

President's Message

Serving as Society for Risk Analysis (SRA) President has provided me with a unique opportunity to interact with SRA members worldwide. As a recent example, I attended the SRA-Europe Annual Conference in Ljubljana, Slovenia, on 11-13 September 2006 and while there had the opportunity to meet with the leadership of SRA-Europe (SRA-E) and SRA-Japan (SRA-J), including current presidents Olivier Salvi and Shoji Tsuchida, respectively, as well as SRA members from other countries such as Mexico. Furthermore, there was productive discussion regarding the role of peer-reviewed journals in a professional society, and especially the role of the *Journal of Risk Research* as an official publication of both SRA-E and SRA-J, to complement the role of *Risk Analysis* as the official journal of SRA.

SRA-E will hold its next annual conference 17-19 June 2007 in The Hague, the Netherlands. In addition to the SRA annual meetings, which include international participation, SRA is organizing the Second World Congress on Risk to be held 8-11 June 2008 in Guadalajara, Mexico. The SRA-J section and SRA-Russia, SRA-Australia, and other chapters sponsor local conferences that are open to SRA members.

There is the likelihood that SRA will receive applications for new international chapters within the next year or so, further cementing our role as a truly global Society. I expect that each new geographic addition to the Society will also bring new disciplinary contributions, providing more leveraging and strength for all of us. I encourage all SRA members to welcome and encourage participation in our Society by colleagues in other countries and other risk-related disciplines.

In the last newsletter I reported on the creation of the Presidential Task Force on the Global Structure of the Society for Risk Analysis. I am pleased that key members of SRA-E and SRA-J will participate in this task force, along with many others, and we are planning to provide an update of our activities at the 2006 SRA Annual Meeting on Wednesday, 6 December, at a lunchtime session on Internationalization of SRA (see page 5).

At the SRA-E annual conference, SRA-E President Olivier Salvi suggested that one way to bring members of SRA together is to develop collaborative projects within the Society to which members from multiple countries

and disciplines can contribute. At last year's SRA annual meeting, several action items were recommended to promote internationalization of risk assessment methodology, including clarification of terminology.

Recognizing that many organizations have developed glossaries of risk terminology, such as the World Health Organization (WHO), the International Organization for Standardization (ISO), and others too numerous to mention, SRA members (especially outside of the United States) have nonetheless repeatedly expressed to me a need for at least identifying and comparing terminology across countries and disciplines in order to clarify communications among us. SRA has in the past undertaken an effort to

develop a glossary, which resulted in the unofficial glossary currently on the SRA Web site. Several attendees of the SRA-E annual conference, representing a number of countries, expressed their willingness to form a working group to further explore the issue of terminology and to recommend an appropriate course of action that would benefit Society members. Whether SRA might benefit from creating an official glossary, or (for example) providing some annotation of existing glossaries, is yet to be determined. If you are inter-

ested in participating in this effort, please let me know. I expect that in the future, we will want to develop international working groups on topics such as key references in the risk literature for dissemination and translation to other languages and on key elements or guiding principles of risk methodology and practice.

I have been honored and privileged to serve as SRA president during this year. On 5 December 2006, Kim Thompson will become the new SRA president. At that time, I will become the new past president, in which capacity I will continue for one more year on the SRA Council and I will chair the Publications Committee that oversees the journal *Risk Analysis*. I look forward to following through on the internationalization initiatives described above.



H. Christopher Frey
SRA President



SRA-E Annual Meeting Conference Chair Branko Kontic, SRA-E President Olivier Salvi, SRA President Christopher Frey, and European Commission in Slovenia Representative Jürgen Wettig

(Annual Meeting, continued from page 1)

I am excited to include some highlights about the meeting plans. The Annual Meeting Committee responded to feedback about the meeting that SRA members provided via the membership survey last year. This year the annual meeting will feature a new, dedicated poster session and reception on Monday evening from 5:30 to 7:30. All of the posters presented at the meeting will be on display and will compete for five Best Poster Awards that will be given at the Awards Luncheon on Tuesday. With generous sponsorship from the Harvard Center for Risk Analysis, in association with the University of Michigan's Center for Risk Science and Communication and King's College Center for Risk Management, the poster session and reception will provide an evening event that will allow meeting attendees to enjoy a large block of time to check out the posters (with food!). Mike Huguenin, Executive Director at the Harvard Center for Risk Analysis, told me "HCRA is pleased to sponsor this event to support SRA's efforts to promote both high-quality and decision-relevant risk analyses. We look forward to connecting with old and new friends and supporters in Baltimore, and we thank our colleagues at Michigan and King's College for joining us in this endeavor." Poster authors can begin to display their posters starting at noon on Monday, so meeting participants can start to check them then as they prepare to cast their votes for the five best posters. The judges for the best posters include former SRA President and multiple-meeting organizer Gail Charnley and members of the Annual Meeting Committee.

The annual meeting will kick off with an opening reception sponsored by Exponent on Sunday, 3 December, at 5:30 p.m. With registration open at 4 p.m. on Sunday, you can come a few minutes early to get checked in and then meet new attendees and reconnect with old friends at the opening reception. This year the Membership Committee will host a New Members and Fellows Breakfast on Monday morning from 7:00 to 8:00 to welcome new members and recognize SRA Fellows.

In order to fit in all of the concurrent sessions, all of the plenary sessions will begin at 8 a.m., so plan to arrive early each morning! The plenary speakers will all respond to the theme of the meeting: risk analysis in a dynamic world and making a difference. On Monday, SRA Past President Paul Slovic and John Sterman, Jay W. Forrester Professor of Management and director of MIT System Dynamics Group, will discuss their cutting-edge research efforts on cogni-

tive heuristics and their impacts on risk perception. On Tuesday, SRA Past President Elisabeth Paté-Cornell and Charles W. Bosler Jr., founder and president of the Project Management Institute Risk Management Specific Interest Group, will discuss frameworks for dealing with complex and changing risks for large projects. On Wednesday, Stanford Professor Stephen Schneider and University of Wisconsin Professor Sharon Dunwoody will offer their insights on public and personal perceptions of uncertainty and their impacts in decision making. Check out the plenary session abstracts on pages 4 and 5 of this newsletter!

All meeting participants will also enjoy lunch each of the three full days. On Monday and Wednesday, meeting attendees can pick up their box lunches and take them to lunch sessions of their choice. All of the specialty groups will meet during the Monday lunchtime, with the times of their business meetings staggered to allow members to attend multiple meetings. On Wednesday, attendees can pick up their box lunches and participate in a lunchtime session on (1) OMB's Proposed Risk Assessment Guidance or (2) the Internationalization of the SRA, or they can use the time for networking. Check out the descriptions of these (page 5) so you can let us know which of these you plan to attend when you register.

We will hold our annual SRA business meeting and awards luncheon on Tuesday, which will conclude with the newsletter staff taking photos of (1) the award winners, (2) the five Best Poster Award winners, (3) the specialty group student merit award winners, (4) the student and international travel award recipients, and (5) all book authors who submit books to the book exhibit. If that list includes you, please plan to get into the picture at the end of the lunch on Tuesday. **Calling all authors of risk-related books: please submit your new and/or classic book(s) for the book exhibit (see the Web site for the submission form).**

Finally, plan to stay for the new closing reception with wine and cheese and free T-shirts on Wednesday from 5:00 to 6:00 p.m.! The Sapphire Group is sponsoring the T-shirts for the fourth year, and this year the T-shirt design includes one of my favorite risk analysis cartoons. The meeting promises to be a great one and I look forward to seeing you there. If you'd like to volunteer to help, please send me an email to let me know (kmt@mit.edu).

See you in December!



On the Baltimore waterfront



At Baltimore's National Aquarium

Monday Plenary

If I Look at the Mass I Will Never Act: Psychic Numbing and Genocide

Paul Slovic, Decision Research



Most people are caring and will exert great effort to rescue individual victims whose needy plight comes to their attention. These same good people, however, often become numbly indifferent to the plight of individuals who are “one of many” in a much greater problem. Why does this occur? The answer to this question will help us answer a related question that is the topic of this paper: Why, over the past century, have good people repeatedly ignored mass murder and genocide? Every episode of mass murder is unique and raises unique obstacles to intervention. But the repetitiveness of such atrocities, ignored by powerful people and nations, and by the general public, calls for explanations that may reflect some fundamental deficiency in our humanity—a deficiency that, once identified, might possibly be overcome.

Seeing Time: Exploring Mental Models of Complex Dynamic Systems

John D. Sterman, Jay W. Forrester Professor of Management and Director, MIT System Dynamics Group



Public attitudes about climate change reveal a contradiction. Most Americans believe climate change poses serious risks but also that reductions in greenhouse gas (GHG) emissions can be deferred until there is greater evidence that climate change is harmful. Federal policy makers likewise argue we should wait and see whether climate change will cause economic harm before undertaking policies to reduce emissions. Such wait-and-see policies erroneously presume climate change can be reversed quickly should harm become evident, underestimating substantial delays in the climate’s response to GHG emissions. I discuss experiments with highly educated adults showing widespread misunderstanding of the fundamental stock and flow relationships, including mass balance principles that lead to long response delays. Low public support for mitigation policies may arise from dynamically impoverished mental models rather than poor understanding of climatology, high discount rates, uncertainty, or common judgmental biases. I explore implications for education and communication between scientists, policy makers, and the public.

Tuesday Plenary

Strategies for Dealing with Changing Risks

M. Elisabeth Paté-Cornell, The Burt and Deedee McMurtry Professor of Engineering and Chair, Stanford Department of Management Science and Engineering



This talk will offer a general framework for risk analysis in a dynamic context (evolution of the system, evolution of the external events, dynamic updating of information, etc.). The framework will be demonstrated and discussed in the context of three specific diverse examples: assessment of the risks of insolvency of insurance firms, updating of intelligence information in matters of counterterrorism, and patient risk in anesthesia.

Project Risk Management: Seeing the Process as the Product

Charles W. Bosler Jr., Founder and President, Project Management Institute (PMI) Risk Management Specific Interest Group (SIG), and President, Risk Services & Technology

Risk management is not an optional component of project management—it is essential for project success. While risk management is often conducted as an informal activity in a project, this talk offers powerful real examples that demonstrate the value of formalizing the process to achieve improved outcomes.



Project risk management offers a discipline that goes beyond the intuitive, or common-sense, practices that have historically been used by project managers, practices that perform poorly in the context of increasingly complex and demanding project requirements.

Project risk management should not be seen as a practice that can only be conducted by specially trained individuals with specific knowledge that is beyond the general project manager, or as “one size fits all.” Rather than putting risk management out of reach of professional project managers, the steps, concepts, and tools of project risk management help team members, project managers, sponsors, and customers become more effective in managing project risk.

Formalizing some of the steps of risk management, while encouraging tailoring of the processes to each specific project, will make risk management a full component in project management, on a par with other processes that help manage time, cost, and project scope.

Wednesday Plenary

Planetary Climate Change and Personal Cancer Treatments: Very Different Scales, but Very Similar Decision Analyses

Stephen H. Schneider, Professor, Department of Biological Sciences and Senior Fellow, Stanford Center for Environment Science and Policy of the Institute for International Studies

Predicting future climate change and impacts is a complex systems science issue combining theory, observations, and modeling into a subjective—though expert—set of scenarios or forecasts. Subjectivity is unavoidable about the future as there are no frequency data yet, though process knowledge allows credible projections in many cases. Similarly, with cancer, particularly for rarer diseases with little clinical trial or other sufficient statistical information, judgments must nonetheless be made based on existing knowledge of the risks of the disease, the risks of the treatments, and the risk aversion philosophy of the patient. Applications of decision analysis to both problems are remarkably similar even if the scales involved are as different as they could be: planetary vs. personal. The author's experiences in both these realms will be recounted and contrasted.



Public Perceptions of Uncertainty, the Media, and Risk Decision Making

Sharon Dunwoody, Evjue Bascom Professor, University of Wisconsin-Madison School of Journalism and Mass Communication

Uncertainty is a dominant feature of scientific knowledge, yet researchers exploring public understanding of science issues have focused much more on what individuals do know rather than on what they don't. This talk will explore how lay publics perceive uncertainty in risky environments, the role of media accounts in truncating or fostering those perceptions, and the challenges for risk analysts and managers in coping with them.



Tuesday Lunch

SRA Business Meeting and Awards Lunch

William Readdy on "Spaceflight, Exploration and Risk—'The "Hard" Stuff'—One Astronaut's Opinion," with apologies to Tom Wolfe

Monday Lunch

Specialty Group Business Meetings

11:45-12:15—Dose Response, Economics & Benefits Analysis, Risk Communication

12:15-12:45—Ecological Risk Assessment, Exposure Assessment, Risk Science & Law

12:45-1:15—Decision Analysis and Risk, Biological Stressors, Engineering and Infrastructure

Wednesday Lunch Session Options

OMB's Proposed Risk Assessment Guidance

In January 2006 the US Office of Management and Budget (OMB) proposed new guidelines for health, safety, and environmental risk assessments. The proposal built on the OMB's government-wide Information Quality Guidelines issued in February 2002 and implemented by federal agencies by October 2002. The SRA hosted a forum in Washington, DC, 23-24 May, to analyze, discuss, and debate the proposed guidance. The forum included more than 30 speakers from both inside and outside SRA to provide insight on how implementation of the guidance would affect risk assessment practice across a broad span of application areas.

Around the same time, the National Research Council (NRC) created an ad hoc committee charged to "conduct a scientific review" to determine whether the application of the proposed guidance will meet OMB's stated objective to "enhance the technical quality and objectivity of risk assessments prepared by federal agencies." OMB received 75 public comments before its 15 June deadline, and several federal agencies responded to a separate request for comments made by the NRC panel. This lunch session will offer a forum for discussion of alternative paths forward on federal risk assessment guidance.

Internationalization of the SRA

This session will feature a discussion of the international structure of SRA, opportunities for international collaborations within the Society on topics such as terminology, methodology, and applications, and the opportunity for input to the planning of the World Congress on Risk Analysis to be held 8-11 June 2008 in Guadalajara, Mexico. Featured speakers and panelists will include SRA President Chris Frey, SRA Past President and World Congress Organizer Robin Cantor, Internationalization Task Force Chair Bert Hakkinen, and many other leading international SRA members.

2006 SRA Annual Meeting Workshops

Sunday, 3 December

See the SRA Web site (<http://www.sra.org/events.php>) or the preliminary program for descriptions of the workshops. (Contacts for information are in parentheses.)

- **Risk Analysis: Fundamental Concepts, Applications, and Controversies**—8:00 a.m.-Noon, <http://www.unlv.edu/faculty/dmh/RATL/SRA2006.html> (David M. Hassenzahl, David.hassenzahl@unlv.edu)
- **Incorporating “Omic” Information into Risk Assessment and Policy**—8:00 a.m.-Noon, http://depts.washington.edu/irarc/SRA_genomics_seminar.html (Elaine Faustman, Iry@u.washington.edu)
- **Replacing Default Values for Uncertainty Factors with Chemical Specific Adjustment Factors: Reducing Uncertainty in Noncancer Risk Assessment**—8:00 a.m.-Noon, http://www.tera.org/education/SRA_CSAF2006.htm (Lynne Haber, Haber@tera.org)
- **Beyond Point Estimates: Risk Assessment Using Interval and Possibilistic Arithmetic**—1:00-5:00 p.m., <http://www.ramas.com/interval.htm> (Arlin Cooper, arlincooper@msn.com)
- **An Introduction to Health Risk Assessment of Chemical Mixtures**—1:00-5:00 p.m., <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=155775> (Linda K. Teuschler, teuschler.linda@epa.gov)
- **Evaluating the Human Relevance of Modes of Action in Animals**—1:00-6:00 p.m., <http://rsi.ilsa.org/humanrelevance.htm> (Stephen S. Olin, solin@ilsa.org)
- **Sensitivity Analysis Methods Applied to Exposure or Risk Assessment Models**—8:00 a.m.-5:00 p.m., <http://www.ce.ncsu.edu/risk/workshop04/> (Amirhossein Mokhtari, amirh357@yahoo.com)
- **What Monte Carlo Cannot Do: An Introduction to Imprecise Probabilities**—8:00 a.m.-5:00 p.m., <http://www.ramas.com/ipbaltimore.htm> (Scott Ferson, scott@ramas.com)
- **Applying Publicly Available Environmental Models and Databases within a Single Human and Ecological Risk Assessment Tool: Hands-On Training Using ARAMS**—8:00 a.m.-5:00 p.m., <http://www.ndcee.ctc.com/> (Chuck Tomljanovic, chuck-t@ctc.com)
- **Risk Assessment and Decision Support Applications in Military Settings**—8:00 a.m.-5:00 p.m., www.risk-trace.com/Mil_MCDA.html (Igor Linkov, linkov@cambridgeenvironmental.com; Renae Ditmer, Renae.Ditmer_CONTRACTOR@dtra.mil; and Elizabeth Ferguson, Elizabeth.A.Ferguson@erdc.usace.army.mil)
- **Approaching Adversity: What’s Adverse? What’s Not? Why You Should Care**—8:00 a.m.-5:00 p.m., http://www.tera.org/education/sra_adversity2006.htm (Sara Hale Henry, sara.henry@fda.hhs.gov; James Wilson, wilson.jimjudy@att.net)
- **Measuring Risk Perceptions and Behaviors: Developing High-Quality Questionnaires**, 8:00 a.m.-5:00 p.m. (Clifford Scherer, cws@Cornell.edu)



Baltimore Waterfront Views



Baltimore photos on pages 1, 3, and 6 by Mary Walchuk

See www.sra.org for the latest 2006 SRA Annual Meeting information.

Specialty Group Leaders Provide Reports from the Field

Specialty Group chairs provided end-of-the-year “reports from the field” to give Society for Risk Analysis (SRA) members unable to keep up with developments outside their own area of special interest a brief sense of what is new and exciting in other specialties.

Risk Science and Law

Gary Marchant

As usual, it was a busy year on the legal front for risk issues. Consider just a few of the significant court cases involving risk analysis decided so far this year:

- Rhode Island (in *State of Rhode Island v. Lead Industries Association, Inc., et al.*) successfully sued three lead-paint manufacturers for creating a public nuisance that has harmed tens of thousands of children, which could trigger cleanup costs that may approach \$1 billion. Meanwhile, a Mississippi jury (in *Jones v. NL Industries Inc.*) found lead-paint manufacturers not liable for neurological impairment to children with elevated blood lead levels, based in part on evidence that the affected families may have had a genetic predisposition to mild mental retardation.
- A federal district court in Hawaii held that the US Department of Agriculture (USDA) violated the National Environmental Policy Act and the Endangered Species Act by failing to adequately consider the environmental risks from crops genetically engineered to produce pharmaceuticals, prior to issuing permits for those crops (*Center for Food Safety v. Johanns*).
- The first batch of Vioxx products liability cases was litigated in 2006, with mixed results in which plaintiffs won some cases and the manufacturer (Merck) won others. The cases focused on whether Vioxx unreasonably increases the risk of heart attacks.
- A federal district court judge issued a 1,650-page opinion (in *United States v. Philip Morris USA, Inc.*) holding that tobacco companies engaged in racketeering by conspiring to cover up the risks of smoking. Included in the behavior found to be illegal was the industry’s ongoing opposition to the risk assessments of environmental tobacco smoke by Environmental Protection Agency (EPA) and other entities, raising the issue of when advocacy on risk issues crosses the line from legitimate scientific debate to illegal conduct.
- The 2nd Circuit Court of Appeals upheld the EPA’s voluntary High Production Volume (HPV) chemical testing program against a legal challenge by animal rights organizations, who argued that EPA was required to implement the program via a formal test rule under the Toxic Substance Control Act (*Physicians Committee for Responsible Medicine v. Johnson*).
- The 10th Circuit, in *Nutraceutical Corp. v. von Eschenbach*, overturned a lower court’s rejection of the Food and Drug Administration’s (FDA) ban on ephedra products, ruling that the FDA had properly concluded that the risks of the products outweighed the benefits.
- The 9th Circuit held that the Nuclear Regulatory Commission is required to consider the environmental risks from a terrorist attack on a spent-fuel storage installation before issuing a permit to the facility (*San Luis Obispo Mothers for Peace v. Nuclear Regulatory Commission*).
- A California state court (in *People of the State of California v. Tri-Union Seafoods, LLC*) devoted over 100 pages to critically examining California’s assessment of the health risks of mercury in tuna, ultimately rejecting the state’s attempt to require warning labels on tuna products under Proposition 65.
- The District of Columbia Circuit ruled that terminally ill patients had a constitutional right to access experimental drugs that had only completed Phase I of clinical testing and had not yet been approved by FDA as safe and effective (*Abigail Alliance v. von Eschenbach*).

In addition to these and many other cases that were decided in 2006, a number of significant lawsuits were commenced in 2006 but have not yet been decided, including a case to be heard by the US Supreme Court this term on whether EPA has the authority and obligation to regulate carbon dioxide as a pollutant under the Clean Air Act, a public nuisance lawsuit brought by the state of California against vehicle manufacturers for their role in global warming, a lawsuit against EPA officials by residents of southern New York City alleging that they were misled by EPA statements about the safety of the ambient air after 9/11, a lawsuit by the US government against W.R. Grace for its asbestos contamination of Libby, Montana, and a challenge by ranchers to the USDA’s import policies for cattle that may be afflicted with mad cow disease. Important adjudications at the international level also proceeded, including the World Trade Organization’s decision stating that the European Union (EU) and several of its member nations violated international trade law by restricting the import of genetically modified foods from the United States, and rejecting the EU’s reliance on the precautionary principle to justify its restrictive policies. There were also many important regulatory decisions in 2006, including EPA’s progress on new national ambient air-quality standards for particulate matter, ozone, lead, and NO_x (nitrogen oxides), a citizen group’s petition challenging the FDA’s regulatory ap-

proach to nanotechnology cosmetic products, and the EU's approval of its REACH program.

Economics and Benefits Analysis

Susan Ferenc

Risk assessments that can be integrated with economic analyses have become increasingly more important in public policy. Risk managers frequently use risk assessments in conjunction with economic analysis to aid in evaluating complex choices, but it remains common for risk managers to see the risk assessment in one document and the economic analysis in a separate document, often with no obvious connection between the two. The lack of an ongoing conversation between risk assessors and economists can lead to confusion and extensive delays in risk management decision making. The confusion is particularly unfortunate when we realize that, in performing cost-benefit analysis, an economist must characterize potential trade-offs between policy or mitigation options while taking into account countervailing risks, changes in exposure, and risk to relevant subpopulations. Thus, the cost-benefit analysis asks the same questions as the risk assessment. Yet, cost-benefit analyses and risk assessments often derive different answers to what are fundamentally the same questions, leading to confusion where there should be enlightenment.

The Economics and Benefits Analysis Specialty Group serves as a bridge between economics and risk assessment within the SRA. In that role, we try to bring economic analysis and risk assessment into a single risk management conversation. Our goal is to see analyses in support of decisions, wherein the risk assessment and the cost-benefit analysis fit together seamlessly. We encourage our specialty group members and the wider SRA membership to think about the current disciplinary barriers to achieving this goal and what we can do to break through those barriers.

Engineering and Infrastructure

James H. Lambert (with thanks for the comments of Stanley Levinson, Bilal Ayyub, and Seth Guikema)

Among the 2005-2006 developments engaging the members of the Engineering and Infrastructure Specialty Group are the following:

Hurricane Katrina has starkly revealed interdependencies between infrastructure and society—and the shortcomings of particular infrastructure engineering and emergency plans. The events have renewed public and professional interest in risk analysis and the precautionary principle for large-scale, complex systems, such as disaster mitigation, health and emergency services, energy, transportation, continuity of operations and continuity of government, and communications.

The link <https://ipet.wes.army.mil/> provides additional information on risk analysis related to the hurricane protection system of New Orleans. The following link provides additional information from the associated press release:

http://www.hq.usace.army.mil/cepa/releases/Interagency_Eval.htm.

The several programmatic and technical failings of Boston's \$14.6 billion "Big Dig" project have suggested needs to improve cost estimation and scheduling, technical oversight, and risk analysis of infrastructure megaprojects. The following link provides additional information from the news media: http://www.boston.com/news/traffic/bigdig/articles/2006/07/21/reconstructing_a_tragedy.

The return to flight of the space shuttle (with STS-114) for remaining critical missions prior to retirement has again brought probabilistic risk analysis to the attention of aerospace engineers, managers, and observers. As of 2006, there have been two shuttles lost in 115 missions, with about 15 missions remaining to service the International Space Station, among other efforts. Evaluation of risk is an important factor in determining the viability of a launch, as demonstrated by the technical debate about loose insulation. Addressing a July 2006 decision to launch, NASA Administrator Michael Griffin described to the media: "It's a difficult decision, highly technical, highly subtle, very subtle, involves lots of assessment of statistical risks. We spent weeks on this decision." Griffin is quoted along with SRA members at <http://www.technewsworld.com/story/51363.html>.

The emerging nanotechnologies continue to engage risk analysts grappling with a range of associated uncertainties including material toxicities, unintended consequences, social/cultural changes, efficacy for environmental remediation, and many other topics. For a sample of issues, see the numerous relevant papers upcoming at our Baltimore annual meeting (www.sra.org).

The resurgence of the nuclear industry with new designs to address safety and security, and the growing recognition of the possible role of nuclear power in a greenhouse world by environmentalists, reminds us of one of the formative topics of risk analysis and reliability engineering for many decades. The nuclear power industry continues to use risk-informed insights to ensure high power plant availability (most plants now routinely achieve greater than 80% availability) and to address post-9/11 security issues. Risk-informed approaches are being used to change the basis for nuclear power plant regulations (for example, change in technical specifications) (<http://www.nrc.gov/>).

The growth and increasing reliance upon automated control systems in industry and critical infrastructures such as oil and gas, chemical manufacturing, transportation, and others call for risk analysis of safety and security of these devices and systems. See the link www.thei3p.org for projects on security of process control systems led by members of SRA.

The broad range of technologies for deterrence, prevention, protection, mitigation, response, resilience, and recovery from local and national security threats continues to engage risk analysts. Notable among these are the informa-

tion technologies for intelligence collection and analysis. See the link www.intelligence.gov for an overview of the intelligence community.

Risk Communication

Joseph Arvai

What's "hot" in the field of risk communication? It's a timely question given that many of the most well-known researchers and practitioners in risk communication recently met in Göteborg, Sweden, for a summit meeting of sorts. Sponsored by SRA's London Chapter, the *Journal of Risk Research*, and Göteborg University's Centre for Public Sector Research, the two-and-a-half day meeting (31 August-2 September 2006) focused on emerging perspectives in risk communication.

Borrowing from the Göteborg meeting's liner notes, risk communication focuses, by and large, on facilitating social communication as well as practical risk management and policy. The field engages researchers and practitioners from a wide variety of disciplines and covers a diverse array of activities from attempting to influence attitudes and behavior to developing warning systems and action plans for emergency situations. In its most basic form, however, risk communication is really about the desire to improve decision making. The decisions—quite obviously—include those about using or avoiding a potentially risky product and persisting or fleeing in the face of a potential hazard. However, these decisions may also be as simple as choices about whom to trust and whom not to trust, or whether or not to seek additional risk information or accept what you've already got.

With this view of risk communication in mind, early research and practice focused on educating people about risks in an attempt to better inform these decisions. At one extreme, this work took the form of persuading people to think like—or at least believe in the judgments of—experts. At the other extreme, the divinity of the "expert" was cast out in favor of a more deliberative and democratic ideology. Research at this end of the spectrum has focused mainly on three fronts: (1) developing methods (such as mental models analysis) by which the specific risk information needs of experts and nonexperts alike can be identified and met, (2) identifying the most appropriate ways to convey complex and uncertain information about risks, and (3) determining appropriate media, including new and untapped technologies, through which this risk information can best be conveyed.

In many respects, these three avenues of research are still—in the words of the original question—"hot," at least in the sense that even the most casual review of the literature will uncover dozens of recent articles. There are, however, many other interesting and valuable research questions that are beginning to emerge. One of these relates to the intent of risk communication: how can we structure the presentation of risk information and include decision aids to help people make better decisions? More fundamentally,

what, exactly, constitutes a better or "higher quality" decision? And if we're able to figure that out, how can we best measure it? Related previous work has treated risk communication—particularly when it takes the form of a deliberative process—like a perpetual enterprise, but at what point is it appropriate to terminate such a risk communication process? Current events lead to other, ethically grounded questions for risk communication. For instance, when is it justifiable to take advantage of people's affective responses to risks—like fear, dread, and anxiety—in order to achieve desired ends? The coming years will see the emergence of answers to these questions.

Decision Analysis and Risk

Igor Linkov, President, and Greg Kiker, Secretary-Treasurer

The interface between decision analysis and risk assessment, the core subject area of the Decision Analysis and Risk Specialty Group (DARSG), has attracted significant interest in situations where uncertainty and variability cannot be adequately assessed using existing methods and tools. Two of these situations—nanotechnology and homeland security—will be highlighted in our continuing education workshop and symposia at the 2006 SRA Annual Meeting in Baltimore.

Nanotechnology is a broad and complex area with many potential decision points, such as allocating funding for appropriate projects, predicting which nanomaterials will have favorable chemical characteristics and lower toxicity, identifying important knowledge and technology gaps, and communicating with stakeholders and the general public. Currently there is no structured approach for making justifiable and transparent decisions with explicit trade-offs between the many factors that need to be considered. Multi-criteria decision analysis (MCDA) can be used to balance societal benefits against unintended side effects and risks. It can also be used to bring together multiple lines of evidence to gauge the likely toxicity of nanomaterials given limited information on physical and chemical properties. The essential contribution of MCDA is to link risk information with decision criteria and weightings elicited from scientists and managers, allowing visualization and quantification of the trade-offs involved in the decision-making process.

The processes and methods for addressing risk and decision-making challenges in the military is a second focus area for DARSG. The development of risk management guidance for military and homeland security applications is particularly challenging due to the knowledge vacuum and constricted time line in which decisions must be made. The numerous guidance documents drafted for such purposes have often further confused efforts to manage various kinds of risk, especially with respect to risks posed by chemical, biological, radiological, and nuclear events. Environmental decisions are often made with an arbitrary process that may or may not be based on risk analysis and may not involve a risk communication rationale. Symposia at the annual meet-

ing will argue that MCDA can provide better-supported techniques for the comparison of alternative actions and structured methods for ranking policy alternatives.

The SRA annual meeting in Baltimore will feature several other DARSG-sponsored activities that may be of interest to SRA members. It will include a continuing education workshop on “Risk Assessment and Decision Support Ap-

plications in Military Settings,” as well as symposia on nanotechnology, environmental modeling, critical infrastructure, multicriteria decision analysis, and others. We are pleased to announce that Yashika Forrester of the University of Maryland, whose paper addresses the correlation of experts’ performance attributes and judgment accuracy, is the winner of the DARSG Best Student Paper. 

International Task Force Update on SRA International Activities

Pertti (Bert) Hakkinen, Chair

Upcoming Workshop on EMF as a Model of Increased International Collaboration Between SRA, its Sections and Chapters, its Specialty Groups, and Others

One goal of Society for Risk Analysis (SRA) President H. Christopher Frey and the SRA Council has been to explore how SRA, SRA’s sections and chapters, and SRA’s specialty groups can work together to have SRA’s activities become more international in scope and in representation. A “success story” arising from this effort is the upcoming 2-4 May 2007 “Second Workshop in EMF Risk Communication: Effective Risk Communication in the Context of Uncertainty.” As background, electromagnetic field (EMF) risk communication has been an area of strong interest within the European Commission’s Joint Research Centre (JRC) and the exposure assessment group I worked in for several years in Italy. In the planning for this workshop (I have continued to collaborate with the European Commission since joining Gradient Corporation in July), it became clear that SRA, SRA-Europe, and SRA’s Risk Communication Specialty Group could play key roles.

Indeed, SRA members (including some past presidents with expertise in risk communication!), SRA-Europe’s executive committee, and SRA’s Risk Communication Specialty Group’s leader were contacted to participate in the planning of the workshop. I am very pleased to announce that the interest to participate has been very high, and that the workshop has been announced as being organized by the European Commission (Joint Research Centre, Institute for Health and Consumer Protection, Physical and Chemical Exposure Unit, Ispra, Italy) and the EMF-NET Framework Programme (FP) 6 Coordination Action (Istituto di Ingegneria Biomedica, CNR, Milano, Italy), in collaboration with the World Health Organization International EMF Project, SRA-Europe, and SRA’s Risk Communication Specialty Group!

The objective of this second workshop will be to look at the communication of risk, both at the theoretical and practical levels, and at the methods and conditions for an effective risk communication, in the context of uncertainty. This workshop aims at contributing to a better definition and further strengthening of the current thinking on these topics. It will draw from practical experiences in all areas of application, with particular emphasis on the communication of uncertain risks from so-called “nonthermal” exposure to EMF nonionizing radiation. It will also provide a

unique opportunity for a fruitful contact and exchange of views between experts on EMF exposure and health, representative stakeholders, and risk communication professionals. The first workshop, held two years ago, mostly dealt with the public perception of risk and the psychological, social, and cultural factors influencing and shaping it. (A book based on these contributions is in print.)

The second workshop’s main topics of interest are:

1. Science, risk, and communication.
2. (A) Communicating risk and uncertainty to and among experts, decision makers, and the public. (B) Risk perception.
3. How to characterize and communicate potential health risks from exposure to low-level nonionizing EMF.
4. Communicating and educating the public on risks.

The program includes:

First day. Effective Risk Communication in the Context of Uncertainty: The morning will include a number of invited talks looking at the various general aspects of the communication process from both methodological and applied studies, with sessions on “Science, Risk, and Communication” and “Communicating Risk in the Context of Uncertainty.” The afternoon will include a session on “Communicating Uncertainty among Experts and to Decision Makers and the Public,” followed by a session in “Characterizing and Communicating Potential Health Risks from Exposure to EMF.” It will address complexity and uncertainty in evaluating (and communicating) claims on possible adverse health impacts and the chain of implications from in-vitro, in-vivo, animal, and epidemiological studies.

Second day. Risk communication—Case studies: The morning will be open to the presentation of case studies from risk communication professionals and academics in a broad range of areas of application. The afternoon will put particular emphasis on studies of EMF exposure. A poster session is also considered. The afternoon session will conclude with a roundtable discussion on “How to Effectively Communicate Risk in the Context of Uncertainty—Quality Assurance?” Posters will be on display the full day, and a late-afternoon discussion with the authors will be scheduled.

Third day. Uncertain risks—Communicating with and Educating the Public: The morning session will be dedicated to the presentation and discussion of EMF-related

risk communication initiatives and approaches by national authorities in various European Union (EU) countries. Many risk communication initiatives have been implemented at a national level across the EU, and there is indeed a great interest in learning about their objectives and outcomes and how similar issues were tackled in different countries. In the afternoon session we foresee the participation of representatives from medical and schoolteacher associations from Europe to discuss ways for effectively communicating and educating the public on the potential risks from exposure to nonionizing EMF radiation.

The workshop will be held in Stresa, Lago Maggiore, Italy. This is a three-day event, 2-4 May 2007. Noteworthy for SRA members is that the second day's overview of EMF- and non-EMF-related case studies developed by risk communication experts will be developed as part of a joint

call for papers sponsored by SRA-Europe. The tentative deadlines are as follows: 15 March 2007 for return of registration and submission abstracts and 3 April 2007 for the final program for the workshop and the final deadline for registration. For registration, please use the recommended online registration on the home page of the EIS-ChemRisks and EMF projects at the JRC: <http://www.jrc.cec.eu.int/eis-emf/EMF-Workshop>. The contact persons for the workshop are Carlos del Pozo (EC Joint Research Centre, Institute for Health and Consumer Protection, Physical and Chemical Exposure Unit. I-21020 Ispra [VA], Italy, phone: +39.0332 78 9672, carlos.del-pozo@jrc.it) and Paolo Ravazzani (Coordinator EMF-NET. Istituto di Ingegneria Biomedica CNR. Piazza Leonardo da Vinci 32, I-20133 Milano, Italy, phone: +39.02.2399.3344, paolo.ravazzani@polimi.it). 



News and Announcements

Shah Family Innovation Prize Nominations Sought

The Earthquake Engineering Research Institute (EERI) seeks nominations for the Shah Family Innovation Prize, which rewards young professionals and academics (less than 35 years of age) for creativity, innovation, and entrepreneurial spirit in the field of earthquake risk mitigation and management. The prize was created with a substantial gift to the EERI Endowment Fund by the Haresh Shah family of Stanford, California. The cash prize honors individuals who have demonstrated at early stages in their careers the potential to make major contributions to the field. Past ac-

complishments will be evaluated in terms of whether they demonstrate social relevance, an intellectual contribution, and viability. Individuals in government, private firms, academia, and the international community are encouraged to nominate eligible candidates. The prize will be awarded in February 2007 during the EERI annual meeting in Los Angeles. The deadline for nominations is 30 November 2006. For information about the nomination process and past recipients, visit http://www.eeri.org/home/honors_shah_innovation.html. 



SRA-Japan

<http://www.sra-japan.jp>

Shoji Tsuchida, President

New Team of Officers

SRA-Japan elected its new officers (the 10th team): President Professor Shoji Tsuchida of Kansai University and Vice President Dr. Akihiro Tokai of the National Institute of Advanced Industrial Science and Technology (AIST). Twenty-six councilors and a treasurer were also elected.

Annual Conference

We will have the 19th annual conference at the AIST in Tsukuba-city 11-12 November 2006. Chief Executive Organizer is Dr. Tokai of AIST. The theme of the conference is "Advances of Decision-Making-Support Researches Based on Risk Assessments." Details of the conference can be found on the conference Web site (http://risk.bosai.go.jp/sraj2006/english/index_eng.htm).

Revised and Enlarged Handbook of Risk Research

SRA-Japan edited a *Handbook of Risk Research* which was published in 2000. The Revised and Enlarged Edition was published by Hankyu Communications Co. Ltd. in July 2006. The new edition contains 133 topics in nine chapters. We are now planning to translate it into English.

New Classes and Categories of Membership

We modified our classes of membership with the new classes of "member of honor" and "journal subscribing member."

"Members of honor" are expected to be nominated at annual assemblies from among the members having contributed much to our society. "Journal subscribing members" are those who only want to have academic information and will not make any presentations.

As we have two official journals, *The Japanese Journal of Risk Analysis* and *Journal of Risk Research*, we made two categories of membership. One is a member who subscribes to both of the journals, the other is a member who subscribes only to *The Japanese Journal of Risk Analysis*.

Discussion with SRA-Europe

At the annual conference of SRA-Europe at Ljubljana in September 2006, SRA-Japan President Tsuchida and SRA-Japan Past President Jun Sekizawa had discussions with SRA-Europe President Olivier Salvi and SRA President Christopher Frey. We discussed mainly the editing and publication system of the *Journal of Risk Research*. 



Report from the 15th Annual Conference of SRA-Europe in Ljubljana, 11-13 September 2006

The 15th Society for Risk Analysis-Europe (SRA-E) Annual Meeting was held in Ljubljana, Slovenia, on 11-13 September 2006. It was hosted by Branko Kotic from Institut Jozef Stefan (IJS) (<http://www.ijs.si>). IJS is the largest public research institute in Slovenia, with about 800 people doing research in the following areas: physics, chemistry, molecular biology and biotechnology, information technologies, reactor physics and technology, energy, and environment.

This annual meeting succeeded in creating opportunities for meeting and promoting international knowledge and sharing in risk assessment, risk management, and risk communication in Europe. The conference highlighted industrial risks and the way they are managed by practitioners in industry and by government. The scientific debates demonstrated the importance of improving risk management related to innovation and technical progress, especially when uncertainties make it difficult to make decisions.

The meeting started with the Opening Ceremony on Sunday evening. Branko Kotic, chairman of the conference and local organiser, welcomed all delegates and SRA President Christopher Frey reminded us of the aims of the Society and expressed his pleasure at being able to attend the meeting. Olivier Salvi, president of SRA-E, stressed the need to cross bridges between risk-related disciplines to gain more efficient risk management. A special welcome speech was given by Jürgen Wettig, Head of Administration at the Representation of the European Commission in Slovenia. Dr. Wettig explained his attachment to the topic of risk analysis, having served more than seven years as desk officer for the policy field of Chemical Accident Prevention, Preparedness, and Response within Directorate-General Environment.

During the conference we also had the pleasure of welcoming a delegation from SRA-Japan: the new president of SRA-Japan, Dr. Shoji Tsuchida, and the past president of SRA-Japan, Jun Sekizawa. During the conference, several discussions took place among the SRA president, SRA-Japan representatives, and members of the SRA-E committee addressing the topic of internationalisation of SRA.

The conference was organized over three days with a plenary session in the morning and up to four parallel sessions in the afternoon.

On Monday, after an introduction and the warm welcome to the conference given by Kotic, Professor Milena Horvat from IJS presented the new developments in mercury regulation and the key uncertainties of risk approach. Then Wettig dealt with the role of industry and regulators in promoting process and product safety, also emphasizing the importance of international and European standardisation as well as research and technological development.

On Tuesday, the plenary speeches addressed probabilistic approaches and uncertainties in risk assessment. First, Professor Ulrich Hauptmanns presented on Probabilistic Risk and Safety Analyses for Process Plants and their Areas of Application. Dr. Christopher Frey then covered the topic Probabilistic and Sensitivity Analysis of Risk Assessment Models.

On Wednesday, an additional and specific aim was to create a forum on the most common risk topics among industry and authorities. This was done in the form of a roundtable discussion chaired by Richard Gowland, director of the European Process Safety Centre (www.epsc.org) and by Dr. Michalis Christou, head of the Major Accident Hazard Bureau in the Joint Research Centre of the European Commission in Ispra (Italy). This roundtable helped representatives of authorities, industry, and scientists to exchange their understandings on specific needs and obstacles in their endeavours to achieve safe industrial operation.

Concerning the conference as a whole, about 100 people attended the meeting. Most participants came from the United Kingdom, France, Sweden, the Netherlands, Switzerland, Germany, and Austria, but we also had the pleasure of welcoming participants from Japan, Singapore, and the United States.

All contributions, abstracts, and presentations can be found at the following Web address: http://sra-e-2006.ijs.si/Sessions_and_Contributions.htm.

The comments of the participants during the conference indicated that the quality of the presentations was highly appraised. The considerable contribution of Kotic and his team (in particular Marko and Davor) in organizing the Ljubljana conference was appreciated by the attendees and SRA-E also gives them sincere thanks.

Revision of SRA-E Charter

The current Charter of SRA-E was last revised in 1998. Since that time the membership has increased, SRA-E has evolved to an important platform for risk research in Europe, and the field of risk analysis is, of course, continually developing. Drawing on the experience of this time and in order to best fit ourselves to meet future challenges, the Executive Committee of SRA-E has started to revise the SRA-E Charter. The intention in doing this is to enable the organisation of SRA-E activities to fulfill the objectives of the Society and meet the needs of members more effectively. The main motivation of the changes is to increase continuity and to establish a more long-term perspective and so to improve the effectiveness of the Committee.

The revised charter was presented at the General Assembly during the annual conference in Ljubljana to collect re-

actions from the members. Generally speaking, the members understood the motivations and no objection was raised. Moreover, the General Assembly agreed to have an electronic approval of the changes. If adopted before the end of the year, the new charter will then enter into force at the next conference in June 2007.

The revised charter was posted on the SRA-E home page (www.sraeurope.org).

SRA-E 2007 Conference Call for Papers

The SRA-E meeting in 2007 will be held 17-19 June in The Hague, the Netherlands. The conference theme is "Building Bridges: Issues for Future Risk Research." The conference aims to facilitate interaction among all players in the risk field. The conference will take a comprehensive view of risk analysis. The progress made in two decades of SRA-E meetings will be evaluated and research focal points for the coming years will be identified.

More information, and the Call for Papers, can be found at www.sraeurope2007.eu.

SRA-E Executive Committee Welcomes New Members

Elections for the SRA-E Executive Committee were closed on 3 July 2006. For this 2006 ballot, six candidates stood for election for three vacant positions. Because a member of the Committee resigned in June, the Committee has decided to extend the number of new members to four instead of three.

The new members of the Executive Committee took office at the Business Meeting in Ljubljana. We welcome Ann Enander (Swedish National Defence College, Sweden), Branko Kontic (Institut Jozef Stefan, Slovenia), Alberto Alemanno (European Court of Justice, Luxembourg), and Myriam Merad (Institut National de l'Environnement Industriel et des Risques, France) to their new three-year positions on the Executive Committee. 

Update on the Second World Congress

Robin Cantor

Second World Congress planning is underway! We have selected the following place and dates:

Guadalajara, Mexico

Hilton Guadalajara

(www.hilton.com, search on Guadalajara)

8-11 June 2008

Guadalajara is the capital of the state of Jalisco. The city has retained a Spanish colonial atmosphere, although it is the agricultural, commercial, and industrial center of the western highlands. Guadalajara celebrated its 450th anniversary in 1992. Throughout the centuries, the city has become rich in history and, to this day, many of the historic buildings still stand as reminders of the significance of the city.

Guadalajara is blessed with an ideal climate and a wealth of colonial-era architecture in a bustling downtown area filled with lavishly landscaped plazas, inviting parks and squares, and a friendly, welcoming attitude. Major sights include the Cathedral, the Mercado Libertad (largest traditional marketplace in Mexico), and the Hospicio Cabanas (Instituto Cultural Cabanas), where you can see many of muralist Jose Clemente Orozco's most famous works. Well-known parks include the Parque Agua Azul and the Parque de las Armas. Around the Cathedral there are two more parks, the Parque de los Laureles and the Parque de la Revolución.

For art lovers, Tlaquepaque is recommended as an interesting small town (now a suburb of Guadalajara), whose residents have long been artisans and craftspeople,

specializing in ceramics and glassware. They have opened a number of upscale art galleries that are interesting to browse. A couple of recent bed and breakfasts make it possible for travellers to stay outside of the big city of Guadalajara, although one should not necessarily expect a restful night, with the local mariachi band playing very loudly. Tonalá, a bit farther from Guadalajara, is a town where many of the crafts sold in Tlaquepaque are produced. On Sundays, a large part of the town becomes an arts-and-crafts street market.

We will be undertaking a number of programming and fund-raising tasks for the Second World Congress in the next few months. There will be a working meeting at the SRA annual meeting in Baltimore. This meeting is currently scheduled for Tuesday morning at 7:00. There will also be an update and opportunity to sign up to help with the Second World Congress committees on Wednesday during the Internationalization of SRA brown-bag lunch. The existing Second World Congress committees are (1) Program, (2) Marketing and Outreach, (3) Fund-raising and Finance, (4) Publications, and (5) Local Organizing and Operations.

Please contact Robin Cantor with questions or to join a committee (rcantor@navigantconsulting.com).



Chapter News

National Capital Area Chapter

www.ncacsra.org

Kara Morgan, Secretary

The National Capital Area Chapter (NCAC) initiated a new focus on networking and a new focus on students and risk professionals by kicking off a series called “Career Tracks,” where experts in various risk analysis fields meet in a small informal setting with chapter members to discuss career choices, paths, trends, and development. The first “mentoring breakfast” was held on 26 September 2006 as an opportunity to ask questions, make professional contacts, and explore what might be good career fits. This session had an environmental focus with chapter member experts from government (Bill Farland), industry (Carol Henry), and academia (Rebecca Parkin) sharing their perspectives and experiences regarding careers in the area of environmental risk analysis. Look for the next session in this series in 2007.

The NCAC has a new Web site! Find us at www.ncacsra.org!

We are looking for volunteers to help plan events for 2007. If there’s a topic you are interested in learning more about or a dynamic speaker you’d like to hear again, or if you are just interested in getting involved, write an email to contact@ncacsra.org and we’ll get back to you with information about how you can play a role in the National Capital Area Chapter.

Finally, join us in Baltimore for a reception for future and current NCAC members on Tuesday evening—check your program for details.

Chicago Regional Chapter

www.sra.org/chicago

Jerry J. Mathers, Secretary

On 10 May 2006, Dr. David LePoire of Argonne National Laboratory presented a seminar titled “Ethics and Technology” in which he discussed research on questions such as How might rapid technology development affect environmental and social issues? What are the intergenerational issues for various technology development scenarios? What mental models can be used to explore these questions? What ethical approaches might inform these questions and their related decisions? The PowerPoint presentation is available at the Chicago Regional Chapter Web page (www.sra.org/chicago).

Chicago Regional SRA held a half-day land reuse symposium at the University of Illinois-Chicago School of Public Health West on 31 October, facilitated by the Great Lakes Center. Speakers included National Center for Environmental Health-Agency for Toxic Substances and Disease Registry (NCEH-ATSDR) Brownfields Coordinator Dr. Laurel Berman, US Environmental Protection Agency (EPA) Region 5 Land Revitalization Coordinator Jim Van der Kloot, and EPA Region 5 Land Revitalization Specialist Karen

Bandhauer. A field trip to three Chicago area brownfield reclamation sites followed the presentations.

At the annual business meeting in June, Dr. Serap Erdal, assistant professor of Environmental and Occupational Health Sciences at the University of Illinois-Chicago (UIC), became president-elect for the Chicago Regional Chapter, and Jerry Mathers of Alpharma Inc. was elected as secretary. Other offices remained as follows: President Heidi Hartmann, Argonne National Laboratory; Treasurer Mario Mangino, EPA Region 5; Events Councilor Laurel Berman, ATSDR Chicago; Membership Councilor Amy Mucha, UIC Postdoctoral Fellow; and Publicity/Web site Councilor Tom Brody, EPA Region 5.

Planning for events for early 2007 is underway, including topics of Energy Technology, Food Safety, or Biotechnology and the joint SRA/SETAC meeting 14-16 March 2007. For updated events details, see the Chicago Regional Chapter Web page.

Philadelphia Chapter

Eileen Mahoney, Cochair

The Philadelphia area chapter will host a presentation by Dr. Joseph Wartman of Drexel University titled “Hurricane Katrina: The Intersection of a Metropolis, Infrastructure and a Natural Hazard” discussing the work of the Levee Assessment Team in investigating the causes of the flooding in New Orleans following Hurricane Katrina. Anyone interested in attending or helping with the chapter should email Eileen Mahoney at e.mahoney7@verizon.net.

Chapitre Saint-Laurent

<http://chapitre-saint-laurent.qc.ca>

Stéphane Masson, President

Chapitre Saint-Laurent SRA-SETAC 10th Annual Symposium

On 1-2 June 2006, the Chapitre Saint-Laurent SRA-SETAC (Society of Environmental Toxicology and Chemistry) held its 10th annual symposium in Québec City. This year’s theme was “Environment Sciences: Path Travelled and Challenges to Come.” The symposium was a great success, with 143 participants from academia, government, industry, and private consultants.

The first day started with a plenary session chaired by the president of the symposium, Michel Fournier, from the Institut National de la Recherche Scientifique and Institut Armand Frappier (INRS-IAF). Dr. Fournier was our invited speaker and presented an overview of three decades of research on the immunotoxicology of the environment. The second speaker was Dr. Pierre Béland from Institut National d’Écotoxicologie du Saint-Laurent. Béland talked about the role of the International Joint Commission in overlooking the Canada-USA projects which can have an impact on the aquatic environment. Next Dr. Benoit Barbeau from the École polytechnique

de Montréal addressed the audience on the global climatic changes and modelisation predictions of water levels in Québec rivers. Finally, Sylvain Loranger from the QSAR Inc. gave a brief communication about the North America SETAC 27th Annual Meeting to be held 5-9 November 2006 at the Palais de Congrès in Montréal, Québec, Canada.

The plenary session was followed by a dynamic poster session with 27 presentations. In the afternoon of this first day and the morning of the second day, a total of 33 oral communications was presented in three concurrent sessions. The cocktails at the end of the first day gave attendees the opportunity to celebrate the 10th anniversary of the Chapitre Saint-Laurent. For that happening, products of the Terroir were offered to the participants with a rather particular animation. The president of the Chapitre Saint-Laurent, Stéphane Masson, underlined the implication of one of the major volunteers to the chapitre, Raynald Chassé, who received a price for a dinner at the Royal Palace Hotel.

The chapitre's Board meeting was held during breakfast on the second day. The 2006-2007 Board of Directors was elected: President Stéphane Masson, Past President Christian Gagnon, Vice-President Sébastien Sauvé, Treasurer Dominique Lapointe, Secretary Michel Lagacé, and Directors Jonathan Bernier, Louise Champoux, and Yves de Lafontaine.

Contrary to the usual panel discussion made in the first nine symposia, the program for the second afternoon had scheduled two invited lecturers: Dr. André Tessier from the Institut National de la Recherche Scientifique, Eau, Terre et Environnement, and Dr. Donna Mergler from the Université du Québec à Montréal. They talked on their perspectives of the research activities over the past decade in metals sediment history and human health, respectively. The symposium ended after the student awards were given to Raoul Couture and Vincent Bourret for the best platform presentations and to Luc Michelot Casséus and Dumbi Kabesa Alidor for the best poster presentations. Two \$2,000 Excellence awards were also offered by the Chapitre Saint-Laurent to MSc (Nathalie Paquet) and PhD (Geneviève Aubry) students.

The next annual symposium will be held in Rimouski in June 2007. Anyone interested in taking part in the organisation of this event is invited to contact a member of the Board of Directors (<http://chapitre-saint-laurent.qc.ca>).

Australia Chapter

Samantha Goudge, Newsletter Correspondent

A three-day scientific conference was held in Melbourne, Australia, Monday-Wednesday, 17-19 July 2006, to discuss ways to bolster our biosecurity risk analysis methods and encourage scientific collaboration across the Tasman. The Society for Risk Analysis (SRA) Conference looked at ways to reinvigorate the Australian and New Zealand chapters of the SRA, as both countries look to the development of state-of-the-art risk analysis methods and risk interpretation tools.

Hosted by the newly launched Australian Centre of Excellence for Risk Analysis (ACERA), the SRA conference brought together a range of speakers from Australia and New Zealand covering topics such as quarantine, new approaches to surveillance for biosecurity and homeland security, post-border weed risk, management risk, and trade and invasive species risk.

ACERA Director Professor Mark Burgman said that the conference predominantly aimed to boost the SRA's presence in Australia, with biosecurity and associated risk analysis a major focus of the program. "By looking at ways to reinvigorate the SRA involving our two countries, we can benefit from shared experiences in biosecurity and offer the most collaborative approach possible to associated risk analysis," Professor Burgman said.

ACERA was launched in May and is funded by the Australian Government, Melbourne University, and a range of other funding partners. Its purpose is to develop analytical tools and communicate findings in a way that improves the understanding of how risk analysis is undertaken.

Papers from the conference can be accessed at <http://www.acera.unimelb.edu.au/materials/conferences.html>. 



Committees

Education Committee

David Hassenzahl, Chair

The Education Committee will sponsor a workshop introducing fundamental issues, methods, and controversies at the 2006 Society for Risk Analysis Annual Meeting in Baltimore.

We will also have a committee meeting Wednesday, 6 December, at lunch during the conference. All interested SRA members are welcome. Issues will include outreach to the international community, ongoing training sessions and workshops, and development of the academic risk program data base. 

**Update your SRA membership
information on the Members Only
page of the Society Web site—www.sra.org**



Specialty Groups

Risk Science & Law Specialty Group [http://www.riskworld.com/profsoci/SRA/ RiskScienceLawGroup](http://www.riskworld.com/profsoci/SRA/RiskScienceLawGroup)

Gary E. Marchant, *Chairman*

The Risk Science & Law Specialty Group will be active at this year's annual meeting, sponsoring or cosponsoring several symposia, including sessions on (1) Better Regulation across the Atlantic: Regulatory Analysis, Information Quality, and Precaution (Part I Tuesday at 9:40 a.m., Part II Tuesday at 11:15 a.m.), (2) Regulatory and Policy Challenges of Nanotechnology: International Perspectives (Tuesday at 11:15 a.m.), and (3) Competing Interests, World Views, and the Regulatory Process: Where Do We Go from Here? (Wednesday at 3:30 p.m.).

In addition, the specialty group will be holding a business meeting during the annual meeting (Homeland, 12:15-12:45 p.m.), and we welcome new members and new ideas, including people interested in assuming a leadership position within the specialty group. Finally, the specialty group is proposing to change its name from "Risk Science and Law" to "Risk Policy and Law" to better reflect its focus.

Dose Response Specialty Group <http://www.sra.org/drsg/>

Justin Teegarden

The yearlong efforts of the Dose Response Specialty Group (DRSG) Executive Committee come to fruition this time of year and as proof we bring you a number of important invitations. DRSG-supported symposia and workshops make important scientific contributions this year to the SRA annual meeting program.

Look for a provocative Sunday workshop on the definition of adverse effects and its implications for risk sciences. The workshop—"Approaching Adversity: What's Adverse? What's Not? Why You Should Care"—features prominent experts from a broad spectrum of backgrounds.

Jonathan Wiener (Duke University School of Law) will present the statutory and regulatory background of adverse effect and Gary Foureman (United States Environmental Protection Agency) will discuss the differing federal agency practices of defining adverse effect. Sara Henry (Food and Drug Administration), Jim Wilson (Resources for the Future, retired), and John Doull (University of Kansas Medical Center) will present case studies on acrylamide, perchlorate, and fluoride. Economic and ethics perspectives will be presented by Richard Belzer (Regulatory Checkbook) and Heather Douglas (University of Tennessee). The course concludes with discussion. Several symposia relating to application of internal dosimetry (M3-B) and uncertainty factors (M2-B) in chemical risk assessment will be held Monday afternoon. Together these symposia present important new concepts that are shaping contemporary approaches to risk assessment. We were very fortunate in the number and scientific quality of abstracts submitted for our student award. Rebecca Clewell, a doctoral student at the University of North Carolina at Chapel Hill working at the CIIT Centers for Health Research, was selected to be the winner of our student merit award. Congratulations to Rebecca. This year a runner-up was also selected, and congratulations are also due to Joshua Harrill, also attending the University of North Carolina at Chapel Hill. We encourage you to meet these young scientists and join us for some elbow rubbing and good cheer at our mixer, which will be announced via email and will appear in the meeting program.

Everyone is of course also welcome to our annual business meeting, Monday during the lunch break. Several new bylaws will be proposed and voted on and members can meet Executive Committee members and make suggestions for teleseminars or other activities in the upcoming year. This should be our most important meeting of the year with an opportunity for you to contribute to the course the specialty group takes in the coming year. We hope to see you there.



Journal Notes

Journal Update Availability of Online Archives

Rick Reiss, *Risk Analysis Managing Editor, 2005-2008 Councilor*

Have you ever needed to obtain an article in *Risk Analysis: An International Journal* that dates to before your personal collection starts? Well, it just became a lot easier. The journal is pleased to announce the availability of the full electronic archive of historical issues of the journal. SRA members can access the archive through the SRA Web site or directly through our publisher, Blackwell (<http://www.blackwell-synergy.com/>).

The archive begins with the first issue in March 1981. The first article was titled "Is Risk Assessment a Science?" by Society cofounder Robert Cummings. We have come a long way since then!

Special thanks are due to Stephen Brown and Edmund Crouch for donating back issues of the journal that were used to construct the archive.

Please enjoy this new free resource for Society members.





What Do We Do?

— a quarterly look at the incredibly diverse field of risk analysis —

David McGarvey

What is your job title?

McGarvey: I am a Fellow at the Homeland Security Institute (HSI), the nation's only federally funded research and development center (FFRDC) dedicated exclusively to homeland security. We provide studies and analyses to the Department of Homeland Security (DHS) and other government entities dealing with homeland security issues.

How is risk analysis a part of your job?

McGarvey: Let's start with HSI. HSI's primary function is to provide an independent, critical analysis and decision support capability to DHS for analyzing homeland security risks and to help set priorities and guide investments. And for DHS, risk reduction is a primary mission. At HSI we seek to provide practical solutions to critical problems and to also develop long-term, strategic perspectives on key homeland security issues.

In dealing with intelligent, adaptive enemy groups, as in counterterrorism, "risk balancing" appears to be the key to allocating resources for risk reduction—find the weak points in the defenses and strengthen them first. At HSI I have been part of a team developing risk-balancing algorithms for consideration by the Federal Air Marshal Service (FAMS).

These procedures, based on the theory of Blotto Games, seem to be applicable to the protection of other industries as well as commercial aviation.

I have also been part of another team that prepared for DHS a "conceptual framework" for risk assessment for dealing with terrorism. As part of this effort we identified and briefly described some two score risk assessment techniques that can be applied to terrorist threats.

How did you decide to pursue this career?

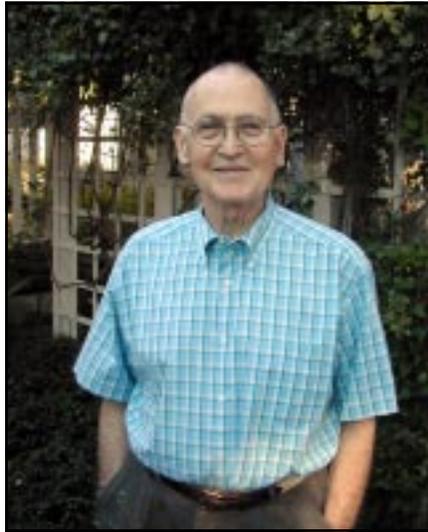
McGarvey: I didn't pick the career; the career picked me (see the next question).

What got you to where you are in the field of risk analysis today?

McGarvey: It began with a phone call. Many years ago I was working on my doctorate in pure mathematics at Yale when I received a call that someone from the RAND Corporation was in town looking for prospective new employees. Answering that call led to my joining RAND and be-

coming involved in Cold-War studies. Eventually we won that war and I retired.

When HSI was set up I felt that my background in analyzing problems dealing with a determined and intelligent adversary would be useful in dealing with the threat of terrorist attacks. Like so many others I wanted to be of service, so I responded to a request to come out of retirement.



What is the most interesting/exciting part of your job?

McGarvey: Struggling with real-world policy issues. Taking a broad, general problem of importance and figuring out a means for attacking it. Writing a cogent, focused, report that will have an impact.

It has also been gratifying to find some practical applications of game theory, a field I have been interested in since my

undergraduate days.

What would you recommend to those entering the field of risk analysis interested in a job like yours?

McGarvey: When I look around me at HSI I see people with all kinds of backgrounds—lawyers, doctors, biologists, economists, physicists, operations analysts. Not too many would say "risk analysis" has been the principal focus of their prior experience but we are heavily involved in problems of risk reduction. To participate in an effective risk analysis of, say, a critical infrastructure such as electrical power, one has to have a good working knowledge not only of the electrical power system but also the governmental and nongovernmental organizations that play a role in its management. So I conclude the obvious—those entering the field of risk analysis should become involved in an area or areas of application in parallel with their academic studies.

My second hobbyhorse is effective communication. Find every opportunity to communicate, orally in briefings or meetings, and in writing. And get feedback! Like walking or swimming, the art of effective communication comes from exercise and practice.

How has membership/involvement in the Society for Risk Analysis helped you in your work?

McGarvey: For me the journal *Risk Analysis* has been a very valuable resource. Every issue has several articles that are of interest to me and are relevant to my work.





Member News

Adam Finkel



Adam M. Finkel will receive the 2006 David P. Rall Award for Advocacy in Public Health during the American Public Health Association's (APHA) 134th Annual Meeting in Boston in November for his career in advancing science in the service of public health protection.

Finkel, one of the nation's leading experts in quantitative risk assessment for environmental and occupational health, is being recognized for his outstanding contributions to public health through science-based advocacy. His career has combined leadership of regulatory and enforcement divisions of the US Occupational Safety and Health Administration (OSHA) and public advocacy for environmental and worker protection in the face of personal and professional obstacles.

Finkel, one of SRA's councilors, is a professor of environmental and occupational health at the University of Medicine and Dentistry of New Jersey's School of Public Health and a Visiting Professor of Public Affairs at the Woodrow Wilson School, Princeton University. He continues research on the inadequacy of current risk assessment methods to protect workers and has filed suit against OSHA seeking air sampling data from US workplaces.

"I assume that the timing of this award has more than a little to do with my recent campaign to convince OSHA to offer tests for beryllium sensitization to its own inspectors," Finkel said. "However, I hope APHA is also recognizing the contributions to public health that risk analysis continues to make. Perhaps it's a sign of a shift in perspective that an unwavering supporter of risk assessment can receive an award for advocacy. I've always thought that advocating *with* science and advocating *for* science are complementary, and that being part of SRA has made me a better scientist and a better advocate."

Tee L. Guidotti



Dr. Tee L. Guidotti received a special commendation from the International Association of Fire Fighters on 23 June 2006, presented at the Western Canadian Conference in Edmonton, Alberta. The award recognizes career achievement in research and policy studies that resulted in major changes in the handling and acceptance of occupational disease compensation claims by most Canadian provinces.

Several American states are now considering similar changes. Guidotti also presented a keynote address describing the ups and downs of 20 years of work on issues of firefighter's health. Most of the work was done in Edmonton, at the University of Alberta.

William H. Farland



Dr. William H. Farland recently announced that he has left his position in the Environmental Protection Agency's (EPA) Office of Research and Development to serve as Vice President for Research at Colorado State University in Fort Collins, Colorado.

To fill the position, Colorado State University announced it was looking for "an energetic, visionary individual, a creator of bold solutions who asks why not rather than why." For those familiar with Farland's distinguished career, it comes as no surprise that the University feels it found in him just the right person for the job.

More on Farland's new appointment can be found at <http://today.colostate.edu/index.asp?url=farland>.

Farland was recognized by the Society for Risk Analysis in 2002 with the Outstanding Risk Practitioner Award and in 2005 he was appointed as a Fellow of the Society.

Igor Linkov



Dr. Igor Linkov joined Intertox, Inc., a consulting and research firm with headquarters in Seattle, Washington. He will lead the technical operations from Intertox's newly established Boston office. Intertox specializes in environmental health and safety evaluation of emerging threats, human health and ecological risk assessment, and data analysis.

Linkov's responsibilities will include developing risk-based decision support tools and methods for management of emerging challenges in nanotechnology, chemical and biological defense, funding allocation, and strategy development for large corporations and federal clients.

Linkov serves on several EPA Science Advisory Board and peer-review panels and is a scientific advisor to the Toxic Use Reduction Institute. He is Adjunct Professor of Engineering and Public Policy at Carnegie-Mellon University.

Linkov is a member of the SRA Conferences and Workshops Committee and is founding chair of the Decision Analysis and Risk Specialty Group. He has been a member of the Program Committee for several SRA annual meetings and many conferences and workshops supported by SRA and other organizations and agencies. He also served as president for the SRA Ecological Risk Assessment Specialty Group and SRA's New England Chapter.

Linkov can be reached at Intertox, Inc., 83 Winchester Street, Brookline, MA 02446, USA, phone: 617-225-0812, fax: 617-225-0813, ILinkov@Intertox.com, www.intertox.com.





Advertisements

National Nuclear Security Administration

General Engineer/Physical Scientist (Senior Technical Safety Advisor)

The National Nuclear Security Administration is recruiting to fill a General Engineer/Physical Scientist (Senior Technical Safety Advisor), EN-801/1301-V, position in Livermore, California. As senior technical expert, incumbent provides technical evaluation of Lawrence Livermore National Laboratory (LLNL) nuclear safety programs including nuclear facilities safety basis, criticality safety, and system engineering. Emphasis will be placed on nuclear facilities operations to ensure they are carried out safely, in accordance with the facility's authorization basis. Incumbent reviews program changes and revisions, and makes recommendations on the safety impacts. Incumbent's recommendations, decisions, and actions involve complex nuclear operations that have a pronounced effect on defense programs, and the nation, in continuing the long-term, state-of-the-art nuclear weapons goals without nuclear testing. Incumbent conducts oversight of LLNL nuclear facilities, interfaces with the Defense Nuclear Facilities Safety Board (DNFSB), and coordinator for all Price Anderson Amendment Act (PAAA) activities. This is a critical position which coordinates and oversees all facets of nuclear facility safety and operations, including LLNL site's safety authorization basis. Interested individuals may go to <http://www.usajobs.opm.gov> to view the current announcements and follow the online application procedures listed in vacancy announcements 07-0001-EN-NAT (open to all US citizens) or announcement 07-0001-EN-GOV (open to current federal employees).

RISK newsletter Advertising Policy

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

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

Camera-ready ads (greyscale) 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.

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Résumé and letter of interest for Gradient Corporation positions may be sent to:

Laura Hanson
Gradient Corporation
20 University Road
Cambridge, MA 02138
617-395-5001 FAX
lhanson@gradientcorp.com



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Genevieve S. Roessler, *Editor*, gnrsslr@frontiernet.net
Mary A. Walchuk, *Managing Editor*,
mwalchuk@hickorytech.net
Sharon R. Hebl, *Editorial Associate*
Steve Gibb, *Contributing Editor*,
sgibb@iwnews.com

Society Officers:

H. Christopher Frey, *President*, frey@eos.ncsu.edu
Kimberly Thompson, *President-elect*, kimt@hsph.harvard.edu
Mitchell Small, *Secretary*, ms35@andrew.cmu.edu
Pamela R.D. Williams, *Treasurer*, pwilliams@chemrisk.com
Louis Anthony (Tony) Cox, Jr., *Treasurer-elect*,
tony@cox-associates.com
Baruch Fischhoff, *Past President*, baruch@cmu.edu

Members of SRA Council:

Richard A. Becker, rick_becker@americanchemistry.com
Rachel A. Davidson, rad24@cornell.edu
Elaine M. Faustman, faustman@u.washington.edu
Adam M. Finkel, afinkel@princeton.edu
Jan M. Gutteling, j.m.gutteling@utwente.nl
Pertti "Bert" J. Hakkinen, Phakkinen@gradientcorp.com
Garrick Louis, louis@virginia.edu
Greg Paoli, gpaoli@analyzerisk.com
Richard Reiss, treiss@sciences.com

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: Baruch Fischhoff, phone: 412-268-3246, fax: 412-268-6938, email: baruch@cmu.edu

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

Deadline for RISK newsletter Submissions

Information to be included in the **First Quarter 2007** SRA RISK newsletter, to be mailed early February, 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 December 2006**.



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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