



# RISK newsletter

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## *Risk '007: Agents of Analysis*

**See you in San Antonio!**

### **2007 SRA Annual Meeting, 9-12 December**

**There's still time to register for this year's annual meeting and enjoy a lineup of informative and exciting events, including these highlights:**

- Continuing Education Workshops on Sunday  
([http://www.sra.org/events\\_workshops\\_2007\\_Meeting.php](http://www.sra.org/events_workshops_2007_Meeting.php))
- Opening Reception with hors d'oeuvres Sunday evening
- Three Full Days of Sessions
- More than 80 Sessions with more than 400 Presentations
- Three Provocative Plenary Sessions (pages 3, 4, 5 of this newsletter)
- Specialty Group Meetings with Box Lunches on Monday
- Poster Reception with over 100 Posters and a Buffet on Monday evening
- Awards Luncheon and Business Meeting on Tuesday
- Plenary Luncheon on Wednesday
- Wine and Cheese Closing Reception with free T-shirts on Wednesday evening
- Committee Meetings and Regional Organization Meetings
- New Member/Fellow Breakfast and Student Breakfast
- Exhibits of Risk-Related Products, Services, and Books
- Career-Development Opportunities

**Preregister by 9 November for lower meeting fees.**

**Check for the latest meeting information on the SRA Web site**

**[http://www.sra.org/events\\_2007\\_meeting.php](http://www.sra.org/events_2007_meeting.php)**

SACVB Photo/Nancy H. Belcher

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## President's Message



See you soon at the 2007 Society for Risk Analysis (SRA) Annual Meeting!

As I write my final letter for the newsletter as president, I am very happy with the current state of the Society and I hope that the meeting in San Antonio will be the best one ever. I very much appreciate President-elect Jonathan Wiener's efforts to set up some fabulous

plenary sessions, and I hope that everyone will plan to stay for the entire meeting since the fun and excitement will continue until the end of the closing reception. If you have not yet looked through the outstanding preliminary program put together by the Annual Meeting Committee, please check it out ([www.sra.org](http://www.sra.org)) and make sure to register for the meeting and book your hotel room at the same time!

As I reflect on the past year, I find the small steps that we took as an organization added up to quite a bit:

- Rick Becker and the Membership Committee got membership packets sent out to all members, including certificates, information cards, and a welcome letter. At the upcoming annual meeting, the Membership Committee will award members special pins for reaching milestone years.
- Rick Reiss and the Communication Committee put our flagship journal, *Risk Analysis*, in the news with press releases and mass-media attention to several articles. I hope that many of you enjoyed clicking on the "Recent News" link from our Web site to watch SRA Fellow and University of Southern California Professor Detlof von Winterfeldt on *Fox News* talking about potential impacts of a dirty bomb on the U.S. economy.
- Past President Chris Frey has led the search for editor-in-chief for *Risk Analysis*, and I expect that the Council will soon begin discussing the nominees for the position.
- Kara Morgan and the entire Conferences and Workshops (C&W) Committee created recently provided written Policies of the C&W Committee, which you can now check out on the Committees page of the Web site. All of the committee charters also appear on the same page so if you are curious about committee ac-

tivities please read these and volunteer if you want to get more involved in a committee.

- Treasurer Tony Cox and Past Treasurer Pamela Williams and other members of the Finance Committee have worked to get all of the SRA's financial policies and procedures in shape and accessible online.
- Past President Robin Cantor and the World Congress Committee produced exciting plans for a fabulous meeting in Guadalajara, Mexico, 8-11 June 2008.

Of course, much work still remains and as president, Jonathan Wiener and the Council will take on several major initiatives. In particular, we have only just begun important discussions about the SRA's international structure. And, while the specialty groups continue to increase in strength and number (with the newest one on Emerging Nanoscale Materials approved last December), many of our regional organizations continue to find it hard to thrive and grow. We continue to explore opportunities to increase the value of SRA membership and finding ways to do so with an increasingly international membership promises to bring exciting opportunities and challenges.

I also hoped that during my year as SRA president we would take on the issue of terminology and update the glossary on our Web site, and also that we would begin the process of reconsidering and refining the SRA's nonpolicy policy (see my letter in the 2007 first quarter newsletter). In the last quarter of the year, I am working on getting efforts in these areas underway, and I am hopeful that I can report some progress at the annual meeting itself. I appreciate Adam Finkel's initial efforts to draft materials for the Council to hash out on the nonpolicy policy. If the Council reaches some agreement, it can bring materials and a productive discussion to the membership; then you will hear more about it. Also, with this letter, I am making a last call for suggestions for amendments to the Bylaws, so if you would like to see any changes made to the Bylaws this year then please contact me and Secretary Mitchell Small ([ms35@andrew.cmu.edu](mailto:ms35@andrew.cmu.edu)) immediately.

Since I still have a few more months on the job, I look forward to continued productivity and I thank everyone for continued service to the SRA and support. If you have any final suggestions that you would like to offer, please send them my way. Thanks and see you in December!

Kimberly Thompson, [kimt@hsph.harvard.edu](mailto:kimt@hsph.harvard.edu)

### New for the 2007 Annual Meeting: Presenters to share papers with SRA meeting attendees in advance of sessions

To get more exposure for your work and to ensure that attendees pose informed questions that enrich the discussion, presenters are invited to post a link to their papers in advance of the meeting by emailing Jim Butler ([webmaster@sra.org](mailto:webmaster@sra.org)) with the following information no later than Friday, 16 November 2007: presenter/author name(s); the session number in which the paper will be presented (session numbers are available at [www.sra.org](http://www.sra.org)); the paper's title, year, and citation details; and the URL (link) of where the paper is posted elsewhere, such as a Web site

belonging to you, a research organization, or an electronic publisher. You do not need to submit an attached file of the paper itself—we will be posting links to papers, but will not post the actual papers. You can use this same method to post a link to your PowerPoint slides, if you have them posted elsewhere.

We will post this information on a "Papers" page inside the Members Only area of the SRA Web site (login required), with a link added from the 2007 SRA Annual Meeting page to this Papers page.



# Risk '007: Agents of Analysis



Monday, 10 December  
Plenary Session: Get Smart

## “Fearful Brains in an Anxious World”

Joseph LeDoux



Joseph LeDoux is a university professor and Henry and Lucy Moses Professor of Science and a member of the Center for Neural Science and Department of Psychology at New York University.

His 1977 PhD is in psychology from the State University of New York at Stony Brook. He was a postdoctoral fellow and then an assistant professor in the Department of Neurology at Cornell University

Medical College. In 1989 he joined New York University. His work is focused on the brain mechanisms of emotion and memory. In addition to articles in scholarly journals, he is author of *The Emotional Brain: The Mysterious Underpinnings of Emotional Life* and *Synaptic Self: How Our Brains Become Who We Are*.

He is a Fellow of the American Association for the Advancement of Science, a Fellow of the New York Academy of Science, a Fellow of the American Academy of Arts and Science, and the recipient of the 2005 Fyssen International Prize in Cognitive Science.

Web site: <http://www.cns.nyu.edu/ledoux/>

## “The Risk We Perceive and the Risk We Take”

Elke U. Weber

Elke U. Weber is the Jerome A. Chazen Professor of International Business at Columbia Business School and professor of psychology at Columbia University. Previously she has held academic positions in both the United States and Europe. She spent a year at the Center for Advanced Study in the Behavioral Sciences at Stanford, spent half a year at the Wissenschaftskolleg in Berlin, and is currently a fellow at the Russell Sage Foundation in New York. As an expert on behavioral models of decision making under risk and uncertainty, she has been investigating psychologically appropriate ways to measure individual and cultural differences



in risk taking, specifically in risky financial situations and environmental decisions.

Weber is past president of the Society for Mathematical Psychology and the Society for Judgment and Decision Making and has served on three advisory committees of the National Academy of Sciences in Washington, DC, on human dimensions in global change. At Columbia, she founded and co-directs the Center for the Decision Sciences (CDS), which fosters and facilitates cross-disciplinary research and graduate training in the basic and applied decision sciences, and the Center for Research on Environmental Decisions (CRED), which investigates ways of facilitating human adaptation to climate change and climate variability.

Web site: <http://www0.gsb.columbia.edu/whoswho/full.cfm?id=55663>

### Many thanks to the members of the SRA 2007 Annual Meeting Program Committee who sorted and selected the abstracts and scheduled this year's meeting:

President-elect Jonathan Wiener, Co-chair Gail Charnley, Co-chair Steven Lewis,  
Linda Abbott, Rick Belzer, Todd Bridges,  
Rick Canady, Luis Cifuentes, Michael Dellarco,  
Sherri Dennis, Susan Flack, Rob Goble,  
Sandra Hoffmann, Jim Lambert, Stanley Levinson,  
Igor Linkov, Paul Locke, Margaret MacDonnell,  
Michael McElvaine, Cristina McLaughlin, Amir Mokhtari,  
Clark Nardinelli, Bob O'Connor, Resha Putzrath,  
Rick Reiss, Zubair Saleem, Olivier Salvi,  
Lori Severtson, Bob Tardiff, Trina von Stackelberg, and Donna Vorhees

### And special thanks to the Secretariat staff who kept everything running smoothly:

Lori Strong, Sue Burk, and Ruedi Birenheide

**Tuesday, 11 December**  
**Plenary Session: Opening New Frontiers for Risk Analysis**

**“Risk Analysis in Latin America: Challenges and Prospects”**

**Esperanza Lopez Vazquez**



Esperanza Lopez Vazquez is a research professor at the Universidad Autónoma del Estado de Morelos, Mexico, which she joined in September 2006, after spending seven years at the Universidad de las Américas-Puebla, Mexico. She received her PhD in social psychology from the Université de Toulouse Le-Mirail in Toulouse, France, in 1999. Dr. Lopez Vazquez also has held an appointment as National Researcher, Level I, in the

Sistema Nacional de Investigadores of Mexico since 2001.

Her research examines the risk perceptions of people exposed to natural, environmental, and technologic hazards. She has focused on the risk perceptions, stress, and coping strategies of people who have lived through a disaster, such

as the 2001 eruption of Popocatepetl volcano in central Mexico, and she is currently developing studies on risk perception of environmental and technological hazards in developing countries. She is the author of articles concerning these topics. She has been a peer reviewer of manuscripts in international journals of psychology, risk analysis, and volcanic risk perception and was a guest editor for the special issue on “Risk Perception and Social Trust” of the *International Journal of Global Environmental Issues*.

Lopez Vazquez has been active in the Society of Risk Analysis. SRA-Europe gave her the Best Young Scientist Paper Award in 1999 at the European meeting in Rotterdam. She is currently one of the principal organizers of the new SRA-Latin America regional group. She helped organize the first meeting of risk analysts in Mexico, in October 2006, and is now working to organize the second such meeting to be held in February 2008.

**Javier Urbina-Soria**

**Co-Chair for the Second World Congress on Risk**

Javier Urbina-Soria has been a full-time professor at the School of Psychology, National University of Mexico, for more than 30 years. From 1989 to 1993, he was dean of the School of Psychology. His research themes have been the teaching of psychology, health promotion, and mainly environmental psychology, the field in which he is coordinating the Master’s Degree Course. Specific topics he has studied during recent years include environmental risk perception and environmental risk communication. He has presented more than 220 papers and published about 50 articles and chapters. Recently he edited the book *Beyond Climate Change: The Psycho-Social Dimensions*



*of Global Environmental Change* (in Spanish). He was Director General for the National Population Registry, Director General for Religious Affairs, and Director General for Health Promotion (from 1995 to 2000) in the Mexican Federal Government. Professor Urbina-Soria is a member of the Editorial Board and was member of the Board of Directors of the Environmental Design Research Association (EDRA). Among other meetings, he was in charge of the general organization of the 22<sup>nd</sup> Annual Conference on Environmental Design Research (Oaxtepec, Mexico) and the 5<sup>th</sup> World Conference on Health Promotion (Mexico City).

**Robin Cantor**

**Co-Chair for the Second World Congress on Risk**

Dr. Robin Cantor is a managing director at Navigant Consulting, Inc. She has more than 20 years of consulting and research experience and specializes in environmental and energy economics, statistics, risk management, and insurance claims analysis. In addition, she leads the Liability Estimation and Insurance Claims Analysis practice at Navigant Consulting, which helps companies and financial institutions better understand asbestos and other product liability exposures.

Her experience includes product liability estimation in bankruptcy matters, product liability analysis for insurance disputes, statistical analysis of asbestos settlements, analysis of premises and product claims, cost contribution alloca-

tion in Superfund disputes, reliability of statistical models and estimation methods, and economic analysis of market and product activities. Cantor has authored journal articles, books, and expert reports and has submitted analysis, testimony, and affidavits in federal arbitration, regulatory and congressional proceedings, and federal and state court. Cantor received her PhD in economics from Duke University and her BS in mathematics from Indiana University of Pennsylvania.



**Wednesday, 12 December**  
**Plenary Luncheon Session: Nudge Nudge, Say No More?**

**“Libertarian Paternalism Is Not an Oxymoron”**

**Cass R. Sunstein**

Cass R. Sunstein graduated in 1975 from Harvard College and in 1978 from Harvard Law School magna cum laude. After graduation, he clerked for Justice Benjamin Kaplan of the Massachusetts Supreme Judicial Court and Justice Thurgood Marshall of the U.S. Supreme Court. Before joining the faculty of the University of Chicago Law School, he worked as an attorney-advisor in the Office of the Legal Counsel of the U.S. Department of Justice. Sunstein has testified before congressional committees on many subjects, and he has been involved in constitution-making and law-reform activities in a number of nations, including Ukraine, Poland, China, South Africa, and Russia.

A member of the American Academy of Arts and Sciences, Sunstein has been Samuel Ruben Visiting Professor of Law at Columbia, visiting professor of law at Harvard, vice-chair of the ABA Committee on Separation of Powers and Governmental Organizations, chair of the Administrative Law Section of the Association of American Law Schools, a member of the ABA Committee on the future of the FTC, and a member of the President’s Advisory Committee on the Public Service Obligations of Digital Television Broadcasters.

Sunstein is a member of the Department of Political Sci-

ence as well as the Law School. He is author of many articles and a number of books, including *After the Rights Revolution: Reconceiving the Regulatory State* (1990), *Constitutional Law* (coauthored with Geoffrey Stone, Louis M. Seidman, and Mark Tushnet) (1995), *The Partial Constitution* (1993), *Democracy and the Problem of Free Speech* (1993), *Legal Reasoning and Political Conflict* (1996), *Free Markets and Social Justice* (1997), *Administrative Law and Regulatory Policy* (1998) (with Justice Stephen Breyer and Professor Richard Stewart and Matthew Spitzer), *One Case at a Time* (1999), *Behavioral Law and Economics* (editor 2000), *Designing Democracy: What Constitutions Do* (2001), *Republic.com* (2001), *Risk and Reason* (2002), *The Cost-Benefit State* (2002), *Punitive Damages: How Juries Decide* (2002), *Why Societies Need Dissent* (2003), *The Second Bill of Rights* (2004), *Laws of Fear: Beyond the Precautionary Principle* (2005), *Worst-Case Scenarios* (forthcoming 2007), and *Nudge: The Gentle Power of Libertarian Paternalism* (with Richard Thaler, forthcoming 2008). He is now working on various projects involving the relationship between law and human behavior.

Web site: <http://www.law.uchicago.edu/faculty/sunstein>



**Discussant: John D. Graham**



John D. Graham is the dean of the Pardee RAND Graduate School, the educational arm of the RAND Corporation in Santa Monica, California. Prior to joining RAND, he served in the George W. Bush Administration as Administrator of the Office of Management and Budget Office of Information and Regulatory Affairs (2001-2006). From

1985 to 2000 he was professor of Policy and Decision Sciences at the Harvard School of Public Health.

He earned his BA (economics and politics) from Wake Forest University (1978), his MA (public policy) from Duke University (1980), his PhD (public policy) from Carnegie-Mellon University (1983), and his post-doctoral fellowship (environmental science and public policy) from the Harvard School of Public Health.

He served as president of the Society for Risk Analysis (SRA) in 1995-1996.



## Regional Organizations

### SRA-Europe

*Julie Barnett, Secretary*

Arrangements for the SRA-Europe 2008 Conference are well under way. We are delighted to be jointly hosting the conference with the European Safety and Reliability Association. It will be held in Valencia, Spain, 22-25 September 2008. Details of the dates for abstract submission, notification of abstracts, and full paper submission can be found at the conference Web site (<http://www.esrel2008.com/>).

The conference will provide a high-quality forum for presentation and discussion of scientific papers covering theory,

methods, and applications in the fields of risk, safety, and reliability to a wide range of sectors and problem areas. It will pose an exceptional opportunity for academia, government, industry, NGOs, and private organisations to learn more about state-of-the-art risk analysis, methodology, and best practice. The conference will be held at the Polytechnic University of Valencia (UPV), Valencia, Spain ([www.upv.es](http://www.upv.es)). Valencia is Spain’s third largest city situated on the east coast close to the Mediterranean Sea and offers a broad variety of cultural, entertainment, and leisure activities.

The conference organizer is Sebastián Martorell ([smartore@iqn.upv.es](mailto:smartore@iqn.upv.es)) and of course any members of the

SRA-Europe Executive Committee will also be happy to help with any queries.

Further information will also be available on the new-look SRA-Europe Web site ([www.sraeurope.org](http://www.sraeurope.org)). We are happy to receive your comments about the Web site and to learn about any ways in which it can serve SRA-E members more effectively!

### New York Metro

*Rao Kolluru, President*

The New York Metro (NY-NJ-CT) Regional Organization conducted a conference in October on Natural Resource Damage Assessment (NRDA)-Assessing & Managing Risks in Ecological Restoration. Chaired by Rao Kolluru, the conference featured speakers from the New York City Department of Environmental Protection as well as the U.S. Environmental Protection Agency, and natural resource trustees, including food and water safety. SRA Past President Rae Zimmerman spoke on Risk-Related Challenges for Ecosystem Damage and Restoration.

The New York Metro Chapter is holding the conference Global Warming/Climate Change and Carbon Tax/Trade: Assessing and Managing Opportunities and Risks, 1-5 p.m. 15 November, at Columbia University in New York. If interested, contact Kolluru for details and registration: [RaoKollur@aol.com](mailto:RaoKollur@aol.com).

### New England

*Donna Vorhees and Sandy Baird, Co-presidents*

The New England Regional Organization begins a year of events on timely topics that are designed to keep our members informed and to advance the practice of risk assessment in our region. Member responses to a survey created and administered by Past President Michael Hutcheson shaped the content and format of this year's schedule of events. Each event is designed to explore the topic in depth from several perspectives, with multiple speakers and respondents to ensure knowledgeable and lively discussion.

The theme of our October meeting was Assessing Human Risks: Role of Philosophy, Judgment, and Uncertainty. Lorenz Rhomberg presented his approach to address "two related problems: (a) the need for a more structured yet non-prescriptive approach to assessing weight of scientific evidence regarding human hazard, and (b) characterizing the nature of large, qualitative uncertainties in quantitative risk assessment, such as dependence on dataset and dose-response model, as well as factoring in questions about comparability of the observed toxicity in animals to the potential toxicity process in humans." In a companion presentation, Douglas Crawford-Brown discussed the "nature of risk, the methodologies used to study it, the relationship between risk and uncertainty, and the social structure of risk assessments and risk-based decisions needed to make them rational." He argues that evaluating risk requires both scientific and philosophical inquiry.

Other events planned for this year include:

- How can environmental epidemiology research better support responsible risk management and public health messages? (January 2008)

- Panel discussion of the National Research Council report on "Improving Risk Analysis Approaches Used by the U.S. EPA" (March 2008)
- Joint Licensed Site Professional Association/Society for Risk Analysis-New England meeting (April 2008)
- Kuwaiti Oil Fires: Risk evaluation in support of the State of Kuwait's Public Health Claim (May 2008)

We are exploring several new initiatives. For example, we are increasing graduate student awareness of SRA-NE and its members by connecting with faculty at local universities with programs in risk analysis, decision making, and epidemiology; and we plan to develop a mentoring program.

### UK

*Ellen Townsend, President*

The UK Regional Organization conference on "Risk Perception: Current Theories and Debates" was held 7 Friday September 2007 in the School of Psychology at the University of Nottingham. Forty delegates attended, representing countries from around the world including France, Sweden, Japan, the United States, and the United Kingdom. Professor Nick Pidgeon from the University of Cardiff got the conference off to a thought-provoking start with his keynote presentation "Risk Perception, Climate Change and UK Energy Policy."

Morning and afternoon parallel sessions covered a wide range of risk-related topics and issues reminding us of the importance and relevance of risk-perception research in contemporary society. Over lunch, poster presentations were on view and delegates voted for their favourite. The best poster prize (£50 book tokens) was shared between Christopher Jones from the University of Cardiff and Mat White from the University of Plymouth.

Professor Joyce Tait, director of INNOGEN at the University of Edinburgh, gave a fascinating keynote presentation "Risk Perception, Upstream Engagement and Life Science Innovation" to bring the conference to a close. Joyce's presentation was interrupted by a fire alarm five minutes before the end of her talk—we had to evacuate, but Joyce was not fazed and we even managed to get some questions put to her before she had to hop on the train back to Edinburgh!

All in all an enjoyable and productive day was had by all with plenty of opportunities for networking. As the conference organiser I would like to express my thanks to all who came and contributed to the conference. In particular, thanks to our keynote speakers, both of whom are fellows of the Society for Risk Analysis. We were extremely privileged to have two such high profile and highly regarded members of the risk analysis community giving presentations. I would like to thank the members of the conference advisory committee, especially Drs. Nick Allum, Scott Campbell, and Alexa Spence, who did an excellent job of chairing parallel sessions. Finally, many thanks are due to Angela Gillett who was a superb conference administrator.

Many delegates expressed a wish for another similar meeting in the future—volunteers willing to organise a future conference should contact me at [ellen.townsend@nottingham.ac.uk](mailto:ellen.townsend@nottingham.ac.uk).



## First International Conference on Risk Analysis and Crisis Response Held in Shanghai

Approximately 150 attendees from 14 countries met in Shanghai, China, on 25-26 September 2007 for the First International Conference on Risk Analysis and Crisis Response (RACR), organized by the Risk Analysis Council (RAC) of China Association for Disaster Prevention and hosted by Shanghai Maritime University. The meeting was held at the modern and expansive campus of the China Executive Leadership Academy Pudong.

The meeting was sponsored by the National Disaster Reduction Center of China, the Society for Risk Analysis (SRA), SRA-Europe, and SRA-Japan. The meeting was also supported by the National Natural Science Foundation of China. Professor Chongfu Huang of Beijing Normal University, China, was general chair of the conference, and Professor Jiali Feng, Shanghai Maritime University, China, was chair of the programme committee. H. Christopher Frey, SRA past president, served as a co-chair of the conference. Olivier Salvi, SRA councilor and former SRA-Europe president, and Shoji Tsuchida, SRA-Japan president, were co-chairs of the programme committee. Other SRA members, such as Marc Poumadere and Lennart Sjöberg, attended the conference and served on the programme committee.

### Conference Presentations

The conference featured plenary presentations by Chris Frey on probabilistic risk analysis, Professor Chongfu Huang on definitions and principles of risk analysis, Olivier Salvi on integrated risk management, Zongzhi Wu on an overview of industrial accidents and risk regulation in China, Andre Maisseu of France on human perception and valuation of risk, Fabienne Valle and Youfang Huang in separate talks on risk management in port cities, Professor Jinren Ni of Peking University on ecological risk in the Yellow River basin, Harald Drager, president of the International Emergency Management Society (TIEMS), on global risk and emergency management priorities, Guosheng Qu on emergency management and response operations in China, Da Ruan on hybrid methodologies for intelligent decision support, and Jie Lu of University of Sydney on the role of situational awareness in decision making.

The conference program included more than 150 scheduled presentations on topics such as integrated risk management, decision making under uncertainty, management of nuclear risk, crisis response, environmental risk, resource shortage, risk modeling, risk concepts and cognitive psychology, situation awareness and warning systems, early warning and terrorism, earthquake and geological disasters, floods, financial risk, fire risk in buildings, industrial engineering risk solutions, maritime accidents, supply chain disruption, typhoon

and storm surge, food safety, network security, public health, and transportation.

### Risk Priorities in China and Globally

The topics covered at the meeting provided insight into areas of risk priorities in China and globally. For example, Wu commented that there are nearly one million industrial injuries each year in China and approximately 15,000 fatalities per year. Coal mining, metals mining, and construction were among the leading causes of accidents that caused three to nine deaths per accident. There is a transition in safety assessment methodologies from qualitative to semiquantitative to quantitative, with a preference for quantitative methods where possible. Qualitative approaches include checklists and preliminary safety analysis. There are many quantitative methods including, for example, fault tree analysis and probabilistic risk analysis. There have been some analyses to calculate acceptable risk levels in the vicinity of industrial facilities, such as at neighboring residential areas and schools.

Qu described the development of emergency response capabilities in China, including numerous bases throughout the country that are the site of personnel and equipment, as well as training activities and the China International Search and Rescue (CISAR) Team. Qu explained that these new capabilities were tested when China provided international emergency aid to Indonesia and Pakistan as a result of earthquakes in those countries in 2005. The importance of communication in order to collect and use information in risk management, both before (where warning is possible) and after a major event, was stressed.

### Proceedings

The proceedings of the conference has been published as a more than 900-page volume by Atlantis Press of Paris titled *Advances in Study on Risk Analysis and Crisis Response*.

### Interest in China Regional Organization

The RAC of China has expressed interest in affiliating with SRA in order to form a China regional organization. Professors Huang, Feng, and Ni, on behalf of RAC, met with Chris Frey and Olivier Salvi, who spoke on behalf of SRA, regarding the possibilities for this type of affiliation. RAC has expressed interest in partnering with SRA as of more than a year ago when it invited many leaders and members of SRA to participate in the planning for RACR. The RACR is a clear demonstration of the capability of RAC to bring together risk analysis professionals and researchers from China on an interdisciplinary basis.

The coverage of topics at the conference demonstrates the breadth of interest in risk analysis methodology in China.



left to right: Yundong Huang, Professor Jinren Ni of Peking University, Professor Chongfu Huang of Beijing Normal University, Olivier Salvi, Chris Frey, and Jiali Feng of Shanghai Maritime University

Both research and practical applications of risk were reported by a wide variety of speakers who represented many different regions of China, as well as a plethora of universities, government agencies, and other organizations. Thus, RAC has an approach to risk analysis very similar to that of SRA, which is multidisciplinary and inclusive of many topics,

researchers, and practitioners. There are plans for further discussions of the potential ties between SRA and RAC at the 2007 SRA Annual Meeting in San Antonio this December. The development of a formal cooperation between RAC and SRA will strengthen and benefit both organizations. 

## SRA World Congress on Risk Happenings

*Robin Cantor and Javier Urbina-Soria, Co-chairs*

We are now ready to receive your proposals for afternoon sessions and posters to be presented at the Second World Congress in Guadalajara, Mexico! Registration and hotel information is also available in the conference announcement on the Society for Risk Analysis (SRA) Web site ([http://www.sra.org/events\\_2008\\_world\\_congress.php](http://www.sra.org/events_2008_world_congress.php)).

### **Mini-Symposia Submissions**

Proposals for mini-symposia will be accepted until 21 December 2007. Please note that we expect to receive more proposals than available program space. We can accept sixty 90-minute sessions for the three-day conference. Acceptance decisions will be made by the end of January 2008.

Proposals should be submitted electronically via the SRA World Congress link which can be located on the SRA Web site.

### **Poster Presentations**

The planning committee is also encouraging participation in poster sessions that will be held in a festive environment conducive to dialogue and networking. Posters for these sessions will be selected by using criteria consistent with those used in judging the mini-symposia. The deadline for submission of abstracts for individual posters to be displayed in the poster sessions is also 21 December 2007. Poster abstracts can be submitted through the SRA World Congress link which can be located on the SRA Web site.

If you have questions about a proposal idea or the process, please contact Co-chairs Robin Cantor ([rcantor@navigantconsulting.com](mailto:rcantor@navigantconsulting.com)) and Javier Urbina-Soria ([jaurso@gmail.com](mailto:jaurso@gmail.com)).

### **Online Registration**

Secure online registration for the World Congress is now available at [www.sra.org](http://www.sra.org) and then to the World Congress information.

### **Hotel Reservations**

The World Congress on Risk has arranged a special rate at the Hilton Guadalajara Hotel.

RATES: Standard: Single/Double \$140 U.S.

Club: Single/Double \$160 U.S.

Please note that this rate includes taxes.

Hilton Guadalajara Hotel

Ave. de la Rosas 2933

Guadalajara, Mexico 44540

Telephone: 52-33-3678-0505

Fax: 52-33-3678-0557

To reserve your room, call National toll free (1- 800-364-5800) or the Hilton Hotel directly (52-33-3678-0510) and

ask for one of the following reservation agents: Micaela Trejo ([mtrejo@hiltonguadalajara.com.mx](mailto:mtrejo@hiltonguadalajara.com.mx)), Karla Escamilla ([kescamilla@hiltonguadalajara.com.mx](mailto:kescamilla@hiltonguadalajara.com.mx)), Adriana Alcazar ([aalcazar@hiltonguadalajara.com.mx](mailto:aalcazar@hiltonguadalajara.com.mx)). You may also reserve online directly at [www.guadalajara.hilton.com](http://www.guadalajara.hilton.com) or via email at one of the addresses above by 4 May. Be sure to identify yourself as an SRA World Congress attendee to receive the group rate.

To increase the impact of the World Congress series, SRA has actively recruited scientific and professional societies to be cosponsors and promoters of the Congress. Currently, the SRA has received commitments of support from several professional societies including the:

- American Physical Society (APS)
- Decision Analysis Society of the Institute for Operations Research and Management Science (INFORMS)
- International Society of Regulatory Toxicology and Pharmacology (IS RTP)
- Society of Environmental Toxicology and Chemistry (SETAC)
- Society of Toxicology (SOT)

SRA has also applied for funding from the National Science Foundation to support travel stipends for participants from developing countries, junior faculty or researchers, and the symposium's plenary speakers, breakout leaders, and rapporteurs.

To complement these sources of support, SRA is seeking corporate sponsors for the symposium's opening reception and lunch plenary sessions. Sponsorship opportunities are available at the following three levels in U.S. dollars or foreign equivalent:

- \$1,000—Friend of the SRA
  - Recognition in the World Congress program
- \$3,000—World Congress Supporter
  - Recognition in the World Congress program and at the opening reception
  - One complimentary registration for the sponsoring organization
- \$5,000—World Congress Champion
  - Recognition in the World Congress program, at the opening reception, and at the opening plenary
  - Sponsorship recognition on a table during lunch plenary sessions
  - Two complimentary registrations for the sponsoring organization

Please contact Henry Willis ([hwillis@rand.org](mailto:hwillis@rand.org)) if you can help with corporate sponsorships.

**Get involved and start making plans to participate in the 2<sup>nd</sup> World Congress on Risk in Guadalajara, Mexico!**

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## Specialty Group Leaders Provide Reports from the Field

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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.

### Decision Analysis and Risk

*Igor Linkov and Greg Kiker*

Over the last year, the Decision Analysis and Risk Specialty Group (DARSG) has continued to explore the interface between decision analysis and risk assessment. We would like to highlight three significant developments that took place over the last year that incorporate multicriteria decision analysis (MCDA) and risk assessment tools: (1) the application of a risk-informed decision framework for restoration planning in coastal areas affected by hurricane Katrina, (2) discussions of real-time and deliberate decision analysis for military and environmental applications, and (3) the use of risk and MCDA-based approaches to address emerging threats, including nanomaterials. These developments will be highlighted in our continuing education workshop and symposia at the 2007 SRA Annual Meeting in San Antonio, with general discussion and information pertaining to risk managers. DARSG will continue to encourage cross-fertilization among these fields.

The U.S. Army Corps of Engineers is working on the risk-informed decision-making framework (RIDF) for the Louisiana Coastal Protection and Restoration project and the Mississippi Coastal Improvement Program. RIDF draws from current practice in the fields of risk, uncertainty and scenario analysis, as well as multicriteria decision analysis, to provide an approach for defining attributes that capture a diverse set of objectives and establishing a set of preference weights that reflect the priorities of different stakeholder groups (see <http://lacpr.usace.army.mil/>). It also provides a method for deriving quantitative scores for the numerous alternative coastal infrastructure plans that are now under consideration by the Army. The SRA meeting in San Antonio will feature symposia on this topic.

Rapid and deliberate decision making is one of the current themes of interest to DARSG. Even though risk assessment has been traditionally used for deliberate decision making, environmental emergencies (for example, oil spills) as well as military and terrorism threats require real-time risk assessment to support management decisions. DARSG sponsored a NATO-Advanced Research Workshop last April that discussed similarities and differences in needs and approaches for these two types of applications (see <http://www.risk-trace.com/portugal/index.php>). The differences begin with initial recognition of the nature of the problem to be addressed and continue through the risk assessment, the actions taken, and the post-decision analysis process, including the evaluation of the effectiveness of the decisions. Similarities include the use of risk metrics as the basis for the decision. Through structuring, execution, and debriefing of management scenarios, one goal is to achieve rapid consensus regarding the proper course of decision making. The NATO workshop reviewed methods and tools devel-

oped in the field of multicriteria decision analysis that apply to these two conditions, focusing on the gains and risks resulting from rapid versus more deliberative decision processes. Currently, DARSG members are compiling a book on deliberate and real-time decision making. If you are interested in contributing a chapter, please contact one of the DARSG officers.

Even though nanotechnology is booming, there is no structured approach for making justifiable and transparent decisions with explicit trade-offs between the many factors that need to be considered for both engineering better products and for ensuring environmental health and safety. Agencies involved in nanomaterials research are developing funding priorities and identifying knowledge gaps, but the methods they use often lack transparency and explicit rationales. MCDA can be used to balance societal benefits versus unintended side effects and risks. It can also be used to bring together multiple lines of evidence to decide on the likely toxicity of nanomaterials given limited information on physical and chemical properties. DARSG has sponsored an educational workshop at the Massachusetts Institute of Technology that reviewed the state of the science in the field and provided an added focus on integrating MCDA and risk assessment in nanotech research (see [http://www.cambridgepublichealth.org/events/nano\\_workshop.php](http://www.cambridgepublichealth.org/events/nano_workshop.php)). DARSG is sponsoring a Sunday workshop in San Antonio and a NATO Workshop on nanomaterials risks and benefits that is scheduled for 27-30 April 2008 in Lisbon, Portugal.

In closing, we are excited and energized about the emerging issues that combine risk and decision analysis. DARSG would like to solicit your ideas on further issues and topics; please feel free to contact Igor ([ilinkov@yahoo.com](mailto:ilinkov@yahoo.com)) or Greg ([gkiker@ufl.edu](mailto:gkiker@ufl.edu)).

### Dose Response

*Dale Hattis*

The past year has seen rumblings of possible major changes in dose-response assessment, and evidence of substantial activity below the surface, but as yet little in the way of formal public proposals. The coming year is likely to see important movement toward improved probabilistic and mode-of-action-driven assessments of dose-response relationships for all types of biological responses.

For noncancer effects there is considerable work under way in a National Research Council (NRC) committee and at the U.S. Environmental Protection Agency (EPA). The NRC committee (“Improving Risk Analysis Approaches used by the U.S. EPA”) in particular is considering ways to bring us out of the current dark ages of analysis—wherein multiple uncertainties are represented by stringing together single-point “uncertainty” factors. The replacement needs to be some series of distributions to represent such

issues as interspecies projections and the uncertainty in the extent of human interindividual variability. But eventually the big hurdles will be to (1) help the toxicological community become comfortable and expert with probabilistic analyses and (2) get risk managers comfortable with the idea that they need to make choices in circumstances where highly uncertain but nonzero amounts of harm may result from any feasible policy option. The current standard RfD approach suffers from its inherent treatment of exposures above the RfD as “risky” (without quantification of the probability of harm) and exposures below the RfD as “safe” (even though a population threshold [if it exists] will differ from the thresholds for any individual’s dose-response function). As a result, policy analysts find it impossible to estimate the benefits of lowering exposures.

In the cancer area, EPA sponsored an extensive series of white papers offering different options for quantitative assessment of uncertainties arising from dose-response projections for agents that have different (and often multiple) modes of action. The resulting papers will see the light in the coming year and will be one topic of discussion at this year’s SRA meeting in December.

Another major area of expansion related to dose response is the increasing use of physiologically based pharmacokinetic (PBPK) modeling. Considered groundbreaking 20 years ago, this type of modeling is now considered mainstream, even as major innovations are under way to improve it with the aid of hierarchical Bayesian statistical techniques. PBPK representation of internal dose is a prerequisite for the next upward step in sophistication—pharmacodynamic modeling of the actions of toxic agents in altering biological processes at the ultimate sites of action and at various levels of biological organization (from molecular, subcellular, cell, tissue, through organ and system levels of effect and adaptation).

## Ecological Risk Assessment

Wayne G. Landis

An evaluation of the current state of the science of ecological risk assessment can be found as a summary of the U.S. Environmental Protection Agency (EPA) Science Advisory Board Ecological Processes and Effects Committee Workshop held 7-8 February 2006 in Washington, DC ([http://www.epa.gov/sab/pdf/ecorisk\\_workshop\\_summary\\_document\\_final.pdf](http://www.epa.gov/sab/pdf/ecorisk_workshop_summary_document_final.pdf)). This short article on the state of ecological risk assessment takes a somewhat different tack in assessing the current state of the field.

### *The Power of Place*

The title of Janet Browne’s second volume of her biography of Charles Darwin (2003)—*The Power of Place*—drove home for me the power of context in how scientists conduct their research and thought processes. I have no doubt that the particular environment in which I work greatly colors my perceptions of the importance of current advances in ecological risk assessment. Right now I am sitting in Bellingham, Washington, overlooking the Cascades, the Olympics, and Georgia Straits along the northwest cor-

ner of the continental United States. The city of Vancouver, British Columbia, is visible to the north, and the Island of Vancouver can be seen to the west beyond the San Juan Islands. The population of the region is projected to grow by 20 percent in the next 20 years, a restoration plan is being developed for the contaminated regions in Bellingham Bay from a pulp and paper plant, and invasive species can be found in all types of local environments. My “place” appears to be at a convergence of many stressors, habitats, endpoints, and management goals. Ecological risk assessment currently addresses chemicals to an extent, but leaves most of these stressors and issues poorly evaluated. However, the field of risk assessment is in transition. Analyses of impacts due to invasive species, impacts of aquaculture, fire, and instances of multiple stressors at landscape and regional scales are being presented and published. Tools are changing and becoming more consistent with biological, ecological, and social reality. The next few paragraphs summarize a few of these transitions.

### Transition from Chemicals to other Kinds of Stressors

Ecological risk assessment was originally developed in the late 1980s and 1990s as a means of dealing with contaminated sites and the registration of pesticides. The guidance documents of the period focused on chemical stressors, sometimes even multiple chemical stressors. Papers are now appearing that focus on nonchemical stressors. Gibbs (*Human and Ecological Risk Assessment [HERA]* 2007), Colnar and Landis (*HERA* 2007), Rossi and Hari (*Integrated Environmental Assessment and Management [IEAM]* 2007), Suedal et al. (*IEAM* 2007), and Olson and Serveiss (*IEAM* 2007) use risk assessment to help manage watersheds, fisheries, and invasive species. Given that chemical toxicity is only one of many issues in environmental management, it is time that risk assessment expands to these unsowed fields.

### Bayesian Thinking and Analysis Tools

In evaluating the impacts of stressors on ecological systems, causality usually has to be inferred from laboratory or field data from other sites. In other words, our estimates are based upon prior experiences in situations often very different from the site being examined. Given that ecological structures are complex, dynamic, and nonequilibrium systems, quaint notions such as control or reference sites cannot exist. Even if closely matched to the site under study, reference sites will have different histories of colonization, a variety of different chemical and structural gradients and, if connected to the site of interest by migration of organisms or by media, cannot be treated as a match except for the stressor. However, Bayesian statistics does allow the incorporation of information from prior experience without the assumptions about similarity that frequentist statistics demand. A variety of information, such as cause-effect relationships from experiments or other sites, expert opinion, or incomplete data from the site under examination can be incorporated. A key is that a Bayesian approach also innately attaches the uncertainty associated with the use of such approaches. Newman et al. (*Hydrobiologia* 2007),

Gibbs (HERA 2007), and Pollino et al. (*Environmental Modelling and Software* 2006) have recently demonstrated the power of the Bayesian approach in risk assessment. Hart et al. (HERA 2006) and Fox (HERA 2006) discuss many of the issues of implementing a Bayesian approach into ecological risk assessment. Although it may mean learning and using a new tool, Bayesian approaches should allow the use of ecological risk assessment in scenarios far removed from simple contamination.

A related development has been the use of weights-of-evidence approaches to determine risk or causality. Approaches such as the Causal Analysis Diagnosis Decision Information System (CADDIS) (Suter, HERA 2006) or the Sequential Analysis of Lines of Evidence (SALE) (Hull and Swanson, *IEAM* 2006) incorporate evidence from many sources using a number of criteria.

Graphic representations are used in both methods to describe the strength of associations and the likelihood of a pathway being complete. How are these approaches not Bayesian in nature, except for the lack of a mathematically explicit approach?

### Populations

In my region, ecological resources (for example, salmon, herring, trees) are populations. Ecological risk assessment at the population scale may be seen as problematic, but Barnhouse, Munns, and Sorensen (SETAC Press 2007) have compiled a comprehensive overview of population-based risk assessment.

Modeling, field research, and their application to decision making and risk assessment are discussed. The hope of the editors, authors, and organizers is that this book is seen as a turning point so that risk assessment for a population becomes an accepted part of the field.

### So What Is Missing?

I approached this question from my perspective of place and the myriad environmental decisions that will be made in the near future. I will present two of many critical questions.

Ecological risk assessment does not deal effectively with the interactions of humans with ecological processes, and the reverse. The Phoenix and Baltimore long-term environmental research sites are investigating some of the issues, but ecological risk assessment does not appear in either program.

Scale in time and space is discussed as part of the EPA workshop summaries, but my concern is that it is full of sound and fury, but nothing significant will come from it. The resources required to develop specific techniques and answers are not being applied. In the Eastern Pacific there are identified multidecadal climate cycles that are now being affected by climate change. It is not at all clear how risk assessment can incorporate these long-term effects.

### Back to Bellingham

So, how does ecological risk assessment match up to the challenges of the decisions that will be made about resources outside of my laboratory's windows? Lots of promise, and the simple sites can be addressed. Ecological risk assessment is still a work in progress, but a promising one.

## Economics and Benefits Analysis

Clark Nardinelli

The Economics and Benefits Analysis Specialty Group serves as a bridge between applied economics and risk assessment within the Society for Risk Analysis. Most of us in the specialty group think of risk assessment and economics as natural complements; an economic analysis often deals with the same policy questions as a risk assessment, with the results from the two analyses forming two of the pillars of risk analysis.

For this year's note on the state of the field, I will discuss a few topics that share the common theme of the complementarities between risk assessment and economics. These topics include the continued work in risk analysis by economists and policy analysts with training in economics, the now-standard explicit inclusion of economics as an integral part of risk analysis, the incorporation of uncertainty into cost and benefit estimates, and the incorporation of scientific uncertainties into economic analysis.

The role of economics within the Society continues to grow, as shown by a number of articles in *Risk Analysis* and the presentations at the annual meetings on economics subjects. We are long past the stage of having to explain "what we are doing here." One particularly important recent development is the growing use of cost-effectiveness analysis in public policy. Cost-effectiveness allows the relative ranking and comparison of various risk-reduction policies, without having to pin down the absolute value of some key parameters, such as the value of a statistical life. Integrating cost into the comparison of policies using cost-effectiveness often reveals large differences that are hidden when we compare only the costs or only the risk reductions across policies. In a cost-effectiveness analysis, risk assessments and economic analyses are directly combined, with incremental costs as the numerator and incremental risk (or risk reduction) as the denominator. From the standpoint of our specialty group, this combination is a great advantage because it clearly shows the way economics and risk assessment work together.

Another encouraging development is the realization by risk specialists that economics plays an indispensable role in the risk analysis of public policies. The 1997 final report of the Commission on Risk Assessment and Risk Management explicitly identified risk assessment and economic analysis as essential information to be provided to risk managers. In the decade since that final report, it has become clear that without an economic analysis, a risk analysis is only half done. In the past, economic considerations entered through the back door, often disguised with words like feasibility or practicality. Now, economic analysis can enter a risk analysis without shame or apology.

The integration of risk assessment and economic analysis has made less progress in incorporating uncertainty into cost-effectiveness and cost-benefit estimates. Costs should be presented with the same uncertainty analysis that accompanies the presentation of risk reductions. We need to be more vigilant when combining uncertain risk reductions with uncertain costs, in order to avoid showing only the

uncertainty associated with the risk reduction. In some cases costs are indeed less uncertain but in those cases we need to demonstrate the greater certainty in the analysis.

Progress also remains to be made in incorporating the scientific uncertainties uncovered by risk assessment into economic analysis. For example, the highly influential Viscusi–Aldy range of \$1 million to \$10 million for the value of a statistical life strikes many economists as large. Yet, many of the risk reductions that we value using the Viscusi–Aldy estimates have uncertainty ranges several orders of magnitude wide. It is not uncommon for these ranges to be expressed in base 10 logarithms. In other words, the 10-fold range for the Viscusi–Aldy estimates represents the unit used to measure the uncertainty associated with the risks and risk reductions being evaluated with those estimates. Combining the two sources of uncertainty—risk and valuation—in a benefits analysis will generate a vastly larger range of uncertainty than would be generated using the valuation uncertainty alone. In general, we would like to see more work on the relative importance of uncertainties in the risk reductions and uncertainties in the valuations of those risk reductions.

I have stressed the gains to risk analysis from the combination of economic analysis and risk assessment. The Economics and Benefits Analysis Specialty Group encourages this cross-fertilization between the complementary disciplines, with risk specialists from other disciplines now participating in most of the group’s sponsored sessions, even on topics that would seem to be pure economics, such as the monetary valuation of illness or death. Their participation has greatly enhanced the value of these sessions. In the coming years, we especially hope to increase collaborations with other specialty groups in the Society. We see the fruits of these collaborations not only in *Risk Analysis* but also in economics journals, which often publish works from risk scientists who are not economists. Some journals appear to especially welcome research from risk specialists in collaboration with economists.

## Emerging Nanoscale Materials

*Jo Anne Shatkin*

The year 2007 was very active for nanotechnology, risk, and environmental health and safety. SRA members contributed to the development of nanotechnology risk frameworks and are on the forefront of research on risk perception. This first report of the Emerging Nanoscale Materials Specialty Group within SRA, organized and approved in December 2006, offers a quick flyover of developments with regard to risk analysis, focusing on SRA members, governmental and nongovernmental efforts, and collaborative endeavors.

Collaboration is increasingly the model for nanoscale material assessment. Some examples include:

- European Union and U.S. research funding calling for international collaborations. In 2007, both the E.U. Seventh Framework Programme for Research and Development and the funding calls from the U.S. Environmental Protection Agency (EPA), National Science

Foundation, and National Institutes of Health included opportunities for international research teams.

- Environmental Defense (ED) and DuPont collaborated on a life-cycle risk framework and three case studies were publicly released in June 2007 (see <http://www.nanoriskframework.com>).
- In reaction to the ED/DuPont proposed voluntary risk management framework, an international coalition of 38 labor, consumer, and environmental groups collaborated in calls for precaution regarding nanotechnology (see [http://www.foe.org/pdf/Nanotech\\_Principles.pdf](http://www.foe.org/pdf/Nanotech_Principles.pdf)).

SRA Councilor Olivier Salvi is involved in a European effort called NANOSAFE2, a collaboration of 22 organizations addressing issues of safe industrial production, health and hazard assessments, characterization and monitoring, and societal and environmental aspects of nanomaterials.

Other activities by SRA members include a symposium on Life-Cycle Approaches to Risk Assessment of Nanoscale Materials at the 2006 SRA Annual Meeting, which included invited presentations of recently proposed life-cycle/risk assessment frameworks for nanotechnology. J. Michael Davis, Senior Science Advisor at EPA, described his proposed comprehensive environmental assessment (CEA) framework that incorporates life-cycle thinking into a risk analysis framework. Case studies applying the CEA framework will be presented at the 2007 SRA Annual Meeting. Olivier Jolliet described a life-cycle framework for nanomaterials that evaluates health and environmental risk, ED and Dupont presented their draft framework, and Jo Anne Shatkin presented “NANO LCRA,” her proposed adaptive life-cycle screening risk framework for nanomaterials. Other member activities regarding risk frameworks include Ortwin Renn and colleagues of the International Risk Governance Council (IRGC), who applied the IRGC Risk Governance Framework to nanotechnology as a case study, and Igor Linkov and colleagues, who proposed using multicriteria decision analysis for nanotechnology (*Journal of Nanoparticle Research*, forthcoming).

Sharon Friedman continues her work on media reporting of nanotechnology and risk (*IEEE Technology and Society Magazine*, Winter 2005, pp. 5-11). Michael Siegrist recently published a survey of public attitudes regarding nanotechnology in food (*Appetite*, Vol. 49, pp. 459-466). Susanna Priest and John Besley of the University of South Carolina report on expert versus citizen perceptions and on local perceptions of scientists regarding nanotechnology in agriculture. These surveys will be discussed during the SRA 2007 Annual Meeting in the symposium Nanotechnology Risk: Perceptions, Media Coverage and Public Acceptance.

Internationally, several key policy reports were published:

- The Environmental Directorate of the Organisation for Economic Co-Operation and Development (OECD) discussed nanotechnology developments of member countries (see [http://applied.oecd.org/olis/2007doc.nsf/linkto/env-jm-mono\(2007\)16](http://applied.oecd.org/olis/2007doc.nsf/linkto/env-jm-mono(2007)16)).
- The Ministry of Economy, Trade and Industry (METI) in Japan conducted a survey of industry practices, an-

ticipating environmental health and safety guideline development. The Japanese government is invested in research on environmental health and safety aspects of nanotechnology, with a focus on facilitation of public acceptance of nanotechnology (see [http://www.aist.go.jp/aist\\_e/aist\\_today/2007\\_23/nanotec/nanotec\\_09.html](http://www.aist.go.jp/aist_e/aist_today/2007_23/nanotec/nanotec_09.html)).

- The European Commission (EC) is undergoing a regulatory evaluation to determine whether any existing regulations need to be revised for nanomaterials. A number of E.U. member countries also have research programs. SRA Councilor Bert Hakkinen will report on nanoparticle scenarios under REACH, the Regulatory Evaluation and Authorization of Chemicals, at the 2007 Annual Meeting.
- In Canada, a Health Portfolio Nanotechnology White Paper is in preparation. The Council of Canadian Academies is convening an expert panel on nanotechnology to address Health Canada's questions about the need to update its risk assessment approaches for nanotechnology.
- In the United States, an interagency committee of the National Nanotechnology Initiative, the Nanotechnology Environmental and Health Implications, developed a research needs document addressing environmental health and safety research needs ([http://www.nano.gov/NNI\\_EHS\\_research\\_needs.pdf](http://www.nano.gov/NNI_EHS_research_needs.pdf)) and a strategy to prioritize the research needs using value-of-information techniques ([http://www.nano.gov/Prioritization\\_EHS\\_Research\\_Needs\\_Engineered\\_Nanoscale\\_Materials.pdf](http://www.nano.gov/Prioritization_EHS_Research_Needs_Engineered_Nanoscale_Materials.pdf)).
- EPA published a *White Paper on Nanotechnology*, highlighting what is known and the research necessary to manage the environmental aspects of nanotechnology (see <http://www.epa.gov/OSA/pdfs/nanotech/epa-nanotechnology-whitepaper-0207.pdf>). EPA is also developing a research strategy for nanotechnology and a voluntary program to provide guidance on Risk Management and Reporting under the Toxic Substances Control Act. The U.S. Food and Drug Administration (FDA) reported on its ability to address nanotechnology in the products it oversees, generally concluding that existing processes for premarket approval of drugs, devices, and food additives provide FDA with the tools to require data submissions to evaluate specific impacts. However non-premarket products, such as cosmetics, do not include data submissions and may require additional effort for FDA to identify and assess (see <http://www.fda.gov/nanotechnology/taskforce/report2007.html#regulatory>).

In this uncertain regulatory environment, a number of organizations are developing voluntary standards for nanotechnology. Organizations include the International Organization for Standards (ISO) and participant country committees addressing terminology, characterization of materials, and environmental health and safety. A nanotechnology committee within ISO, TC229, is developing several voluntary standards for handling nanomaterials, supported by

efforts of the American National Standards Institute (ANSI) and the European Committee for Standardisation (CEN).

The Society for Toxicology (SOT) organized a specialty section on nanotoxicology, with plans to serve as a focal point for its members and others interested in toxicology of nanoscale materials, and facilitate discussions about how to conduct toxicology experiments for them (see [http://www.toxicology.org/AI/PUB/si07/si07\\_nano.asp](http://www.toxicology.org/AI/PUB/si07/si07_nano.asp)).

Numerous scientific developments in the evaluation of risks to health were published, too numerous to discuss in this brief. One, the European Scientific Committee on Emerging and Newly-Identified Health Risks (SCENHIR 2007), reported on the appropriateness of existing risk assessment methodologies for nanomaterials, recommending a tiered assessment approach on a case-by-case basis and identifying urgent information needs (see [http://ec.europa.eu/health/ph\\_risk/committees/04\\_scenihir/docs/scenihir\\_o\\_010.pdf](http://ec.europa.eu/health/ph_risk/committees/04_scenihir/docs/scenihir_o_010.pdf)).

### Engineering and Infrastructure

*Jim Lambert, Bilal Ayyub, Vicki Bier, Seth Guikema, Stanley Levinson, and Amir Mokhtari*

Many developments in 2006-2007 engaged the members of the Engineering and Infrastructure Specialty Group.

The August 2007 collapse of Minneapolis' I35W Mississippi River bridge, an eight-lane 2,000-foot steel truss arch structure that carried 140,000 vehicles per day, has refocused the nation's attention on the risks of its aging infrastructure. The investigation of the collapse is continuing, and may take another 16 months. See [www.asce.org](http://www.asce.org).

The July 2007 aviation crash at Congonhas-Sao Paulo airport, located only five miles from the city center, brought wide attention to the dilemma of antiquated urban airports and the safety margins used in aircraft operations.

Mining disasters, including those in Utah and Novokuznetsk (Russia), promoted new mine-safety legislation proposals in the U.S. Congress in 2007.

Typhoon Saomai (2006) in China and Typhoon Durian in Vietnam together killed more than 1,200 people, while an earthquake in Peru killed more than 500 people and wildfires ravaged much of Greece.

The aftermath of Hurricane Katrina continues to engage risk analysts (<https://ipet.wes.army.mil/>) evaluating alternatives such as providing increased hurricane protection, increasing evacuation effectiveness, changing land-use policy, enhancing hurricane protection system operations, and increasing public and governmental preparedness. A probabilistic framework is used to obtain hazard profiles (as elevation-exceedance rates) and risk profiles (as loss-exceedance rates) that are based on a spectrum of hurricanes determined using a joint probability distribution of the parameters that define hurricane intensity. The resulting surges, waves, and precipitation estimates are used to evaluate the performance of a hurricane protection system consisting of a series of basins and subbasins that define the interior drainage characteristics of the system. The protection against flooding is provided by levees, floodwalls, closure gates, and interior drainage systems and pumping stations. Stage-storage relationships define the characteristics of subbasins and the population and property at risk.

The nuclear industry continues to use risk-informed insights to ensure power plant safety, as well as consistent availability (most plants now routinely achieve greater than 80 percent availability). Risk insights have also been used to address post-9/11 security issues. Risk-informed methods are being used to change the basis for nuclear power plant Technical Specifications, for example, using probabilistic risk assessment plant models to determine risk-informed completion times (allowed outage times) and using risk insights to change surveillance test intervals. For a utility to use these initiatives, submittals must be made to the U.S. Nuclear Regulatory Commission (NRC) (see <http://www.nrc.gov>).

See the link [www.thei3p.org](http://www.thei3p.org) for developments on the risk-based business case for 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 information technologies for intelligence collection and analysis. See [www.intelligence.gov](http://www.intelligence.gov) for an overview of the intelligence community.

The Statistical and Applied Mathematical Sciences Institute (SAMSI) began a year-long program on decision making for risk of extreme events, involving several members of the specialty group ([www.samsi.info](http://www.samsi.info)).

Several members of the specialty group are also involved in the Probabilistic Safety Assessment and Management 9 Conference (PSAM 9) to be held in Hong Kong 18-23 May 2008 ([www.psam9.org](http://www.psam9.org)).

## Exposure Assessment

*Michael Dellarco*

The area of exposure assessment continues to undergo tremendous expansion and maturation in the wake of recent research advances and the start of major environmental health programs. This year, plans to initiate the first phase of the National Childrens Study (<http://nationalchildrensstudy.gov>) and the start of the National Institute of Environmental Health Sciences Genes, Environment and Health Initiative (<http://www.gei.nih.gov>) have helped propel the field of exposure science beyond conventional contaminant source identification and pathway transport.

Research advances in human exposure monitoring and modeling have improved the ability to characterize the sources and routes of exposure associated with specific lifestyles and activities and to integrate them into more accurate estimates of exposure and dose.

Additionally, rather than segmenting exposures as “acute” or “chronic,” there is now a greater appreciation for assessing exposures during specific life stages with consideration for individual differences in susceptibility and vulnerability to chemical contaminants due to age, culture, or lifestyle.

The current focus remains largely on children, although there is a greater appreciation for exposure differences in

elderly people and special populations such as Native Americans due to unique features of their lifestyle.

With this greater appreciation for life stages, there is a growing interest to consider differences in susceptibility or vulnerability to pollutant exposures due to age, genetic makeup, or to socioeconomics and demographics. Research is underway to identify so-called “critical windows of susceptibility” during development where chemical exposures at that time may lead to adverse health effects immediately or at some point later in life. Studies are being conducted to identify critical time periods during development and the nature and extent of exposures (and the adverse health effects that might be associated with them). Among the many important papers published in the past year in this area, we bring to your attention the work of Andersen et al. (*Journal of Nutrition*, vol.136, pp. 1171-1177) on maternal iron deficiency, an article by Julia Barrett on DDE (dichlorodiphenyldichloroethylene) and neurodevelopment (*Environmental Health Perspectives*, vol. 115, p. A152(1)), the article by Donovan et al. on personal-care products containing estrogens (*Medical Hypotheses*, vol. 68, pp. 756-766), and the work of Luo et al. on oxidative stress (*Medical Hypotheses*, vol. 66, pp. 38-44). Additionally, efforts are underway to better characterize exposures based on demographics and socioeconomic characteristics in an effort to begin to relate chemical exposures to these characteristics in more detail.

Efforts to understand differences in individual susceptibility and vulnerability to chemical contaminant exposures are being shaped by efforts to understand the influence of genetics and socioeconomics on adverse health effects. Research in toxicology and early indicators of disease has generated new interest in application of biological markers to identify early stages of disease and to reconstruct exposure events to chemicals in the environment. This in turn has focused attention on the need for new detection methodologies in the areas of analytical chemistry and sensor technology. Regarding the latter there is the anticipation that the recent advances in genetic toxicology, computational toxicology, and nanotechnology will lead to development of a new generation of sensors and personal monitoring devices.

Accomplishment of these efforts to better characterize populations, susceptibility and vulnerability to chemical contaminants in the environment, and to identify the contribution to the environment to the early onset of disease, will require more human exposure monitoring field studies. These studies will be more sensitive and sophisticated than previous human exposure field studies. They will require more information about personal characteristics, culture, lifestyle, and time-activity patterns. They will employ more biological monitoring than previous studies. To meet this need, a new generation of ethical guidelines is being developed by EPA and other institutions to govern human subject testing and personal exposure monitoring. These guidelines will address ethical considerations concerning consent, the risk/benefit of the human exposure monitoring, and the approaches to recruit and retain human subjects in human exposure monitoring field studies in far more detail than has been considered in the past.

## Risk Communication

Lori Severson (with Branden Johnson and John Besley)

The field of risk communication has three interrelated foci that pertain to how people understand and respond to risk messages within a context of sociocultural norms and processes. Topics pertaining to messages and message delivery include framing, narratives, dialectic communication, graphics, social marketing, media effects, and technology-enhanced communication. Individuals' responses to these messages encompass perception, cognition, affect, information processing, decision making, the role of experience, and behavioral outcomes. Social-cultural aspects moderate how people use and respond to messages based on values, justice, trust, procedural fairness, public engagement, and organizational issues. While developments are ongoing across these areas, limited space permits brief updates for just a few.

Trust remains a central interest, both its effects and its sources. The trust-asymmetry mantra that "trust is easy to lose but hard to gain" may remain a good guide for risk managers, but researchers have revealed that prior commitments and distinctions between policies and events, among other factors, limit the truth of the mantra (Cvetkovich et al. 2002; White et al. 2003, 2005; White and Eiser 2006). After many studies of the sources of trust that identified important variables but lacked a theoretical explanation, we now have two theory-based models: the dual-mode model of salient values similarity (see, for example, Siegrist et al., *Risk Analysis*, vol. 23, pp. 705-716) and the intuitive-detection-theorists model (White and Eiser, *Risk Analysis*, vol. 26, pp. 1187-1203). Further refinements and comparison of these models should be forthcoming.

Research on perceived risk and public engagement continues to focus on (1) the development and testing of novel ways to engage citizens in discussions about risks, including the use of Web-based resources and (2) appropriate metrics for the assessment of such engagement. Researchers have specifically focused on factors such as the incorporation of local knowledge, community values, and fairness as advantages of citizen engagement. Researchers have also increasingly explored what citizens want out of engagement and the role that deliberation can play in challenging experts.

The role of affect in shaping beliefs and decisions is based on the premise that affect is integral to cognition and plays

a key role in shaping perceptions and behavioral responses to risk information (see especially Slovic et al., *Risk Analysis*, vol. 24, pp. 1-12). Findings suggest that affect is a component of "rational choice"—a shift from the view that emotional involvement is an impediment to rational decision making. Work published during the past year in this area includes studies designed to explore how message attributes such as framing and visual images influence cognition, affect, and decisions (for example, Arvai et al., *Journal of Forestry*, vol. 23, pp. 705-716, and Leiserowitz, *Climatic Change*, vol. 77, pp. 45-72). Collectively, findings show that preferred decisions can be manipulated by these attributes; however, research is needed to understand the differential influence of affect and cognition on decision outcomes. Some research includes brain-activity measures to show the functional areas of the brain involved in decision making, with the goal of eventually disentangling the differential cognitive and affective components of information processing. As evidence accrues pertaining to the influence of risk information on perceptions and behavior, there is a need for ethical guidance to promote appropriate application of these findings.

Information technology is dramatically shaping the content, format, and delivery of messages. There is a global trend toward developing tools that can integrate and extract information from a wide spectrum of databases that range from disease surveillance to molecular structures to LandSat images to text from Weblogs. These technological advances accelerate the production of and public access to risk information. Information technology tools have the capacity to create consumer-centered risk information that is more easily understood and to employ communication processes (such as public-participation geographic information systems) that facilitate public engagement and shared decision making. Much work is needed to examine the use of this technology as it pertains to risk communication to ensure it meets the intended goals of promoting informed public decisions and fair public engagement, while providing accurate information and protecting individual privacy. In a world that increasingly depends on timely information rather than direct experience for making complex and far-reaching decisions, the ability of that information to transparently convey salient aspects of what is known and unknown is essential. 

## PERISHIP Fellowship Program

The Public Entity Risk Institute (PERI) and the Natural Hazards Center at the University of Colorado-Boulder are seeking applications for the National PERISHIP Fellowship Program, which will award up to six dissertation fellowships for work related to natural and human-made hazards, risk, and disasters. The PERISHIP program is supported with funding from the National Science Foundation and Swiss Re and is intended to foster the advancement of knowledge in the interdisciplinary hazards field.

Up to six grants of up to \$10,000 each will be awarded in 2007/2008 to doctoral students to support their dissertation work on natural and human-made hazards, risk, and disasters

in any relevant field of the natural and physical sciences, social and behavioral sciences, specialties in engineering, or interdisciplinary programs such as environmental studies. The grants are flexible and can be used for data collection, travel for field work, or for presentation of findings at meetings, purchase of software, data entry assistance, statistical analysis services, or a combination of these or other similar purposes (but, NOT for stipends or tuition).

Applications should be sent to [periship@riskinstitute.org](mailto:periship@riskinstitute.org) by 5:00 p.m. EST on 1 February 2008. The awards will be announced in May 2008. For more information on application requirements, visit [www.cudenver.edu/periship/](http://www.cudenver.edu/periship/). 



## Committees

### Communications Committee

Richard Reiss, Chair

The Communications Committee recently launched an effort to achieve publicity for articles published in *Risk Analysis*. We hired a public relations consultant to help us with this effort. Our consultant is Joe Walker of Walker Communications in Woodbridge, Virginia.

On 7 August 2007 we issued a press release related to two articles in the June special issue on terrorism. The articles were on the economic effects of a dirty bomb attack on the ports of Los Angeles and Long Beach and the effects of an attack on the electric power system in southern California.

Additionally, on 21 August we released a press release on an article on the effects of another terrorist attack on commercial aviation. All of the studies were conducted by authors affiliated with the Center for Risk and Economic Analysis of Terrorism Event (CREATE) at the University of Southern California (USC).

The results of our efforts were overwhelming and beyond anything we expected. First, on 7 August the dirty bomb article was featured as the lead story on the *Fox News* national telecast "Special Report with Brit Hume." The *Fox* piece included an interview with one of the authors, Dr. Detlof von Winterfeldt of USC, and also prominently displayed the cover of the journal.

Additionally, *MSNBC* produced a full piece for its Internet site on the aviation article on 30 August. Links to the *Fox News* piece and the *MSNBC* article can be found on the SRA Web site.

In addition to the national coverage, several local newspapers (for example, the *Post Chronicle* and the *Wichita Eagle*) and more than a dozen trade press outlets covered the articles, often producing original print pieces based on the articles. We received requests for the articles from a number of individuals in prominent positions in homeland security.

We will continue to pursue other opportunities to publicize *Risk Analysis* articles over the next nine months. If

you have an interest in helping with this effort and/or have contacts in the media, please contact me at [reiss@exponent.com](mailto:reiss@exponent.com).

### Conferences and Workshops Committee

Kara Morgan, Chair

One of the three functions that the Society for Risk Analysis (SRA) Conferences and Workshops Committee (C&W) is responsible for is recognizing and sharing information about events put on by other organizations that may be of interest to SRA members.

On the Members Only portion of the SRA Web site, you can now find events listed that have been reviewed by C&W and posted for your information—called "SRA-Recognized Events."

Make sure you check this list often to see if there are workshops or meetings that are of interest to you.

If you know of events that should be listed here, please encourage the organizers to use the form that is available on the public part of the Web site and send it to [events@sra.org](mailto:events@sra.org) for C&W review.

Note that all SRA regional events and all SRA specialty group events are automatically recognized by SRA. The organizers just need to send in the needed information to [events@sra.org](mailto:events@sra.org) so that we can have the event information posted on the SRA Web site.

**SRA Members Needed:** More volunteers are always welcome on the Conferences and Workshops Committee. If you are interested in being involved with reviewing events and workshops for SRA, please send an email to [kara.morgan@fda.hhs.gov](mailto:kara.morgan@fda.hhs.gov). The work is conducted entirely by conference call and email. Workshops and meetings contribute revenue and intellectual capital to the SRA, so it's a great way to contribute.

Don't forget to register for a workshop at the SRA annual meeting! There are lots of educational opportunities available this year.

Check out your many options at [http://www.sra.org/events\\_workshops\\_2007\\_Meeting.php](http://www.sra.org/events_workshops_2007_Meeting.php). 



## Member News

### Jo Anne Shatkin



Jo Anne Shatkin has joined CLF Ventures, Inc., as managing director. CLF Ventures works at the intersection of business, stakeholders, and the environment to help organizations launch environmentally beneficial projects, operate sustainably, and close operations responsibly. CLF Ventures is the nonprofit affiliate of the Conservation

Law Foundation ([www.clfventures.org](http://www.clfventures.org)). Jo Anne is based in Boston and can be reached at [jashatkin@clf.org](mailto:jashatkin@clf.org) or 617-850-1715.

### Rao Kolluru

Rao Kolluru, president of the SRA New York Metro Regional Organization, has written a new book: *Spiritual Entrepreneurship - Pathway to Lasting Success*.

It's not yet in bookstores but is available from Amazon, Barnes and Noble, etc.

It delves into the old-fashioned notion of "Doing Well by Doing Good."

This metaphysical business book offers practical guidance and complements Rao's earlier books, including *Risk Assessment and Management Handbook: For Environmental, Health and Safety Professionals* (published by McGraw-Hill).

## David J. Ball

David J. Ball has written *Environmental Health Policy* as a teaching aid for master's students of the London School of Hygiene and Tropical Medicine, but with other audiences in mind. The book aims to bring policy makers to the forefront of risk-based decision making, highlighting the fundamentals, benefits, and difficulties associated with the application of these techniques to human health in the wider sense, and is

illustrated with examples and case studies from around the world, including air quality in Mexico City, the healthy village programme in Sarawak, injury prevention programmes in New Zealand, Costa Rica's Capacity 21 initiative, and Kazakhstan's environmental health programme, as well as copious examples from western-style industrial nations. For more information and to order online: <http://www.mcgraw-hill.co.uk/openupusa/html/0335218431.html>. 



## What Do We Do?

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

### Jeanne-Marie Membré

#### What is your job title?

**Membré:** Microbiological modeller at the Safety & Environmental Assurance Centre (SEAC), a corporate function of Unilever, near London. SEAC's role is to provide Unilever with the skills, advice, and guidance needed to manage any safety risks for consumers, employees, and the environment. I am the first point of contact when modelling expertise in microbiology is required.

#### How is risk analysis a part of your job?

**Membré:** As a modeller, I work closely with risk assessors. I develop models (mainly exposure assessment models) which are specific to Unilever's needs, that is, focused on our product portfolio but also complementary to our other food safety management tools.

Microbiological models are used internally, for instance to develop new products and processes, to determine storage conditions and shelf-life, to design in-factory heating regimes, or to estimate the impact on consumer safety on product quality in case of problems with products on the market. Sometimes models are used "stand-alone," sometimes they are part of more elaborate decision support systems.

#### How did you decide to pursue this career?

**Membré:** My previous job was in France, working at the National Institute for Agricultural Research (INRA). My main activity there was predictive microbiology.

I joined Unilever in 2003. It was for me a double opportunity. Firstly, I could extend my modelling expertise to [probabilistic] risk assessment modelling, being supported in my own skill building and introduced to the Microbiological Risk Assessment (MRA) community worldwide. Secondly, I got the opportunity to practise MRA in an industrial context, which is different from the governmental context, and to get personal satisfaction of seeing my models being implemented at the operational level.

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

**Membré:** I have an engineering degree but right from the beginning I wanted to work in research and development.

Following my graduation, I joined INRA. For 15 years, I built expertise in food microbiology and statistics, and got myself established as an academic scientist in predictive microbiology.

From there, transferring to food safety and MRA in a research and development environment was not all that difficult. However, risk analysis is a huge discipline and I have still a lot to learn.

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

**Membré:** Difficult to be exhaustive as there are too many exciting parts of my job!

The most challenging bit seems to be the communication part. I mean communication with the risk assessors to develop the model that they need, but also (mostly) communication to the risk managers (Unilever colleagues who make decisions at the operational level) to make sure that they are confident in "making decisions

under uncertainty."

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

**Membré:** The job is a scientific job in a business context. So, I should say that they have to be objective and rigorous as scientists, while pragmatic and reactive as businessmen/businesswomen.

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

**Membré:** The SRA annual meeting is really great to get the full picture of what happens in risk analysis worldwide and see how what I am doing fits in.

The SRA provides lots of opportunities to "think laterally" or "think out-of-the-box" of my discipline, microbiology. It is a perfect place to learn and to build expertise; MRA community is really active, interacting with it is definitively a real bonus.

#### Is there anything else you would like to add?

**Membré:** Thanks for giving me this opportunity to speak about my job, and my risk analysis experience. It is limited, but I have still plenty of time to extend it! 





## Specialty Groups

### Economics and Benefits Analysis Specialty Group

*Clark Nardinelli, Chair*

At this year's annual meeting in San Antonio, on Sunday, 9 December, the Economics and Benefits Analysis Specialty Group will sponsor an all-day workshop: From Quantitative Risk Assessment to Cost-Benefit Analysis to Risk Management: How to use Different Tools, Methods and Techniques for Better Decision Making. During the meeting itself, the specialty group is sponsoring nine sessions and 36 presentations. We will again cohost a mixer with the Biological Stressors Specialty Group. The mixer will be from 5:30 to 7:00 p.m. on Tuesday, 11 December. We will introduce the group's officers for the coming year and make some announcements about upcoming activities for the year. We will also talk about ways to increase the collaboration with other specialty groups and with other disciplines within risk analysis. Bring your stories, your experience, and your ideas as well as your appetite. We hope that all specialty group members and potential members can join us. If you would like additional information regarding the workshop or other activities related to the Economics and Benefits Analysis Specialty Group please email Laina Bush ([Laina.Bush@hhs.gov](mailto:Laina.Bush@hhs.gov)) or Clark Nardinelli ([Clark.Nardinelli@fda.hhs.gov](mailto:Clark.Nardinelli@fda.hhs.gov)).

### Risk Communication Specialty Group

*Lori Severtson, Chair*

The 2007 SRA Annual Meeting in San Antonio is approaching quickly so here is an update on Risk Communication Specialty Group (RCSG) activities in addition to the excellent sessions, symposiums, and posters that you can preview on the SRA Web site. Our business meeting is on Monday, 10 December, at 11:45 a.m. Chair-elect and Council members will be elected, so please send your nominations (including self-nominations) to me at [djsevert@wisc.edu](mailto:djsevert@wisc.edu) or to Chair-elect Tee Guidotti at [eohtlg@gwumc.edu](mailto:eohtlg@gwumc.edu). Also let me know if there are items you would like on the meeting agenda—this includes ideas you have for enriching our specialty group activities throughout the year. Plan to attend our joint mixer with the Decision Analysis & Risk and the Ecological Risk Assessment specialty groups on Tuesday evening for some informal time with colleagues. I have received a couple of inquiries pertaining to our RCSG listserve. SRA generates specialty group listserves based

on specialty group membership, so be sure you complete this part of your SRA application and pay your \$10 membership fee (free for students) if you want to be an "official" member of the group.

Of course all SRA members are encouraged to attend our meetings and to submit risk communication abstracts—we welcome and encourage interdisciplinary collaboration—but you might miss out on specialty group announcements if you aren't an official member.

### Engineering and Infrastructure Specialty Group

*James H. Lambert, Chair*

We look forward to all of our Engineering and Infrastructure Specialty Group (EISG) members joining us for a Texas-styled mixer and business meeting in San Antonio.

Several EISG-type events sought and received SRA recognition:

- The Delft GeoAcademy organized a course on "Geotechnical Risk Management of Construction Projects" 9-11 October 2007. The course was an important initiative in order to implement risk management into the daily practice of geo-engineering.
- The Cyber Conflict Studies Organization and The Institute for Information Infrastructure Protection are organizing a workshop on "Investing in Cyber Security: Better Choices?" 5-6 November 2007 at the University of Virginia. The workshop will engage executives, technologists, and others in role-playing decisions about security investments.

Look for our annual wrap-up of engineering and infrastructure issues elsewhere in the newsletter. And visit our Web site at [http://ceprofs.civil.tamu.edu/sguikema/sra\\_ei/](http://ceprofs.civil.tamu.edu/sguikema/sra_ei/) or access it from the appropriate links at [www.sra.org](http://www.sra.org).

### SRA Emerging Nanoscale Materials Specialty Group

*Jo Anne Shatkin, Chair*

The Emerging Nanoscale Materials Specialty Group (EMNMS) now has a Web site ([www.sranano.org](http://www.sranano.org)) to keep members and others informed of developments and events. Please visit, and be sure to send items to post or links to sites to Jo Anne Shatkin at [jashatkin@clf.org](mailto:jashatkin@clf.org) (note new contact information).

EMNMS now boasts over 70 members representing government, industry, academic, nonprofit, and consulting organizations from North America, Europe, and Japan. 



## Advertisements

### Pesticide Risk Assessor

Syngenta Crop Protection, Inc., a worldwide leader in the area of plant protection seeks pesticide risk assessor for an open position in the Americas Human Safety Department in Greensboro, North Carolina.

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Please submit your résumé and cover letter to Dr. Nina Heard, Human Safety Exposure & Risk Assessment Group, Syngenta Crop Protection, Inc., PO Box 18300, Greensboro, NC 27419, or email to [nina.heard@syngenta.com](mailto:nina.heard@syngenta.com).

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### GMA/FPA

The Grocery Manufacturers/Food Products Association (GMA/FPA) is seeking a Manager, Regulatory Affairs, in Washington, DC. The Manager will be responsible for (1) monitoring and analyzing regulatory and scientific developments and health and environmental issues—in the United States and internationally—relating to chemicals, risk assessment, food, and consumer products, (2) organizing and facilitating meetings of concerned parties, (3) coordinating the flow of critical information, and (4) providing support to a variety of special projects for GMA/FPA and its Research and Education Foundation. The successful candidate will have a master's degree in public health, environmental science, toxicology, biology, chemistry, or a related field (coursework in epidemiology, risk assessment, statistics, toxicology, or related areas is highly desirable); familiarity with regulatory and scientific issues relating to chemical regulation and risk assessment; a minimum of three years of related work experience; strong oral and written communication skills; a working knowledge of Microsoft Office software and online searching (database management experience a plus); and proven ability to set priorities, allocate time effectively, develop realistic goals and meet commitments. GMA/FPA represents the world's leading food, beverage, and consumer products companies. The association promotes sound public policy, champions initiatives that increase productivity, and growth and helps to protect the safety and security of the food supply through scientific excellence. The GMA/FPA board of directors is comprised of 52 chief executive officers from the Association's member companies. The \$2.1 trillion food, beverage, and consumer packaged goods industry employs 14 million workers, and contributes over \$1 trillion in added value to the nation's economy.

Inquiries and résumés should be sent to Carla Mitchell, VP, Human Resources, GMA/FPA, 202-639-5900, [cmitchell@fpa-food.org](mailto:cmitchell@fpa-food.org).

### Risk Analysis Program Manager

The Joint Institute for Food Safety and Applied Nutrition (JIFSAN) and the University of Maryland, College Park, Maryland, has announced a position for a Risk Analysis Program Manager (University title: Faculty Research Assistant).

For more information please download the announcement at [http://www.jifsan.umd.edu/docs/JIFSAN\\_Faculty\\_Research\\_Assistant.pdf](http://www.jifsan.umd.edu/docs/JIFSAN_Faculty_Research_Assistant.pdf).



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### Risk Assessor

DuPont is seeking a Risk Assessor to work at Haskell Laboratory located in Newark, Delaware. Haskell Laboratory for Health and Environmental Sciences is a full-service toxicology laboratory with a growing competency in risk assessment. Although compliance with Europe's REACH legislation is a major focus of this position, providing risk assessment support world wide is expected.

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- Five years of experience in risk assessment with particular emphasis in exposure assessment
- MS in environmental science, environmental health or related field of study
- Demonstrated quantitative skills relevant to human and ecological exposure estimation
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- Ability to effectively function as a member of a high-performance, international risk assessment and toxicology team

Please send your electronic résumé by email to [scott.k.braithwaite@usa.dupont.com](mailto:scott.k.braithwaite@usa.dupont.com).

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Electronic résumés may be submitted to [hr@chemrisk.com](mailto:hr@chemrisk.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*

*Society Officers:*

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

*Members of SRA Council:*

Richard A. Becker, rick\_becker@americanchemistry.com  
Luis Abdon Cifuentes, lac@ing.puc.cl  
Elaine M. Faustman, faustman@u.washington.edu  
Adam M. Finkel, afinkel@princeton.edu  
Pertti "Bert" J. Hakkinen, phakkinen@gradientcorp.com  
Garrick Louis, louis@virginia.edu  
Kara Morgan, kara.morgan@fda.hhs.gov  
Richard Reiss, rreiss@exponent.com  
Olivier Salvi, salvi@eu-vri.eu

*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:* Christopher Frey, phone: 919-515-1155, fax: 919-515-7908, email: frey@eos.ncsu.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 2008** 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 2007**.



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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