



Radiogenic Cancer Risk Estimates: EPA Update

David G. Hoel

In 2006 the National Research Council (NRC) published BEIR VII,¹ which contained the NRC's latest cancer risk estimates for low-LET* radiation, for example, x and gamma rays. These cancer risk estimates are based upon the Hiroshima and Nagasaki, Japan, atomic-bomb follow-up studies and differed somewhat from those in the previous 1986 BEIR V² report, in that incidence data was used as opposed to mortality data and a new atomic-bomb dosimetry system (DS02)³ had become available.

The release of the BEIR VII report set the stage for the Environmental Protection Agency (EPA) to update its radiogenic cancer risk estimates from 1994,⁴ which followed after the BEIR V report. Also, in the period between BEIR V and BEIR VII, greater attention was given to the incorporation of various measures of uncertainty, which resulted in the EPA's addendum report in 1999.⁵ The EPA cancer risk estimates subsequently became the basis of Federal Guidance Report 13,⁶ which provides methods and data for estimating risks due to both internal and external radionuclide exposures. It includes coefficients for assessing cancer risks from environmental exposure to about 800 radionuclides.

Last December, the EPA's Office of Radiation and Indoor Air released its draft "Radiogenic Cancer Risk Models and Projections for the U.S. Population"⁷—commonly referred to as the "Blue Book." The Blue Book provides risk models for low-LET radiation similar to those given in BEIR VII. These models estimate the risk for specific cancers and depend upon the age at exposure, age at risk, and gender for a given low-dose exposure. The Blue Book goes beyond BEIR VII by estimating cancer risks for higher-LET radiations, that is, alpha particles. Further, the EPA esti-

mates risks for several cancer sites that are not specifically considered by BEIR VII. These include basal cell carcinomas, kidney cancer, bone sarcomas, and cancer from prenatal exposures.

Also new and of particular interest is the estimation of the increased effects or relative biological effectiveness (RBE) greater than one of low-energy beta particles and low-energy gamma and x rays.

Finally, the Blue Book agrees with BEIR VII in adopting a dose and dose-rate effectiveness factor (DDREF)** of 1.5 instead of the previous value of 2.0 recommended by BEIR V and the recent Report 103⁸ of the International Commission for Radiation Protection (ICRP).

The previous EPA report gave an estimated risk of a premature cancer death to be about 0.058 per Gy*** and for incidence 0.08 per Gy—the new estimates are 0.05 per Gy for mortality and 0.10 per Gy for incidence. For other doses, EPA and BEIR both invoke the linear no-threshold assumption so that excess risk is proportional to dose.

Readers not familiar with the details of radiological risk analysis are referred to the Blue Book, which begins with an introduction to the basics of the biological mechanisms of radiation carcinogenesis. Of particular significance is the review and evaluation of the recent experimental work focused on adaptive response, genomic instability, and bystander effects. All three of these concepts argue against a simple linear dose response at low doses. The practical question is whether their effects would act in vivo to such an extent as to modify the usual low-dose risk estimates based on linearity. Both BEIR VII and ICRP 2005⁹ do not believe so, while the French National Academy of Sciences¹⁰ believes otherwise. The French Academy in particular believes that repair systems and the immune response will decrease risks at low doses well below linearity. All this remains an exciting and active area of research.

BEIR VII and EPA used the Life Span Study (LSS) of the atomic-bomb survivor cohorts to model the cancer risks

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The release of the BEIR VII report set the stage for the Environmental Protection Agency to update its radiogenic cancer risk estimates ...

*Linear energy transfer, which is the amount of energy deposited per unit length.

**DDREF is a reduction factor used for converting an acute exposure effect to one from a chronic exposure with the same total dose.

***Gy (gray) is the international system (SI) unit of radiation dose expressed in terms of absorbed energy per unit mass of tissue. The gray is the unit of absorbed dose and has replaced the rad. 1 gray = 1 Joule/kilogram and also equals 100 rad.

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2009 SRA Annual Meeting, 6-9 December, Baltimore—See page 3

President's Message

Alison Cullen

Greetings to all Society for Risk Analysis (SRA) members, near and far! It is hard to believe that it is summer already. I have just returned from a visit to Karlstad, Sweden, the host city of the 18th Annual Meeting of SRA-Europe (see page 7). What a wonderful gathering of the leadership and members of several regions of SRA—including Europe of course, but also China, Russia, North America, Latin America, Japan, Korea, India, and beyond. This meeting provided an opportunity to share new research, to discuss possible initiatives for SRA, and of course to enjoy the beautiful light for which Sweden is famous around midsummer each year. Congratulations to Ann Enander, Roberto Bubbico, and all of the members of the organizing committee!

For me personally, the meeting was a chance to hear from SRA-Europe about many things, including regarding an issue that has been discussed and revisited over the course of years—the role of SRA in engaging policy questions and debates. There is a long-standing but unwritten policy that SRA as an organization does not take positions on specific policy questions. Of course SRA members have always been active as individuals in taking positions on a whole range of issues, in service of both their professional responsibilities and their personal passions. We had a chance to discuss this topic during an international roundtable at SRA-Europe titled “The Impact of the Financial Crisis on the Long-Term Challenges Faced by Our Society.” The roundtable participants did not include any specialists on financial risk; thus, all were speaking generally as risk analysts and leaders of SRA regional organizations.

From the roundtable and from the audience there were many suggestions about potential roles for SRA in confronting large-scale risk situations such as the financial crisis. Not surprisingly, a consensus did not emerge. On the one hand some participants voiced the viewpoint that not only could SRA consider taking positions on national policy in individual countries, but that indeed we have a serious responsibility to do so. Further, there were suggestions that SRA should be making formal statements about the roots of the financial crisis, the impact of economic and tax policy, the role of risk modeling and assumptions, and other contributing factors. Others expressed concern that

taking specific positions would be detrimental to SRA's image as fair, unbiased, and impartial. Still others articulated a desire to have SRA serve as a forum for the exchange of ideas and for meetings of stakeholders around thorny policy questions. Regarding the latter, it was suggested that this role would not constitute SRA standing behind any particular policy position. Still, it seems to me that by organizing and participating in SRA events and writing papers for *Risk Analysis*, we are individually and collectively taking a position—namely, the position that risk analysis offers a valuable set of tools that are helpful for understanding options, trade-offs, values, perceptions, the interplay of qualitative and quantitative decision-making techniques, and the treatment of uncertainty.

One recent example of SRA serving to provide such a forum was the “New Ideas for Risk Regulation” conference that was held in Washington, DC, just a few days before the SRA-Europe meeting (see page 6). Through a combination of individual organizing efforts, joint sponsorship by SRA and Resources for the Future, and hundreds of viewpoints and suggestions contributed by participants, SRA helped open up an exchange of ideas about the future of regulatory review, analysis, and development. And we were able to spread information about our Society and our tools to a community of economists, legal analysts and scholars, government policy makers, and others engaged in regulatory decision making in the United States and around the globe. I am so pleased that we were a part of this excellent event and so grateful to the many people who recognized the opportunity and made it a reality. Opportunities of this type surround us constantly, waiting only for the interest and energy of individuals to engage them.

So in closing I would invite all of you to continue to ponder and debate the role of SRA in engaging real-world risks and challenges. There is no evidence that the number of issues that beg for risk analytic tools is declining with time. I encourage every one of you to become involved (or stay involved) in SRA in ways that have meaning for you. And I look forward to seeing you in Baltimore in December for what is shaping up to be an extremely exciting 2009 SRA Annual Meeting!

Risk Analysis: The Evolution of a Science

SRA Annual Meeting, 6-9 December 2009

Richard Reiss, President-elect

The planning for the 2009 Society for Risk Analysis (SRA) Annual Meeting is going well. The theme of the meeting is "Risk Analysis: The Evolution of a Science." A number of symposium themes have been developed around this idea. For example, I have developed the symposium "The Evolution of Health Risk Assessment," which will feature presentations from scientists involved with health risk assessment in the 1970s to the present and explore emerging topics in the continuing evolution of the science.

We received nearly 600 abstract submissions and more than 70 symposium proposals! It was a record number of submissions for the Society and we hope that this turns into a record attendance at the meeting in Baltimore in December. The Program Committee meeting was held on 10 June in Alexandria, Virginia. The committee spent the day evaluating the submissions and organizing sessions for the meeting. To accommodate the record number of submissions, we arranged for an extra room on the last day of the meeting. I want to thank all of the members of the Program Committee for volunteering their valuable time, including Linda Abbott, Steve Anderson, Rick Belzer, Steve Bennett, Gail Charney, Kenneth Crowder, David Hassenzehl, Kurt Frantzen, Anthony Fristachi, Julie Fitzpatrick, Sara Henry, Sandy Hoffmann, Cindy Jardine, Sally Kane, Stanley Levinson, Steve Lewis, Dominic Mancini, Margaret McDonnell, Martin Schultz, Terry Sullivan, Bob Tardiff, and Jonathan Wiener. I also thank Lori Strong and Sue Burk of Burk & Associates for their excellent work in managing the meeting and logistics.

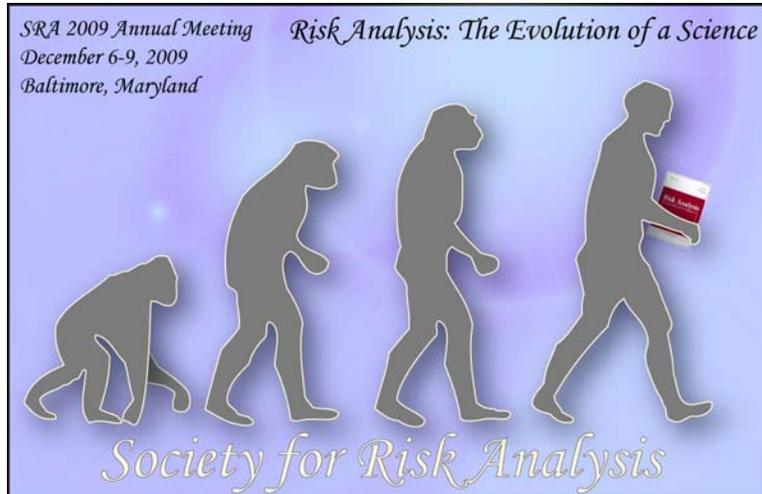
We have finished arrangements for the plenary speakers and have commitments from an impressive array of individuals. On the morning of Monday, 7 December, Major General Donald Riley, deputy commander of the Army Corps

of Engineers, will speak on the Corps' risk-planning activities. This plenary will be followed by a break-out symposium chaired by Dr. Yacov Haimes of the University of Virginia on related topics and will include talks by Major General Riley and other senior members of the Corps.

On Tuesday, 8 December, best-selling author Philip K. Howard will speak on the use of the legal system to mitigate risk. Mr. Howard, a partner at the prestigious law firm of Covington & Burling, is the author of *The Death of Common Sense*, *The Collapse of the Common Good*, and most recently *Life without Lawyers*. He is also the

founder and chairman of the Common Good legal reform coalition. His talk will be followed with a rejoinder by Allan Kanner of Kanner & Whiteley, a New Orleans law firm. Mr. Kanner is a prominent plaintiff attorney and has wide litigation experience in complex class action lawsuits and practices in the areas of environmental, toxic tort, commercial litigation, and consumer fraud. He also holds several academic appointments.

On Wednesday, 9 December, Dr. Kenneth Arrow from Stanford University will be speaking over the lunch hour. Dr. Arrow is the 1972 Nobel Prize winner in economics. Also, four of his doctoral students have gone on to win the Nobel Prize. He is perhaps best known for Arrow's Impossibility Theorem, which has important implications for welfare economics and theories of justice. He also received a 2004 National Medal of Science, the highest scientific honor in the United States, for his contributions to research on the problem of making decisions using imperfect information and his research on bearing risk. More recently, Arrow was a lead author for the Intergovernmental Panel on Climate Change (IPCC). To the best of my knowledge, he will be the first Nobel Prize winner to address the Society.



See you in Baltimore!

Meeting information and online forms: www.sra.org/events_2009_meeting.php

(Risk Estimates, continued from page 1)

for all cancer sites except the thyroid and breast. Linear dependency on dose is used—except for leukemia, where the quadratic function of dose is used. Both simple excess absolute risk (EAR) and excess relative risk (ERR) models were calculated. When projecting between populations (for example, Japan to United States) considerable differences may occur. For example, the EAR model for stomach cancer projects 10 times the risk as does the ERR model, while it is 1/30 for prostate cancer.

Using these risk models, both BEIR VII and EPA calculate a lifetime attributable risk (LAR), which is the integral of the EAR times the probability of survival (see Table 1).

If a single risk estimate is desired, the separate LAR values obtained with the ERR or the EAR projection models must be combined. To accomplish this, BEIR VII combines the separate LAR estimates obtained using both the EAR and ERR models. They do this by using an exponential weighting scheme

(that is, $LAR = (LAR_{ERR})^w(LAR_{EAR})^{1-w}$) for a given weight w . If $w = 0.5$, we have the usual geometric mean of the two LAR estimates, but BEIR VII recommends using the weighting factor $w = 0.7$, which gives a greater weight to the relative risk model. EPA raises some concerns with this and instead weights the risk models prior to carrying out the integration to obtain the LAR estimate. The BEIR VII LAR values for total cancers are about 12-15 percent greater than the EPA estimates, which are in turn about 20 percent greater than the former FGR 13 values (see Table 2).

In recent years, considerable effort has been directed at better quantifying the uncertainties in these risk estimates. Prior distributions of uncertainty are assigned to the unknown parameter in the risk model, such as errors in dosimetry, DDREF, etc. Using a Bayesian analysis with these prior distributions, a posterior

distribution of risk is generated. Because of the mathematical complexities, the posterior distribution is numerically determined using Markov Chain Monte Carlo (MCMC) methods.

With the posterior distribution, a median value and upper and lower 5 percent points are given. Note that the median will necessarily differ somewhat from the previously described risk estimate (for example, for females, the point estimate of total cancers is 1,230 per 10,000 person-Gy versus the median value estimate, which is 1,520 per 10,000 person-Gy). Both EPA and BEIR VII used this method for their uncertainty analysis. They do, however, differ somewhat in their choice of parameters and prior distributions (for example, BEIR VII did not quantify dosimetry errors and cancer misdiagnoses). There was fairly good agreement between EPA and BEIR VII with the exception of the cancer models for the prostate and uterus.

For alpha radiation, there has not been much change in RBE values (typically 20) since the previous EPA analysis. Lower-energy beta particles and

lower-energy photons have received new attention from the Agency. Based on both experimental and theoretical considerations involving the concept of increased damage caused by ionization clusters produced at the ends of electron tracks, a greater risk for a given dose would be expected for both lower-energy betas and photons. Depending on the energy, the RBE values may be in the 2-3 range. This is particularly important in that medical x rays may be more damaging than the gamma rays used to quantify risks in the atomic-bomb studies.

In March 2009, the Radiation Advisory Committee (RAC) of the EPA's Science Advisory Board (SAB) met to begin its review of the Blue Book. The RAC was supplemented by a group of special consultants. The Office of Radiation and Indoor Air gave the committee three specific charge questions concerning the risk methodology and results given in the Blue Book.

Table 1
Comparison of LAR Projections
Using Relative Risk and Additive Risk Models
Cases per 10,000 Gy

Cancer Site	Sex	Projection		
		ERR	EAR	EPA
Stomach	M	15	171	31
	F	20	204	40
Colon	M	160	112	142
	F	104	67	90
Liver	M	17	92	28
	F	7	53	13
Lung	M	154	120	125
	F	482	233	272
Prostate	M	125	4	42
Uterus	F	11	50	17
Ovary	F	34	29	32
Bladder	M	107	75	94
	F	105	63	87
Residual	M	228	191	194
	F	252	181	201
Kidney	M	26	26	24
	F	24	19	20
Leukemia	M	109	53	81
	F	87	32	60

Table 2
LAR Projections for Cancer Incidence
Cases per 10,000 Gy

Cancer Site	Sex	New EPA	BEIR VII	FGR 13
Stomach	M	31	34	36.1
	F	40	43	54
Colon	M	142	160	152
	F	90	96	225
Liver	M	28	27	19.4
	F	13	12	12.3
Lung	M	125	140	81.2
	F	272	300	126
Breast	F	281	310	198
Prostate	M	42	44	None
Uterus	F	17	20	None
Ovary	F	32	40	41.7
Bladder	M	94	98	65.5
	F	87	94	30.4
Thyroid	M	22	21	20.5
	F	110	100	43.8
Residual	M	194	290	191
	F	201	290	229
Kidney	M	24	None	9.9
	F	20	None	6.0
Esophagus	M	None	None	7.7
	F	None	None	16.8
Bone	M	2	None	1.3
	F	2	None	1.4
Solid Cancers	M	703	800	586
	F	1,170	1,310	983
Leukemia	M	81	100	65.4
	F	60	72	47.5
Total	M	785	900	651
	F	1,230	1,382	1,030

The first charge question concerns the approach used by the EPA for the risk estimation for (1) other radiation types, (2) EPA's approach to projecting risk to the U.S. population, (3) cancer sites not considered by BEIR VII, (4) modifications in breast cancer risk, and (5) inclusion of skin cancers and prenatal exposures. The second charge question concerns the approach used by the Blue Book to estimate the risk uncertainties, and the third charge question concerns the clarity and appropriateness of the Blue Book and its understandability, accuracy, balance, and level of detail.

The RAC has expressed general agreement with EPA's approach to updating radiogenic cancer risk models and projections for the U.S. population as presented in the Blue Book, but has a number of recommendations for consideration by EPA. The RAC's deliberations are expected to be finalized and sent to EPA's Science Advisory Board (SAB) by early fall 2009 and then to EPA Administrator Lisa Jackson. All draft reports and advisories by the SAB and its associated committees are available on the SAB Web site.¹¹

In my view, the Blue Book represents the best current analysis and risk estimation when extensive epidemiological and experimental data are available. Even so, it is interesting to see how some specific cancer site estimates can

change considerably with additional cohort follow-up. This simply reflects the small numbers for many of these sites, which is similar to other epidemiological studies with limited follow-up. More interestingly, the question of additive versus multiplicative models used in risk projections can make a significant difference in risk estimates. Generally in epidemiological studies of a chemical exposure, multiplicative risk models are used without consideration of background rates in risk projections.

Finally, I conclude that the staff at EPA has done a very good job of developing sophisticated scientific risk models that can predict cancer risks and their uncertainties for a variety of radiation types, exposure scenarios, and individual characteristics. Also, the RAC is providing a careful and thoughtful review of the EPA effort and is proffering some excellent comments that should further improve the scientific quality of the EPA report. Future refinements in low-dose radiation cancer risk estimation await better mechanistic understanding of radiobiology and carcinogenesis in general. It is recommended that *RISK newsletter* readers involved in risk modeling read the Blue Book to see the extent of the complex modeling that can be done in situations in which extensive experimental and epidemiological data are available.

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David G. Hoel

A longtime member of the Society for Risk Analysis, David Hoel served on the SRA Council from 1982 to 1984. He is currently a principal scientist at Exponent, Inc. His training in mathematics and statistics was at the University of California (Berkeley) and the University of North Carolina (Chapel Hill), followed by a postdoctoral fellowship in preventive medicine at Stanford University. Prior to joining Exponent, he was and continues to be a Distinguished University Professor at the Medical University of South Carolina. Before he joined the university, he was at the National Institute of Environmental Health Sciences for over 20 years, with primary responsibility for the interpretation of animal toxicological studies and their integrated use in quantitative risk assessment.

U.S. Environmental Protection Agency Science Advisory Board Radiation Advisory Committee Augmented for the Review of EPA's Radiogenic Cancer Risk Assessment

Chair: Bernd Kahn

Members: Susan M. Bailey, Thomas B. Borak, Faith G. Davis, Brian Dodd, R. William Field, Shirley A. Fry, William C. Griffith, Jonathan M. Links, William F. Morgan, Bruce A. Napier, Daniel O. Stram

Consultants: Ethel S. Gilbert, Peter G. Groer, David G. Hoel, Richard W. Hornung, Genevieve Matanoski, Dale L. Preston, Genevieve S. Roessler

Science Advisory Board Staff: K. Jack Kooyoomjian



Society for Risk Analysis

New Ideas for Risk Regulation Washington, DC • 22-23 June 2009



Economics and Benefits Analysis Specialty Group and Risk Policy and Law Specialty Group

On 22-23 June 2009, the Society for Risk Analysis (SRA) Economics and Benefits Analysis Specialty Group and Risk Policy and Law Specialty Group cosponsored the highly successful “New Ideas for Risk Regulation” conference with Resources for the Future (RFF). This event was held in Washington, DC, with over 200 registrants and included eight sessions with more than 40 invited panelists. The panels involved thoughtful and insightful discussion of numerous innovative ideas for improving regulatory development and analysis, which was particularly timely given the Obama Administration’s interest in developing a new Executive Order on regulatory review.

The discussion focused on regulating environmental, health, safety, and security risks and considered the role of the Office of Information and Regulatory Affairs (OIRA) in the U.S. Office of Management and Budget. The detailed program is available on the “Events” page of the SRA Web site (www.sra.org) and included panels on the role of OIRA domestically and internationally, the regulation of highly uncertain and potentially catastrophic risks, the integration of risk assessment and risk management, the role of benefit-cost analysis, the assessment of equity, and the estimation of preferences. It concluded with a roundtable discussion of the future of regulatory oversight.

We were pleased to welcome Sally Katzen, a former OIRA administrator and member of the Obama transition team, and Paul Portney, the former president of RFF, as our plenary speakers. Several past SRA presidents also spoke, including John Graham (a previous OIRA administrator), Gail Charnley, Baruch Fischhoff, Bernie Goldstein, and Jonathan Wiener. We welcomed many speakers and attendees not previously involved in SRA, including current and former senior government officials, scholars, representatives of interest groups, and many others.

The conference video, as well as downloadable copies of the slides and papers from many sessions, is available on the RFF Web site (<http://www.rff.org/Events/Pages/New-Ideas-for-Risk-Regulation.aspx>). Downloadable copies of the presentations and related papers are being posted on the SRA Web site (http://sra.org/events_2009_risk_regulation_conf.php). A conference summary will be available later this summer, and the December 2009 SRA Annual Meeting will feature related sessions. We expect to publish articles based on selected conference presentations in *Risk Analysis* in 2010.

We were very thankful for the financial support provided by the two specialty groups as well as from the SRA President’s Discretionary Fund. RFF also provided major funding as well as staffing for the conference. Additional contributors included Harvard Center for Risk Analysis; Industrial Economics, Incorporated; Mercatus Center at George Mason University; Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services; Regulatory Checkbook; Society for Benefit-Cost Analysis; SRA National Capital Area Chapter; Trachtenberg School of Public Policy and Public Administration, George Washington University; University of Maryland, Baltimore County; U.S. Customs and Border Protection, Department of Homeland Security; and U.S. Coast Guard, Department of Homeland Security.

The conference was chaired by Economics and Benefits Analysis Specialty Group Vice Chair Lisa Robinson. Other members of the planning committee included SRA President Alison Cullen, immediate Past President Jonathan Wiener, Matthew Adler, Alberto Alemanno, Laina Bush, James Hammitt, Amber Jessup, Dominic Mancini, Stuart Shapiro, and Jun Zhuang. Mark Cohen, Sandra Hoffmann, and Alan Krupnick of RFF also provided significant support. 

The Pantheon of Risk Analysis: Nominate Legends in the Field

Jonathan B. Wiener, Past President



Photo by John Collings

The Pantheon of Risk Analysis, launched in 2008, honors deceased giants in the field on whose shoulders we now stand and showcases how high-quality risk analysis can advance knowledge and the public good.

Any Society for Risk Analysis (SRA) member may nominate a candidate to the past president. The SRA Council then selects the inductees.

In late 2008, the SRA Council voted to induct 35 initial honorees into the Pantheon of Risk Analysis. They are listed on the SRA Web site, with links to the relevant Wikipedia page on each honoree (www.sra.org/about_pantheon.php).

The SRA Council may induct additional honorees in 2009. New nominations are welcome. To nominate other legends in the field, please contact Past President Jonathan Wiener (wieners@law.duke.edu).



Regional Organizations

SRA-Europe

<http://www.sraeurope.org>

Julie Barnett, Secretary

From the Everyday to the Extraordinary SRA-Europe Conference 2009

The 18th Society for Risk Analysis-Europe (SRA-E) Annual Meeting was held at Karlstad University in Sweden 28 June-1 July 2009. We were welcomed to Karlstad by the county governor as we enjoyed their hospitality overlooking the river Klara. The opening plenary took the form of a roundtable and the ensuing lively debate between Professors Ortwin Renn (Stuttgart University), Glynis Breakwell (University of Bath, U.K.) and Åsa Boholm (University of Gothenburg) set the tone for considering the conference theme: "From the Everyday to the Extraordinary." Later that day participants had the opportunity to hear Dr. Johan Schaar, head of the Secretariat of the Commission on Climate Change and Development, provide the keynote address "Living with Risk: Poverty in the Era of Climate Change." Over the course of the conference, around 200 delegates attended and participated in a full programme of individual papers and symposia over five parallel sessions. One of the most thought-provoking moments of the conference was provided by the keynote address of Paul Slovic. A challenging series of images and insights from literature as well as from scientific studies opened up the question of why it is that the more who die in atrocities, the less it is that we care. We were challenged to consider the question of how best to develop policies that enable right actions when moral intuition fails.

We were also pleased to welcome SRA leaders to the conference and to participate in an international roundtable. Alison Cullen (SRA International president), Roberto Bubbico (SRA-Europe president), Esperanza López Vázquez (SRA-Latin America president), and Valery Lesnykh (Russia Regional Organization vice president) took part in a discussion moderated by Olivier Salvi and focusing on the challenges for the Society posed by the current financial crisis. Ahead of the China-Europe Risk Forum to be held in Beijing in October, it was also good to welcome a delegation of participants from China.



At the International Roundtable (left to right): Valery Lesnykh, Esperanza López Vázquez, Alison Cullen, Roberto Bubbico, and Olivier Salvi



SRA-E President Ann Enander (center) with Karlstad Conference Studentship Scholarship award winners Corinne Moser and Nicholas Smith

A chartered train transported us through the beautiful Värmland countryside to Rottnerosspark for the conference dinner. We had a wonderful dinner in the Hall of Mirrors overlooking the park lake. Afterwards, many delegates took the opportunity to explore the statues and gardens surrounding the manor house made famous in the works of the Nobel Prize-winning author Selma Lagerlöf.

SRA-E was fortunate to enjoy the generous sponsorship of Karlstad University and the Swedish Defence College, who assisted with the conference. The lead-in sponsorship and support was taken by the Swedish Civil Contingencies Agency. This new consolidated authority came into being on 1 January 2009 to replace the former Swedish Emergency Management Agency, the Swedish Rescue Services Agency, and the Swedish National Board of Psychological Defence. All the delegates were very appreciative of these contributions and the excellent efforts of the local organising committee led by Ann Enander, the incoming president of SRA-E.

At the SRA-E business meeting, the Executive Committee was pleased to make a presentation to the winners of the two Karlstad Conference Studentship Scholarships. Both Nicholas Smith (University College London) and Corinne Moser (ETH Zurich) will receive a contribution worth 500 euro to their conference expenses.

The symbol of Karlstad University is a sun. This turned out to be an appropriate metaphor for the conference itself—not only because we enjoyed beautiful weather every day, but also because it reflected the warmth and energy of exchange between colleagues both within the sessions and in more informal interactions. We look forward to welcoming you to our next annual meeting, 21-23 June 2010, at Kings College London and to continued conversations over the next 12 months.

Other SRA-E News

The elections for the SRA-E Executive Committee were closed on 31 March 2009. For this ballot, nine candidates stood for election for four vacant positions. The votes were counted by Olivier Salvi (chair of the Nominations Committee) in collaboration with Roberto Bubbico (president) and Julie Barnett (secretary).

The newly elected members are Michael Siegrist (ETH Zürich, Switzerland), Margot Kutttschreuter (University of Twente, The Netherlands), Sophie Gaultier-Gaillard (University Paris 1 - Sorbonne, France), and Lars Bodsberg (SINTEF Technology and Society, Norway).

The new members of the Executive Committee started their mandate after the Business Meeting of SRA-E in Karlstad, where Ann Enander became president.

SRA-Japan

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

Akihiro Tokai, President



Dr. Shi Peijun at the Asian Conference Opening Ceremony

The 4th Asian Conference on Risk Assessment and Management was held at Beijing Normal University 17-19 May 2009. The general chair of this conference was Professor Shi Peijun, vice president of Beijing Normal University. This conference was jointly organized by Beijing Normal University, the Korean Society of Environmental Toxicology, the Society for Risk Analysis-Japan, and the Risk Analysis Council of China Association for Disaster Prevention. It was also sponsored by the National Disaster Reduction Center of China. This conference provided a regional forum for specialists and stakeholders in risk analysis, risk management, and disaster prevention.

The following distinguished experts presented the keynote speeches: Dr. Hirotsada Hirose (“Why People Fail to Escape in Emergencies”), Dr. Weiming Dong (“Expect the Unexpected”), Dr. Xiao-jian Zang (“Water Quality Risk and Emergent Measurement for Municipal Water Supply after

the Wenchuan Earthquake”), Dr. Dong-Chun Shin (“Development of Community-Based Risk Assessment System for Integrated Environmental Risk Management Korea”), Dr. Akihiro Tokai (“Risk Assessment of Flame Retardant with the Example of Decabromodphenyl Ether”), and Dr. Huang Chong, (“My Comments on Some Risk Definitions”).

The conference covered a wide range of risk areas, including natural disaster risks, integrated risk governance, risk perception, communication and social relevance, health risk management, risk of electromagnetic fields, risk management of ecoenvironmental issues, chemicals and waste, risk theory, methodology and modeling, production safety and risk management, and risk and insurance.

Unfortunately, because of the many notices of the risk of pandemic of swine influenza all over the world, many of the potential participants gave up traveling to Beijing. However, in total 135 researchers took part in this conference, including 1 from the United States, 10 from Korea, and 9 from Japan. There was a graduate students’ best paper award proposed and subsidized by Professor Shi Peijun. Five graduate students and one undergraduate student received awards.

Information from the conference can be found at <http://www.irisknet.cn/EARAM/index.html>.

SRA-Latin America

Esperanza López Vázquez, President

The beginning of our formal work representing the Latin America Regional Organization of the Society for Risk Analysis (SRA-LA), which included many virtual meetings, has already produced several critical steps allowing us to move forward in many of our principal organizational topics.

First of all, we are pleased to announce that a proposal of SRA-LA has been recently selected by the New Initiatives Funds (NIF) committee of SRA. This committee has approved financial support for developing a promising SRA-LA Web site, which will soon help spread our creation, goals, and potential worldwide. Thanks to this NIF-program award and the efforts of our secretary, Mónica Jara, and one of her colleagues in Costa Rica (a computer expert), we are now constructing our first Web page. We hope to announce the full operation of this Web site in the next *RISK newsletter*.

We are also working on other group-organization tools such as specialty groups. We are in the process of receiving expressions of interest from our members, expecting to appoint all SRA-LA officers for these thematic groups by early 2010.

We are also organizing our first SRA-LA regional meeting, to be held in April 2010. We expect that this very first region-wide activity will get current and prospective members of SRA-LA to-



SRA-Japan Student Award Ceremony

gether. We expect to be able to focus on some specific regional problems with the help of the specialty groups. We hope to make progress by combining academic and scientific efforts that will be applied in a precise manner.

The Executive Committee (EC) of SRA-LA will have its first physical meeting in Santiago City (Chile) the first week of August. The EC will work on the administrative, academic, and scientific points that our first congress organization requires and on general activities to do in the future.

The SRA-LA EC is enthusiastically working. I would like to personally invite all colleagues who work in any Latin American, risk-related topic and do not belong to SRA-LA, as well as all people wanting to support us, to join our group and exchange their scientific or practical experiences with us.

We are living a difficult moment worldwide. A wide variety of pandemics and disasters caused by natural, technological, economic, and social events makes us think about what is going to happen next. That is why I think that the only way to overcome this troublesome historical moment is to unify our efforts and work hand in hand.

Taiwan

Kuen-Yuh Wu, Secretary General

On 12 May 2009, the president of the Taiwan Regional Organization of the Society for Risk Analysis (TSRA), Dr. Chang-Chuan Chan, held a council meeting. At this meeting, the first annual TSRA meeting was scheduled for the end of January 2010. The theme of the one-day conference will be globalization of risk analysis. Three international speakers will be invited to give talks. The tentative meeting place will be China Medical University in Taichung, Taiwan, making meeting attendance convenient for TSRA members living in either southern or northern Taiwan.

Since two years ago, health risk assessment has been incorporated into environmental impact assessment (EIA) by the Taiwan Environmental Protection Agency (TEPA). The first case was the third period of the Middle-Taiwan Scientific Park. A team was led by Chan and mainly consisted of TSRA members to conduct environmental health risk assessment as an additional request under the conclusions of the EIA committee meeting for this investment project. Later, a private steel company (Chung-Lung Steel Company) contracted out an environmental health risk assessment and environmental epidemiology project to TSRA to study the potential health impacts on its surrounding residents after operation for 10 years, which is also a request under the conclusions of the EIA committee meeting.

Recently, a Taiwan newspaper reported that the preliminary epidemiology study conducted by Chan demonstrated that the emissions from the sixth naphtha-cracking company might be associated with the elevated cancer risk for its five surrounding townships. TEPA has decided to hold expert meetings to evaluate if the current available scientific evidence supports this conclusion. The expert meet-

ings will also recommend to TEPA what should be done to clarify the potential association.

Several members of TSRA, including Secretary General Dr. Kuen-Yuh Wu, Dr. Ming-Jen Chen, and Dr. Chin-Cheng Chou, will be invited to attend these meetings as experts specializing in health risk assessment or environmental epidemiology. With the growing needs of health risk assessment in diverse fields, TSRA membership is expected to increase rapidly.

Last August, Wu moved from the National Health Research Institute of Taiwan to join with Chan as an associate professor in the Institute of Occupational Medicine and Industrial Hygiene, College of Public Health at National Taiwan University. He missed the past two annual SRA meetings and the Second World Congress on Risk during the transition of his job change over the last two years. At present, he teaches health risk assessment in the fall semester and practices in health risk assessment in the spring semester. He also helps to establish the risk curriculum in the institute to train risk assessors in Taiwan.

New England

www.sra-ne.org

Jonathan Levy, Past President

The New England Regional Organization recently held elections for all offices for the 2009-2010 year, and we are pleased to announce the winners of those elections:

- President Amy Rosenstein
- President-elect Henry Roman
- Treasurer Arlene Levin
- Secretary Karen Vetrano

This is the first year that we have introduced the office of president-elect. Paralleling SRA national, the president-elect will serve as president during the subsequent year and will use the year as president-elect to learn about the chapter, support the president, and engage in planning activities. This will help to maintain continuity from year to year.

We thank those who were willing to run and willing to serve, and we are excited about the blend of reelected officers and new office holders. We thank members for voting, and we encourage anyone interested in the future activities of the regional organization to renew or join for 2009-2010. Membership forms, upcoming events, and contact information for officers are available at www.sra-ne.org.

Of note, materials from events over the past few years are available on our Web site. This includes videos of our two most recent seminars—a session on the National Research Council report “Science and Decisions: Advancing Risk Assessment” and a session on climate change in a risk assessment/risk management framework. We plan to continue to videotape and post all seminars when logistically possible, and we encourage people to link to our Web site or visit periodically to ensure that as many people as possible can benefit from our speaker series.



Visit the SRA Web site — www.sra.org



Committees

Conferences and Workshops Committee

Jim Lambert (lambert@virginia.edu), Chair

Register Early for Continuing Education Workshops at the 2009 SRA Annual Meeting!

Plan to join your colleagues in attending a continuing education workshop this December at the 2009 Society for Risk Analysis (SRA) Annual Meeting. Workshops are held on the Sunday before the meeting (6 December) and are organized and presented by members for the benefit of all. The SRA Conferences and Workshops (C&W) Committee recognizes and supports continuing education events of interest to SRA at the annual meeting.

A wide range of workshop topics will be presented and should appeal to those new to risk analysis as well as seasoned veterans seeking the latest information. Be sure to look for detailed descriptions and registration information in the preliminary program you will receive later this summer and sign up for a workshop.

These workshops provide an opportunity to explore in-depth emerging risk topics, techniques, and tools and to share insights with your colleagues. Several hundred participate in these workshops each year. For 2009, we anticipate up to 15 workshops in full- and half-day formats. Workshop topics will include:

- Benchmark dose analysis
- Chemical-specific adjustment factors
- Cumulative risk
- Decision analysis
- Endocrine disruption screening methods
- Expert elicitation
- Introduction to risk analysis
- Nanotechnology
- Probabilistic risk methods
- Risk management
- Risk reduction
- Sensitivity analysis

A brief overview of each workshop and instructors will be posted on the SRA Web site by summer, along with information on how to register. Members are encouraged to sign up before the early registration deadline for the annual meeting to assure their first preferences can be met.

Workshop events at the December annual meeting are developed by a C&W subcommittee led by Margaret MacDonell (macdonell@anl.gov) and Jacqueline Patterson (patterson@tera.org).

Other Events

The C&W Committee approves SRA sponsorship of events throughout the year and at world congresses. These events are reviewed by a C&W subcommittee led by Katy Walker (kdwalker1206@hotmail.com) and Jim Wilson (wilson.jimjudy@att.net). Contact them to enjoy the benefits of SRA sponsorship of your event, including use of the SRA logo and promotion at the SRA Web site and in the SRA quarterly newsletter.

In June 2009 the Council reviewed and approved our suggested revisions of the C&W Charter and C&W Prac-

tices/Procedures, aiming to streamline the approval of events for sponsorship. First, we are phasing out use of the term “SRA-recognized events,” which had created confusion with some of our event partners. If there is any exposure of the SRA general funds or significant use of the SRA Secretariat, SRA-sponsored events will require C&W approval of a detailed budget and business plan. Otherwise, approval of an event for SRA sponsorship will be based on technical content and harmony with the aims of the Society.

Below is a sample of upcoming events approved for SRA sponsorship. See www.sra.org for others.

- First Risk Analysis in Education Conference, Reno, Nevada, 13-15 July 2009
- Quantitative Microbial Risk Assessment Summer Institute, East Lansing, Michigan, 15-21 August 2009
- Food Safety Risk Assessment Training Course, Online, 26 August-7 October
- Dose-Response Assessment Boot Camp, Cincinnati, Ohio, 21-25 September 2009
- Philosophy for Science in Use, Linköping, Sweden, 28 September-2 October 2009
- 2nd International Conference on Risk Analysis and Crisis Response, Beijing, China, 19-21 October 2009
- American Association for Aerosol Research (AAAR) 28th Annual Conference, Minneapolis, Minnesota, 26-30 October 2009

Check the SRA Web site for live links and details for upcoming events on a wide range of topics!

Distribution of Video of Several SRA C&W Workshops

The C&W Committee was awarded grant funding for a video initiative from the SRA Council for 2008-2009. We are producing video content of several C&W workshops of the 2008 SRA Annual Meeting, principally for distribution to constituencies in the developing world. Rick Belzer (Belzer@RegulatoryCheckbook.Org) is leading a C&W task force for our video new initiative. Rick would appreciate another volunteer interested in making key decisions for the distribution of the videos—please identify yourself to us and join the C&W Committee.

Regions Committee

Olivier Salvi, Cochair

SRA World Congress on Risk III in 2012

The process to select the venue for the SRA World Congress on Risk III in 2012 is on track. Candidate cities are currently being considered by a committee of the leaders of SRA regions. They will provide recommendations to the SRA Council, which will nominate an ad hoc committee in October 2009 for the organization of the SRA World Congress on Risk III in 2012.

International Roundtable with Leaders of SRA Regions

An international roundtable with leaders of SRA regions was organized with the support of Daniela Leonte and Olivier Salvi during the SRA-Europe annual meeting on 30 June

2009. Titled “The Impact of the Financial Crisis on the Long-Term Challenges Faced by Our Society,” participants included:

- SRA International: Alison Cullen (President)
- Europe: Roberto Bubbico (President)
- Latin America: Esperanza López Vázquez (President)
- Russia: Valery Lesnykh (Vice President)
- China: Sijian Zhao (Vice Secretary General RAC)
- Japan: Akihiro Tokai (President)

This roundtable will perform joint activities among the SRA regions.

**1st China-Europe Risk Forum
22-23 October 2009 in Beijing, China**

As a follow-up to the strong participation of European scientists at the 1st Risk Analysis and Crisis Response Con-

ference in China, in September 2007, Professor Chongfu Huang has proposed to the president of SRA-Europe to co-organise the 1st China-Europe Risk Forum in October 2009 in Beijing.

The China-Europe Risk Forum will have the objective of developing the partnership between Chinese and European Researchers in the field of risk analysis. That means in concrete, to allow sharing and exchange of results of ongoing research programmes, but also to jointly define research programmes with priorities and prepare projects and short-term initiatives.

The forum will last two days and deal with the general theme of “Emerging Risks.” If you are interested in participating, please contact Olivier Salvi (olivier.salvi@ineris.fr) or Roberto Bubbico (bubbico@ingchim.ing.uniroma1.it). 



Risk Analysis Journal

Karen Lowrie, Managing Editor

The *Risk Analysis* editors announce the appointment of a new area editor for public policy, Alberto Alemanno, Esq. An attorney trained in Europe and the United States, Alberto teaches and practices law in Europe and is chair of SRA’s Risk Policy and Law Specialty Group. His recent book, *Trade in Food: Regulatory and Judicial Approaches in the EC and the WTO*, is a thorough analysis of this fascinating scientific, legal, and political issue. He joins our seven current area editors: Ann Bostrom (Risk Perception and Communication), Tony Cox (Mathematical Modeling), Chuck Haas (Microbial Risk Assessment), Yacov Haimés (Engi-

neering), Wayne Landis (Ecological and Environmental Risk Assessment), Suresh Moolgavkar (Health Risk Assessment), and Warner North (Decision Sciences).

The number of manuscript submissions for 2009 is up 30 percent compared to last year, and 68 percent of these are from outside the United States. Our monthly issues of approximately 11-12 articles (140-160 pages) have received a great deal of positive feedback. A theme issue on risks associated with mining will be forthcoming in October, with four papers devoted to the topic and an introduction by Engineering Area Editor Yacov Haimés.

Call for Nominations for *Risk Analysis: An International Journal* Area Editor for Engineering

The Society for Risk Analysis Publications Committee seeks nominations for the area editor for engineering position for *Risk Analysis*. This position is a three-year appointment to serve on the editorial staff.

After many years of service, Professor Yacov Haimés plans to step down as the area editor for engineering. He will continue until we have identified his successor. The area editor should have published on risk-related engineering topics and be familiar with the associated areas of quantitative risk assessment and risk management. The area editor should have a background in one or more relevant engineering disciplines, such as biomedical, civil, chemical, electrical, environmental, mechanical, nuclear, and complex systems.

Responsibilities: The area editor for engineering oversees the peer-review process for submitted manuscripts in this discipline area and makes recommendations about the suitability of submitted manuscripts for publication in the journal. In addition, the area editor is expected to be a prominent scholar in the field and to seek topics and invite submissions to ensure that the journal is publishing on the most prominent topics in the field. Area editors are expected to meet for one half day at the SRA annual meeting (held each December) to discuss their agenda for the coming year. They may also meet at other times during the year. The area editor position includes a compensation stipend.

Nominations for area editor for engineering should include a brief statement of the nominee’s qualifications, relevant experience, plans for the journal, and a CV. The nomination should be submitted to SRA Past President Jonathan Wiener, chair of the Publications Committee, Society for Risk Analysis, by email at wiener@law.duke.edu, and to Editor-in-Chief Michael Greenberg by email at mrg@rutgers.edu.

We will continue the search until the position is filled.



Specialty Groups

Decision Analysis and Risk Specialty Group

Terry Sullivan, President

The Decision Analysis and Risk Specialty Group (DARSG) is actively pursuing activities to support the annual SRA meeting in December, and based on the abstract submissions, we look forward to an interesting meeting. The group presently has approximately 430 full-time members, which makes it the largest specialty group in SRA. Of the almost 600 abstracts submitted for presentation at the annual meeting, 137 were classified by their presenters for presentation in DARSG symposia. DARSG is offering two training courses prior to the annual meeting: (1) Fundamentals of Decision Analysis and (2) Spatial Decision Support Tools for Managing Multi-Criteria Environmental Contamination Problems. Please consider taking these courses. Our Web site is under development and should be operational by August. The Web site will contain more information on these courses as well as information describing DARSG. Members of DARSG will be informed when it is operational. Finally, we solicit your volunteering or recommending people for the position of president-elect of DARSG. An election will be held later this year. Contact Terry Sullivan (TSullivan@bnl.gov) with nominations.

Engineering and Infrastructure Specialty Group

www.sra.org/eisg

Kenneth Crowther, Chair

The Engineering and Infrastructure Specialty Group (EISG) is looking forward to an exciting conference in Baltimore. We have 10 sessions focusing on engineering and infrastructure topics including renewable energy, future spaceflight technologies, mathematical modeling, critical infrastructure protection, and more, plus a number of engineering-related presentations in other sessions. We have about a dozen submissions for the student merit award under review and look forward to funding at least one student for excellent work in engineering and infrastructure risk. We look forward to an excellent conference in Baltimore and invite all to attend.

The EISG just received approval to improve the presence of the Society for Risk Analysis through the use of Twitter. Twitter is a service that allows users to post 140-character messages to the Web. Various specialty groups will have an opportunity to fund a student to attend their specialty group sessions and post “tweets” that provide overviews of the speakers, presentation content, and the audience response. Anyone interested will be able to participate, and we encourage everyone to build up his or her Twitter social groups before the conference. Mark each tweet with #sraconf so they will be easily searchable after the conference is over. After the conference, please visit <http://hashtags.org> and look up the tag #sraconf. You will be able to follow and even tweet questions during the conference from your computer or cell phone.

Finally, due to the success of the EISG-sponsored SRA 2008 workshop, we have some funds in the EISG treasury. We are interested in using \$600 to build our engineering and infrastructure attendance at the upcoming SRA conferences by “supplementing” travel (four awards at \$150 each) to

conferences that may provide an opportunity to recruit individuals interested in topics at the intersection of engineering and risk. We invite emails (as proposals) that will describe the conference that you are planning to attend and the activities that you will perform to represent EISG (for example, one slide about SRA and/or EISG up front in a presentation ... or ... invite X colleagues to come to an SRA event). Please submit proposals to kgcrowther@virginia.edu. Proposals must include (1) title and date of the conference and (2) a brief description of the activity to represent EISG. Proposals will be reviewed and filled on a first-come-first-served basis.

If you have ideas for growing/improving EISG please send us a note (kgcrowther@virginia.edu, cpinto@odu.edu, or wmcgill@ist.psu.edu).

Risk Communication Specialty Group

www.sra.org/rcsg

Cindy Jardine, Chair

The Risk Communication Specialty Group is currently one of the largest of the Society for Risk Analysis specialty groups, with 282 members representing 23 countries. Risk communication is also one of the major categories of abstract submissions for the 2009 SRA Annual Meeting, second only to decision analysis. This is testimony to both the increasingly recognized importance of communication in the risk “world” and the growing number of people self-identifying as having interest and/or expertise in this field.

It also speaks to the need for risk communication researchers and practitioners to better connect and learn from each other. The benefit—and challenge—of this area is the wide range of disciplines, conceptual frameworks, and worldviews represented by those who call themselves “risk communicators.” In what other field of study and practice do people with backgrounds in psychology, anthropology, sociology, political science, geography, public health, medicine, and (yes) even the natural sciences (such as engineering and biology) find themselves working together on problems of common interest? The unexplored opportunities to capitalize on this diversity to forward the development of both concepts and practice in risk communication are boundless.

The SRA annual meeting is currently the primary venue in which to develop these dialogues. We would like to encourage those interested in risk communication to attend the specialty group lunch-hour meeting and other hosted events to build on these relationships. However, it is obvious we need to explore other means of increasing linkages and information exchange within this area. A proposal that has been put forward is another specialized conference on risk communication, following on the success of the RiskCom 2006 Conference held in Sweden. There are undoubtedly other ideas that people may have to advance this goal.

In short, it is time that risk communicators start communicating better with each other! Please join us in discussing opportunities for enhancing connectivity and dialogue in our area at a general discussion that will be held during the Risk Communication Specialty Group meeting at the 2009 SRA Annual Meeting in Baltimore in December.

Dose Response Specialty Group

www.sra.org/drsg

Paul Feder, Chair

The Dose Response Specialty Group (DRSG) Web site can be accessed at sra.org/drsg. The Web site includes executive committee and member contact information, bylaws, meeting minutes, information about and abstracts from past teleseminars, and detailed information about application for the student research award program and past winners.

DRSG's principal activities this year are well underway and include:

- Student awards program
- Quarterly teleseminar series
- Organization of annual meeting sessions and symposia

Student Awards

Vice Chair Patty Toccalino is leading the student award program. DRSG is pleased to have received a number of award applications among the abstract submissions for the annual meeting. Patty is organizing an evaluation committee and its deliberations will result in an award that will be presented at the DRSG mixer at the annual meeting.

Teleseminar Series

Chair-elect Jeff Gift is organizing and coordinating the teleseminar series. This year's teleseminars are centered around the recent National Academies report (2008) on risk assessment methodology recommendations titled "Science and Decisions: Advancing Risk Assessment." The first teleseminar in the series was held in March. Michael Dourson reviewed the evolution of risk assessment and National Academies recommendations for the practice of risk assessment at the Environmental Protection Agency (EPA), followed by much discussion. The second teleseminar was held in June

and discussed risk assessment methodology corresponding to aspects of the National Academies report that EPA and the World Health Organization have already begun to implement. John Lipscomb presented "Chemical-Specific Adjustment Factors: The IPCS Approach to Developing Non-Default Values for Inter- and Intra-species Extrapolation" and Linda Teuschler discussed "Categorical Regression Modeling of Multiple Effects from Chemical Mixture Exposures in Cumulative Risk Assessment." Rick Hertzberg led the discussion. The third teleseminar in the series will be held in September and will discuss needs and plans for future developments in risk assessment methodology.

2009 SRA Annual Meeting

Secretary-Treasurer Julie Fitzpatrick and Past Chair Sara Henry represented DRSG at the Program Committee meeting in June. DRSG will be a very active participant at the annual meeting with multiple oral symposia, poster-platform sessions, and individual posters. As traditional, DRSG will sponsor a mixer at the meeting. This year it will be bigger than ever as DRSG will partner with the Exposure Assessment Specialty Group to provide yet more chances for mingling (and eating).

Emerging Nanoscale Materials Specialty Group

www.sranano.org

Jo Anne Shatkin, Chair

Through the Emerging Nanoscale Materials Specialty Group, SRA is participating in a workshop on risk assessment of nanomaterials with the Organization for Economic Cooperation and Development (OECD) and its Business and Industry Council, 16-18 September 2009. There is limited space available for non-OECD attendees. Please contact Jo Anne Shatkin at jashatkin@clf.org for additional information.



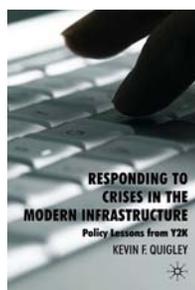
Member News

Kevin Quigley

Kevin Quigley teaches and publishes at the School of Public Administration at Dalhousie University in Halifax, Canada, in the areas of public sector risk management, strategic management, and critical infrastructure protection (CIP). He is the principal investigator for the research initiative CIP in Comparative Perspective, which examines practices in Australia, Canada, the United Kingdom, and the United

States. He is also the editor of the newsletter *The CIP Exchange*.

In October 2008 Dr. Quigley published *Responding to Crises in the Modern Infrastructure: Policy Lessons from Y2K*. U.S. President Bill Clinton described Y2K as "one of the most complex management challenges in history." Margaret Beckett, chair of the British Cabinet Committee on Y2K, described the U.K. government's response to it as "the largest co-ordinated project since the Second World War." The two countries spent billions on preparations. And, in the end, virtually nothing happened. Did this mean success? Despite the scope and cost of Y2K, it has received



almost no critical analysis, academic or otherwise, since it occurred. The book examines comparatively the U.S. and the U.K. governments' management of Y2K and considers the extent to which such management can be understood as responses to market pressures, public opinion, and organized interests. It concludes by providing valuable lessons to those concerned about managing risk and critical infrastructure today.

Rao Kolluru

Rao Kolluru, Metro Regional Organization president, has written a new book, *BEGIN ANEW: Re-setting Your Mind's Odometer [00000]*, which became an Amazon.com best-seller.



Rao and Montclair (New Jersey) Mayor Jerry Fried presented their experiences in re-setting their personal odometers at the Montclair Public Library on 20 May 2009.

For highlights, look up BeginAnew.info. It could help in re-setting your own odometer and gaining fresh insights into the nature of risks. For additional details contact RaoKolluru@aol.com.





What Do We Do?

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

Abani Pradhan and Debasmita Patra

Where did you meet?

In India, after our marriage was arranged by our parents.

When did you get married?

In April 2008 (in India).

Were you both working in risk analysis jobs when you got married?

Yes, we were working in the area of risk analysis when we got married, although we were working at different places with different aspects of risk analysis (Abani: Quantitative Risk Assessment Modeling, Debasmita: Risk Communication and Risk Perception).



in addition to working in the research laboratory, I also develop and evaluate quantitative microbial risk assessment (QMRA) models for pathogens in different foods. I continually provide consulting support to graduate students with risk analysis projects.

Debasmita: I work for the National Nanotechnology Infrastructure Network (NNIN), supported by NSF, which is a network of 14 user facilities, providing unparalleled opportunities for nanoscience

What are the advantages and challenges of working in the same field as your spouse?

We would say there are many advantages, for example, although we work in different aspects of the same area (risk analysis) and thus have different perspectives to approach a problem, we always complement and help each other to understand and solve our research problems. Challenges? Yes, who will have the last say?

What is your job title?

Abani: I am a postdoctoral associate at Quality Milk Production Services (QMPS), Department of Population Medicine and Diagnostic Sciences, at Cornell University in Ithaca, New York. I am also working as the project coordinator for the Regional Dairy Quality Management Alliance (RDQMA) project at Cornell University.

Debasmita: I am working as a postdoctoral associate at the Cornell NanoScale Science and Technology Facility (CNF) at Cornell University in Ithaca, New York.

How is risk analysis a part of your job?

Abani: In addition to the RDQMA project in which we study the dynamics of important infectious diseases (such as Salmonella, Listeria, E. coli) found on dairy farms, I am working on risk assessment research projects related to food safety. I collaborate with scientists from different disciplines such as food science, animal science, population medicine, and computational biology. Foodborne diseases associated with consumption of contaminated foods represent a considerable public health concern. In the food safety risk assessment, my research is related to understanding the epidemiological associations with foodborne disease, pathogen characteristics impacting production, and relating the severity of disease with consumption patterns. In

and nanotechnology research in the United States. NNIN is also involved in spreading general awareness about the potential risks and benefits associated with nanotechnology. Researchers in this network have carried out and are carrying out a lot of studies concerning the social and ethical aspects of nanotechnology. Although I have a PhD in sociology (science, technology, and society), I am located in a nanofabrication facility. As part of my job, I conduct the orientation on social and ethical issues (SEI) of nanotechnology for the scientists and engineers (users) who come to CNF, during which we discuss issues related to risk, ethics, regulation, and nanotoxicology. I conduct research on several aspects of nanotechnology, risk being one of those. I also maintain the NNIN's SEI Web site (www.sei.nnin.org).

How did you decide to pursue this career?

Abani: My PhD in the field of biological engineering with a focus on food safety introduced me to the field of risk analysis. For my PhD research, I combined engineering techniques with food microbiology and saw that risk analysis was indeed an important aspect of this study. During my study, I took courses in risk assessment, risk modeling, and decision models. This further reinforced my interest in risk analysis.

Debasmita: During my PhD, I conducted research among Indian scientists and engineers working in the area of nanoscience and nanotechnology to know the risk perception among the scientific community. While visiting different laboratories, I sensed that I needed to communicate potential risks both to the practitioners and people in general because in nanotechnology research, laboratory safety measures were often given shortcuts and people in general know little about nanotechnology in India. Still a major portion of the Indian government funding is going into nanotechnology research.

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

Abani: Over the course of my career, I had many opportunities to work with several supervisors, colleagues, and scientists who shared a diversity of perspective in the interdisciplinary research area of risk analysis. During my PhD program, I had an opportunity to teach the course “Risk Analysis for Biological Systems” to seniors and graduate students at the University of Arkansas at Fayetteville, which helped me to learn more about risk analysis. Fostering professional and working relationships with various researchers, learning, and interacting with scientists working in this area helped me in expanding my risk analysis skill.

Debasmita: Well, after my PhD, I moved to join my husband, whose research interest is in quantitative risk assessment, at Cornell University. At Cornell, I met Professor Katherine A. McComas, with whom I am currently working, and my interest in risk communication increased further.

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

Abani: I enjoy working with researchers from different disciplines with the common goal of solving important risk-related research problems. Learning new things, trying to solve emerging problems, and communicating research results to collaborators and others are really exciting.

Debasmita: When I give the orientation to the scientists and engineers from very diverse disciplinary backgrounds at the same time. It is exciting because their understanding of risk varies across disciplines and everyone has his/her own perspective on it.

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

Abani: My job involves working with scientists from several disciplines. I would recommend maintaining a professional and congenial relationship with the collaborators and colleagues. Showing respect for their time and help will aid in achieving the goals. In addition, I would recommend researchers interested in the area of risk analysis, like mine, to consider SRA for networking with scholars sharing your research interests.

Debasmita: I conduct research, coordinate among researchers, maintain a Web site, and communicate risk to the scientific community. If anybody is interested in the kind of job that I am doing, I would recommend for them to, first, respect multiple perspectives and, second, always be flexible enough to incorporate and integrate novel ideas into your work.

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

Abani: The SRA certainly has helped me during my PhD program, in providing travel awards to present my research work at its annual meetings. The Student Merit Award from the Exposure Assessment Specialty Group at the 2006 SRA Annual Meeting encouraged me further to continue my career in risk analysis. Attending SRA annual meetings exposed me to professionals working in the risk analysis area across the globe and provided me opportunities to interact and network with them.

Debasmita: I came to know about SRA from my husband. I accompanied him to the 2008 SRA Annual Meeting in Boston, Massachusetts. I met many researchers working in the area I am interested in and got a lot of feedback from researchers across the globe. I would like to attend the SRA meetings in the future too.

Is there anything else you would like to add?

Abani: I appreciate the efforts undertaken by the SRA to bring in an interesting confluence of many disciplines to a single platform and I feel fortunate that I am a member of the SRA and I would like to continue the membership further.

Debasmita: If you are interested in knowing more about NNIN, please visit www.nnin.org. You might want to visit www.sei.nnin.org, a Web site devoted to the social and ethical aspects of nanotechnology, where we have a lot of resources posted under several categories. You can also get information about the kind of research that we are currently pursuing. We would really appreciate your feedback since we are constantly modifying the Web site based on your feedback.



RISK newsletter Advertising Policy

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

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

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

The RISK newsletter is published four times a year. Submit advertisements, 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: editormw@hickorytech.net.

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Deadline for RISK *newsletter* Submissions

Send information for the **Fourth Quarter 2009** SRA RISK *newsletter*, which will be mailed to members early November, to Mary Walchuk, RISK *newsletter* Managing Editor (115 Westwood Dr., Mankato, MN 56001; phone: 507-625-6142; fax: 507-625-1792; email: editormw@hickorytech.net) no later than **21 September 2009**.



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

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

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

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

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