



# RISK newsletter

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## Society for Risk Analysis Welcomes New Officers



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**Baruch Fischhoff**



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President's Message .....	2
2005 SRA Annual Meeting .....	3
2004 SRA Awards .....	4
2004 SRA Annual Meeting .....	6
2005 Award Nominations .....	7
2005 Council Nominations .....	11

### Inside RISK

Specialty Groups .....	12
Chauncey Starr Winners .....	14
Regulatory Risk Review .....	15
Member News .....	15
SRA-Japan .....	16

SRA-Europe .....	16
News and Announcements .....	17
Journal Notes .....	18
Chapter News .....	18
Advertisements .....	21
2005 Contact Lists .....	22

## President's Message

### As Uncomplicated as Complexity Allows

To use the distinction refined by William Safire in his latest (1/2/05) "On Language" column, risk management is both complex and complicated. It is complex in having "interconnected parts; compounded of different elements; an intricate combination of ideas." It is complicated in that both the whole and its parts are "hard to unravel or explain; so intimately intertwined as to be confusing." As Safire notes further, "complicated" can be, more sinisterly, "used as an excuse for an inability to clearly define."

In these terms, our task, as a profession, is to respect the complexity of risk management, while making it less complicated. As servants of those who manage and live with risks, we must both do the best job possible and be seen as having done so. Fulfilling that role requires not only commitment to full, frank disclosure, but also self-reflection, so that we understand the strengths and weaknesses of our craft.

The annual meeting serves a vital role in that self-reflection. The technical sessions expose our work to the penetrating (but, one hopes, polite) critiques of our colleagues. The specialty group meetings allow us to swap (and perhaps swipe) trade secrets with some of the same colleagues, trying to figure out what they really think about the limits to our work, and their own. The plenary sessions provide a look at what the rest of the Society's members do—and what we don't, thereby reminding us of the boundaries to our own expertise.

The President's Program, of four plenary sessions, was designed to further these aims. I was honored that the speakers, coming from outside the Society, all agreed to join us, as well as by the quality of their addresses and the responses by Society members.

Two sessions represented basic applied research, identifying fundamental scientific issues arising from the confrontation with applications. In one, Mary O'Brien and Lisa Heinzerling argued that risk analysis does not realize its potential when it uncritically accepts conventional ways of analyzing problems (for example, evaluating

fixed options, rather than stimulating the creation of new ones; neglecting distributional effects).

In the second, Denise Caruso, a technology writer, Diana Rhoten, a sociologist, and Dan Stokols, a psychologist, looked at how the social organization of our work affects its ability to manage complexity without succumbing to complication. They challenge us to be scientific when designing our institutions and evaluating their performance.

The other two sessions represented applied basic research, clarifying the state of the craft by testing its envelope of application. In one, Richard Jackson pointed to the suite of environmental health risks requiring the social, biological, engineering, and analytical sciences found in the Society. He challenged us to create a recipe out of these ingredients, so that society does the impossible

for obesity and asthma, as it has done for lead.

Brian Glicksman presented such a recipe. As part of a government-wide initiative to meet public concerns in a scientifically sound way, HM Treasury has proposed a process for integrating risk analysis and communication. That process captures the complexity of risks with a multi-attribute representation that includes both economic and noneconomic features. It reduces complication by prescribing sound communication practices and encouraging adaptation to local circumstances. By treating all risks in common terms, it promotes policies that reduce risks in cost-effective ways. Most Society members should find that the proposal has a place for their work and concerns.

For those who missed, or would like to revisit, the sessions, see the Society's Web site. Send your colleagues there, too; perhaps the experience will lure them in.



**President Baruch Fischhoff presents the ceremonial gavel to Past President Caron Chess.**

Baruch Fischhoff

## 2005 Society for Risk Analysis Annual Meeting 4-7 December—Orlando, Florida

*H. Christopher Frey*

As President-elect, I oversee the next annual meeting, which is 4-7 December in Orlando, Florida. I'd like to have a brief conversation with you about my thoughts for the meeting and to encourage your involvement. This is the 25<sup>th</sup> anniversary of the formation of the Society for Risk Analysis (SRA). Thus, the theme will be the 25<sup>th</sup> Anniversary of SRA: Past, Present, and Future of Risk Analysis.

I have three supporting goals: (1) to take advantage of our meeting location to touch upon many "local" topics that have broad implications or analogies, (2) to continue the internationalization of the Society, and (3) to encourage a more interdisciplinary orientation in the technical program.

Our location in Florida is an excellent opportunity to demonstrate the breadth and importance of our field to society, including public and private stakeholders. Among the suggestions for topics that I received from the specialty groups and individual members are risk management at amusement parks (such as those in the Orlando area), ecological risks associated with the Everglades and the coral reef systems in south Florida, characterization and management of biothreat agents (a topic in which several Florida universities are interested), natural disaster preparation and response (for example, hurricanes), health implications of land use and development, hazard analysis and management for space systems (for example, NASA), and food and agriculture (for example, cattle, citrus).

No doubt there are many more topics. Do you know good speakers on these and other topics?

I am committed to continuing the process of internationalization that now includes sections in Europe and Japan as well as chapters in countries such as Australia and Russia. The Florida meeting location is particularly convenient for international members (or potential new members) in Central and South America. SRA will continue to provide opportunities for partial international travel support to help promote international representation at the annual meeting.

I strongly encourage specialty groups to collaborate and cosponsor symposia that are truly interdisciplinary. For example, many risk problems (for instance, mercury) cut across all specialty groups. As a Society, we should provide value-added for our stakeholders by bringing together practitioners and researchers to address difficult problems in an interdisciplinary manner.

All of the major units within SRA, including specialty groups, sections, and chapters, as well as you—the individual member—have a key role in preparing for the annual meeting by encouraging members and colleagues to submit papers, symposia, and workshop proposals. Incidentally, the Sunday workshops are an excellent means for specialty groups to raise funds that can be used to support speakers and activities.

I am excited about the annual meeting, and I hope these ideas spur your own thinking and enthusiasm for getting involved. Let me know your thoughts regarding plenary sessions, roundtables, and programs for new members and graduate students. I wel-

come your suggestions (and volunteerism!) to help make this happen (frey@eos.ncsu.edu).



**President-elect  
H. Christopher Frey**



**Disney's Magic Kingdom near Orlando, Florida**

**For more information on the 2005 Society for Risk Analysis Annual Meeting, photos and talks from the 2004 meeting, and other information about SRA, check the Society Web site at [www.sra.org](http://www.sra.org).**

## 2004 Society for Risk Analysis Award Winners

### Distinguished Achievement Award

#### Kenny Crump

Dr. Kenny Crump has over 25 years of experience in assessing risk from exposure to toxic materials. Statistical models for assessing risk developed by Crump have been widely used by regulatory agencies.



He has served on science advisory boards of the US Environmental Protection Agency (EPA), the National Center for Toxicological Research, the Mickey Leland National Urban Air Toxics Research Center, and the National Institute of Environmental Health Sciences, as well as several committees of the National Academy of Sciences that addressed risk assessment issues.

He served on the Royal Society of Canada Expert Panel on Asbestos. He was a member of the EPA Science Advisory Board Dioxin Reassessment Review Committee.

### Outstanding Service Award

#### Gail Charnley

Dr. Gail Charnley has held perhaps all SRA positions, including president. When called upon to lead, help, or advise, she has always been willing to offer her valuable time without argument.



Of course, she has done much more than serve SRA.

She is an internationally recognized expert with over 20 years of experience in environmental toxicology, human health risk assessment, and risk management, writing, and speaking extensively on issues related to the role of science and risk analysis in environmental health policy and decision making.

She has previously served as executive director of the Presidential/Congressional Commission on Risk Assessment and Risk Management, acting director of the Toxicology and Risk Assessment Program at the National Academy of Sciences/National Research Council, and project director for several National Academy of Sciences committees.

### Outstanding Risk Practitioner Award

#### Fellow of the Society for Risk Analysis

#### Allewyne (Nell) S. Ahl

At the US Department of Agriculture (USDA), Dr. Allewyne Ahl set up the risk office and pioneered a significant extension



of risk analysis as director of the Office of Risk Assessment and Cost-Benefit Analysis and had the foresight to commission the Harvard risk analysis of BSE (mad cow). As USDA Fellow to the Center for the Integrated Study of Food, Animal, and Plant Systems at Tuskegee University, she worked with faculty to promote integrated study in risk analysis for food safety and livestock/plant disease issues. She has authored and edited numerous publications addressing bioethical issues,

veterinary epidemiology, public health risks, food safety, and the contamination of animal products. She also was instrumental in starting the SRA Food/Water Safety Risk Specialty Group.

### Chauncey Starr Award

#### Kimberly Thompson

Dr. Kimberly Thompson, Harvard School of Public Health, is being recognized for unique contributions in the integration of



social, political, legal, economic, and scientific issues to improve risk management decisions and for development of the Kids Risk Project, which aims to empower kids, parents, policy makers, and others to make better decisions when managing children's risks. This effort applies risk and decision-analysis tools to highlight the value of informed decisions and it will ultimately lead to the development of appropriate risk models for children.

Professor Thompson cofounded the Center on Media and Child Health at Children's Hospital Boston. She also is the author of a recent book of collected cartoons on all risk topics. A fine scientist, with a good sense of humor, Thompson exemplifies the role model for young risk analysts.

### Student Travel Awards



Huei-an Chu



Abani Pradhan



Victor Ricciardi

Student Travel Award winners not pictured: C.W. Anderson, B.J. Apelberg, C.J. Brittle, J.L. Donatuto, F. Hsu, N.L. Judd, W.-W. Lin, C.R. Palmgren, N.-J. Park, M.L. Pennell, W. Qin, L. Rivers, K.A. Schmitt, D.J. Severtson, R.S. Wilson, J.H. Xu

## Fellow of the Society for Risk Analysis

### A. John Bailer



Dr. A. John Bailer, Miami (Ohio) University, is recognized as an SRA Fellow for participation in committees of the National Toxicology Program, for service assisting committees of the National Research Council, and as one of two US members of the International Statistical Institute risk assessment committee.

## Fellow of the Society for Risk Analysis

### Margaret MacDonell



Dr. Margaret MacDonell, Argonne National Laboratory, has over 15 years of experience in environmental and health risk assessment, primarily for US Department of Energy cleanup sites. She is interested in cumulative risk of aggregate exposures to chemical mixtures; integrated risk analysis to support environmental policies and cleanup decisions, including residual levels and release controls; and environmental risk communication and education.

## Best Paper Award

### Wayne G. Landis



Baruch Fischhoff, right, presents Wayne G. Landis the Best Paper Award for "Modeling the Risks of Non-Indigenous Species Introductions Using a Patch Dynamics Approach Incorporating Contaminant Effects." Landis coauthored the paper with Andrew M. Deines and Valerie C. Chen.

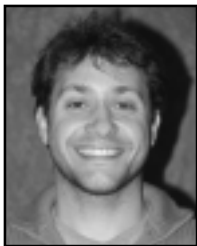
## Free Registration for 2005 Annual Meeting

### Curtis Haymore



Lori Strong and Sue Burk of the Secretariat check the name tag of Curtis Haymore of Cadmus Group, the lucky winner in the drawing held for the die-hard risk analysts who stayed for Wednesday afternoon's session. Curtis won free registration for the 2005 SRA Annual Meeting.

## International Travel Awards



Nicolas Bronfman



Virna Gutiérrez



Jennifer Lee



Thomas Öberg



Prabhakara Murty



Massoud Saad



Davor Sinka

International Travel Award winners not pictured: V. Akimov, K.I. Atojev, F.E. Boudier, S. Campbell, L.A. Cifuentes, S.M. Driedger, J. Ganoulis, S.K. Gower, A.J. Grebenkov, M.A. Grutsch, C.G. Jardine, W. Kröger, V. Lesnykh, F.B. Olorunfemi, A.B. Ramadan, T.I. Shamo, B.T. Sheppard, L. Sjöberg, A.T. Thalmann, J. Torriti, E.J. Townsend, J.K. Wardman, F. Yasukawa, B.I. Yatsalo



# SRA 2004 Annual Meeting

## Monday Plenary

### Risk Analysis: An Integrated National Initiative

**Moderator: Ragnar Löfstedt, Kings College London**

*"A number of us find the document innovative, creative, as well as stimulating and hence deserving of some international attention."*



The topic of discussion for this plenary is the UK Her Majesty's Treasury's document "Managing Risks to the Public" that is presently out for public consultation and, once the comment period is complete and the comments incorporated, is destined to become part of the UK government's risk policy.

In developing this plenary Baruch Fischhoff and I thought it would be very worthwhile if we could have a public discussion of this document on a suitable international stage. A number of us find the document innovative, creative, as well as stimulating and hence deserving of some international attention. Personally, I am most impressed that this document has its origins from Treasury, a department known for cost effectiveness more than anything else.

HM Treasury sees its presentation today as part of an expanded peer review. Your comments will feed into the development of the final report from the department.

**Keynote Speaker: Brian Glicksman, HM Treasury**



*"A robust and systematic approach to risk management permits due consideration to be given to these as well as systemic risks and remote risks."*

An overview of work in the UK to improve risk management and develop a more-structured approach to the appraisal of risks to the public was presented. The work has developed out of the need for government increasingly to focus on effective delivery of services and projects and an understanding that delivery will be improved through improved identification and management of the factors that can cause disruptions.

Governments need to consider the management of threats and new opportunities. A robust and systematic approach to risk management permits due consideration to be given to these as well as systemic risks and remote risks.

The UK government has therefore sought to improve capability through a two-year Risk Programme initiated by the Prime Minister. The key challenges identified include ensuring strong leadership in risk management, embedding risk management in core processes of government, addressing risk issues at the policy-making stage, managing risks with delivery partners, risks directly affecting the public, and learning from good practice.

As part of this programme, the UK government published in September 2003 a set of principles for managing risks to the

public. These are openness and transparency, stakeholder involvement, proportionality and consistency, a good evidence base for decisions, and the identification of clear lines of responsibility. In October 2004, the government published, for consultation, guidance on appraising risks to the public. The guidance contains a framework for assessing public concerns while seeking to achieve proportionality and consistency.

**Respondent: George Gray, Harvard Center for Risk Analysis**

*"Three key challenges are developing best estimates of risk, dealing with high uncertainty risks, and using public perceptions in decision making."*



"Managing Risks to the Public" is an important and useful document because of its ambition, rigor, humility, and brave effort to explicitly describe a decision-making approach.

Implementation of the guidance will raise important questions and challenges and will push us to develop new and better methods and empirical support to allow real-world decision making under this framework for risk management and communication. Three key challenges are developing best estimates of risk, dealing with high-uncertainty risks, and using public perceptions in decision making.

The field of risk analysis must continue to struggle with the methods to develop best estimates of risk, be able to characterize quantitatively best estimates of risk, and think about estimating actual health outcomes for valuation and risk comparison. Some progress has been made, but this is a clear and important challenge for us to take up.

We need analysis to inform decisions about highly uncertain risks and the need for possible precautionary action. We need methods for honest appraisal of uncertainty, including ways to weigh evidence quantitatively to inform questions of causality, magnitude, or consequence for a risk with uncertain origins or consequences or in cases of competing data.

I am concerned that a focus on public perceptions of risk may work at cross purposes to risk management, which is about choices. Yet elicitation of public concerns as described in the guidelines tends to be about a risk, not about the choices faced in managing that risk. The field of risk analysis can help by building on scholarship about perceptions and decision making to allow evaluation of perceptions of solutions, which may help two groups considering different questions—choice versus risk.

I applaud the UK government for laying out the explicit rationale and principles for managing risks to the public. Implementing the guidance will be challenging; however, I believe the practitioners and scholars of the field of risk analysis, energized by the challenges, will develop data and methods to continually improve our ability to make sound decisions about risks.

**The 2005 SRA Annual Meeting will be held 4-7 December in Orlando, Florida.**

**Respondent: JoAnne Shatkin, Cadmus Group**

*"The risk literature advises such an approach, but its incorporation in governmental policy is rare."*



"Managing Risks to the Public" presents an integrated approach for considering the risks, costs, benefits, and societal implications of governmental decisions in a flexible framework. The UK guidance attempts to frame governmental responses to account for the technical, social, and economic aspects of hazards. And it incorporates risk information not as the basis of, but as evidence to inform, policy selection.

The guidance may be used to address unfamiliar hazards where the benefits and costs of options are unclear, risks are uncertain, and public concern is elevated but the science is not able to support a decision. It recommends involving stakeholders in a deliberative process to evaluate alternatives and, when views conflict, organizing citizen panels and conferences to promote broader participation. The risk literature advises such an approach, but its incorporation in governmental policy is rare. This guidance is unique in establishing an approach to assess the public's perception and level of concern and to formalize the incorporation of the public's views.

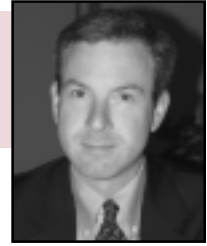
The document details how to incorporate technical analyses into decision making, providing the opportunity to include the best available science in decisions about societal hazards. It could be more explicit about how to conduct risk analyses. I have some concerns about suggesting the use of cost-benefit or cost-effectiveness analysis because results are not comparable.

Alternatively, one could do both or consider a more consistent approach to economic evaluation. Emphasizing a precautionary approach under uncertainty is practical, and the guidance provides a framework for determining when and to what extent a precautionary approach is warranted.

I believe implementing this multicriteria analytical approach will foster sound decisions informed by science and socio-political concerns in keeping with the principles of openness and transparency, involvement, proportionality and consistency, evidence, and responsibility. It appears that this guidance meets its stated objectives.

**Respondent: Jonathan B. Wiener, Duke University**

*"The SRA should continue to compare risk management approaches across different countries as a crucial method for learning and improving risk governance."*



The new UK Treasury risk management guidance can be set in historical and comparative context. Following each major period of regulatory activity there has typically been an associated effort to guide and supervise regulatory institutions.

In the United States the New Deal expansion of the administrative state was followed by the 1946 Administrative Procedure Act; and the Great Society and advent of modern environmental law were followed by the application of Presidential review of regulation via Executive Orders and benefit-cost analysis. The new UK guidance follows a period of regulation of food safety and related areas in the wake of the BSE (mad cow) and foot-and-mouth outbreaks and, like the counterpart developments in the United States, it employs both public involvement and expert analytic methods as checks on regulatory decisions.

The UK guidance should be evaluated in four key areas: analytic methods, institutional structures, public versus expert evaluations, and the precautionary principle.

As to analytic methods, the guidance sensibly calls for cost-effectiveness and cost-benefit analysis, but it omits risk-risk tradeoff analysis. With regard to institutional structures, the guidance does not yet explain which UK institutions will actually have the responsibility and authority to require and undertake regulatory review. In the area of public versus expert evaluations, the guidance says that the public views must be given major weight in risk management, so long as they are valid or legitimate, without saying who will make these determinations or how. Finally, as to the precautionary principle (PP), there appears to be a subtle reduction in the emphasis on PP compared to earlier UK documents. This shift is consistent with the trend in the European Union from the PP toward regulatory impact assessment.

The SRA should continue to compare risk management approaches across different countries as a crucial method for learning and improving risk governance.

### SRA Call for 2005 Award Nominations

The Society for Risk Analysis (SRA) Awards Committee invites nominations for the following 2005 awards:

The **SRA Distinguished Achievement Award** honors any person for extraordinary achievement in science or public policy relating to risk analysis.

The **SRA Outstanding Service Award** honors SRA members for extraordinary service to the Society.

The **Outstanding Risk Practitioner Award** honors individuals who have made substantial contributions to the field of risk analysis through work in the public or private sectors. The 2005 award will be for the private sector.

The **Chauncey Starr Award** honors individuals age 40 and under who have made exceptional contributions to the field of risk analysis.

The **Fellow of the Society for Risk Analysis Award** recognizes and honors up to one percent of the Society's membership whose professional records are marked by significant contributions to any disciplines served by the Society and may be evidenced by one or more of the following: (1) Recognized, original research, application, or invention, (2) Technical, scientific, or policy analysis leadership in an enterprise of significant scope that involves risk analysis in a substantial way, (3) Superior teaching or contributions to improve education and to promote the use of risk analysis that are widely recognized by peers and students, or (4) Service to or constructive activity within the Society of such a quality, nature, or duration as to be a visible contributor to the advancement of the Society. Nominees for Fellow must have been SRA members for at least five years and must now be members in good standing.

Please submit nominations and a brief paragraph supporting each by **6 May 2005** to the Stephanie Cross, SRA Secretariat (1313 Dolley Madison Blvd., Suite 402, McLean, VA 22101; fax: 703-790-2672; email: scross@burkinc.com).

## Tuesday Plenary Risk Analysis: As Others See Us

### Baruch Fischhoff, Carnegie Mellon



*“Although perhaps unpleasant, it is, of course, important to hear from critics, especially in a setting allowing interactions in order to clarify what they really mean.”*

The organizing theme of my President’s Program was how our profession can grow through reflecting on its interface with those who need us and whom we need. In Monday’s session, we heard about an ambitious attempt to incorporate, in government, methods benefiting from the range of research and practice represented in the Society.

In this session, we will hear from two distinguished scholars, often identified as critics of our profession, followed by three responses from well-known members. Although perhaps unpleasant, it is, of course, important to hear from critics, especially in a setting allowing interactions in order to clarify what they really mean (both here and in the corridor). In this case, I believe that both critics are not outsiders looking in, but part of our internal, “loyal opposition,” pressing us to realize more fully the potential of the profession by reflecting on the creative processes of defining options and analytical approaches.

### Moderator: Ann Bostrom, Georgia Institute of Technology



Welcome to this session on Risk Analysis: As Others See Us, which is part of SRA President-elect Baruch Fischhoff’s President’s Program. Please join me in welcoming our speakers, Mary O’Brien and Lisa Heinzerling, and discussants Adam Finkel, Gary Marchant, and Scott Farrow.

### Presenter: Mary O’Brien, University of Oregon

*“The more appropriate question for living beings is ‘What is the least hazard that is necessary?’”*

While certain problems are inherent to risk analysis (for example, inability to address cumulative impacts; arbitrariness of some assumptions; disconnect between those who generate, calculate, and pronounce risk acceptable and those who bear exposure to, or consequences of, the hazard), what seems overarching is that risk analysis almost always (but not always) is used to answer an unnecessarily limited question, namely, “How much of this hazardous substance or activity is safe, or of insignificant risk, or at least ‘acceptable’ risk?”

The more appropriate question for living beings, indeed, for democracy itself is, “What is the least hazard that is necessary?” That requires looking at alternatives. Many of us know that the hazards foisted on us and our environment, backed by extensive risk analyses, aren’t necessary, and when the risk analyses don’t deal with that, they become tools for bullying.



The National Environmental Policy Act (NEPA) is one law that both provides for effective public participation and consideration of “a full range of reasonable alternatives.” The proper use for risk analysis is to estimate risks of alternatives. NEPA is in the crosshairs of this Administration, and yet democracy is only possible where people can bring and hear alternatives to one way.

When risk analysis numbers are used to bludgeon opposition to unnecessarily hazardous enterprises, then risk analysis is a tool of repression, not enlightenment. Risk analysts would be able, in many circumstances, to have influence over whether a full range of reasonable alternatives is considered. A useful study would be to compare risk analyses that had been prepared in the absence versus presence of a sound range of alternatives, particularly when the public had contributed to alternatives considered.

### Presenter: Lisa Heinzerling, Georgetown University



*“Several prominent proponents of risk analysis have suggested that government regulation would work better if citizens . . . were cut out of the regulatory process.”*

There are three basic critiques one can raise against risk analysis as it is currently practiced: it is unduly fixated on numbers, it is closely associated with the problematic methodology of cost-benefit analysis, and it is often accompanied by a bad attitude.

Starting with the obsession with numbers: next year marks the 25<sup>th</sup> anniversary of not only the Society for Risk Analysis, but also of the US Supreme Court’s decision in the famous benzene case. There, a badly splintered Court, having no idea about the science it was talking about, held that the Occupational Safety and Health Administration must first find a risk is “significant”—by which it meant that the agency must quantify the risk—before regulating it. Benzene exemplifies the mistaken assumption that one cannot know if something is important unless one quantifies it.

Also, when attending to the harms that can be quantified, one often forgets about all of the real harms that end up not counting because they cannot be counted.

Risk analysis has also been led astray by its close linkages with cost-benefit analysis. Quantitative risk assessment is a necessary building block for formal cost-benefit analysis. Cost-benefit analysis is problematic for many reasons. One fundamental problem is the hypocrisy of some of its most prominent practitioners. Vigorous cost-benefit analysis is undertaken by the government today when an agency proposes regulating industry—but it is not undertaken when the government proposes to deregulate in some fashion. This one-sidedness creates a systematic bias against regulation.

Last, risk analysis has sometimes exhibited an attitude of arrogance. Several prominent proponents of risk analysis have suggested that government regulation would work better if citizens—who, they say, are confused about risk, confused about numbers, fearful of the wrong things—were cut out of the regulatory process. This attitude reflects a basic dispute with the nature of our governmental system.



**Respondent: Adam M. Finkel, University of Medicine and Dentistry of New Jersey, Princeton University**



*“Disappointment with the track record of risk analysis . . . has alienated scholars as well as laypeople.”*

Lisa Heinzerling and Mary O’Brien have provided a salutary “wake-up call” to the Society and to the field of risk analysis. Disappointment with the track record of

risk analysis—its drive to crowd out common-sense ethical considerations at the altar of precise (and partial) quantification, its too-willing subservience to a brand of cost-benefit analysis that treats regulation with special skepticism, and its self-fulfilling attitude towards the “innumeration” of the general public—has alienated scholars as well as laypeople. Dr. O’Brien’s concerns are complementary to these, in that she argues that we need to insist on analyses driven by decisions (as opposed to decisions dictated by analysis, or free-floating analyses that help us worry but don’t help us solve problems) and not to shy away from analyzing the costs and benefits of alternatives that risk managers have not yet considered.

As insightful as I think these diagnoses are, they reach us accompanied with two glaring deficiencies. First, the critics of risk analysis have decided that all these lapses are inherent to the methods themselves rather than an indictment of those who apply these tools. Perhaps every narrow, arrogant, and insufficiently precautionary risk analysis is simply a missed opportunity for a different analyst to perform a broad and humble analysis that would allow us to try to protect the vast majority of the affected population to a high level of confidence. Secondly, to move forward we need to cast the same critical eyes upon any alternative method that would supplant risk analysis. To implement delightful concepts such as “the least hazard necessary” or “prevention in the face of uncertainty,” we need to consider what is “necessary” and what benefits and costs prevention confers. “Mend it—don’t end it” sounds like a promising pathway when ending risk analysis could leave behind a vacuum.

**Respondent: Gary Marchant, Arizona State University**

*“Unless we use RA and CBA to do our best to separate the important risks from the trivial, we will be paralyzed or make decisions completely arbitrarily.”*



Mary O’Brien and Lisa Heinzerling have performed a useful service to the extent their critiques open our eyes to legitimate shortcomings of risk analysis (RA) and cost-benefit analysis (CBA), so that we can continue to strive to improve these tools and also recognize their inherent limitations. But to the extent that O’Brien and Heinzerling ask us to reject RA and CBA altogether, their position is not useful because it is asking us to close our eyes, rather than open our eyes, to a set of relevant and valuable information. Any proposal to deliberately ignore pertinent, available information on risks and costs violates basic presumptions of informed decision making. Benjamin Franklin described weighing the pros and cons, or risks and benefits, of a decision as the “moral or prudential algebra” of sound decision making.

Every substance has the potential to cause some risk, whether it be an industrial chemical, a vitamin, salt, sugar, or even organic foods. Unless we use RA and CBA to do our best to separate the important risks from the trivial, we will be paralyzed or make decisions completely arbitrarily. As former EPA Administrator Bill Ruckelshaus said, “There appears to be no substitute for risk assessment.” With respect to CBA, President Clinton’s OMB stated that “[t]he only way we know to distinguish between the regulations that do good and those that cause harm is through careful assessment and evaluation of their benefits and costs.”

O’Brien and Heinzerling have failed to define a credible alternative to RA and some form of weighing costs and benefits (formal CBA is not necessary for giving sufficient consideration to the costs of regulatory actions). The precautionary principle is often proposed as an alternative, but its application around the world is already showing that it is even more arbitrary and manipulable than RA and CBA. To paraphrase Winston Churchill, who once said that “democracy is the worst form of government except all the others that have been tried,” it seems that risk analysis is the worst form of managing risks except all the others that have been tried.

**Respondent: Scott Farrow, US Government Accountability Office (speaking on his own behalf)**



*“An attitude of ‘arrogance’ is not desirable from any side, nor are arbitrary limitations on the scope of alternatives or on the application of analysis.”*

Can risk analysis (and our plenary speakers’ linking of it to benefit-cost analysis) be improved? Yes. Should the methods be discarded? No. Should they be the only basis of decisions? No.

I am reminded of a piece of historical fiction in which a French revolutionary was killed for his “too dangerous gift of eloquence.” In this debate over risk and benefit-cost analysis, I am at times confused as to which side has the more dangerous gift. In my view fact-based information to assist decision making, including synthesis through tools such as benefit-cost analysis, is one way to balance the potential eloquence of people on all sides of an issue. Undoubtedly, additional humanist issues are important spurs for improvement, but I think the critics sometimes go too far.

I suggest (1) risk and benefit-cost analysis are appropriately focused on numbers that have at least the potential for verification and generalizability compared to some alternatives; (2) risk analysis and benefit-cost analysis are often insufficiently integrated. There is room for both an improved representation of quantitative outcomes and an improved synthesis with values; (3) an attitude of “arrogance” is not desirable from any side, nor are arbitrary limitations on the scope of alternatives or on the application of analysis; (4) NEPA analyses, when regulatory wording existed that a benefit-cost analysis should be appended if one was conducted, might have led to a synthesis of often disparate information by deleting the “if” opportunity for major cases; (5) “necessary” or “needs” framings put the issue back into the area of risk management. Who shall decide and how shall they decide what is “necessary”?; (6) professional societies or third-party organizations might be a means to provide guidance on best practices that could improve usefulness and credibility of analytical tools.

## Wednesday Plenary

### Risk Analysis: Creating the Profession

**Moderator: Baruch Fischhoff, Carnegie Mellon**

*“The Society has long played a leadership role in shaping the profession needed to make it happen.”*



Risk analysis is a unique profession, blending basic and applied research, with contributions from multiple disciplines. Our future success depends on our ability to create institutions that can mobilize the knowledge necessary to address problems in a comprehensive and self-reflective way and on the ability of educational institutions to provide suitable training and career paths. Interdisciplinary work is easier to advocate than to achieve. The Society has long played a leadership role in shaping the profession needed to make it happen.

This session will include presentations from three individuals with different perspectives on such work.

The first, Denise Caruso, is a journalist who has covered the evolution of many advanced technologies, fraught with risk and uncertainty, most recently turning her attention to our attempts to provide intellectually sound ways to shape and evaluate them.

The second, Diana Rhoten, is a sociologist who has brought the science of organizational design to bear on related enterprises.

The third, Dan Stokols, is a psychologist whose interest in complex problems has led him to study institutional design as a way of getting the job done.

I think that we will have a thought-provoking exercise in applied epistemology, helping us to be more deliberate about the design of our own institutions.

**Presenter: Denise Caruso, Hybrid Vigor Institute**



*“A focused attempt to move risk analysis toward more collaborative interdisciplinary methods can produce more comprehensive and better science for risk analysis.”*

Interdisciplinary research is widely regarded as a driver of innovation and in recent history alone has yielded important scientific innovations such as the Human Genome Project, advances in areas like xenotransplantation, and the creation of whole new fields of inquiry such as nanotechnology. But risk follows innovation, and the subsequent uncertainties engendered by the fast-forward march of science have already far overwhelmed the capabilities and the methods of traditional risk analysis. A focused attempt to move risk analysis toward more collaborative interdisciplinary methods can produce more comprehensive and better science for risk analysis.

Risk analysts who wish to adopt these methods should possess a high tolerance for ambiguity and be prepared to adopt new perspectives in several areas. These include new approaches to participant selection, problem and outcome definition, and communication between experts and between experts

and stakeholders. Analysts should also be prepared to meet personal challenges in the areas of territoriality and competition, as well as in developing trust and equity relationships and a common means of communication between participants. Organizational challenges include confronting specialization as an institutional rather than an intellectual requirement. While these all are classical interdisciplinary research methods, they also closely follow the tenets of the analytic-deliberative process outlined in the National Research Council's 1986 report, *Understanding Risk: Informing Decisions in a Democratic Society*, also known as the Orange Book.

**Presenter: Diana Rhoten, Social Science Research Council**



*“These insights should serve as valuable lessons for universities—and other organizations—interested in supporting and encouraging these new ways of learning and producing knowledge themselves.”*

Today, some analysts claim that a transformation is well underway in higher education from the traditional manner of conducting research—homogeneous, disciplinary, hierarchical—to a new approach that is heterogeneous, interdisciplinary, horizontal, and fluid. Others suggest that the university's metamorphosis toward interdisciplinarity is nowhere as far along as those in the first camp maintain. In fact, some would even argue that there is no empirical evidence of any fundamental change encompassing the university knowledge system.

While the latter camp may be right to be skeptical, it is wrong to be cynical. Across the spectrum of higher education, many initiatives deemed interdisciplinary are merely reconfigurations of old studies rather than actual reconceptualizations of new research. Others, however, represent critical innovations striving to change the way science is conducted, problems are solved, and knowledge is produced.

This presentation reviews the results of an NSF-funded study titled “A Multi-Method Analysis of the Social and Technical Conditions for Interdisciplinary Collaboration” which examined six such innovations. By applying social network and ethnographic methods to the analysis of six interdisciplinary research centers between January 2002 and June 2003, this study (1) modeled the shape of the research networks in each center, (2) assessed the effect of individual attributes, organizational conditions, and relational positions on the structure of the networks, and (3) identified the practices, processes, and products of disciplinary versus interdisciplinary collaboration within them.

The study has yielded important insights about such things as the role of junior versus senior researchers, the significance of individual features versus organizational factors, the consequences of “information sharing” versus “knowledge creating” activities, and the profiles of disciplinary “hubs” versus interdisciplinary “bridges” in these centers.

These insights should serve as valuable lessons for universities—and other organizations—interested in supporting and encouraging these new ways of learning and producing knowledge themselves.

**Presenter: Daniel Stokols, University of California, Irvine**



*"The results of this study highlight the important interrelations between informal social integration and successful intellectual integration within multidisciplinary teams and centers."*

The past two decades have witnessed a surge of interest and investment in transdisciplinary research teams and centers. Only recently have efforts been made to evaluate the collaborative processes, and the scientific and public policy outcomes, of these endeavors. This presentation outlined a conceptual framework for understanding and evaluating transdisciplinary research and described a large-scale national initiative, the NIH Transdisciplinary Tobacco Use Research Centers (TTURCs) Program, undertaken to promote cross-disciplinary scientific collaboration in the field of tobacco science and prevention. Findings from a five-year evaluation of collaborative processes and outcomes observed across multiple TTURCs were presented. The data were gathered using a multimethod assessment of ongoing (or "in vivo") collaborative behaviors, experiences, and efforts toward intellectual integration among team members at their respective research centers. The findings highlight key contextual circumstances faced by participating centers (that is, the breadth of disciplines and departments represented by each center, the extent to which members had worked together on prior projects, spatial proximity among researchers' offices and frequency of their face-to-face interaction, institutional incentive structures that support transdisciplinary research, and the strength of team members' commitment to collaborative science) that influenced their readiness for collaboration and prompted them to follow different pathways toward transdisciplinary integration. The results of this study highlight the important interrelations between informal social integration and successful intellectual integration within multidisciplinary teams and centers. Implications of these findings for developing and evaluating future transdisciplinary research initiatives in the fields of risk analysis and public health were discussed.

### Agree or Disagree?

Continue the dialogue begun at the Palm Springs meeting and share your thoughts about the opinions expressed in the Plenary talks. Letters (200 words or less) sent to the *RISK newsletter* office will be considered for publication in a future issue of the newsletter. Send to Managing Editor Mary Walchuk (mwalchuk@hickorytech.net).

## Tuesday Luncheon

**Richard Jackson, California State Public Health Officer**

*"The purpose of public health is to fulfill the society's interest in ensuring conditions in which people can be healthy."*



Richard Jackson was appointed in March as California State Public Health Officer, leading the Department of Health Services public health activities. "A front-line soldier in the struggle for public and environmental health," according to Baruch Fischhoff, Jackson shared his knowledge about the state of health of Americans in his presentation "Thoughts about the Systemic Interconnectedness of Health Challenges." He pointed out that "we supersize everything in America," including our homes, land development, neighborhoods, roads and highways, cities, vehicles, schools, vehicle miles traveled, stores, food portions, density of fast-food restaurants, children, inactivity, etc.

Jackson told SRA members, "The purpose of public health is to fulfill the society's interest in assuring the conditions in which people can be healthy."

The PowerPoint presentation of Jackson's talk can be found on the SRA Web site ([www.sra.org/events\\_2004\\_meeting.php](http://www.sra.org/events_2004_meeting.php)).

**For complete text of many of the talks given at the 2004 SRA Annual Meeting in Palm Springs, see the Society Web site at [www.sra.org/events\\_2004\\_meeting.php](http://www.sra.org/events_2004_meeting.php)**

### Call for Nominations for 2005 SRA Council

The Society for Risk Analysis Nominations Committee invites nominations for the following offices in the Society's elections for 2005:

**President-elect      Three Councilors**  
**Secretary            Treasurer-elect**

Active members may submit in writing to the Nominations Committee the name and proposed office for any qualified nominee. Additionally, any active member may submit a petition for nomination for inclusion on the next annual Ballot. Such petitions must include the written support of at least 25 other active members for the nominee to be listed on the Ballot.

Please submit nominations by **6 May 2005** to Stephanie Cross, Secretariat, Society for Risk Analysis, 1313 Dolley Madison Blvd., Suite 402, McLean, VA 22102; phone: 703-790-1745; fax: 703-790-2672; email: [scross@burkinc.com](mailto:scross@burkinc.com).



## Specialty Groups

### Economics and Benefits Analysis Specialty Group

*Curtis Haymore, Chair; Cristina McLaughlin, Past Chair*

The purpose of the Economics and Benefits Analysis Specialty Group is to provide a forum for economists, risk assessors, scientists, policy makers, and individuals in other areas to discuss economics and risk analysis. While the focus of the specialty group is to examine integrating economics and risk assessment, the group also hopes to promote a better understanding between economics and other disciplines.

At the 2004 SRA Annual Meeting in Palm Springs, the Economics and Benefits Specialty Group sponsored two symposia: "Risk Analysis in the Age of Terrorism and Homeland Security" and a two-session symposium titled "State of the Art in Using Economics in Risk Analysis." In addition to the sponsored symposia, many members of the specialty group presented papers on economics and risk analysis of specific areas such as food consumption and risk regulation.

The Economics and Benefits Specialty Group held its mixer by the pool. The setting encouraged many SRAers—economists and noneconomists alike—to engage in discussions about economics and risk analysis. However, because the mixer was outdoors it was difficult to hold a business meeting. For this reason the officers of the specialty group, incoming Chair Curtis Haymore and Past Chair Cristina McLaughlin, would like to announce to the members that there will be an online meeting sometime in February 2005. During the meeting we would like to nominate and elect a new vice chair and discuss future specialty group activities for the 2005 SRA Annual Meeting in Orlando, Florida. We ask those who want to ensure they are on the mailing list and who are interested in getting more involved this year to contact either Curtis Haymore ([chaymore@cadmusgroup.com](mailto:chaymore@cadmusgroup.com)) or Cristina McLaughlin ([cristina.mclaughlin@cfsan.fda.gov](mailto:cristina.mclaughlin@cfsan.fda.gov)).

### Dose Response Specialty Group

*Ralph L. Kodell, President*

Newly elected officers of the Dose Response Specialty Group (DRSG) for 2005 are President-elect Justin Teeguarden, Secretary-Treasurer Sara Henry, and Trustee-at-large Peter McClure. Continuing officers are President Ralph Kodell, Vice President Michael Zager, Past President Gary Foureman, and Trustee-at-large Chandrika Moudgal. The DRSG is grateful for the services of outgoing officers Past President John Lipscomb, Trustee-at-large Paul Schlosser, and Secretary-Treasurer Peter McClure. Fortunately, Peter will begin a term as Trustee, and Paul will continue to provide expertise in maintaining our Web site and our email group.

Please remember that you are invited to join the DRSG's monthly teleconferences on the first Tuesday of each month. We have a new time: noon to 1:00 p.m. Eastern Standard Time. The new call-in number is 513-569-7897, and the access code is 2790# (help desk 513-569-7754). In March, June, and September, our teleconferences are devoted to teleseminars on timely dose-response topics. President-elect Justin Teeguarden is scheduling these for 2005. There might still be time to contact him with your suggestions ([justin.teeguarden@pnl.gov](mailto:justin.teeguarden@pnl.gov)). Please visit our Web site (<http://www.sra.org/drsg/>) for general information on DRSG activities.

The DRSG had very active participation in December's SRA annual meeting in Palm Springs with several DRSG-endorsed



**Julia Gohlke,  
Student Award  
Winner**

events, including three invited symposia, one platform-poster session, and two roundtable discussions. Topics included benchmark dose, chemical mixtures, pharmacodynamic modeling, microbial modeling, IRIS, and harmonization. A special highlight was the presentation of the DRSG student awards at the group's joint mixer with the Food/Water Safety Risk Specialty Group. The 2004 winner was Julia Gohlke of the University of Washington for her paper titled "A Computational Model for Dose-Response Comparisons of Two Mechanistic Hypotheses for Ethanol-Induced Neurodevelopmental Toxicity." The runner-up was Michael Pennell of the University of North Carolina—Chapel Hill for his paper titled "A Dynamic Frailty Model for Tumor Multiplicity Data."

one platform-poster session, and two roundtable discussions. Topics included benchmark dose, chemical mixtures, pharmacodynamic modeling, microbial modeling, IRIS, and harmonization. A special highlight was the presentation of the DRSG student awards at the group's joint mixer with



**Mike Zager (right) hands  
Michael Pennell the runner-up student award.**

### Ecological Risk Assessment Specialty Group

*Randy Ryti, Chair; Todd Bridges, Chair-elect; Igor Linkov, Past Chair*

Dr. Todd Bridges is the new Chair-elect for the Ecological Risk Assessment Specialty Group (ERASG). Bridges obtained his PhD in biological oceanography from North Carolina State University and is currently the director of the Center for Contaminated Sediments at US Engineer Research and Development Center, Waterways Experiment Station in Vicksburg, Mississippi. Bridges has research expertise in aquatic/marine ecology, invertebrate physiology and ecology, population ecology and modeling, aquatic toxicology, sediment toxicity test development, dredged material testing, and ecological risk assessment. He will take over as the ERASG chair in 2006.

At the annual meeting in Palm Springs, ERASG had its annual business meeting. In 2004, ERASG started a quarterly series of conference calls to discuss the ERASG business. Participants in these calls constituted the "core group" of the ERASG. If you are interested in getting more involved in ERASG please send an email to Randy Ryti ([rryti1@neptuneinc.org](mailto:rryti1@neptuneinc.org)) with your contact information. At the annual meeting, ERASG had four platform sessions and several posters. ERASG also sponsored a short course on methods for arid ecological risk assessment. We are also pleased to announce that the winner of the ERASG student travel award was Mary Kozlak of Clark University for her paper "Implementing a Decision-Based Framework to Evaluate the Impact of Over- and In-Water Construction Materials along the Connecticut Coastline of the Long Island Sound."

We have started to discuss ideas for the 2005 SRA Annual Meeting in Orlando, Florida. One idea was to have a platform session on everglades research (for example, methyl mercury or phosphates). We also discussed having a focus on numerical modeling, which might lead to more human-ecological risk col-

laborative sessions. Other suggestions included radioecology, values/economics, integrating human and ecological risk, coastal mangroves, corals, and global warming. Because this next annual meeting will be the 25<sup>th</sup> anniversary, incoming SRA President Christopher Frey has encouraged us to think about sessions focusing on our successes and what is next in our field. Please contact Randy Ryti ([rryti1@neptuneinc.org](mailto:rryti1@neptuneinc.org)) if you have suggestions on ERASG-related workshops, symposia, or the plenary sessions for the 2005 SRA Annual Meeting.

A workshop in Greece is being organized to discuss applications of the analytical framework of comparative risk analysis (CRA) and multicriteria decision analysis (MCDA) to environmental security and emergency preparedness in coastal areas and to other situations where limited environmental resources could result in major security threats. It will build on frameworks and tools reviewed and developed at the SRA workshop on CRA and MCDA applications for sediment management. Please visit <http://www.risktrace.com/sediments> for more information.

If you have a contribution relevant to the ERASG column in the *RISK newsletter* or have some information that you would like to post on the ERASG Web site please send this information to Randy Ryti ([rryti1@neptuneinc.org](mailto:rryti1@neptuneinc.org)).

### Food/Water Safety Risk Specialty Group

*Ewen Todd, Chair, Mark Powell, Secretary*

The Food/Water Safety Risk Specialty Group (FWSG) held its business breakfast meeting on Tuesday, 7 December, at the 2004 SRA Annual Meeting in Palm Springs, California. The FWSG also held a successful joint mixer with the Dose Response Specialty Group on Tuesday evening.

SRA President-elect Chris Frey addressed the FWSG during the business meeting to discuss plans for the 2005 SRA Annual Meeting in Orlando, Florida. Because next year's meeting will celebrate the Society's 25<sup>th</sup> anniversary, the themes will be the progress in the field of risk analysis since 1980, SRA's impact, and where the field and the Society go from here. In preparation for next year's meeting, Chris is encouraging each specialty group to consider the success stories and milestones in its area of concern. FWSG officers invite suggestions from members for symposia for the 2005 SRA Annual Meeting.

This year's program included symposia on Antibiotic-Resistant Bacteria in Animals Intended for Human Food, Pre-Harvest Risk, the Food Handling Practices Model, and Food Safety and Risk Regulation.

Based on revenues reported by the SRA Secretariat, we currently estimate that there are 71 dues-paying FWSG members. Prior to next year's meeting, we also will be sending out a call for nominations for a vice chair and secretary. The elected vice chair will serve in 2006 as vice chair and then succeed current Vice Chair Felicia Wu as chair.

### Risk Communication Specialty Group

*Cliff Scherer, Chair*

Palm Springs proved to be an excellent location for meeting new and old friends, sharing ideas, and hearing about new research in risk communication. A total of 65 papers in risk communication/perception were presented at the meeting this year. By most counts paper proposals were up, increasing competition for oral presentation time as well as poster platform and posters. As proposals increase we need to examine our alterna-

tives for increasing the quality of our papers while encouraging broad participation in our annual meeting.

The Risk Communication Specialty Group (RCSG) held a mixer with the Ecological Risk Assessment Group Monday evening following the RCSG business meeting. Outgoing Chair Joseph Arvai conducted the business meeting. Felicia Wu is the new chair-elect (2005-2006) to follow current Chair Cliff Scherer. The new secretary/treasurer is Henry Willis, the student representative will be Robyn Wilson, and newly elected councilors are Kara Morgan, Joye Gordon, and Theresa Garvin.

A big thanks to all who agreed to accept nominations. Only through your willingness to serve the RCSG can we continue to provide such excellent programs at our national meeting.

One of the highlights of the meeting was the awarding of the Best Student Paper Award for excellence in research by a graduate student. The top award of \$500 was presented to Dolores (Lori) Severtson (University of Wisconsin).

Severtson is a doctoral candidate in the Gaylord Nelson Institute for Environmental Studies and the School of Nursing at the University of Wisconsin-Madison. The winning paper, by Severtson, Linda C. Baumann, and Roger L. Brown, was "The Influence of Information and Experience on Beliefs about Arsenic Risk, Policy, and Protective Behavior." (Baumann and Brown are professors in the School of Nursing.) The paper received very high ratings from all three blind reviewers. Jeffrey Lewis, representing sponsor Exxon-Mobil, presented the award to Severtson.



**Dolores (Lori) Severtson is presented the top student paper award by Jeffrey Lewis.**

The second-place winner was Wei Qin, a doctoral candidate in the Food Science Department at Pennsylvania State University. Her paper, with Lynne Brown, was "Evaluating the Impact of Risk Communication Formats on Mode of Information Processing." (Brown is an associate professor in Wei's department.) The paper, as one judge commented, is a "nicely conceptualized investigation" that "strikes a much-needed balance between survey and lab work" in investigating the information-processing model it employs.

The third-place winner (second runner-up prize) was Matthew Dombroski, a doctoral candidate in the Department of Engineering and Public Policy at Carnegie Mellon. The paper, by Dombroski and Paul Fischbeck, was "A Physical Dispersion and Behavioral Response Model for Risk Assessment and Communication of Radiological Dispersion Devices (RDDs)." (Fischbeck is a professor of social and decision sciences and engineering and public policy in Dombroski's department.) In the words of one judge, "This is a fine analysis of an under-explored topic. The research answers some risk assessment questions and, perhaps more importantly, lays out an agenda for risk communication research."

The two runners-up were awarded a year's subscription to the *Journal of Risk Research* courtesy of its editor, Ragnar Löfstedt (Kings College). A special thanks to Robert Griffin (Marquette University) for coordinating the judging of the student papers and to the judges who blind-reviewed the papers and spent many hours reading.

Next year is the 25<sup>th</sup> year of SRA and the meeting in Orlando, Florida, gives us an opportunity to reflect on our progress and the future of risk communication. My hope is that the RCSG can have the best program yet of competitive papers. We are already discussing a special call for a symposium examining our progress in risk communication over the past 25 years and a vision of needed research to advance risk communication theory in the future.

### Exposure Assessment Specialty Group

*Susan Flack, Past Chair; Katy Walker, Chair*

At the 2004 SRA Annual Meeting in Palm Springs, the Exposure Assessment Specialty Group (EASG) endorsed several symposia and individual presentations, including the European Exposure Assessment Toolbox symposium, a symposium on Probabilistic Methodology for Assessing Handler Exposure to Agricultural Pesticides, Occupational Exposure Assessment, Exposure to Food and Water, Indoor Air Exposure Assessment, Pesticide Exposure Assessment, Biomonitoring and Dose Reconstruction, and Uncertainty Analysis in Exposure Assessment. Our special thanks to Rick Reiss, Mike Dourson, Betty Anderson, Pamela Williams, Tom Widner, Elizabeth Julien, and Paul Price for organizing and chairing the sessions and symposia.

The EASG held a poolside reception on Monday evening, 6 December, with the Economics and Benefits Analysis, Risk Communication, and Ecological Risk Assessment specialty groups. During the breakfast business meeting on Wednesday morning before the sessions, the student research award was presented and nominations were accepted for 2005 chair and chair-elect. Items discussed at the business meeting included EASG members' positive response to new annual dues of \$10 for membership in the

specialty group and continued sponsorship of the student research award.

Representatives of the EASG attended a specialty group chairs meeting on Tuesday morning. Starting in 2005 the Society will provide a \$250 contribution toward a student award for best paper to each specialty group and a \$250 budget for conference calls held between annual meetings. Financial statements will also be available on a timely basis.

The second annual EASG Best Student Research in Exposure Assessment Award was presented to Sarah Ryker of Carnegie Mellon University for her presentation titled "Occurrence and Health Implications of Mixtures of Chemicals in Drinking Water of the United States." The award consisted of a \$100 cash prize, a \$500 travel award, and a complementary meeting registration and 2005 membership in the Society for Risk Analysis. Two runners-up were also selected: Abani Pradhan for a poster titled "Microbial Risk Assessment Simulation for Salmonella Typhimurium in Poultry Processing" and Christina Moore for a poster titled "The Effect of Domestic Cross-Contamination Events on Exposure to *Campylobacter* Jejuni."



**EASG Chairs Susan Flack (right) and Katy Walker (left) present Sarah Ryker (center) with the Best Student Research in Exposure Assessment Award.**

Annual membership dues for the EASG were initiated in 2003 and are intended to fund the student research award in future years. We invite all current EASG members to show their support of the specialty group by continuing to participate

as a paid member. If you or your company would like to sponsor the EASG in general or specific EASG activities, such as the student research award, please contact 2005 Chair Katy Walker (walkerkd12@comcast.net) or Chair-elect Donna Vorhees (dvorhees@menziecura.com).

For more information on the EASG or its activities, please contact Katy Walker (walkerkd12@comcast.net).



### Chauncey Starr Award Winners

For a few brief moments at the 2004 SRA Annual Meeting, eight of the nine Chauncey Starr Award winners gathered on the patio for a photo. They lined up according to the year that the SRA honored them for their exceptional contributions to the field of risk analysis. Dr. Starr endowed the SRA award in the mid-1990s. He founded and is president emeritus of the Electric Power Research Institute, and in 1990 he received the National Medal of Technology that recognized his outstanding career in industry and education, including his major contributions in risk assessment and other areas.

Chauncey Starr Award winners (left to right): Ann Bostrom (1997), Adam Finkel (1998), H. Christopher Frey (1999), Ragnar Löfstedt (2000), Richard Reiss (2001), Alison Cullen (2002), Jonathan Wiener (2003), and Kimberly Thompson, (2004); not pictured, Hank C. Jenkins-Smith (1997)





## Regulatory Risk Review

### The CIA, Risk, and Objectivity


David P. Clarke

What does the CIA have to do with risk analysis? To the extent that the agency's analyses of terrorist activities are intended to reduce the risk of an attack on the United States, it's conceivable that a CIA analyst could show up at a future Society for Risk Analysis annual conference and, except for the highly polished shoes, not be totally out of place. But more immediately, on 17 December 2004, President Bush signed intelligence reform legislation that contained some language that any longtime observer of "sound science" and data-quality debates will find familiar.

In the new legislation, Congress has mandated, among other things, that "finished intelligence products" must be "timely, objective, independent of political considerations, based upon all sources of available intelligence and employ standards of proper analytic tradecraft," according to a *Washington Post* story about the new law. Anyone acquainted with the Data Quality Act, and the Office of Management and Budget's "guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information disseminated by federal agencies," will be glad to know that objectivity, independence, and "proper analytic tradecraft" are promoted not just by environmental risk analysts but by the CIA as well.

Under the new law, intelligence analyses must be reviewed to ensure that information carries proper caveats about the sources. Reviewers must check whether sources "express uncertainties or confidence in annalistic [sic] judgments" and "properly distinguish between underlying intelligence and judgments of analysts." Is this the transparency and disclosure of assumptions so often mentioned in discussions of environmental risk analysis? A final item in the law is worth noting. It requires a newly created national intelligence director to pick "an individual or entity" to make sure that "alternative analysis

of the information and conclusions in intelligence products" is conducted. While there may not be a comparable mandate requiring alternative analyses of environmental information and conclusions, there's no getting around the cacophony of competing interpretations about the state of the environment and the meaning of exposure to parts per billion of a chemical. Alternatives abound. Should someone warn the new national intelligence director about the potential aggravation ahead?

Back on the ranch, with the announcement that the Environmental Protection Agency's Administrator Mike Leavitt will be leaving the agency to run the Department of Health and Human Services, speculation has circulated freely about who will replace him. Might it be former Senator Dirk Kempthorne, who has served two terms as Idaho's governor and reportedly was on the previous short list when Leavitt was picked? Might it be Jim Connaughton, who serves as chairman of the White House Council on Environmental Quality? Might it be Sue Ellen Wooldridge, the Interior Department's solicitor general? There's plenty of guessing, but little solid intelligence. Regarding Leavitt's departure from EPA, some speculate that Leavitt plans to run in the 2008 presidential elections and didn't want to do so with the albatross of environmental policy decisions hanging around his neck. The theory: Who needs that kind of cursed-if-you-do, cursed-if-you-don't record to campaign on? One thing, however, is certain: the next administrator will have to deal with issues of mercury rules for power plants, interstate transport of particle pollution, and other unfinished EPA business. Certainly, whatever decisions the next EPA chief makes, St. Nicholas and many others will be checking their lists to see if he or she has been naughty or nice. And it may take an army of CIA analysts to provide an objective and independent answer to that question. 



## Member News

### Glenn W. Suter

The Society of Environmental Toxicology and Chemistry (SETAC) has awarded Dr. Glenn W. Suter the 2004 Founders Award in recognition of his exceptional contributions to environmental science, particularly in ecological risk assessment.

Suter, who earned a doctorate from the University of California, Davis, received the award during the Fourth SETAC World Congress and 25<sup>th</sup> Annual Meeting in North America held 14-18 November 2004 in Portland, Oregon. This award is SETAC's highest honor and is presented every three to four years at a SETAC World Congress to an individual whose outstanding career achievements are consistent with the goals of SETAC.


Suter received the award in recognition of his vast contributions to the environmental sciences. He is a renowned scientist whose primary interests are in ecological epidemiology and ecological risk assessment. Because of his past and continuing efforts to develop ecological risk assessment tools, many of his peers have deemed him "father of ecological risk assessment."

Suter, a science advisor with the US Environmental Protection Agency National Center for Environmental Assessment,

Office of Research and Development, Cincinnati, Ohio, is a member of the American Association for the Advancement of Science, the Ecological Society of America, SETAC, and the Society for Risk Analysis.

### Kimberly M. Thompson

SRA Councilor Kimberly Thompson has published *Risk in Perspective: Insight and Humor in the Age of Risk Management* ([www.AORM.com](http://www.AORM.com)), a book that empowers you to take charge of health information, gives you the tools you need to manage the risks in your life, and keeps you laughing all the while.

Thompson is an associate professor of risk analysis and decision science at the Harvard School of Public Health, where she created and directs the Kids Risk Project. She has spoken on numerous national and international television shows and radio programs and her research focuses on children's risks and on using the tools of risk analysis and decision science to empower kids, parents, policy makers, and others to improve their lives. 




## SRA-Japan

*Shoji Tsuchida, Vice President and Secretary*

The SRA-Japan section's main annual activities are a symposium in the spring, an annual conference in the autumn, two issues of the journal (*Japanese Journal of Risk Analysis*) per year, newsletters (both in paper and email), and some seminars. In 2004, we had a symposium at the University of Tokyo on 18 June with the focus "Integrated Risk Assessment of Dioxin Etc." The annual conference, held 4-6 November 2004 in Seoul, Korea, was organized as the 3rd East-Asian Conference of Risk Analysis as well and was jointly sponsored by SRA-Japan, KOSET (Korean Society of Environmental Toxicology), and

SETAC-Asia/Pacific with around 200 attendants including over 50 members of SRA-Japan.

SRA-Japan has over 600 members and has elected new officers: President Jun Sekizawas, Vice President and Secretary Shoji Tsuchida, Auditor Tomohisa Hukada, and 25 Councilors: Saburo Ikeda, Iwao Uchiyama, Teruo Oshima, Norio Okada, Junko Katoh, Michiaki Kai, Michinori Kabuto, Tomio Kinoshita, Kenji Kurata, Sadayoshi Kobayashi, Yasuhiro Sakai, Teruko Satoh, Atsushi Takao, Taketoshi Taniguchi, Yuichiro Tamura, Masaru Tanaka, Kazuhiko Chikamoto, Akihiko Tokai, Yasunobu Maeda, Masaru Matsumoto, Rie Masho, Tohru Morioka, Shinsuke Morisawa, Yasushi Morimiya, and Yukiko Yamada. 



## SRA-Europe

*Markus A. Grutsch, Information Officer*

### "Emerging Risks and Global Risk Management in Europe"

Following the guiding theme "Emerging Risks and Global Risk Management in Europe," the 13<sup>th</sup> SRA-Europe Annual Meeting was held near Paris, France, 13-15 November 2004. The meeting was organized by Olivier Salvi, member of the SRA-Europe (SRA-E) and chairman of the Scientific Committee, and Jean-François Raffoux and the colleagues from the Institut National de l'Environnement Industriel et des Risques (INERIS) in cooperation with Electricité de France (EDF), one among the key players in the field of electricity generation in Europe, which sponsored the conference.

After an introduction to the conference given by SRA-E President Peter T. Allen, keynote speakers from the European Commission (George Katalagarianakis, DG Research, and Neil Mitchison from the Institute for the Protection and Security of the Citizen/JRC), the Organisation for Economic Co-operation and Development (OECD) (Reza Lahidji), and INERIS (Jean-François Raffoux, scientific director) gave the conference lively inputs at the daily morning plenary sessions. Katalagarianakis outlined the new European developments in addressing safety technology under current EU programmes. Mitchison addressed systemic risk and the deployment of new technology by outlining main failures in risk management. Lahidji reviewed risk management policies in OECD countries, and Raffoux highlighted that a collaborative and multidisciplinary approach to emerging risk is needed, fostering a "responsible risk attitude" among various stakeholders. Other keynote speeches were given by Claude Frantzen, chairman of the WG (Safety Report) of the Conseil Supérieur des Installations Classes on challenges in risk management, and Nick Pidgeon, Centre of the Environmental Risk at the University of East Anglia (UK), who stated that risk controversies are no longer solely about harm and its likelihood, but are rooted in social and historical context, institutional performance, and trust. Yves Bamberger, director of EDF R&D, raised the question whether we move from fatality to "riskocracy" as in industrialized countries risk becomes a "social issue." All keynote presentations (slides) can be downloaded from the Internet (<http://www.sraeurope.org/2004-meeting/about.html>).

More than 230 people attended the meeting; over 90 attendees were registered as new SRA-E members. Most participants came from France, the UK, the Scandinavian countries, Italy,

and Germany. 140 presentations were given from scientists and practitioners from a broad range of professions meeting several topics aiming to address all the dimensions of risk issues thanks to the multidisciplinary approaches. The 50 sessions were thematically clustered in the following main topics: health care, risk communication, risk and regulation, climate change and nuclear risks, risk perception, natural hazards, GMO and risk under uncertainty, electromagnetic fields, precautionary principle, terrorisms, trainee, governance, integrated risk management, transportation and safety, as well as finance and insurance and organizational learning. More than 20 posters were lined up during the three days. The presentations and posters attracted the attendees' attention and provided the appropriate setting for discussions and professional exchange among the participants. A variety of topics addressed in the sessions were clustered along the conference's guiding subthemes, such as "Integrating Approaches and Global Risk Management" and "Risks in Urban Environment" (for more detailed information log onto <http://www.sraeurope.org/2004-meeting/themes.html>). In addition, several project symposia and workshops were organized focusing on projects such as ATLANTIS (Atlantic Sea Level Rise: Adaptation to Imaginable Worst Case Climate Change), MIRIAD 21 (Risk Management in Municipalities), SHAPE-RISK (Sharing Experience in Integrated Risk Management to Design Future Industrial Systems), and IRGC (International Risk Governance Council). The booklet with extended abstracts of all presentations and posters can easily be downloaded from the Internet ([http://www.sraeurope.org/2004/SRA-Europe-Abstracts1\[Paris-Nov-2004\].pdf](http://www.sraeurope.org/2004/SRA-Europe-Abstracts1[Paris-Nov-2004].pdf)).

An evaluation was conducted at the end of the conference. The comments of the participants indicated that the quality of the presentations was highly appraised. Oliver Salvi's and his colleagues' engagement in the organization was appreciated by the attendees and SRA-E owes them sincere thanks for organizing the conference in Paris. The attendees loved the location where the social dinner was held. It was organized in a world-famous and exclusive shopping mall, literally "above the roofs of Paris" with fabulous views to the Ile de la Cité, the Notre Dame de Paris Church, and the Pont-Neuf Bridge on the Seine River.

### Outlook and Next Conference

The next SRA-Europe Annual Meeting (2005) will be held in Como, Italy, in early September 2005 and will be hosted by Scira Menoni, new SRA-E president.



### New SRA-E President and Committee Members

SRA-E welcomes Scira Menoni, PhD, as the new incoming president. Menoni has an academic background in architecture. She has an associate professor position at the Politecnico of Milan, Dipartimento Architettura e Pianificazione. Since the beginning, Menoni focused her interest on urban and regional planning in an attempt to find an equilibrium between technical and human issues. Her field of specialization is technological and natural risks prevention, looking particularly at nonstructural measures. Among the latter, a specific stress is given to land-use planning and urban-development control.



**Scira Menoni**  
SRA-E  
President

Menoni has held academic teaching appointments at the Geology and Geography Department at the University of Massachusetts on "Natural and Technological Hazards from a Theoretical Perspective," at the Engineering Faculty at the University of Genova on "Prevention Strategies Through Urban and Re-

gional Planning Regulation," and at the CERG Department at the University of Geneva on "Analysis and Management of Geological Risks."

She is currently teaching classes on "Planning Techniques in Risky Areas" at the Politecnico of Milan. As president she will seek to encourage membership in the Society and to involve in the Society professionals from risk-related fields, making it more visible at the European Commission level but also with potential partners, like lifelines managing companies, public administrations, and agencies concerned with risk prevention and emergency management.

Sincere thanks are given to Past President Peter T. Allen for his lively involvement in the Society.

Other SRA-E officers are Olivier Salvim (president-elect), Andrea T. Thalmann (secretary), Roberto Bubbico (treasurer), Marianne Abramovici (in charge of the chair nominations), Julie Barnett and Walter R. Stahel (executive committee members), Jan M. Gutteling (co-opted executive committee member and US liaison officer), and Markus Grutsch (co-opted executive committee member and the new information officer).

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## News and Announcements

### Probabilistic Risk Assessment Workshop 28-31 March 2005

The Society for Risk Analysis (SRA) and Interstate Technology Regulatory Council (ITRC) are organizing the continuing education workshop "Probabilistic Risk Assessment: Current Developments and Applications for Environmental Assessment and Management" for 28-31 March 2005 at Michigan State University in East Lansing, Michigan ([www.risktrace.com/prs](http://www.risktrace.com/prs)).

The objective of this workshop is to train state and government personnel, other professionals, and students in methods and tools available for use in site- and project-specific risk assessment.

Lecturers invited from federal and state governments, academia, and consulting firms will review probabilistic risk assessment's (PRA) regulatory background, present methods, and software and illustrate the application of PRA through a series of case studies. The workshop will review newly evolving decision-analytical methods and tools available for adaptive site management, stakeholder involvement, and risk assessment, communication, and management.

### Economic Research Service PREISM Funding Proposals

The US Department of Agriculture's Economic Research Service (ERS) Program of Research on the Economics of Invasive Species Management (PREISM) has funded a competitive research program since 2003, awarding about \$1.1 million to seven agreements in 2004. Important topic areas have included the economics of trade and invasive species, resource implications of invasive species policy and program alternatives, bio-economic modeling and risk analysis, stakeholders and incentives for efficient invasive species management, and practical decision tools for invasive species management. ERS anticipates announcing a request for proposals for a fiscal 2005 competitive program in late January or early February 2005. Proposals may be submitted by any state agricultural experiment station, college, university, other research institution or organization,

federal, state, or county agencies, private organization, corporation, or individual. Those interested in submitting proposals should check the ERS Web site (<http://www.ers.usda.gov/Briefing/InvasiveSpecies>).

### Security in Harbors and Coastal Areas Workshop 20-24 April 2005

The NATO (North Atlantic Treaty Organisation) workshop "Security in Harbors and Coastal Areas: Management Using a Comparative Risk Assessment and Multi-Criteria Decision Analysis Framework" will be held 20-24 April 2005 in Thessalonica, Greece. This workshop will discuss applications of the analytical framework of comparative risk analysis (CRA) and multi-criteria decision analysis (MCDA) to environmental security and emergency preparedness in coastal areas and to other situations where limited environmental resources could result in major security threats. It will build on frameworks and tools reviewed and developed at the Society for Risk Analysis workshop on CRA and MCDA applications for sediment management ([www.risktrace.com/sediments](http://www.risktrace.com/sediments)). The registration deadline is 1 March 2005. More information can be found at [www.risktrace.com/nato](http://www.risktrace.com/nato).

### Risk Assessment and Risk Communication in Bioterrorism 6-8 April 2005

The aim of NATO's proposed workshop "Risk Assessment and Risk Communication in Bioterrorism" (6-8 April 2005 in Eilat, Israel) is to integrate knowledge from experts in the field of risk assessment, risk communication, and bioterrorism to improve present strategies and form new strategies to deal with a bioterrorist threat and to form an interdisciplinary multinational group to further discuss and develop risk assessment and communication policy and applications. For more information contact Dr. Jonathan Zenilman ([jzenilm1@jhmi.edu](mailto:jzenilm1@jhmi.edu)) or Professor Manfred Green ([m.green@icdc.health.gov.il](mailto:m.green@icdc.health.gov.il)).

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## Journal Notes

Elizabeth L. Anderson, *Editor-in-Chief*,  
*Risk Analysis: An International Journal*

As we close the year 2004, it seems a good time to update the SRA membership on the state of the Journal. Much of this overview was presented during the annual meeting but not everyone could attend that meeting. Several issues have dominated the editorial staff's attention during the year. Among the most urgent has been to decrease the time it takes to publish accepted manuscripts. I am pleased to report that our backlog of accepted manuscripts has now been diminished greatly to approximately 20 papers. I am sure you have noted that the last several issues of the Journal are much thicker than previous issues. This increased thickness is because of an increased page limit we have negotiated with our publisher, Blackwell. The Journal now can publish more papers in each issue with increased page limits from 1,392 to 1,600 on an annual basis. We also may increase the page limits annually going forward as necessary.

Our acceptance rate continues to run at approximately 35%. Of course, this means that if you have had a paper rejected, you are in the majority. The Journal staff is constantly vigilant to maintain the high-quality standards of the Journal. Undoubtedly, everyone is aware that the Journal has two sections, perspectives/commentary and research papers. For the most part, the issues are dominated by research papers but from time to time we publish overview articles in the perspectives section or commentary on topics of special interest to risk analysis.

This year, the impact factor for the Journal has increased but the overall ranking in the social science and mathematical methods citation index remains 9 out of 28. It is necessary to review this ranking in light of the fact that we are an interdisciplinary journal. Keep in mind that the impact factor is the number of times articles in the Journal were searched divided by the total number of articles. Since the Journal is interdisciplinary, this means that many of the papers are not relevant to the social science and mathematical methods citation index so they dilute the impact factor. This year, the Journal has been added to the science, mathematics, and interdisciplinary citation index but, as yet, it is too early to yield an impact factor.

During the year, individual subscriptions increased from 1,549 to 1,692 while institutional subscriptions declined by 8%.

Blackwell tells me that the institutional decline is common across all journals that it publishes because of access through the Internet. Blackwell tells me that when we receive our annual report, we will see that the Journal is "through the roof" with the increased number of times the Journal has been accessed through the Internet. The allocation of our institutional subscriptions is as follows: 208 United States, 22 Canada, and 304 international.

For the last five years, Blackwell has been the publisher of *Risk Analysis: An International Journal*. Five years ago your editorial staff insisted on a competitive response to a request for proposals. After careful evaluation, we determined that the best proposal we received was from Blackwell. With superb help from the Secretariat, we were able to negotiate and sign a very favorable contract. During the last five years, revenues from the Journal have increased as follows: 1999—\$61,000; 2000—\$172,000; 2001—\$203,000; 2002—\$247,000; and 2003—\$265,000. We are pleased to announce that we have signed a next five-year contract with Blackwell which guarantees a minimum of \$200,000 return per year to the Society with profits above this level to be split 50-50 between the Society and Blackwell.

Several new ideas have emerged and are being investigated for implementation. First, we would like to post accepted papers on Blackwell's Web site so that authors could cite their papers and access them prior to publication of a Journal issue; there is a lag time of about three months or so between the time a paper is assigned to an issue and when the issue actually appears. We are also proposing that we cite a "best paper" on an annual basis for recognition at the annual meeting. Also, we are interested in recognizing in a similar way the most outstanding reviewers of the year. The editorial staff would make these selections.

As we go forward in 2005, we are interested in increasing the number of publications from the international community. As another initiative, we are interested in soliciting perspectives articles in each subdiscipline that would address where the discipline is going over the next decade. On these and other initiatives, we will be working with the publications committee, which is chaired by Caron Chess, and the Council. We always appreciate your feedback.



## Chapter News

### Southern California Chapter

Paul Beswick, *President*

#### Fall 2004 Activities

The Southern California Chapter of the Society for Risk Analysis (SCSRA) held a special half-day workshop, "Emergency Response Planning—An Integrated Approach," on 6 October 2004 at the South Coast Air Quality Management District Headquarters in Diamond Bar, California, with a focus on emergency-response planning for security and hazardous materials release vulnerabilities, including practical tips and guidance for compliance with the Bioterrorism Act and hazardous materials regulations. Attendees were in the areas of water/wastewater, industrial, refinery and chemical plant safety, environmental and security personnel, and local hazardous materials regulators.

Presentations included "State Level Oversight of Hazardous Materials Emergency Response Plans" by Michael Warren, California Office of Emergency Services; "Emergency Response Planning Requirements and Oversight Challenges for Administering Agencies" by Marilyn Kraft, San Bernardino County Fire Department; "Emergency Response Plan Special Needs—Refineries" by Thomas N. Henning, BP Products Company; "Key Emergency Response Plan (ERP) Integration Concepts, and Tips on Using Security Vulnerability Assessment Results for Water Utility ERP Updates" by Steven T. Maher, Risk Management Professionals; "Challenges in Integration of Emergency Planning Requirements—With Solutions!" by Kristin D. Swihart, Risk Management Professionals; "Now What: Deriving Value from the Risk Formula" by Nick Catrantzos, Metropolitan Water District of Southern California; "Implementation

of a District-Wide Emergency Response Plan at Eastern Municipal Water District” by Dan Noblitt, Eastern Municipal Water District and Mardy Kazarians, Kazarians & Associates; “Status of Tier I and Tier II Water Utility Emergency Response Plan Updates and Challenges in Risk Communication During an Emergency” by Marvin Young, US Environmental Protection Agency, Region IX; and “Addressing Security Issues for General Industry During Process Hazard Analyses and Emergency Response Plan Updates” by Dr. Frederick A. Lercari, California Office of Emergency Services.

The SCSRA and the Air and Waste Management Association, West Coast Section, held a joint dinner meeting on 17 November 2004. Dr. Thomas M. Mack, MD, MPH, Chief, Division of Epidemiology, Department of Preventive Medicine, USCKSM/ Director, Epidemiology Program, Norris Cancer Center, spoke on Cancers in the Urban Environment-Residential Patterns in Los Angeles County. Mack discussed his recently published volume, which is designed to meet the needs of both scientists interested in cancer causation and laypersons concerned about cancer dangers, especially in the local environment. His work consists of a detailed description and brief discussion of the demographic and geographic pattern of occurrence of each of 65 different kinds of neoplasm within the ethnically, socially, and environmentally complex setting of the largest US county.

The publication is designed to enable investigators to evaluate the degree to which each type of cancer targets specific groups of residents, and thus the likelihood that predictors and interventions will be feasible. These patterns of local occurrence facilitate the generation and preliminary testing of causal hypotheses and provide an empirical perspective to the search for cancer “clusters.” They constitute a model cancer registry product that is innovative and practical.

Laypersons and lay interest groups should be interested in this volume as well. Not only does it permit the prioritization of locations at “high risk” of specific cancer, it can educate the public about the differences in causation between the individual diseases referred to collectively in the lay press as cancer. It also constitutes the first publication enabling the residents of a community to identify whether and why their own locale is at higher-than-usual risk from a form of cancer and, perhaps more importantly, show them that their neighborhood has not been singled out for exposure to carcinogens.

The SCSRA will be holding its 18<sup>th</sup> Annual Workshop at the University of California, Los Angeles on Thursday, 12 May 2005. To be on the SCSRA email list for more information on this workshop, please contact either Paul Beswick (pbeswick@mwdh2o.com) or Pierre Sycip (psycip@aqmd.gov).

## **New England Chapter**

*Susan Matkoski, Newsletter Coordinator*

This fall the opening seminar for the New England Chapter took place on 22 September. Glenn Rice of the US Environmental Protection Agency (EPA) gave the first talk, “Integrated Disinfection Byproducts Mixtures Research: Assessing Reproductive and Developmental Risks Posed by Complex Mixtures of Disinfection Byproducts.” Rice summarized the state of chemical disinfection of drinking water and the resulting exposures to complex and highly variable chemical mixtures containing disinfection byproducts (DBPs). He described a study being undertaken by the EPA to evaluate the reproductive and developmental toxicity associated with drinking-water exposures to concentrated DBP

mixtures. Stephen Zemba of Cambridge Environmental presented his talk on “Particulate Composition Matter(s)” that reviewed uncertainties in the dose-response relationships associated with air pollution and analyzed EPA’s justification for the Clean Air Interstate Rule (CAIR) that proposes to reduce sulfur dioxide and nitrogen oxides emissions from fossil fuel power plants.

Our 3 November seminar featured Dr. Risto Lahdelma of Finland and Dr. Will Focht of Oklahoma State University. Both speakers shared their ideas and approaches on improving decision-analytical methods and tools that could supplement traditional risk assessment approaches. Lahdelma presented examples of multicriteria decision-analysis methods and tools and illustrated their application through a series of case studies in Finland. Focht took the issue of stakeholder communication and decision support into the area of behavioral research and imparted a political dimension to the process. He illustrated his point through a watershed management case study.

Our 1 December meeting provided an opportunity to learn about the use of probabilistic risk assessment. Dr. George Apostolakis of Massachusetts Institute of Technology presented a probabilistic risk assessment methodology for the identification and prioritization of vulnerabilities in infrastructures. Dr. Marlene Goldman of Beth Israel Deaconess Medical Center spoke about modeling exposure, reliability, and recovery in complex clinical settings. Both presentations illustrated the use of probabilistic risk assessment and multicriteria decision analysis.

The spring programs started in January. Our 19 January meeting featured a presentation on life-cycle assessment by Tom Seager of Purdue University and on evaluation of the sources of arsenic in agricultural soils by JoAnne Shatkin of Cadmus. One of our February speakers is Greg Kiker of the US Army Corps of Engineers, who will be presenting on the use of decision tools in ecological risk assessment and management. This spring we also plan to have a joint meeting with the License Site Professionals Association on air pollution.

SRA-New England is currently organizing a workshop on probabilistic risk assessment ([www.risktrace.com/prs](http://www.risktrace.com/prs)).

### **Membership and Communication**

We draw attendees to our meetings (and speakers) from New England generally, not just the Boston area. Membership is not necessary for attendance at meetings and activities; however, those interested in becoming members or in reading our electronically distributed monthly newsletter should communicate with Secretary Karen Vetrano (kvetrano@trcsolutions.com) or President Igor Linkov (linkov@cambridgeenvironmental.com). We also have a Web site which is linked to the national SRA site and stands alone at [www.sra-ne.org](http://www.sra-ne.org).

## **Chicago Chapter**

*Heidi Hartmann and EJ Dell, Executive Committee Coordinators*

In the last half of 2004, the Chicago Chapter of the Society for Risk Analysis began anew. An initial meeting to reinvigorate the chapter was held in early summer and an executive committee was created. The executive committee has been putting together an agenda for the first part of 2005 and is preparing the way for elections to be held after the first of the year.

One meeting of note was held in late June at the downtown Region 5 office of the Environmental Protection Agency (EPA) and featured Colleen Olsberg, PhD, of the US EPA-Region 5. Dr. Olsberg presented a new database, Toxicity and Exposure Assessment for Children’s Health (TEACH), that has just recently

been made available to the public. The database allows users to search for brief synopses of published results on the effect or exposure of children to 18 different chemicals that are readily found in our society. The database was designed with many users in mind and Olsberg thinks that it will not only be helpful for risk assessors but also for teachers, medical professionals, and others who are interested in children's exposure to chemicals. The database is found at <http://cfpub.epa.gov/teach/> and surveys are available for comments.

Future meetings and speakers that are on next year's tentative agenda include "Dirty Bombs: Potential Radiological Sources and Illicit Trafficking," by Dr. Fred Monette, Argonne National Laboratory; "Cumulative Risk Assessment," by Dr. Rick Hertzberg, EPA NCEA; "PCB Risks in Salmon," by Dr. Ronald Hites, Indiana University; and a social gathering which will include an informal presentation and a dinner.

For membership details please contact one of the members of the executive committee: Tom Brody ([brody.tom@epa.gov](mailto:brody.tom@epa.gov)), EJ Dell ([ejdell@environmentalhealthconsulting.com](mailto:ejdell@environmentalhealthconsulting.com)), Serap Erdal ([erdal@uic.edu](mailto:erdal@uic.edu)), Heidi Hartmann ([hmartmann@anl.gov](mailto:hmartmann@anl.gov)), Pei-Fung Hurst ([Pei-Fung\\_Hurst@URSCorp.com](mailto:Pei-Fung_Hurst@URSCorp.com)), Margaret MacDonell ([macdonell@anl.gov](mailto:macdonell@anl.gov)), or Mario Mangino ([Mangino.Mario@epamail.epa.gov](mailto:Mangino.Mario@epamail.epa.gov)). To be included in our email list please send an email requesting such to EJ Dell ([ejdell@environmentalhealthconsulting.com](mailto:ejdell@environmentalhealthconsulting.com)). More information is available at our Web site, however it is still undergoing reconstruction (<http://web.ead.anl.gov/sra-chicago/>).

## Chapitre Saint-Laurent

Anne-Marie Lafortune, Past President of Chapitre Saint-Laurent SRA-SETAC, and Louis Martel

### Eighth Annual Symposium Held

On 3-4 June the Chapitre Saint-Laurent SRA-SETAC held its eighth annual symposium in Québec City, with the theme "New Environmental Concerns: What Are Your Priorities?" The symposium was a great success, with over 170 participants from academia, government, industry, and private consultants.

The first day started with a plenary session with our guest speaker, Thomas J. Mulcair, minister of the Environment of Québec. Mulcair explained that public authorities must adopt an open and cautious attitude toward new environmental concerns like GMOs and climate change, yet decision making on these matters must rely on sound science. Mulcair was followed by two keynote speakers. Chantal Line Carpentier, from the North American Commission for Environmental Cooperation, discussed the importance of an integrated environment-economy-society approach when dealing with new environmental concerns like GMOs. Dr. Charles Menzie, from the NA SETAC board, presented his view on SETAC's priorities and how each of us can contribute to the Society.



**Invited speakers for the opening session (from left to right): Thomas J. Mulcair, Chantal Line Carpentier, Charles Menzie, Symposium Chair Jocelyne Pellerin**

This plenary session was followed by a dynamic poster session with 35 presentations. In the afternoon of this first day and in the morning of the second day, a total of 39 platform communications were presented in three parallel sessions.

This first day ended with a cocktail during which attendees had the opportunity to taste a variety of Québec's local delicacies and to assist in the launching of the book *Écotoxicologie moléculaire - Principes fondamentaux et perspectives de développement* by Dr. Émilien Pelletier et al. This very popular activity was also an occasion for students to network with professional members of Chapitre Saint-Laurent. Many presence prizes were attributed, including 10 books from SETAC Press.

The corporate meeting of the Chapitre Saint-Laurent was held at the beginning of the second day. During this meeting, the 2004-2005 Board of Directors was elected: President Christian Gagnon, Past President Anne-Marie Lafortune, Treasurer Cédric Chenevier, Secretary Sophie Chaperon, and Directors David Berryman, Pierre Walsh, and Anne Gosselin. We wish the best of luck to the new Board and offer our grateful thanks to two leaving members: Marjolaine Bisson and Caroline Olsen.

In the afternoon of the second day, a debate was held on the theme "To what extent new environmental concerns should

frame training and research." Four speakers were invited to address this topic: José Reid, FQRNT, Dr. Pierre Brunel, Institut Québécois de la biodiversité, Dr. Michel Leclerc, INRS-ETE, and Harvey Mead, Union



québécoise pour la conservation de la nature (UQCN). Many questions were raised from the audience and an interesting debate followed, moderated by André Delisle, Transfert Environnement Inc.

The symposium ended with the awards for student presentations and two \$2,000 Excellence prizes were offered.

The laureates of the Excellence prizes were Lucie Laforte, Institut National de la Recherche Scientifique, INRS-ETE, for her MSc research project "Sources and Geochemistry of Thallium, Indium and Antimony in Two Lakes of the Canadian Shields" and José Sarica, Institut National de la Recherche Scientifique, INRS-ETE, for his PhD research project "The Transfer of Bioaccumulated Mercury from Dead Fish to Necrophage Organisms."

The laureates of the best student platform presentations awards are Annick Michaud, Institut National de la Recherche Scientifique, INRS-ETE (first prize: \$200 from CIRTOX), for her presentation "Cadmium Exchange Dynamics between the Biomarker Hexagenia and Its Environment: Field Experiment" and Amiel Boullemant, Institut National de la Recherche Scientifique, INRS-ETE (second prize: \$150 from CIRTOX), for his presentation "Uptake of Cadmium Neutral Complex by the Green Algae: Influence of pH and Humic Substances."

The laureates of the best student poster presentations awards are Sophie Cooper, Institut National de la Recherche Scientifique, INRS-ETE (first prize: \$135 from the Chapitre Saint-Laurent and 50\$US from SRA), for her poster "Influence of the

Gill Ventilation on the Accumulation of Dissolved Cadmium in the Fresh Water Bivalve *Pyganodon Grandis*” and Virginie Bérubé, Centre TOXEN (second prize: \$85 from the Chapitre Saint-Laurent and 50\$US from SRA), for her poster “Bullfrogs Plasmatic Retinoids Profile from the Yamaska River Watershed.”

A one-day course offered on 2 June—Sampling Plans, Sample Size, and Statistics—was organised by David Berryman (member of the Board) and given by Dr. Sylvain Loranger (QSAR Inc.). It was a real success, with 20 participants.

We would like to thank all the members of the organising committee and the volunteers who helped us to make this symposium a success and the speakers and participants for their essential contribution. The Saint-Laurent Chapitre is also grateful to the sponsors for their generous financial support: Réseau de recherche en écotoxicologie du Saint-Laurent, Hydro-Québec, Ministère du Développement économique et régional et Recherche, Cambior, Centre d'expertise en analyse environnementale du Québec, Bell, Alcan, Lab Bell Inc., INRS-ETE, Sanexen services environnementaux inc., Centre de recherche en environnement UQAM Sorel-Tracy, COREM, St. Lawrence Centre/Environment Canada, Phytrolix technologies, DDH Environnement, Shell, NRC Biotechnology Research Institute, Claisse Corporation, Transfert Environnement, Norampac, CIRTOX, Centre TOXEN, UQAM, and SETAC.



**José Sarica (far left) receives his Excellence prize from (left to right) Prize Board Coordinator Stéphane Masson, Symposium Chair Jocelyne Pellerin, and Chapitre Saint-Laurent President Christian Gagnon.**

Our next annual symposium will be held in Montréal in June 2005. Anyone interested in taking part in the organisation of this event is invited to contact a member of the Board of Directors.

All through the year, the Board of Directors, which met six times, has worked hard to promote the Chapitre through its activities and committees. We welcome those interested in taking part in the activities of the Chapitre Saint-Laurent to contact us. Apart from the annual symposium, the Chapitre Saint-Laurent also organised seminars in Montréal (jointly with the Centre TOXEN) and Québec (jointly with Centre d'expertise en analyse environnementale du Québec). More details on the Chapitre Saint-Laurent, including its Excellence prize program for MSc and PhD students, can be found at <http://chapitre-saint-laurent.qc.ca>.

## Rocky Mountain Chapter

*Susan Flack, Newsletter Contact*

Members of the Rocky Mountain Chapter of SRA would like to reconnect with past members and anyone in Colorado, New Mexico, Wyoming, Kansas, and Utah who might be interested in networking and sharing technical information through a local chapter of SRA. A questionnaire was sent out to national SRA members with addresses in the Rocky Mountain region and a fair number responded, but we don't have sufficient interest to schedule chapter activities. Past members have likely changed jobs and email addresses since 1995 and may no longer be members of SRA. SRA membership is not required to be a member of a local chapter. Annual chapter dues were approximately \$20. Please send your contact information to Susan Flack ([sflack@chemrisk.com](mailto:sflack@chemrisk.com), 303-417-1046 x1013) if you would be interested in receiving news of the Rocky Mountain Chapter or would be willing to review a list of people who we've been unable to locate. Please post this notice at your office or institution and forward it to any practitioners, professors, or students in the Rocky Mountain region who might be interested in a local chapter of SRA. Thank you!



## Advertisements

### Scientist Position

ChemRisk is a consulting firm providing state-of-the-art toxicology, industrial hygiene, epidemiology, and risk assessment services to organizations that confront public health, occupational health, and environmental challenges. ChemRisk is seeking applicants with training in toxicology, pharmacology, the environmental sciences, risk assessment, biomedical engineering, industrial hygiene, medicine, or health physics.

This position requires a bachelor's degree in environmental or toxicological sciences. Candidates with a PhD or master's degree are preferred. Candidates with a background in consulting are especially desired. Positions are available in the offices in San Francisco, California; Boulder, Colorado; and Pittsburgh, Pennsylvania.

Please send résumés to ChemRisk, 100 Spear Street, Suite 525, San Francisco, CA 94105, or email: [hr@chemrisk.com](mailto:hr@chemrisk.com), phone: 415-896-2400, fax: 415-896-2444, [www.chemrisk.com](http://www.chemrisk.com).

### RISK newsletter and SRA Web Site Advertising Policy

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

Ads may be placed both in the *RISK newsletter* and on the Web site for \$375 for 150 words and \$100 for each additional 50 words.

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

Camera-ready ads for the *RISK newsletter* are accepted at a cost of \$250 for a 3.25-inch-wide by 3-inch-high box. The height of a camera-ready ad may be increased beyond 3 inches at a cost of \$100 per inch.

The *RISK newsletter* is published four times a year. Submit advertisements to the Managing Editor, with billing instructions, by 30 December for the First Quarter issue (published early February), 30 March for the Second Quarter issue (early May), 30 June for the Third Quarter issue (early August), and 30 September for the Fourth Quarter issue (early November). Send to Mary Walchuk, Managing Editor, *RISK newsletter*, 115 Westwood Dr., Mankato, MN 56001; phone: 507-625-6142; fax: 507-625-1792; email: [mwalchuk@hickorytech.net](mailto:mwalchuk@hickorytech.net).

To place an employment ad on the Web site, fill out the online submittal form at [www.sra.org/opportunities\\_submit.php](http://www.sra.org/opportunities_submit.php). To place other ads on the Web site contact the SRA Webmaster at [webmaster@sra.org](mailto:webmaster@sra.org). Ads placed on the Web site will usually appear several days after receipt. For additional information see the Web site at [http://www.sra.org/policy\\_website.php](http://www.sra.org/policy_website.php).

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### Deadline for RISK *newsletter* Submissions

Information to be included in the **Second Quarter 2005** SRA RISK *newsletter*, to be mailed early May, 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 March**.



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 socio-economic 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.

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