Bridging Risk Divides
Society for Risk Analysis 23rd Annual Meeting
7-10 December 2003, Baltimore, Maryland
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The SRA Membership Directory is now available online.
Please check and update your contact information at www.sra.org.
President’s Message

Happy Birthday to the Red Book

This year is the 20th anniversary of the “Red Book,” otherwise known as Risk Assessment in the Federal Government: Managing the Process. This transformative product was funded by the U.S. Food and Drug Administration under Public Law 96-528. National Academy of Sciences President Frank Press noted that Congress specifically asked for a study to strengthen the reliability and objectivity of scientific assessment that forms the basis for federal regulatory policies applicable to carcinogens and other public health hazards. The Committee, formed by the Commission of Life Sciences of the National Research Council, was chaired by the late Dr. Reuel A. Stallones, Dean of the University of Texas School of Public Health. Of note are the number of Committee members who have had long and productive careers in the area of risk analysis (see list on next page). The Committee labored under the title of the Committee on Institutional Means for Assessment of Risks to Public Health.

Part of the role of this committee was simply to codify the language. Before the Red Book, attempts to clearly think through risk assessment issues were greatly hindered by the lack of agreed definitions of such basic terms as hazard and risk—to some, risk was the intrinsic property of a chemical that was only hazardous when there was exposure. The Committee would have been successful had it done nothing more than clarify definitions and conceptualize the fundamentals of risk assessment and risk management. But its contributions went far beyond definitions and concepts.

The enormous impact of the Red Book in part reflected the times. In early 1981, newly inaugurated President Ronald Reagan had named Ann Gorsuch to be head of the U.S. Environmental Protection Agency (EPA). The Committee began its work in October 1981 when there was a growing perception that EPA’s science was being systematically distorted to achieve preconceived political goals. By the time it released its report in March 1983, a major political change was under way that resulted in the ouster of Administrator Gorsuch and the return of William Ruckelshaus, EPA’s first Administrator. In this setting it was crucial for Administrator Ruckelshaus that EPA’s decisions be seen as firmly based in science that was unrelated to external influences. The concept that risk assessment could be performed independently of risk management was avidly grasped, although not without some second thoughts.

As the new Assistant Administrator for Research and Development under Bill Ruckelshaus, I can attest that the Red Book had an enormous impact on EPA’s approach to managing and communicating about risk. It is not surprising that EPA’s Office of Research and Development was poised to respond as some of the basic conceptual work came from EPA’s Carcinogen Assessment Group under the leadership of Roy Albert and Betty Anderson. Rereading the Red Book 20 years later reveals that its concepts are still fresh and its ideas are still useful. The Committee’s emphasis on developing risk-assessment guidelines, as well as a written description of the basis for each risk assessment and the attendant key uncertainties, remain excellent advice for today. In some areas, such as risk characterization, much more work has been done. Many of the ideas in the Red Book were built upon by the Presidential/Congressional Commission on Risk Assessment and Risk Management, whose Chairperson, Gilbert Omenn, had been an active Red Book Committee member.

Rereading the Red Book also is a good reminder of the breadth of its charge and of its impact. The Committee was funded through the Food and Drug Administration, which had historically taken the lead in concepts concerning the safety assessment of chemicals and which today remains highly active in building upon the Red Book in areas as diverse as medical devices and nutriceuticals. As indicated by the choice of its chair, and by the name of the committee, its mandate extended to all public health risks, not just chemicals and not just cancer.

Perhaps no better evidence of the impact of the Red Book is that the National Academy of Sciences actually had a 20-year-anniversary party for its release. It was sponsored by the Board of Environmental Sciences and Toxicology (BEST) which itself owes its existence to a Red Book recommendation. The Society for Risk Analysis is a few years older than the Red Book, but in many ways our society owes our strength to the impact of this milestone National Research Council report. We salute those whose thoughtful and creative approach to the analysis of public health and environmental risks have made such a major difference.
Committee on the Institutional Means for Assessment of Risks to Public Health

Chairman Reuel A. Stallones, School of Public Health, University of Texas, Houston, Texas
Morton Corn, Department of Environmental Health Sciences, Johns Hopkins University
School of Hygiene and Public Health, Baltimore, Maryland
Kenny S. Crump, Science Research Systems, Inc., Ruston, Louisiana
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School of Public Health and Community Medicine, Seattle, Washington
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Paul Slovic, Decision Research, A Branch of Perceptronics, Inc., Eugene, Oregon
H.M.D. Utidjian, American Cyanamid Company, Wayne, New Jersey
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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.

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Bridging Risk Divides
Society for Risk Analysis 23rd Annual Meeting
7-10 December 2003, Baltimore, Maryland

Make plans to attend “Bridging Risk Divides”—the Society for Risk Analysis 2003 Annual Meeting in Baltimore, Maryland, 7-10 December. The days will be packed with events of interest to SRA members, including some new features and a special schedule on Wednesday afternoon, bringing the meeting to a close with interesting and exciting sessions.

Building Bridges
The theme of bridging risk divides highlights links among aspects of risk analysis (for example, risk assessment, risk management, and risk communication), risk sectors (academia, business, government, and nonprofit), risk disciplines (for example, toxicology, exposure assessment, epidemiology, engineering, economics, law, psychology), and “haves” and “have-nots” (for example, developing and developed world, different demographic groups), according to SRA President-elect Caron Chess, who is chair of the 2003 Annual Meeting Program Committee.

“The feedback on this theme has been positive from specialty group chairs and other members who realize that the annual meeting is an opportunity to bring our diverse expertise, experiences, and values together to grapple with complex risk topics,” Chess said. “I would like the annual meeting to be a time when we can have these discussions in a more open and direct manner than we can routinely in our professional lives. Even if we can’t bridge some of these divides, maybe we can assess them—and the risks of bridging them—more fully.”

“Along with many members of SRA,” Chess added, “I want to increase diversity of our membership to include more students, international members, and members of so-called minorities, who have been underrepresented. This theme reminds us of the need to reach out.”

Plenary Sessions
Plenary sessions will be held Monday, Tuesday, and Wednesday. Dr. Paul Gilman, Assistant Administrator for Research and Development at the Environmental Protection Agency (EPA), will kick off the Monday plenary with a keynote presentation about EPA’s approach to bridging risk divides. Tuesday’s plenary, on the topic of building international bridges, will follow up on the World Congress that was held 22-25 June in Brussels and deal with the role of risk analysis in developing countries. “Building Bridges to the Future: Lessons Learned from Anthrax, 2001” is the topic of Wednesday’s plenary. The panel for this plenary includes Monica Schoch-Spana, Johns Hopkins University Center for Civilian Biodefense Strategies, who will speak on social science; Ivan Walks, former Chief Health Officer of Washington, D.C., who will speak on dealing with diverse populations; Thomas Day, United States Postal Service Vice President of Engineering, who will speak on postal service plans; and a speaker from Mitretech who developed methodology for USPS planning.

New for 2003
Late Breaker
A late-breaker session will be held during the 2003 Annual Meeting for presentation and discussion of a current topic of great interest. This “ripped from the headlines” symposium will be on a subject so hot that it couldn’t be planned for in the months before the meeting. The topic will be known when the most important risk news of the fall is known.

Flex-Time Symposia
In response to requests for flexibility in scheduling, chairs of symposia will have the discretion to hold their 1 ½-hour sessions in formats of other than 20-minute presentations. The program will merely list names of speakers with no times noted.

Posters Promoted
The enthusiastic response to the call for papers means that there are increasing numbers of high-quality submissions. Poster sessions will be highlighted to accommodate the numbers of abstracts and to increase the interchange among members.

Because about 40% of the submissions are in poster sessions, many members will be trying out this format for the first time. The importance of the poster sessions is obvious when you see that some of the most senior members of the society will be presenting as part of poster sessions.

Don’t Miss Wednesday Afternoon
Lottery
Those who sign in and out of the Wednesday afternoon sessions (which are scheduled until 5 p.m.) will be entered into a lottery pool. The lucky winners will get either reimbursement of their registration fee or a credit towards next year.

Hot Sessions
Among the sessions to be highlighted Wednesday afternoon will be:

- Risk Perception of Controversial Technologies
- Precautionary Regulation in America and Europe
- Expert Judgment in Characterizing Uncertainties
- Scenario Simulation Strategies
- New Methods in Risk Assessment
- Evaluating Risk Tradeoffs
Professional Development

The annual meeting will include some new aspects for professional development. There will be a means for employers to meet with prospective employees. In addition to hot topics in exposure, dose response, and risk education, several roundtables on Wednesday will help our members stay on top: Robert O’Connor, National Science Foundation, will host a roundtable on how to write winning grant proposals; Ann Fisher, Penn State, will take a lead on how to develop interdisciplinary collaboration; and Joe Rodricks, ENVIRON, will discuss how to get into consulting.

Workshops

The tentative schedule for workshops to be held Sunday, 7 December, includes the following:

- Application of Spatial Techniques in Ecological Risk Assessment
  (full day, Bruce Hope, hope.bruc@deq.state.or.us)
- Methods and Guidance for Health Risk Assessment of Chemical Mixtures
  (half day, Linda Teuschler, teuschler.linda@epa.gov)
- Beyond Point Estimates: Risk Assessment Using Interval and Possibilistic Arithmetic
  (half day, Arlin Cooper, acooper@sandia.gov)
- What Monte Carlo Cannot Do: Introduction to Imprecise Probabilities
  (half day, Scott Ferson, scott@ramas.com)
- Risk Communication: Application and Case Studies in Military and Emergency Settings
  (full day, Igor Linkov, Ilinkov@icfconsulting.com)

Baltimore: More than Crab Cakes

Baltimore is famous for its great seafood and the crab cakes are known internationally. You can also find live sea animals in their reconstructed habitats at the world-class National Aquarium just a short walk from the meeting hotel on Baltimore’s Inner Harbor.

If you’d like to get a jump on your Christmas shopping, the Renaissance Harborsplace Hotel is adjacent to the five-story Gallery Shops at Harborsplace, where you can pick up gifts for just about anyone on your list. Also within walking distance is the Maryland Science Center with three floors of hands-on interactive exhibits, a five-story-high IMAX Theater, the Davis Planetarium, and national touring exhibits.

Highlights of the many other attractions in the Baltimore area include:

- Port Discovery, the third largest children’s museum in the nation, with 80,000 square feet of interactive exhibit space
- The Baltimore Zoo, the third oldest zoo in the country, home to more than 2,000 exotic animals on 160 acres featuring a chimpanzee exhibit, camels rides, and a new warthog exhibit
- Baltimore’s restaurants featuring the flavors of many countries: Japanese, Italian, Ethiopian, Korean, Thai, French, Vietnamese, Indian, Mexican, and Afghan
- Baltimore’s historic neighborhood markets, including Lexington Market, the Cross Street Market, and Broadway Market
- The National Historic Seaport of Baltimore, where you can explore the decks of historic ships and the cobbled streets of historic waterfront communities
- The Great Blacks in Wax Museum, which showcases wax replicas of famous and little-known African Americans from times of slavery to the present day
- The Baltimore Civil War Museum located in a building that was a documented stop along the Underground Railroad
- Unique museums, including the National Museum of Dentistry where you can see George Washington’s actual choppers in the city where the first dental school in the United States was founded and the B & O Railroad Museum, located at the site of the first American railroad terminal
- Historic homes including Evergreen House, which represents the collections of two generations of Baltimore’s prominent Garrett family; the H.L. Mencken House, a 19th-century row house overlooking Union Square, which was for more than 68 years the home of Henry Louis Mencken, “The Sage of Baltimore”; and the Star-Spangled Banner Flag House, the 1793 home of Mary Pickersgill, who hand-sewed the 15-stars-and-stripes flag that inspired Francis Scott Key to write the poem that would become the United States’ national anthem.

For more information on what to see and do while in Baltimore go to the Web site of the Baltimore Area Convention and Visitors Association (www.baltimore.org).
**Announcing . . .**

**History of the Society for Risk Analysis Through the Year 2000**

Historians and authors Paul Deisler and Dick Schwing are happy to report that they have completed drafting the history of the Society for Risk Analysis (SRA), including all tables, figures, and other pertinent items. As of the end of April they had forwarded the draft to Mary Walchuk, Managing Editor of the RISK newsletter, for professional editing to assure uniform style and quality. The Historians express their gratitude to the SRA Council for authorizing the editing last December. The document is now completed and has been sent to the SRA.

The history, titled *History of the Society for Risk Analysis Through the Year 2000*, covers the formation of both *Risk Analysis: An International Journal* and the SRA, the atmosphere of the times during the period of formation and what inspired the formation; the sometimes-difficult start-up years (the first four presidencies); and the longer period through the year 2000, the final year of the last century and of the second millennium. This third, longer period is divided into sections by topic (for example, chapters, specialty groups, SRA outside of North America, membership, policy development, etc. . . .) rather than by time periods since most topics extend over many years. The history also recounts the story of the ways in which the Society has communicated with its members and others (the Journal, the RISK newsletter, the annual meetings, the workshops, and the Web) throughout its history. At the request of the SRA Council in December 2000, scientific and organizational developments in risk analysis over the third, long period are summarized. The history, where applicable, ties these developments into the development of the Society.

The task of writing the history requested of the authors by the SRA Council in December 1999 has proven to be far more of a consumer of personal time than anyone imagined at the start. The frustrations involved in the delays and difficulties of acquiring the basic materials needed for study, collation, and writing were many. There was also much pleasure in reviewing an era familiar to both authors. The authors are grateful to all who provided information essential to the writing of the history.

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**Committees**

**Chapters and Sections Committee**

*Jonathan Wiener, Chair*

**Speakers Bureau and Formation Materials Now Online**

The SRA Speakers Bureau should now be available online at the SRA Web site. Chapters are invited to check the Speakers Bureau Web page to identify speakers they would like to invite with travel-funding support from the SRA. Current and former SRA Officers and Councilors are asked to check the Speakers Bureau Web page to be sure they are listed and, if not, to fill out the speaker’s form and submit it.

Expanded materials to assist the formation of new Chapters and Sections are also now available on the SRA Web site.

**World Congress Luncheon**

The Chapters and Sections Committee helped sponsor the special luncheon at the World Congress on Risk in Brussels on Tuesday, 24 June. The luncheon, chaired by SRA President Bernard Goldstein, convened risk analysts from around the world, including speakers from Brazil, Egypt, India, Malaysia, Russia, the Ukraine, and the United States, to discuss the needs and opportunities to support risk analysis worldwide.

**New Task Force on Internationalizing the SRA**

The SRA has established a new President’s Task Force on International Organization and Outreach. The Task Force, cochaired by Chapters and Sections Committee Chair Jonathan Wiener and Membership Committee Chair Lorenz Rhomberg, will report to the SRA President and Council in December 2003 on options for improving the SRA’s global growth and organization, including how best to structure new branches of the SRA in parts of the world outside its current activities in North America, Europe, and Japan, and how best to involve members worldwide.

Other members of the Task Force include Councilor Ann Bostrom, former SRA President and World Congress Cochair Robin Cantor, Secretary Michael Dourson, Treasurer Leslie Hushka, and Councilor Steve Lewis. The Task Force is eager to have broad input. SRA members interested in communicating their comments and suggestions (or those interested in becoming members or forming new SRA branches) are invited and encouraged to email the cochairs at wiener@law.duke.edu and LRhomber@GradientCorp.com.
The First World Congress on Risk

The First World Congress on Risk was an unmitigated success! Held 22-25 June in Brussels, the World Congress expanded the reach of the risk professions and provided a foundation for future congresses.

Cochairs Robin Cantor (LECG, LLC) and Rae Zimmerman (New York University, Wagner Graduate School), the SRA Secretariat, and a program committee with members from all over the world managed a diverse set of activities for the World Congress during four beautiful days in Brussels. More than 400 people from 40 countries (about a quarter of which were developing countries) participated in three full meeting days that included three plenary sessions, 12 breakout sessions, 2 formal luncheons with distinguished government officials from the United States and Europe Union, more than 50 mini-symposia, and more than 50 posters.

More information on the World Congress program is available on the SRA Web site (www.sra.org) and we will continue to add to the site in the next few months. Look for a detailed report on the World Congress with photos in the next RISK newsletter!

Roger Kasperson, Nick Pidgeon, and Paul Slovic at the First World Congress on Risk with a copy of their new edited book, The Social Amplification of Risk (Cambridge University Press, June 2003). Publication of the book coincided with a symposium at the World Congress on the policy implications of the social amplification of risk framework. Eleven papers were presented in a very well-attended symposium by authors representing United States, Great Britain, France, Germany, Sweden, the Netherlands, and India.

Member News

Cindy A. Yablonski

Cindy A. Yablonski has departed the International Bottled Water Association. She has been appointed to be the Executive Officer of the Protein Society, which is part of the Federation of American Societies for Experimental Biology (FASEB). FASEB is comprised of 22 societies with more than 60,000 members, making it the largest coalition of biomedical research associations in the United States.

Cindy’s new email address is cyablonski@proteinsociety.org.

David J. Kent

David J. Kent has left The Weinberg Group to become Manager of the Washington, D.C., office of Compliance Services International (CSI).

Established in 1988, CSI has five offices in the United States and Europe and delivers economically sensible and scientifically sound results by focusing on client objectives. CSI provides innovative approaches to solving regulatory and environmental challenges—combining traditional sciences with developing technologies to better characterize product, environmental, and risk management concerns. More information can be found on CSI’s Web site at www.complianceservices.com.

Kent brings to CSI his expertise in pesticide and chemical management issues, including substantial experience with the U.S. and European High Production Volume Chemical programs.

Kent also serves on the Executive Board of the National Capital Area Chapter of SRA and has been instrumental in the chapter’s recent resurgence. His new email address is DKent@ComplianceServices.com.

Roger E. Kasperson

SRA Past President Roger Kasperson was elected to the National Academy of Sciences at its 140th annual meeting this spring. Kasperson is the executive director of Stockholm Environment Institute in Sweden.

Garrick Louis

Garrick Louis was featured in the March 2002 issue of Progressive Engineer, an online magazine covering all disciplines of engineering. Louis is a systems and information engineering professor at the University of Virginia who studies the use of environmental policy to promote sustainable regional economic development. To read the profile written by Tom Gibson, go to the Progressive Engineer Web site (www.ProgressiveEngineer.com), click on Back Issues, and find the March 2002 issue.
Risk Communication Specialty Group
Robert E. O’Connor, Chair

At the end of the long day when the 2003 Annual Meeting Program Committee determined the fate of hundreds of proposals, someone suggested that members of the Risk Communication Specialty Group (RCSG) would like to know more about the process and that the RISK newsletter would be a useful place for the tale. One caveat is that, as each member of the committee may place somewhat different values on different characteristics of proposals, what I write is accurate for my judgments, but may not be shared entirely by other participants in the selection process. Katherine McComas, Henry Willis, and I represented RCSG at the meeting.

Prior to the meeting, the Secretariat sent email copies of proposals that designated “risk communication.” Katherine made an initial sort of the proposals into categories. At the meeting, after an inter-specialty group exchange of proposals that seemed more appropriate elsewhere, the three of us caucused.

Regarding symposium proposals, we followed the rule of the program chair to reject proposals that did not include abstracts of individual presentations. Then, we chose those symposium proposals that seemed the most coherent, consistent with the meeting’s theme, substantively important, and likely to be of interest to SRA meeting attendees.

Regarding proposals for panel papers, the primary determinant of the number of panels is the number of proposals. Yet, we still had more proposals than available slots on panels. In determining which proposals to accept as panel papers, we used a number of heuristics:

- Panels should include no more than four papers because panelists need adequate time to present, and discussion, both among panelists and with the audience, is the reason for having a panel rather than just making papers available to be read.
- Panel coherence is important, so impressive proposals may be rejected for a panel presentation because they do not fit in well.
- Panels should include papers that employ different methods to address the topic under consideration, if possible.
- Some work (for example, because of its visual nature) may be particularly appropriate for poster rather than panel presentations, and other work benefits from an oral medium.
- Proposals from scholars with a history of wonderful presentations (many of you can identify some names) should be accepted if possible.
- Proposals for papers that report completed work should receive preference over research designs whose data may not be available by December.
- Proposals for case studies that report “lessons learned” are an appropriate way to share information, that is, the criteria for participation on a panel are not the same as for publication in Risk Analysis.

- Two proposals may be accepted from the same person, but the second one must be clearly superior to other proposals for the panel.
- Poster sessions should not become a repository for inferior papers. For the reasons listed above, as well as the preference by some applicants to present a poster rather than a panel presentation, the poster sessions in Baltimore will report much outstanding work.

In summary, Henry, Katherine, and I did not rank proposals and then use that ranking to select papers for panels. Instead, we tried to arrange your proposals into a stimulating mix of panels and poster sessions. One thing I learned from the process is that there is no shortage of exciting ideas and good work being done by our members.

Please direct any comments on how the RCSG can do a better job in selecting panels (or on any other topic) to me (roconnor@nsf.gov) or Vice-Chair Joseph Arvai (arvai.7@osu.edu).

Come to the business meeting. Not boring.

Dose Response Specialty Group
John Lipscomb, President

Two well-attended quarterly tele-seminars have been sponsored by the Dose Response Specialty Group (DRSG) since the national meeting in December. Dr. Julian Preston, Chief of the U.S. Environmental Protection Agency’s Environmental Carcinogenesis Division in the National Health and Environmental Effects Laboratory, spoke to the membership in March on “Bystanders, Adaptive Responses and Genomic Instability Effects,” describing how these phenomena, already well established as modifiers of low-dose cancer responses in the field of radiation biology, may also have a basis in chemical toxicity. In June Dr. William Waddell, Professor Emeritus at the University of Louisville, delivered to the group a presentation titled “Dose-Response Curves in Chemical Carcinogenesis.” Waddell’s presentation of dose-response relationships in the context of chemical potential, that is, expressing dose as the log of the number of molecules, versus linear response (with background incidence subtracted out), appears to show a “threshold.” This presentation evoked extensive and animated comment from the membership because collectively the group was not convinced it provided “evidence” of a threshold. Most of our readership is aware of the complexity of biological systems and the limited ability of cancer bioassay data to provide information on the nature of the dose-response curve below the ranges tested; these are problems that the dose-response community will continue to deal with in the years ahead. Developing our own informed conclusions about the value of Waddell’s replotted data is one of the challenges for the dose-response community to take up.

DRSG meets monthly by conference call on the first Tuesday from 3:30 until 4:30. We welcome those interested in
the area. The call-in number is 202-275-0166—conference code is 0577#. Our next tele-seminar is scheduled for 2 September.

This year, the DRSG continued its program to recognize outstanding graduate-level research in the broad disciplines comprising the field of dose response with its student award program. The winner will be selected from a group of very strong submissions and will receive reasonable travel costs to the national meeting and a waiver for registration fees.

**Exposure Assessment Specialty Group**
*Susan Flack, Chair*

The Exposure Assessment Specialty Group (EASG) has been busy preparing for the upcoming SRA 2003 Annual Meeting in Baltimore. The EASG is organizing symposia on the Voluntary Children’s Chemical Evaluation Program (VCCEP), Expert Judgment, Value of Information, Occupational Exposure to Pesticides, and Bioavailability/Uptake. The VCCEP symposium will include presentations on completed evaluations for four chemicals as examples of the challenges of conducting exposure assessments under VCCEP, and the integration of hazard and exposure information for risk-based evaluations. The symposium on Expert Judgment includes presentations by eight internationally recognized experts in subjective judgment elicitation methods for characterizing uncertainty in risk assessment. Individual presentations on two-dimensional Monte Carlo analysis and on air toxics and residual risk are also planned.

The EASG is sponsoring a Student Research Paper Award this year for the first time. A $500 travel award and a $100 cash award, including a conference fee waiver, will be presented to the author of the best student paper at the annual meeting in December. Students with accepted abstracts (which were due 20 May) were notified in July and must submit a three to five-page extended abstract to the EASG by 15 August to be considered for the award. Authors of a select number of extended abstracts will be asked to submit a paper by 15 October for final consideration. To continue funding of the annual EASG Student Research Paper Award, the specialty group is requesting dues of $10 from all new and renewing EASG members.

The EASG focuses on advancing the practice of exposure assessment in risk analysis. Exposure assessment describes the magnitude and duration of contact with a chemical agent by populations varying in size and behaviors. EASG fosters communication and collaboration across multiple disciplines involved in exposure assessment research and applications, including statistics, environmental modeling, analytical chemistry, biochemical toxicology, and physiology. Members’ interest areas include analysis of the inherent uncertainty and variability of exposure and the impact of exposure assessments on regulatory policy.

If you would like more information about the activities of the specialty group or the student paper award, please contact EASG Chair Susan Flack, email: sflack@ensr.com or phone: 303-818-5118.

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**Food/Water Safety Risk Specialty Group**
*Cristina McLaughlin, Chair*
*Greg Paoli, Vice-Chair*
*Peg Coleman, Secretary*

Greetings fellow SRA members.

The Food/Water Safety Risk Specialty Group (FWSRSG) is organized to focus on the particular risk analysis issues and challenges posed by hazards in the food and water consumed 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 (for example, pesticides and food additives) and drinking water disinfectants.

The FWSRSG has had a busy year planning events for the upcoming SRA meetings in Baltimore. The theme for this year’s annual meeting is “Bridging Risk Divides” which will highlight building links among risk disciplines. Keeping within the theme, the FWSRSG is sponsoring several symposia: (1) Genetically Modified Organisms: Assessment of Benefits and Risks to Health and the Environment, (2) Mycotoxins: Risks, Regulations and Economic Impacts, and (3) Risk Assessment and Food Security. The FWSRSG is also cosponsoring the symposium Pathogen Performance Standards: Insights from Risk Assessment and Economics with the Economics and Benefits Analysis Specialty Group and a symposium on Integrating Epidemiological Data into Risk Assessments with the Dose Response Specialty Group.

If you would like more information about the activities of the FWSRSG, you may contact Cristina McLaughlin at cmclaugh@cfsan.fda.gov, Greg Paoli at gpaoli@decisionalysis.com, or Peg Coleman at peg.coleman@fsis.usda.gov.

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**More in Baltimore**

**Little Italy**

With over 20 restaurants in six square blocks, the charming neighborhood of Little Italy is a pasta-lover’s paradise.
RISK

Measuring the State of the Environment

David Clarke, American Chemistry Council

As a farewell gesture, outgoing EPA Administrator Governor Christine Todd Whitman released the U.S. Environmental Protection Agency’s (EPA) Report on the Environment 23 June. In theory, the report’s environmental indicators could serve as the cornerstone of a new system for monitoring and reporting on the “state of the environment.” Using the data, EPA will “manage for results”—that is, will try to measurably improve the state of the environment. At least Whitman hopes so.

Environmental indicators mark the latest attempt to frame environmental problems based more on facts than on sound bites and fury. But, since facts rarely “speak for themselves,” even a successful environmental- indicators program will, like a sturdy schooner, still have to navigate the shoals and pounding surf of interpretation, emphasis, and outrage. Yet, as a management tool, indicators—whether environmental, economic, social, or even personal—have an objectivity that makes them look like an excellent guide, depending on how well they’re designed and executed. As always, a lot hangs on implementation.

So what is this new Report on the Environment? The draft report comes in two volumes—a general document describing EPA’s proposed indicators of environmental conditions, and a much larger technical document providing the references and supporting materials for each proposed indicator. Unlike The State of the Nation’s Ecosystems, a report on ecological indicators The Heinz Center issued in September 2002, EPA’s report includes both ecological and human health indicators. EPA has posted both of its draft reports on the Agency’s Web site (epa.gov/indicators) and plans to begin a “public dialogue” on the indicators this fall.

During the well-attended press briefing to release the report, Whitman noted that the Agency’s draft indicators show “real progress.” For instance, air pollution had declined 25% over the past 30 years, even with large increases in the U.S. population, gross domestic product, and the number of miles Americans drive their cars—all of which could increase emission levels. Last year, 94% of Americans received drinking water that meets health-based standards, a 15% increase over the past decade. But, “There’s plenty of work left,” added Whitman, pointing out that 133 million Americans live in areas that at times have unhealthful air.

In stakeholder briefings EPA delivered prior to the report’s release, EPA’s Assistant Administrator for the Office of Environmental Information, Kim Nelson, and Assistant Administrator/Science Advisor, Paul Gilman, described the report as a rigorously factual summary of what EPA can currently say about specific environmental conditions. EPA’s indicators fall into five issue areas: (1) cleaner air, (2) purer water, (3) better-protected land, (4) human health, and (5) ecological condition of the United States. EPA’s report avoids “grading” or comparing states, industries, or industrial sectors, though one can imagine that ultimately some information entrepreneur might develop a “report card” comparing the performances of different states, industries, ecosystems, or what have you. In addition, EPA’s report avoids data on program activities, the notorious “bean counts” that have led critics to demand, “Don’t tell me what you’re doing; tell me what results you’re producing.” EPA’s focus is strictly on what is happening in ecosystems and in human health.

Responding at the 23 June briefing to a reporter’s question about why climate-change indicators were removed from the draft report, Gilman commented that EPA concluded it was better to deal with controversial debates over climate change in the context of interagency research efforts that the Agency participates in. The climate-change material constituted approximately two pages no longer in the report, Gilman said. EPA is forming a Science Advisory Board panel to review the document.

Describing the key challenges this ambitious effort faces, EPA says, “We need agreement on an integrated set of indicators.” In other words, what does the public really want to know about environmental health? Economic health is readily evaluated through such indicators as unemployment rates, productivity levels, and the like. In addition, EPA sees the need for improved data collection and analysis, “better data to support better indicators,” and the need to make indicators more understandable and usable. Lastly, “We need to better understand cause and effect,” EPA’s Gilman says.

That last need has begun to seriously dog the Agency because “managing for results” implies some ability to relate EPA program actions (the independent variable) to changes in environmental conditions (the dependent variable). But, obviously, the cause-effect links are not that clear cut. As some observers note, cleaner air may be the result of such factors as weather patterns or diminished economic activity. For now, EPA will present the trend lines—for instance, the fact that economic growth and the number of miles people drive their cars have both grown, yet measurements of pollutants in the air have gone down. You draw the conclusions. For risk analysts, challenges will arise in trying to sort out what measured conditions imply about risk levels.

Yet, while the challenges are great, and past failures to develop environmental indicators might give rise to skepticism about this latest initiative, in the words of Shakespeare’s Lucio, “Our doubts are traitors, and make us lose the good we oft might win, by fearing to attempt.” Let’s attempt some good, and, if we’re smart about it, before long we’ll be able to measure how much we’ve won.
At the recent SRA-Europe (SRA-E) Executive Committee meeting held on 22 June 2003 in Brussels, important issues such as the next SRA-E Congress in 2004 were deliberated and the newly elected President Dr. Peter Allen was welcomed.

Other discussed issues were the Young Scientist Workshop about Natural Hazards in 2004 and a strategic Communication Project of the SRA-E.

The SRA-E would like to express its gratitude to Dr. Peter M. Wiedemann (Programme Group MUT at the Research Centre Juelich, Germany) as the outgoing President for his service and welcome Dr. Peter Allen as the new incoming President. A short biographical sketch of Dr. Allen follows.

New President of the SRA-E

Peter Allen, PhD, is a social psychologist with a portfolio of work on public perceptions of risks associated with major industrial sites. This has included many international projects, such as assessing public judgments on the siting of hazardous chemical industry installations, siting decisions for nuclear waste, and responses to the accident at the Chernobyl power plant.

He has also conducted research and published in areas relating to organizational issues in the manufacturing sector and in the United Kingdom health service and has been consultant to UK Health Authorities. He has also developed projects on the contribution of risk perception to health promotion and AIDS.

Allen has been associated with the SRA-E for many years, having attended the first meeting which set up the European Section. He is a member of the European Association of Experimental Social Psychology and the British Psychological Society and he sits on the UK Society for Radiological Protection Public Communications Committee. He has helped organize several international conferences and workshops and, since 1990, has raised funding for 11 major risk-related research projects. Since that time he has been pursuing developments in the application of social psychology, for example, adapting the techniques of structural modeling to study risk perception and health-related behaviors. Radiation protection in the Chernobyl-affected areas provides an example of the approach which is based on first explicating the social science elements of what is, otherwise, a technically based policy. The end point has been development of decision-aiding techniques for policy makers that are explicitly intended to include social science perspectives and data.

For many years Allen has worked closely with colleagues in industry and with regulators seeking to improve safety and risk regulation policy with insights from research conducted within the university sector. As president he will seek to encourage membership in the Society and to facilitate the organization of the next two annual conferences of the European Section.

Strategic Communication Project of the SRA-E

To strengthen the role of SRA-E as policy adviser, the Executive Committee decided to place more emphasis on strategic communication. Therefore, the SRA-E intends to produce a communication about new emerging risk issues in Europe. These issues will be collected by a delphi-survey among SRA-E members and will be discussed in the SRA-E intranet. Bringing the various viewpoints of the SRA-E members together, the SRA-E can identify a list of strategic issues. Each SRA-E member is entitled to make proposals. Such activities will facilitate making SRA Europe more visible and to provide long-term legitimation. Further information will be found soon on the SRA-E site (http://www.sraeurope.org).

Next SRA-E Congress in 2004

The next SRA-E Congress 2004 is planned to be held in the Swiss RE center for global dialogue in Rueschlikon, which is located near the town of Zurich in Switzerland. Under the topic “Risk as a Business: On the Way to Private-Public Partnership,” the following issues will be addressed: visions and strategic goals of doing business in the risk fields, partners and partnership in the risk business, new risks— new business fields, efficiency, legitimacy, and acceptance issues, models, and tools.

Young Scientist Workshop in March 2004

Under the topic Natural Hazards, SRA-E and the alps-Centre for Natural Hazard Management (Innsbruck, Austria) are organizing a Young Scientist Workshop 4-6 March 2004 in Galtür, Tyrol, Austria. The SRA-E and the alps-Centre for Natural Hazard Management invite young scientists to present results of their work regarding natural hazards. The SRA-E offers for each attendee a travel stipend for travel expenses. Further, the Journal for Risk Research will award the best paper. Proposals can be submitted till 1 October 2003. Detailed information can be obtained under www.alps-gmbh.com/young_scientist_workshop.
Chapter News

Research Triangle Chapter

Greg Brorby, President

The Research Triangle Chapter of the Society for Risk Analysis (RTC-SRA) recently sponsored a mini-symposium, “Acute Exposure Guideline Methodology,” 5 June at the CIIT Centers for Health Research in Research Triangle Park, North Carolina. George Woodall of the U.S. Environmental Protection Agency (EPA) spoke on “Development and Uses of Acute Reference Values”; Ken Brown of Khinc spoke on “An Integrated Benchmark Dose for Acute and Short-Term Exposure using EPA’s CatReg Program”; and Will Boyes of EPA spoke on “Use of Pharmacokinetic Models as an Alternative to Haber’s-Based Adjustments.” The symposium was well attended and included a few listeners via conference line. Slides from the talks are available at our Web site, http://www rtc-sra.org.

This year, RTC-SRA is experimenting with using the mini-symposium format, two or three related talks over about two hours, as an alternative to single-speaker seminars. Since the geographic area covered by our chapter is large relative to convenience of transportation, often a single speaker is not a sufficient enticement for people to break up their work day. We are hoping that, perhaps, the rewards of a mini-symposium will be sufficient incentive to get people out of their offices! Our next symposium is planned for the fall.

Northern California Chapter

Greg Brorby, President

We would like to invite all interested individuals to visit our Web site at http://www.sra.org/ncc for announcements of new events.

Southern California Chapter

Anna Oleszyk, President

The Southern California Chapter (SCSRA) held its 16th Annual Meeting/Workshop on 15 May 2003 at the University of California, Los Angeles. “Risk Based Public Decision-Making” was the theme of this meeting reflecting the trend toward applying the risk-oriented concepts and tools to public decision making and risk management. It was a very informative and educational day of presentations and dynamic discussions covering the fields of Aerospace Risk, Health and Accidental Risk, and Management of Security Vulnerabilities.

The excellent group of speakers and panelists discussed the topics of current interest and concern to our members, like results of a recently completed Chemical Safety Board (CSB) investigation on a major chlorine rail car release presented by the CSB member, John Bresland; Updates on the Risk Management Programs by an Environmental Protection Agency representative from Region IX, Mike Arditto; Security Vulnerability Assessments at Chemical Facilities by Bill Koch from Air Products and Chemicals; and water agencies insight on health risk of perchlorates in drinking water and recently implemented methods of water supply system protection, just to name a few.

We were very pleased to have John Bresland as the keynote luncheon speaker to address the role of the Chemical Safety and Hazard Investigation Board in investigation and prevention of chemical accidents.

At the May 2003 annual business meeting, the outgoing president, Mohan Balagopalan of South Coast Air Quality Management District (SCAQMD), passed on the gavel to the new officers: Anna Olekszyk of the Los Angeles Fire Department, President; Paul Beswick of the Metropolitan Water District, President-elect; Pierre Sycip of the SCAQMD, Secretary; Linda Basillo of SCAQMD, Treasurer; Yi-Chia Choa of SCAQMD, Councilor; and John Kulluk of the Torrance Fire Department, Councilor.

During the 2003-2004 activity year, the SCSRA is planning to continue its traditional dinner meetings to cover the current issues or emerging risk problems, as well as the Annual Workshop in May. The half-day Chemical Facility Security Vulnerability Assessment Workshop, cosponsored by the Risk Management Professionals, is proposed for the fall of 2003.

The Chapter will resume publishing its quarterly newsletter, RISK Resources, supported by the efforts of the members who contribute articles and news of potential interest. For further information on the SCSRA activities, please visit www.sra.org/sc.
New England Chapter
Susan Matkoski, Newsletter Coordinator

The New England Chapter welcomed four speakers in May and June: Dr. Susan Santos and Dr. Robert Corell on 14 May, Dr. Aparna Koppikar on 21 May, and Theresa Cassidy on 11 June.

Dr. Susan L. Santos, an internationally recognized expert in risk communication, founder and principal of FOCUS GROUP, discussed risk communication as it relates to medically unexplained symptoms (MUS) and, in particular, research results on environmental risk communication and its applicability to MUS. Santos’ primary research in risk communication has focused on the exposures and risk-related concerns of veterans and deployed soldiers.

Dr. Robert Corell, Senior Research Fellow in the Belfer Center for Science and International Affairs of the Kennedy School of Government at Harvard University and a Senior Fellow at the Atmospheric Policy Program of the American Meteorological Society, gave a talk on “Vulnerability: Methods and Models for Science and Sustainability.” He discussed the vulnerability framework for the assessment of coupled human-environment systems, illustrating two cases, the indigenous communities in the Arctic and in the context of harnessing science and technology for sustainable development.

Dr. Aparna M. Koppikar, Medical Officer/Epidemiologist, Quantitative Risk Methods Group, NCEA-W, Office of Research and Development/U.S. Environmental Protection Agency, discussed the Agency’s plan for reevaluating the health assessment of asbestos. The talk was very well attended. Koppikar presented the current asbestos-related issues, new information regarding those issues, and the Agency’s proposed plan for the Health Assessment of Asbestos for the Integrated Risk Information System (IRIS).

Theresa Cassidy, Director of the Community Assessment Program at the Massachusetts Department of Public Health presented “The South Boston Scleroderma and Lupus Study: Investigating Environmental Exposures and Autoimmune Disease.” In 1998 South Boston residents contacted the Massachusetts Department of Public Health with concerns over a seemingly alarming number of patients with scleroderma and SLE (systemic lupus erythematosus) in their community. The primary aim of the South Boston Scleroderma and Lupus Study is to determine whether there is an increased prevalence of scleroderma (systemic sclerosis) in South Boston and, secondly, to investigate potential etiologic factors, including environmental factors, that may be contributing to the occurrence of the disease in this community. This presentation discussed the rationale and methodology used for the study as well as the environmental exposures under investigation.

Additional information on several of the above-described talks and those of other speakers can be found on our Web site: www.sra-ne.org.

SRA-NE Membership

Our officers would like to hear from members of the National SRA who live in New England so that we can communicate with, and plan activities for, all New England members. In the past, activities have been centered in Boston, Massachusetts, but we would like to sponsor some events in other areas of New England as well. To do that, we need to know where interested members are!! Please send an email to Karen Vetrano or Marion Harnois (marion.harnois@worldnet.att.net) so that we can include you on the mailing list for upcoming activities. You may also keep in touch with SRA-NE news and events by visiting our Web site: www.sra-ne.org.

Membership is not necessary for attendance at meetings and activities, but if you wish to support the Chapter as a member, contact Secretary Karen Vetrano (860-298-6351, kvetrano@trcsolutions.com) or Treasurer Arlene Levin (781-674-7369, Arlene.Levin@erg.com).

More in Baltimore

Chesapeake Bay
With the Chesapeake Bay at Baltimore’s doorstep, it’s only a short leap from the water to mouth-watering—from crab imperial to crab cakes. Savor the succulent catch of the Bay and the world’s oceans in one of Baltimore’s famous seafood restaurants. For a real Baltimore adventure, roll up your sleeves and crack into a Baltimore treasure—steamed crabs.
Probabilistic Risk Assessment Program

Are you ready to take your risk analysis skills to the next level? Then come to Boston 30 September-3 October 2003 for the program Probabilistic Risk Analysis: Assessment, Management, and Communication. Program Director and SRA Councilor Kimberly M. Thompson says this will be an opportunity to learn the key elements of probabilistic risk assessment, management, and communication from an outstanding faculty of nationally and internationally known experts from relevant disciplines.

Faculty will include George Apostolakis, Robert Buchanan, David Burmaster, Karl Dunwoody, Marc Lipsitch, Kimberly Thompson, and David Vose. The program is designed for professionals within medicine, government, industry, consulting groups, trade associations, academia, law firms, and other organizations who want to advance their knowledge of probabilistic risk analysis. The four-day program will combine lectures, case examples, and hands-on computer exercises.

Attendees will benefit by learning to:
- Critically review probabilistic risk assessments.
- Distinguish variability and uncertainty, particularly in the context of risk management.
- Evaluate the impacts of choices made to characterize information from data and experts.
- Explore the use of Bayesian methods in risk assessments.
- Communicate probabilistic risk assessment results.

Registered participants may obtain 2.5 continuing education units which may be applied toward continuance of certification with the Board of Certified Safety Professionals.

For further program information phone 617-384-8692 or visit www.pracourse.harvard.edu.

International Workshop on Problems of Rehabilitation and Recreation of the Chernobyl Exclusion Zone

Problems of rehabilitation and recreation of the Chernobyl Exclusion Zone will be the theme of the XXVI International Workshop on Modeling of Developing Systems: Analysis and Management of Ecological, Technogenic, and Telecommunication Risks, to be held in memory of Victor Glushkov in Kiev, Ukraine, 11-17 September 2003.

The Workshop, with its focus on the consequences of the Chernobyl 1986 nuclear reactor accident, will be devoted to:
- Developing measures and means for prevention and liquidation of ecological and technogenic accidents.
- Developing appropriate software for control of ecological, economic, technogenic, and sociogenic safety.
- Developing methods of risk assessment and occurrence of various extreme situations (ES).
- Working out effective ways to prevent ES and to liquidate the consequences of ES.

These urgent tasks concern experts both in the field of risk analysis and those whose activity is directly connected with the protection of the environment, health, and social security of the population.
- Proposed sessions for the Workshop include the following:
  - The general theory of modeling of developing systems, mathematical approaches for risk assessment, the theory of decision support systems, and methods of optimization of expert systems.
  - Medical, ecological, and social consequences of the Chernobyl accident (risk assessment of radiation effects on immune, endocrine, and other systems; radioecological monitoring; safety control of potentially dangerous objects; water and food-chain contamination; risk assessment of diseases; reserve possibilities of human organisms; telecommunication risk; airspace medicine; and the influence of stress factors on organisms, medical, and computer technologies).
  - Management (assessment of efficacy of social policy, ecological and technogenic safety control, transition economies: pathways of integration in the European community, ecology and military activities).
  - Management of technology and safety quality on potentially dangerous objects.
  - Artificial Intelligence Systems (systems of adaptation of natural language, neuron network, expert systems, and systems of automatic decision making).
  - Data protection (renewal of defective data).

The official languages for the Workshop are English and Russian. Abstracts of communications (one page) should be in English. Papers for publication in the Proceedings should not exceed 10 pages, should be in English, and should be submitted by 28 August 2003 to the Glushkov Institute of Cybernetics of the National Academy of Sciences of Ukraine, Glushkov Prospekt 40, 03680 Kyiv, Ukraine. Email can be directed to Dr. Vasyl M. Yanenko, janintas@carrier.kiev.ua. Contacts may be made by phone: (+38 044) 2660289, (+38 044) 2662113 or fax: (+38 044) 2660289.


Update your email information

The Society for Risk Analysis will be sending members many important announcements by email. Please make sure the Secretariat has your most current contact information.

The Membership Directory is now online so you can check your information at www.sra.org (click on Membership Directory). Make changes there or contact the Secretariat at SRA@BurkInc.com.

Paper copies of the Membership Directory will no longer be printed and mailed to members.
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.

Advertisements

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 30 December for the First Quarter issue (published early February), 30 March for the Second Quarter issue (early May), 30 June for the Third Quarter issue (early August), and 30 September for the Fourth Quarter issue (early 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.php. 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.
RISK newsletter Deadline and Publication Schedule

We invite submissions from all SRA members on risk-related and SRA-related topics. Please send submissions to the address listed in the box below. Our publication and deadline schedule for the year follows:

**Issue .................. Deadline ....... Mailed**

First Quarter ........ December 20 .... February 1
Second Quarter ...... March 20 .......... May 1
Third Quarter ......... June 20 ............. August 1
Fourth Quarter ...... September 20 ... November 1

**Deadline for RISK newsletter Submissions**

Information to be included in the Fourth Quarter 2003 SRA RISK newsletter, to be mailed early November, should be sent to Mary Walchuk, RISK newsletter Managing Editor (115 Westwood Dr., Mankato, MN 56001; phone: 507-625-6142; fax: 507-625-1792; email: mwalchuk@hickorytech.net) no later than 20 September.

**Society for Risk Analysis Web Site**
www.sra.org