Greater Pittsburgh: Paul K. Scott, President, phone: 412-231-6624, fax: 412-231-6147, email: pks@bbl-inc.com

Lone Star: Mr. Stephen King, President, phone: 713-222-2127, fax: 713-222-2155, email: toxicking@aol.com

Metro (NY-NJ-CT): Rao V. Kolluru, President, phone: 973-746-0907 or 973-746-2029, email: raokollur@aol.com

Michigan: (Inactive)

National Capitol Area: Dr. Christine Chaisson, President, phone: 703-978-6496, fax: 703-978-6962, email: chaissoninc@erols.com

New England: Joseph Regna, President, phone and fax: 617-623-2856, email: josephregna@hotmail.com

Karen Vetrano, Secretary, phone: 860-298-6351, fax: 860-298-6380; email: KVetrano@TRCSOLUTIONS.com

Northern California: Michele Emerson, Secretary, phone: 916-853-5361, fax: 916-635-8805, email: memerson@brwncald.com
Ravi Arulanantham, President, phone: 510-622-2308, fax: 510-622-2460, email: ra@rb2.swrcb.ca.gov

Ohio: Patricia Nance, Secretary, phone: 513-542-7475 x20, fax: 513-542-7487, email: nance@tera.org
Steve Weldert, President, email: weldert@seidata.com

Philadelphia: Eileen Mahoney, Cochair, phone: 215-242-4388, fax: 215-248-5750, email: eimahoney@sprintmail.com

Puget Sound: (currently inactive) Elaine Faustman, phone: 206-685-2269, fax: 206-685-4696, email: faustman@u.washington.edu

Research Triangle: Paul Schlosser, President, phone: 919-558-1243, fax: 919-558-1300, email: schlosser@ciit.org
Shawn Sager, Secretary, phone: 919-782-5511, fax: 919-782-5905, email: ssager@arcadis-us.com

Rocky Mountain: Yvette Lowney, President, phone: 303-444-7270, fax: 303-444-7528, email: lowneyy@exponent.com

Southern California: Mohan Balagopalan, President-elect, phone: 909-396-2704, fax: 909-396-2999, email: mbalagopalan@aqmd.gov

Anna Olekszyk, Secretary, phone: 213-485-8658, fax: 213-485-0242, email: axo6991@lafd.ci.la.ca.us

Chapitre Saint-Laurent (Canada)**:** Anne Marie Lafortune, President, phone: 418-643-1301 x241, fax: 418-528-1091, email: anne-marie.lafortune@menv.gouv.qc.ca

Section Contacts

SRA-Europe

Jose Manuel Palma, President, phone: 00351 966051919, email: palma@mail.telepac.pt
Mia Walker, European Secretariat, email: mia@in-conference.org.uk

SRA-Japan

Saburo Ikeda, phone: (81) + 298-53-5380, fax: (81) 298-55-3849, email: srajapan@ecopolis.sk.tsukuba.ac.jp,
Web site: http://ecopolis.sk.tsukuba.ac.jp/srajapan/

RISK *newsletter* is published by the Society for Risk Analysis

Genevieve S. Roessler, *Editor*, gnrsslr@frontiernet.net
Mary A. Walchuk, *Managing Editor*, mwalchuk@hickorytech.net
Sharon R. Hebl, *Editorial Associate*
Gail Charnley, *Associate Editor,* healthrisk@aol.com
David Clarke, *Contributing Editor,*
david_clarke@americanchemistry.com

Society Officers:
Robin Cantor, *President*, 2002, robin_cantor@lecg.com
Bernard D. Goldstein, *President-elect*, 2002, bgold@pitt.edu
Michael Dourson, *Secretary*, 2002, dourson@tera.org
Richard B. Belzer, *Treasurer*, 2002,
belzer@regulatorycheckbook.org
Leslie J. Hushka, *Treasurer-elect*, 2002,
leslie.j.hushka@exxonmobil.com
John Ahearne, *Past President*, 2002, ahearne@sigmaxi.org

Members of SRA Council:
Ann Bostrom, 2004, ann.bostrom@pubpolicy.gatech.edu
Jack Fowle, III, 2004, fowle.jack@epamail.epa.gov
Michael Greenberg, 2002, mrg@rci.rutgers.edu
Charles N. Haas, 2003, haas@drexel.edu
Steven Lewis, 2003, steven.c.lewis@exxonmobil.com
Mitchell Small, 2002, ms35@andrew.cmu.edu
John Vandenberg, 2002, vandenberg.john@epa.gov
Peter M. Wiedemann, 2003, p.wiedemann@fz-juelich.de
Jonathan B. Wiener, 2004, wiener@law.duke.edu

Secretariat: Richard J. Burk Jr., Executive Secretary, Society for Risk Analysis, 1313 Dolley Madison Blvd., Suite 402, McLean, VA 22102; phone: 703-790-1745; fax: 703-790-2672; email: SRA@BurkInc.com

Publications Chair: John Ahearne, phone: 919-547-5213, fax: 919-547-5290, email: ahearne@sigmaxi.org

Newsletter Contributions: Send to Mary Walchuk, Managing Editor, RISK *newsletter*, 115 Westwood Dr., Mankato, MN 56001; phone: 507-625-6142; fax: 507-625-1792; email: mwalchuk@hickorytech.net

Address Changes: Send to SRA@BurkInc.com

Risk-Based Decision Making in Water Resources X: Strategic Responses to Risks of Terrorism

3-8 November 2002, Santa Barbara, California

The objective of the 10th conference in this important series is to address the risks of terrorism to the homeland's water resources system of systems from multiple perspectives, including institutional, organizational, economic, scientific, technological, public policy, and safety and security.

In particular, the conference will review the governmental activities, starting with the President's Commission on Critical Infrastructure Protection (PCCIP), and the risks of terrorism to the homeland, focusing on the specific vulnerabilities of the homeland's water resources system of systems; address the interconnectedness and interdependencies between the water resources system of systems and other infrastructures; address lessons learned from experience dealing with risks of extreme events; evaluate the economic perspective of infrastructure survivability; assess the needs for institutional and organizational restructuring; evaluate the impact of ecoterrorism on the environment and the ecology; and discuss the role of universities in the protection of the homeland's water resources system of systems.

The chair of the conference is Yacov Y. Haimes of the University of Virginia; the cochair is David Moser of the U.S. Army Corps of Engineers.

Additional information and a registration form can be found at the conference's Web site (http://www.engfnd.org/2ao.html).

RISK *newsletter* Submission Deadline

Information to be included in the **Third Quarter 2002** SRA RISK *newsletter*, to be mailed mid-August, should be sent to Mary Walchuk, RISK *newsletter* Managing Editor, no later than **5 July** (115 Westwood Dr., Mankato, MN 56001; phone: 507-625-6142; fax: 507-625-1792; email: mwalchuk@hickorytech.net).

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

PRESORTED
STANDARD
US POSTAGE PAID
ROCHESTER MN
PERMIT NO 289