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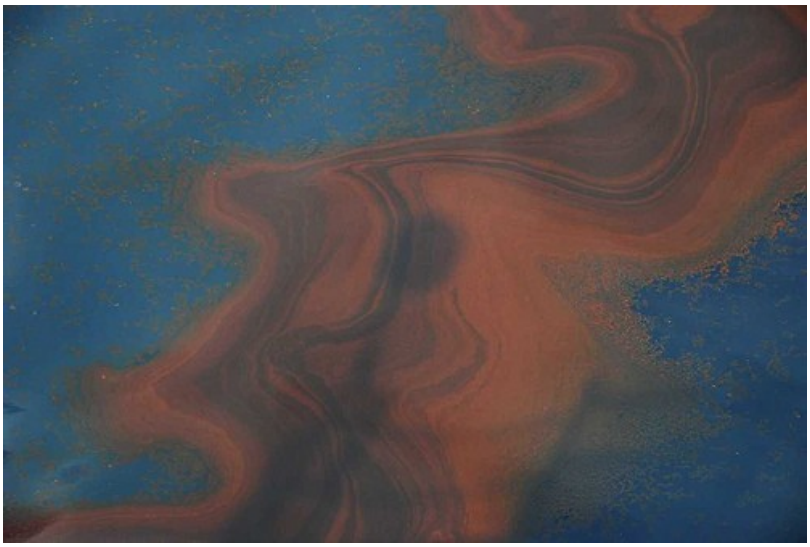
Society for Risk Analysis Past Presidents Comment on the Deep Horizon Oil Spill

"In mid-April in the Gulf of Mexico, a catastrophic crude-oil spill began as a result of a BP Corporation deep-water drilling operation that failed," Society for Risk Analysis (SRA) Past President Robert Tardiff recently noted. "Considerable human life was lost when the drilling rig exploded, oil- and chemical-mediated ecological and other marine damage is spreading over a vast area of the Gulf Coast, and workers engaged in stemming the spill and striving to clean the spreading oil are claiming signs of assorted health impairments. The magnitude of the oil spill and dispersion is unparalleled in U.S. history, and recovery may be achieved only after decades of persistent human efforts and natural processes."

Dr. Tardiff and many of his fellow SRA past presidents commented for RISK *newsletter* readers on the effects of the oil spill on the field of risk analysis.



Oil slick near site of leaking Macondo well in the Gulf of Mexico, 22 June 2010
Image by Dr. Oscar Garcia/Florida State University

Robert Tardiff

SRA President 1993-1994

Questions Raised About the Criticality of Risk Analysis and Risk Management in Offshore Oil Drilling

For the field and practice of risk analysis, the occurrence of "rare events of catastrophic consequences" raises vital questions about the reliability of past risk analysis practices in and for the oil industry, possible needs for changes in those current practices, and overall improvements in engineering risk analysis methods and generates a compelling rationale for expanding research to better understand highly complex engineering processes of oil extraction. This brief does not offer a direct assessment of the nature and appropriateness of specific risk analyses that may have guided BP and its business partners in extracting oil from the deep waters of the Gulf of Mexico, since that documentation is not publicly available. Nor can one scrutinize any critique and guidance that the federal regulators (Minerals Management Service or MMS) may have provided to BP managers prior to issuing approvals for drilling at this designated site; if such documents exist, they also are unavailable for public review.

Rather than speculate about the content of the BP risk analysis, one can, however, identify elements of risk analy-

***(Oil Spill,** continued on page 3)*

Inside RISK

President's Message

Rick Reiss

While the annual meeting is still nearly half a year away, the Society for Risk Analysis (SRA) Council is still hard at work planning for the meeting and developing ways to enhance member services and grow the Society. The SRA Council held its annual summer planning meeting on 15 June 2010 in Alexandria, Virginia. The Program Committee met the following day to review the abstract submissions and develop a schedule for the conference.

The Council is also discussing other new initiatives such as developing a summer workshop program that brings risk professionals together in Washington, DC, to provide scientific lectures related to a current issue of public concern. Additionally, we are considering an overhaul of the website and a redesign and relaunch of the expert database. These items will be discussed further at the December meeting.

The Council meeting focused on ways to use our resources to better serve the membership. One goal is to provide a better experience for students and young professionals who are just establishing their careers in the risk sciences. We developed three new initiatives to start to meet this goal:

- The Council allocated $12,000 to subsidize students to attend the conference workshops. Many of the fees to these workshops are prohibitive to students. Therefore, students will be asked to pay $50 to attend a workshop and the Society will subsidize the remaining fee up to a limit of $12,000. The funds will be allocated on a first come, first served basis.
- We have formed a student group. The new group will be led by Amanda Boyd and Francesca Borner. Amanda and Francesca are planning several activities for the annual meeting, including a mixer. The structure of the group will be formalized in the coming months.
- We are assembling a career fair at the annual meeting that will allow those looking for jobs to meet with a broad range of employers from academia, consulting, industry, and government. A related activity will be a forum on professional development.

I had the pleasure of attending the SRA-Europe annual meeting in London the week of 21 June. The meeting was held at Kings College in the Waterloo district of London. The conference was titled "Risk, Governance & Accountability." The co-chairs of the conference were Ragnar Löfstedt and Henry Rothstein, both of Kings College. The conference included five plenary sessions and numerous paper presentations. Among the many highlights was the opening plenary that addressed the conference theme and featured SRA Past President Jonathan Wiener of Duke University, Nick Pidgeon of Cardiff University, and Ethel Forsberg, the director general of the Swedish Chemicals Agency since 2001. The conference was introduced by Sir Lawrence Freedman, the vice principal at Kings College.

Other regional organizations in SRA also have meetings coming up. SRA-Latin America will be holding a meeting in Santiago, Chile, on 17-20 August. This meeting was rescheduled from March due to concerns about aftershocks from the earthquake. SRA-Australia/New Zealand is holding its annual meeting in Sydney 27-29 September. SRA-Japan is holding its annual research conference 26-28 November at Meji University.

So, go out and see the world!

Pantheon of Risk Analysis

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 selects the inductees.

In 2008, the SRA inducted 35 initial honorees into the Pantheon of Risk Analysis. In 2009, the SRA added seven new inductees nominated by SRA members: Peter Bernstein, Nils Bohlin, Ward Edwards, Ronald A. Fisher, William Sealy Gosset (Student), Gilbert F. White, and Aaron Wildavsky.

The full list is on the SRA Web site, at www.sra.org/about_pantheon.php, with links to the relevant Wikipedia page on each honoree.

New nominees are welcome. To nominate other legends in the field, please contact Past President Alison Cullen (alison@u.washington.edu).

***(Oil Spill,** continued from page 1)*

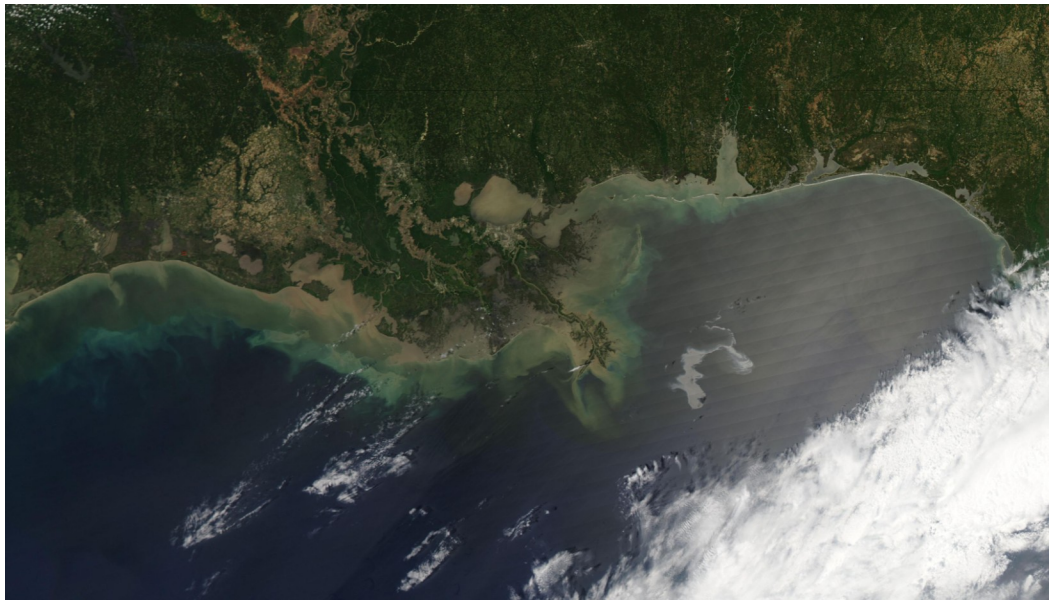
sis that professionals in our Society would expect it to contain to assure the robustness and thoroughness of a risk analysis for this particular drilling operation and, by extension, to surmise the extent to which risk managers heeded the findings in preparation for drilling and actually prepared for the worst possible outcomes.

A risk analysis for a deepwater oil-drilling platform would likely contain several components: (1) Expected would be that a comprehensive and quantitative "fault-tree" analysis would be assembled, one in which all engineering parts and processes in the drilling chain are assigned probabilities of failure under anticipated physical stress of operations (some of that information could have been obtained from historical sources, and algorithms are available to provide a total probability of failure under assorted scenarios, for example, unusually high well pressures and violent storms). (2) An oil release estimation—volumes and rates—would also be expected to have been calculated for average and extreme circumstances. (3) An assessment of wide-ranging ecological impacts on assorted species in water and on land would be essential, with an estimation of the expected magnitude of damage under catastrophic emissions of oil at the sea floor. (4) The toll of human life and health impairment would need to be estimated for oil rig workers, as well as for those involved in stopping the oil leak, those engaged in cleanup, and medical consequences on residents from contamination of the aquatic food chain. I would anticipate that distributional analysis would be employed extensively to better visualize and emphasize the potential consequences. (5) Judging the overall probability of such a rare event with extraordinary consequences must include a full assessment of uncertainties. A comprehensive risk analysis would provide the reliable basis for emergency response plans capable of dealing effectively with the magnitude of the disaster.

It has been said that MMS has provided a risk assessment model to the oil industry for its offshore drilling activities; however, it is unclear if it covers the elements thoroughly for a catastrophic spill event. It is equally unclear how BP might have applied that model and implemented its outputs for this and other platforms.

While the risk analysis focuses on unintended consequences of possible failures of equipment, of incomplete or inaccurate information, and on unanticipated externalities outside of human control (for example, an earthquake at the well site), one should not lose sight of the possible and perhaps large role of faulty judgment during the risk management phase of drilling an offshore oil well. For instance, was a risk management team aware of the risk assessment? Did that team discount the findings as too remote to be of concern? Were the risk estimates considered too remote to warrant any anticipatory protective action (it never happened before, why worry about it now)? Historically, several low-probability catastrophic events have involved flawed or impaired judgments to varying degrees—witness the Bhopal (India) chemical plant explosion, the Seveso (Italy) chemical explosion, and the Exxon Valdez foundering in Prince William Sound (Alaska). Consequently, any serious examination of the factors that led to the BP oil rig explosion and ensuing massive oil spill must include consideration of human elements.

While we do not known precisely what is actually contained in the BP risk analysis guidance documentation and in BP's decision-making processes based on that documentation, it is essential that these materials be reviewed by knowledgeable and credible experts in this field and aired in the public forum. The chance of repeating this BP oil spill is too great not to learn from risk analysis deficiencies so as to avoid similar outcomes in the future. In my view, such a review of these cornerstone documents and processes should be undertaken by a neutral third party, perhaps the National Academy of Engineering, with the Society for Risk Analysis sharing its relevant expertise in risk analysis to aid in the process. I have no doubt that our Society stands ready to participate in meaningful and substantive ways to such an undertaking.



NASA's Aqua satellite captured this image of the Gulf of Mexico on 25 April 2010 using its Moderate Resolution Imaging Spectroradiometer (MODIS) instrument. With the Mississippi Delta on the left, the silvery swirling oil slick from the April 20 explosion and subsequent sinking of the Deepwater Horizon drilling platform is highly visible. The rig was located roughly 50 miles southeast of the coast of Louisiana.

Image by NASA/MODIS Rapid Response Team

Lester Lave

SRA President 1985-1986

BP's Mistakes

Perhaps the largest mistake in risk analysis/risk management at BP is the assumption that "defense in depth" allows you to get careless about individual steps in the risk management chain. Any one of several devices should have been sufficient to prevent, or at least severely limit, the damage from this mishap. But they weren't installed or were installed badly, not tested, or expensive repairs not undertaken—why worry, there are other layers of protection.

Charles Perrow in *Normal Accidents* found common problems in major industrial mishaps in the 20th century. In each case there were devices in series, any one of which could have prevented the mishap or at least reduced the loss. However, the company assumed that the safety systems were so good that they could violate one with impunity—and got careless.

One way to avoid the mishap or reduce its damage is to build a culture of safety where every action and device related to safety is taken seriously, even if the likelihood or the resulting damage seems small. This approach contradicts expected risk calculations since it identifies all safety actions and devices as important. The BP example shows again that it is easier to manage safety as an on-off switch than teaching management and workers how to do expected risk calculations and letting individuals decide which actions and devices to adopt.

The Coast Guard Cutter Oak skims thick brown oil off the coast of Alabama, working with the tugboat Todd Danos on 21 June 2010. Coast Guard cutters have removed several thousand barrels of oil south of Mobile.
Image by U.S. Coast Guard

Richard Schwing

SRA President 1988-1989

BP Oil Spill

What can happen? What is the probability? What are the consequences? These questions were posed by Stanley Kaplan and B. John Garrick in Issue 1, Volume 1 of *Risk Analysis* in the spring of 1981. This theme has been the raw material for *fault tree analysis* (FTA), the dominant tool for analyzing risks in complex processes since 1962. After the 1979 incident at Three Mile Island, the Nuclear Regulatory Commission (NRC) further expanded these methods in regulating the nuclear industry.

One can find many examples of FTA on the Internet regarding applications to the petroleum world. Relatively few, however, are from the United States. Perhaps this is due to the fact that there is no regulating authority comparable to the NRC in the United States. Certainly the regulator would not have sanctioned the shoddy performance of our U.S. petroleum industry with its loose oversight of subcontractors. Had rigorous FTA been imposed by a "higher authority," BP CEO Tony Haywood would not be quoted as saying that this tragedy "wasn't our accident."

Petroleum products are so familiar and routine in our daily lives that the public fear of crude oil is nowhere close to our perception and fear of radiation and radioactive materials. Were they similar, the U.S. population would have called for rigorous controls, similar to those imposed by the NRC.

A complete risk-reduction protocol would also include an examination of "unintended consequences" due to interventions. BP actions should include a further examination of surfactants, which by themselves impose risks.

John Garrick

SRA President 1989-1990

Commentary on the Deepwater Horizon Oil Spill

History tells us that high-hazard operations can experience catastrophic events. "Catastrophic" can be interpreted in terms of human fatalities, environmental damage, or economics and sometimes all three.

History also tells us that once a disaster occurs, there are always precursor events which, had they been known in advance and acted on, could have prevented the disaster or suppressed its consequences.

High-hazard and complex operations require more than rules, regulations, design, and reporting requirements to manage the risk of disasters. As a matter of fact, the existence of a complex set of rules, regulations, and reporting requirements generally contributes to the cause of a disaster. The problem with most high-hazard, complex, and regulated operations is often too much information, not too little—information that masks the existence and dynamics of important precursor events.

An oil-coated feather washed onto a Pensacola, Florida, beach on 23 June 2010.

Image by U.S. Air Force Tech. Sgt. Emily F. Alley

Contemporary quantitative risk assessment is an example of what needs to be done for the operation of offshore oil platforms.

Based on the evidence of causes of past major disasters, quantitative risk assessment in the form of a total system quantification of what-can-go-wrong scenarios and their likelihoods and consequences is the best tool for knowing how to manage catastrophic risk—a process that provides transparency to what is important. This has been demonstrated by the nuclear electric power industry with positive and dramatic results.

While there is evidence of limited failure analyses of isolated systems associated with the Deepwater Horizon offshore platform, there is no evidence of a total system quantitative risk assessment, for example, in the manner practiced in the nuclear industry.

Offshore operations are a prime candidate for the application of contemporary quantitative risk assessment. There are many parallels to the nuclear power application of quantitative risk assessment. For example, the failure of the blowout preventer at depth is in a sense the counterpart to the meltdown of a reactor core; both represent the primary barrier to a major release. A detailed quantitative risk assessment will bring into sharp focus the likelihood and consequences of system failure as well as the options for corrective actions.

The good news about a nuclear power core is that even with a meltdown there is a backup system, namely, a very high-integrity containment system. Such does not appear to be the case for the failure of the critically important blowout preventer of offshore oil-production platforms.

Curtis Travis

SRA President 1990-1991

Need to Be Better Prepared

The BP accident will not change how risk assessments are performed (witness the impact of the Challenger accident); however, it will greatly increase the focus on backup systems.

Risk assessments are notoriously poor at estimating the frequency and magnitude of rare catastrophic events. The Minerals Management Service performed three assessments of the environmental impact of an oil spill in the Gulf of Mexico in 2007 with estimates ranging from a maximum spill of 1,500 barrels to a predicted frequency of five spills of 10,000 barrels or more per 100 billion barrels of oil produced. The actual rate of release of the BP spill is estimated to be greater than 60,000 barrels a day.

The problem here is not the magnitude, but the duration.

Major oil leaks are going to happen. Since offshore oil resources are too important to forgo, we need response measures in place before large spills happen.

The last line of defense has been assumed to be the blowout preventer. However, blowout preventers are subject to failure and, as the BP accident has illustrated, there is no Plan B.

Government and industry need to fund development of safety redundancies and containment alternatives before large-scale offshore drilling resumes. It is evident that we need to be better prepared to react to a catastrophic event.

Warner North

SRA President 1991-1992

"The readiness is all."

(Shakespeare's *Hamlet*: Act V, Scene ii)

I have no knowledge beyond news media accounts, but from these accounts, it appears that BP was not ready.

Is this protracted oil spill a rare bad outcome, which can occur even with the best decision making? Or, is it the result of deficiency in risk management, not only in BP, but in other leading high-technology organizations and regulatory agencies?

As one who has been active over four decades and proud of the intellectual accomplishments of the risk analysis community, I am extremely disappointed: The methods we have developed—to assess risks, aid decision making in the face of great uncertainty and complexity, and communicate effectively to give insight to those affected by risks—are still too rarely used.

A counterexample is the development of building codes to make structures more resistant to earthquakes. Where I live, the rebuilt Bay Bridge and the International Terminal at the San Francisco Airport illustrate that the public has been willing to trust the judgment of the experts and spend the extra billions of dollars. When the next large earthquake comes, we will have made ourselves ready—quietly, without public controversy.

How can we replicate this example elsewhere? Why are we not in greater demand to help our society in being ready? Is it our failure to communicate or a failure of the citizenry and its leaders to acknowledge the need? If the latter, how many more disasters will it take before they seek more help from our community?

Elisabeth Paté-Cornell

SRA President 1994-1995

Refine the Tools We Have

I do not think that it will change the field. The Piper Alpha accident of 1988 triggered a lot of risk analysis studies. It will be an opportunity to apply our methods to a new situation (if not a new system) and will make us refine the tools that we have (and perhaps develop new ones, but that I do not know).

Rae Zimmerman

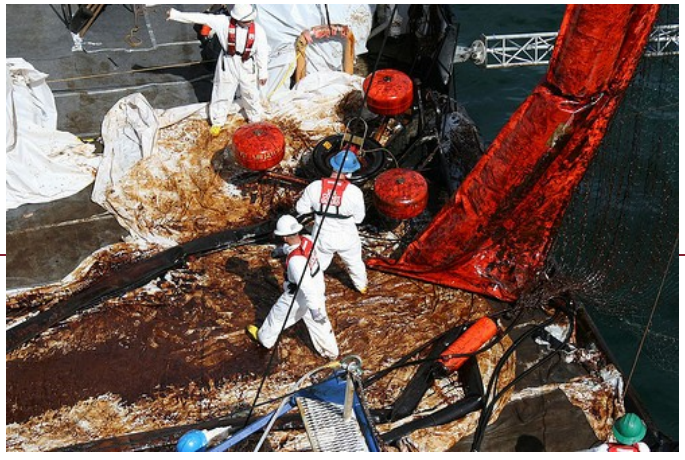
SRA President 1996-1997

Oil Spill

The Gulf oil spill catastrophe involved a process with many complex systems and numerous components and procedures that interacted with one another in often unpredictable ways. The initial risk assessment and risk management would have assumed a set of systems, procedures, and conditions that were based on an original complex design. That design underwent radical changes.

Historical accounts indicated that many changes in equipment, material, and backup systems occurred often only days before being reported to regulatory authorities. *The New York Times* (Barstow et al., 20 June 2010) identified changes in barriers to gas rising, capping to prevent seal movement, and cement quality and testing. In such a complex system, substantial changes radically change the risks to which the system is exposed.

Indications are that risk analysis was not thoroughly revisited to account for these changes after initial permits were granted. This demonstrated the frequently overlooked fact that more new interactions introduced in a system can result in the risks being reconfigured. Ultimately, consequences are the final test for risk analysis and management. The consequences of a failure were potentially different and more severe than the original risk analysis anticipated. Potential consequences included vast ecological effects in an ecosystem with over 8,000 species (Harte Research Institute 2009), loss of human life, and fundamental social system shifts in jobs, worker housing, supply/transport route, and vast marine-oriented cultures, to name a few. The lesson to be learned is that a strong reanalysis of the risks is necessary whenever substantial changes are made.



The U.S. Coast Guard Cutter Aspen recovers fast sweep boom after oil skimming operations in the Gulf of Mexico less than one mile from the shoreline, 28 June 2010. The cutter Aspen is one of several Coast Guard cutters skimming oil in the Gulf of Mexico as part of the ongoing Administration-wide effort to combat the Deepwater Horizon oil spill.

Image by U.S. Coast Guard

Yacov Haimes

SRA President 1997-1998

The Gulf Oil-Spill Disaster: Fundamental Violation of Tenets of Risk Analysis

The oil-spill disaster in the Gulf of Mexico stems from the violation of fundamental tenets of risk analysis, including:

1. Generate all conceivable risk scenarios by embracing the theory of scenario structuring[1] and its extension[2] and subsequently focusing on the most important and critical subset thereof.
2. Place risk scenarios of extreme and catastrophic events high on management's agenda, even for events with low, but not unlikely, probabilities, given the deep depth of the oil well beneath the ocean and the fact that off-shore oil-drilling accidents had occurred in the past.[3] In *Normal Accidents*, Perrow[4] writes: "Rather, I will dwell upon characteristics of high-risk technologies that suggest that no matter how effective conventional safety devices are, there is a form of accident that is inevitable."
3. Recognize that human and organizational failures have been well documented in the risk analysis literature (the 1979 accident at the Three Mile Island Nuclear Power Plant is a case in point). The reported failures of critical equipment on board the oil platform and the over-extended working hours of the crew constitute the epitome of human and organizational failures. In analyzing accidents, including fire risks on board offshore platforms, Elisabeth Paté-Cornell[3] reinforces the above sentiment and writes: "Most severe industrial accidents have been shown to involve one or more human errors and these are generally rooted in management problems."
4. Most critically and tragically is the apparent failure of proper preparedness for, response to, and recovery from such catastrophic accidents.

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3. E. Paté-Cornell, D.M. Murphy, *Reliability Engineering and System Safety*, 53:115-126 (1996)
4. C. Perrow, *Normal Accidents*, Princeton University Press (1999)

The U.S. Coast Guard Cutter Aspen recovers fast sweep boom after oil skimming operations in the Gulf of Mexico less than one mile from the shoreline, 28 June 2010. The cutter Aspen is one of several Coast Guard cutters skimming oil in the Gulf of Mexico as part of the ongoing Administration-wide effort to combat the Deepwater Horizon oil spill.

Image by U.S. Coast Guard

Gail Charnley

SRA President 1998-1999

Necessary To Go "Above and Beyond"

It is likely that, all things being equal, the risk of disaster occurring on any of the 42,000 oil wells that have been drilled in the Gulf of Mexico is more or less fairly estimated. All things are not equal in the Deepwater Horizon case, however, and the typical assumption that each of the failures that occurred had an independent probability is not valid. Congressional hearings and BP's and Transocean's own internal memos make it clear that the Deepwater Horizon spill resulted from reckless behavior and gross negligence at that particular well and does not reflect a system-wide failure that could have been predicted with better risk analysis. BP's blue-ribbon-panel investigation of its earlier oil refinery disaster concluded that BP failed to provide "effective" leadership to make the safety of its industrial equipment "a core value." From a risk management standpoint, responding to the Deepwater Horizon disaster with a moratorium on new drilling is the precautionary principle taken to extremes. A moratorium would not reflect precautionary action in the face of uncertainty because we are not all that uncertain about what happened. While we don't know everything yet, we do know that operations on this particular well were "reckless"—which is exactly what President Barack Obama acknowledged in his oval office speech to the nation on 15 June. We don't shut down the entire air-travel system just because one pilot crashes his plane into a mountain, do we?

A risk management approach involving greater adult supervision and an enforceable code of conduct that goes "above and beyond" what is necessary to reduce the likelihood of further spills would be more helpful.

Robin Cantor

SRA President 2001-2002

Balance Between Tolerance and Resource Development

The Deepwater Horizon oil spill is likely to have profound effects on the science and application of risk analysis because it will stimulate increased attention to the weighting of plausible worst cases in policy and regulatory analysis. For many years, risk analysts have debated whether the expected value or worst-case scenarios should guide our policy and decision making. In contrast, work in the area of commercial risk transfers has routinely emphasized the plausible worst case for pricing risk.

An important question raised by this type of analysis is whether it will make society overly risk adverse and thereby lead us to decline risks with substantial upside benefits. The science and practice of risk analysis will be challenged once again to find an appropriate balance between risk tolerance and resource development that fits with our current experiences.

Generally, such shifting in the policy ideals is frustrating for the social, behavioral, and natural scientists who work on policy-relevant analysis. I expect that many long-muted debates about the role of politics, values, perceptions, evidence, and inference will resurface as the new bright lines for social risk tolerance, private rewards, and equitable distribution of costs are formed with input from our scientific communities.

Cleanup crews spread out across Pascagoula beach in Mississippi to collect tar balls washed ashore on 1 July 2010. Work crews are monitoring and cleaning the three-mile strand of beach on a daily basis.

Image by U.S. Coast Guard Petty Officer 3rd Class Colin White

Bernie Goldstein

SRA President 2002-2003

Broadening Traditional Chemical Risk Assessment

The ongoing Gulf crude-oil blowout should lead to a more comprehensive approach to health risk assessment as a result of disasters. The direct health effects of exposure to crude oil components and to related chemical agents, such as the dispersant, will likely be relatively insignificant compared to the overall impact of the Gulf oil blowout on mental health and on worker safety—two risk areas that are often omitted in traditional risk assessment.

Estimating the risk of longer-term mental health effects is an achievable task, as is estimating the risks to worker safety. Studies of Alaskan Native communities following the Exxon Valdez found that social disruption led to alcoholism and interpersonal violence.

Ongoing findings from World Trade Center cohorts have demonstrated the risk of post-traumatic stress disorder (PTSD) and other mental health disorders in different populations and highlighted the importance of training in protecting worker health. The psychosocial stress of the current disaster is heightened by the challenges to the resilience of a community still recovering from Hurricane Katrina.

The Gulf disaster also shows how challenging it is to provide a unified approach to human health and the environment. Extending beyond worries about chemicals in seafood, crude oil and chemical dispersant are being added to a complex ecosystem already heavily challenged by nutrient runoff that has created a “dead zone” in the Mississippi River delta. The combined impact on human health through brevetoxins and other toxic agents produced by algal and bacterial growth is unknown.

Caron Chess

SRA President 2003-2004

BP's Risk Communication Disaster

When Lawrence Rawl, the CEO of Exxon, was asked by a leading organizational scholar the cause of the infamous oil spill, he answered: "One drunk sailor." Operators, such as captains, are often scapegoats for systemic organizational failures.

BP's risk communication gaffes have been so obvious that even my undergraduates can quickly list many. BP has badly flunked risk communication 101. Does the fault lie with one incompetent CEO (who may very well be history by the time you read this newsletter)?

I suspect systemic problems. A Greenwire story (10 June) found depressing similarities between Exxon's and BP's risk communication smash-ups: shifting blame from the corporation, emphasizing science rather than people, and initially downplaying the potential impact of the disaster. Exxon promised to compensate those with damages and then fought economic responsibility for 20 years. There are already signs that BP may not live up to its economic promises. Why are these stories hauntingly similar?

Lee Clarke's *Mission Improbable*, published more than 10 years ago, termed companies' wholly inadequate contingency plans "fantasy documents." As he summarizes in a 16 June 2010 posting on the University of Chicago Press' blog: "[Fantasy documents] over-promise what officials, experts, and organizations can deliver. They abjure expertise and history for wishful thinking, so they can't actually guide emergency response when people need them to." Clarke's research examined the organizational imperatives behind Exxon's fantasy documents. He thinks that the same could be found at BP.

What is the story behind BP's risk communication failures? As someone who studies organizational factors and risk communication, I would ask questions about norms, not only on the oil rig, but also in the board room. Were decisions based on healthy debate, "group think," or more likely a complex mix? Was BP's plan for crisis communication another form of fantasy document? Are risk communication lapses tied to flaws in internal communication? Were there wrestling matches between lawyers and communication experts? (Any wagers about the take down?) I am also fascinated by the organizational links, or lack thereof, between risk communication and risk management.

Will researchers get access to probe the organizational stories that belie the "incompetent CEO" hypothesis? We know the answer to that question.

Baruch Fischhoff

SRA President 2004-2005

Pride

Risk managers are only human. As humans, they make mistakes. They also have emotions, including pride. Pride can reduce mistakes, if it motivates people to get things right in order to show skeptics that they can do the job. Pride can make mistakes more likely if it deafens people to input from their skeptics, who "can't tell them anything."

The costs or benefits of pride depend on what the skeptics know. If they are fools, then ignoring them can save effort and avoid distraction. If the skeptics have different, legitimate worries, then heeding them can reduce risk managers' natural vulnerabilities.

Like other emotions, pride has a mind of its own. Whether it promotes defiant deafness or useful vigilance will depend on nonrational factors, like the atmosphere in the risk managers' locker room.

If they routinely mock their skeptics, then they are unlikely to learn much from them. Anger is a particularly unproductive emotion, focusing people on their opponents, distracting them from the situation, and increasing their confidence.

As the Deepwater Horizon calamity unfolds, an emotional post-mortem should be part of the accounting. If the risk managers disparaged those skeptical of their competence and honesty, then their actions were, likely, less rational than they could have been.

In the politicized context of extractive industries, such emotionality is not hard to imagine, on all sides. These industries' projects often generate deep, even irreconcilable conflicts. Conducting them in cold blood might keep the parties from acting stupidly out of pride.

Contractors use improvised mops made of bamboo poles and absorbent pads to clean up oil in the marsh grass in Terrebonne Bay, Louisiana, on 3 July 2010.

Image by U.S. Coast Guard Petty Officer 3rd Class Derek W. Richburg

Foodborne Contaminants: Chemical and Antimicrobial

Felicia Wu

In the Second Quarter 2010 issue of the Society for Risk Analysis (SRA) RISK *newsletter*, Dr. Charles Haas describes risks associated with foodborne contaminants. Many of the contaminants described are microbiological in nature, resulting in infectious diseases in humans. Indeed, these enteric and parasitic contaminants are the primary source of illness worldwide. However, the problem of food safety risk extends beyond the risk of microbiological contaminants. It also encompasses chemical contaminants and problems associated with antimicrobial resistance in animals intended for food.

Examples of chemical contaminants in food that pose global health risks are mycotoxins (aflatoxins, fumonisins, vomitoxin, etc.) produced by fungi in foodstuffs, phycotoxins (algal toxins) and methylmercury in seafood, cyanide in improperly prepared cassava, allergens (such as those in peanuts and shellfish), arsenic, cadmium, lead, and dioxins. While many of these chemical contaminants cause a comparatively low burden of disease in industrial nations, they may cause serious mortality and morbidity in less developed countries (WHO 2007).

The risk assessment of chemical contaminants in food is different from that of microbiological contamination. Unlike the latter, in which one begins with the health effect and extrapolates back to the infectious causes, the starting point in chemical contamination is dose-response assessment (WHO 2007). This, combined with exposure data in different parts of the world, allows for risk characterization: estimation of the magnitude and probability of harm caused by foodborne chemicals and toxins.

Antimicrobial resistance in animals intended for food is another critical emerging food safety risk. Antimicrobials are essential drugs for human and animal health. The extensive use of these drugs, such as antibiotics, in livestock and poultry production may lead to the increased risk of pathogenic organisms that are resistant to the drugs. This, in turn, increases human health risks associated with resistant pathogens, such as *Salmonella* and *Campylobacter*. From a risk management standpoint, it is critical to monitor antimicrobial usage, to increase public awareness of potential human health impacts of antimicrobial use in animal production, and to develop lists of critically important antimicrobials for human health in order to guide strategies for livestock and poultry practices.

Source: WHO (World Health Organization). 2007. The Global Burden of Foodborne Diseases: Taking Stock and Charting the Way Forward. WHO Consultation to Develop a Strategy to Estimate the Global Burden of Foodborne Diseases, Geneva, 25-27 September 2006, Geneva, Switzerland.

Felicia Wu is an assistant professor of environmental and occupational health at the University of Pittsburgh. Her research focuses on risks at the intersection of agriculture and public health, with topics including mycotoxins (toxins of fungal origin), genetically modified organisms, biofuels, and climate change impacts on agriculture. She has recently received a National Institutes of Health (NIH) EUREKA Award for her research concerning global cancer risk from foodborne aflatoxins.

Wu received the SRA Chauncey Starr Award in 2007 and now serves as a councilor for SRA. She serves as a resource advisor to the World Health Organization (WHO) Foodborne Disease Burden Epidemiology Reference Group (FERG) and has served as an expert consultant for the International Life Sciences Institute. She has grants from the NIH, Bill & Melinda Gates Foundation, and U.S. Department of Agriculture.

Risk Analysis Journal

Michael Greenberg, Editor in Chief
Karen Lowrie, Managing Editor

The editorial staff at *Risk Analysis* has placed a priority on establishing closer ties with authors in Asian countries, in particular China, and soliciting more articles from this part of the world. In June, Editor in Chief Michael Greenberg spoke at a conference in China and visited five universities between Beijing and Chongqing. Dr. Greenberg found that our journal is well known to the Chinese government officials, professors, and students. In fact, several suggested a project to translate some key articles from the journal into Mandarin so that they could be used in Chinese university classes. We will continue to pursue this growing relationship.

We hope that readers enjoyed the May 2010 special issue on food safety, a risk topic that is of increasing importance to risk analysts and affects all people. Readers can look forward to an upcoming special issue on nanotechnology, drawn from SRA's 2008 workshop on this subject. Several other special issues are in the planning or review stages and, as always, we welcome your ideas for special collections on important risk topics (mrg@rci.rutgers.edu or klowrie@rci.rutgers.edu).

Risk Analysis in Action
SRA's 30th Annual Meeting
5-8 December 2010
Salt Lake City, Utah

Photo by Mary Walchuk

Rachel Davidson
President-elect

We are excited about the upcoming 30th annual meeting of the Society for Risk Analysis in Salt Lake City. There are many fantastic opportunities planned—some new and some that we enjoy every year.

NEW FOR STUDENTS AND YOUNG PROFESSIONALS. With the help of Amanda Boyd and Francesca Borner, the co-chairs of the new ad-hoc committee for students and young professionals, we have planned a collection of new events for our younger members. We welcome all students, young professionals, and anyone who is interested to attend our first **roundtable on professional development** (Monday afternoon), **mixer for students and young professionals** (Monday evening), and **career fair** (Tuesday afternoon). We are also delighted to announce that the Society will be offering additional student support for the workshops occurring at the annual meeting. **Students may register for any workshop for only $50** and the Society will pay the balance of the fee up to a total of $12,000 for the year. Students will be supported on a first come, first served basis, with a limit of five students per workshop.

PLENARY SESSIONS. We have something for everyone in our three plenary sessions. On Monday morning, we will have a panel session on **Strategies for Reducing Catastrophe Risks in the Face of Climate Change** with **Scott Belden** (senior vice president of Reinsurance, Travelers Insurance), **William H. Hooke** (Policy Program director, American Meteorological Society), **Granger Morgan** (Lord Chair Professor in Engineering and director of the Climate Decision Making Center at Carnegie Mellon University), and **Robert Muir-Wood** (chief research officer at Risk Management Solutions, RMS), with **Howard Kunreuther** moderating (Cecilia Yen Koo Professor of Decision Sciences and Public Policy, and Co-Director Risk Management and Decision Processes Center, Wharton School, University of Pennsylvania). On Tuesday morning, we will have a plenary session on the **Analysis and Management of Financial Risk: What Happened and Where Do We Go from Here?** with **Richard Zeckhauser** (Frank P. Ramsey Professor of Political Economy, Kennedy School, Harvard University) and **Michael Mauboussin** (chief investment strategist at Legg Mason Capital Management and adjunct professor at Columbia Business School), with **Jonathan Wiener** moderating (William R. and Thomas L. Perkins Professor of Law, Duke University). Finally, we will have a lunchtime plenary on Wednesday with **Dr. Geoff Tabin** (professor of ophthalmology and visual sciences, director of the Division of International Ophthalmology, University of Utah, and the fourth person in the world to reach the tallest peak on each of the seven continents). He will talk about his **personal risk taking as a mountain climber and his work on cataract and other eye diseases in the developing world**.

SRA Career Fair
Tuesday afternoon, 7 December 2010

Come meet the next generation of risk professionals!

If you are interested in representing your company at the career fair, please contact Lori Strong (lstrong@burkinc.com).

PROGRAM COMMITTEE. I am extremely grateful to the program committee for what I am told was one of the smoothest Program Committee meetings in history: Gary Bangs, Steve Bennett, Gail Charnley, Julie Fitzpatrick, Kurt Frantzen, Stanley Levinson, Steve Lewis, Igor Linkov, Margaret MacDonell, David Oryang, Cesar Pinto, Louie Rivers, Lisa Robinson, Paul Schlosser, Thomas Seager, Stuart Shapiro, and Ron White. I also thank Lori Strong and Erin Johnson for their invaluable work managing meeting logistics.

SEE YOU IN SALT LAKE CITY. We received 450 abstracts this year for sessions and symposia, in addition to plans for 16 workshops. Please contact Lori Strong (lstrong@burkinc.com) if you are interested in representing your company at the career fair. Look for updates on the website, including information about how to take advantage of skiing opportunities while at the meeting!

Meeting information and online forms—www.sra.org/events_2010_meeting.php

Conferences and Workshops Committee

Jim Lambert, Chair

Volunteer for C&W Committee

The Society for Risk Analysis (SRA) Conferences and Workshops (C&W) Committee will welcome new member volunteers throughout the year. Contact Chair Jim Lambert, 434-982-2072 or lambert@virginia.edu.

SRA Annual Meeting Workshops

Want to learn more about risk analysis tools or emerging topics of interest to risk analysts? Continuing education workshops will once again kick off the SRA 2010 Annual Meeting—with a full slate being planned for Sunday, 5 December. Both full-day and half-day workshops will be offered, including some old favorites as well as many new topics, several of which are relevant to our Salt Lake City locale. So plan to arrive early for the main meeting and enjoy one or more workshops. A sample of possible Sunday offerings is listed in the box to the right; selected workshops may also be offered on Thursday, 9 December, so watch for the meeting registration this summer for the list of confirmed workshops.

Workshops are organized and presented by SRA members and others for the benefit of those attending the annual meeting. A brief overview of each workshop and list of organizers and instructors will be available online with the meeting registration. Register early and save. Contact the subcommittee co-chairs for more information: Jacqueline Patterson (patterson@tera.org) and Margaret MacDonell (macdonell@anl.gov).

Possible SRA 2010 Annual Meeting Workshops

- New Risk Management Ideas from Nature
- Benchmark Dose Modeling and Its Use in Risk Assessment
- Probabilistic Risk Analysis with Hardly Any Data
- Get More from Your Models—Use Sensitivity Analysis
- Decision Analysis for Risk Analysts
- Improving Risk Governance: Stakeholder Involvement and Participation
- Ecological Risk Assessment Methods for Arid Environments
- Cumulative Risk Assessment Concepts, Methods, and Resources
- Use of Expert Elicitation to Inform Decision Making
- Risk Analysis: Fundamental Concepts, Applications, and Controversies
- Practice and Approaches in Occupational Risk Assessment
- Managing Enterprise and Project Risks from a Systems Perspective
- Behavioral Economics and Risk Regulation: Current Issues and Challenges
- Introduction to Environmental and Health Aspects of Nanotechnology
- Multi-Pathway Risk Assessment
- *Field Trip*: Living with the White Death—Managing Risk in Avalanche Country

Several hundred attendees of the annual meeting participate in continuing education workshops each year. These workshops provide an opportunity to explore issues and innovations of risk analysis with your colleagues. Be sure to look for detailed descriptions and registration information in the preliminary program you will receive later this summer to help guide your workshop selection.

SRA Sponsored and Co-Sponsored 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 Amber Jessup (Amber.Jessup@hhs.gov) 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 website and in the SRA quarterly RISK *newsletter*. If there is any exposure of the SRA general funds or significant use of the SRA Secretariat, SRA-sponsored events will require C&W Committee approval of a detailed budget and business plan. In other cases, C&W Committee approval of an event for SRA sponsorship is 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.

- Dose-Response Approaches for Nuclear Receptor-Mediated Modes of Action; Research Triangle Park, North Carolina; 27-29 September 2010
- Dose-Response Assessment Boot Camp; Washington, DC; 18-22 October 2010
- ICVRAM 2011: First International Conference on Vulnerability and Risk Analysis and Management and ISUMA 2011: Fifth International Symposium on Uncertainty Modeling and Analysis; University of Maryland-College Park, Maryland; 11-13 April 2011
- JIFSAN Food Safety Risk Analysis Training Courses; online; throughout 2010

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

Regions Committee

Donna Vorhees and Daniela Leonte, Co-Chairs

The Society for Risk Analysis (SRA) Regions Committee reviewed New Initiative Proposals from SRA-Australia/New Zealand (SRA-ANZ) and SRA members in Egypt interested in creating an SRA-Egypt regional organization. Committee representatives worked with the authors of these two proposals to confirm their consistency with SRA policy and requirements and to ensure that their implementation would benefit the two regions and the broader SRA membership. Both New Initiative Proposals were approved by the SRA Council in June 2010.

With its New Initiatives funding, SRA-ANZ will employ a student or early-career researcher to investigate and recommend ways to determine how best to serve members and potential members of SRA-ANZ. The project will involve a review of what other SRA regional organizations are doing to serve their members as well as a survey of existing SRA-ANZ members and potential members. The output of the project will be a set of recommendations for the Executive Committee of SRA-ANZ, including suggestions for appropriate resource materials. With its New Initiatives funding, SRA members in Egypt will develop four newsletters each year in Arabic and in English that describe SRA events and summaries of selected articles published in *Risk Analysis*. The newsletter will be distributed electronically and in hard copies to share information about SRA and to recruit more SRA members in Egypt and elsewhere in the Middle East. The goal is to create sufficient support for creation of a new SRA regional organization in Egypt. Recipients of New Initiatives funding will prepare reports of their activities and progress for Council review.

The Regions Committee continues its work toward development of new regional organizations to advance the practice of risk analysis around the world. Please contact Donna Vorhees (djvorhees@comcast.net) or Daniela Leonte (d.leonte@unsw.edu.au) if you would like to start a regional organization or would like support with an existing regional organization.

Communications Committee

Sharon M. Friedman, Chair

Communications Committee members have been working on two main projects this year through two subcommittees that focus on (1) placing news releases about articles from *Risk Analysis* in the mass media and (2) new strategies for the Society for Risk Analysis (SRA) website. The *Risk Analysis* subcommittee, which was enlarged this year, selected monthly articles from *Risk Analysis* and reviewed drafts of news releases about the articles written by Steve Gibb of Noblis, who then sent a final version to the lead authors for approval. A media placement plan for the releases was developed by Lisa Pellegrin of Noblis and approved by the committee chair.

Since September 2009, information from eight news releases on *Risk Analysis* articles has appeared in *The New York Times*, the *Los Angeles Times*, *USA Today*, *The Atlanta Journal-Constitution*, *The Baltimore Sun*, *The Times-Picayune* (New Orleans), the UPI wire service, *Consumer Reports*, *WebMD*, the Weather Channel, *Science Daily*, *National Affairs*, *Greater Diversity News*, *Science News*, *The Wall Street Journal* online, *The Times of India*, *Earth Times*, *E.U. Politics Today*, *Medical News Today*, *FoodProductionDaily.com*, and many other websites and trade publications. In addition, these eight news releases averaged 1,033 media hits reported by Newswise, the wire service on which the news releases are placed. Some media outlets or websites posted the SRA releases in their entirety, some included abbreviated summaries, and some included original coverage of their own based on the news releases. The media coverage also included articles in which the journal authors were used as experts as part of a broader story.

Based on the success of the news-release activities, committee members recommended approval of a new one-year contract with Noblis, Gibb and Pellegrin to continue this work. The contract began 31 March 2010.

The Website Subcommittee provided input about improving the SRA website, which was the main subject of an open meeting the Communications Committee held last December at the SRA meeting. The subcommittee was joined by several other SRA members and became President Rick Reiss' ad hoc website committee. This group participated in four conference calls with Reiss to discuss how to improve the website software, provide more timely content, and link more effectively to social media. Discussions about revising the website are ongoing.

Members of the *Risk Analysis* Subcommittee are Cindy Jardine, Steve Lewis, Katherine McComas, Susanna Priest, Henry Willis, and Felicia Wu. Members of the Website Subcommittee are John Besley, Jim Butler, and Kim Thompson. This group was joined by SRA members Kenneth Crowther, Oliver Kroner, and Will McGill. The committee chair is a member of both subcommittees.

Electronic RISK *newsletter*

This is the third issue of the electronic-only RISK *newsletter*. Please let Editor Mary Walchuk (editormw@hickorytech.net) know how we are doing and what you like or dislike about having an electronic-only newsletter for the Society for Risk Analysis.

SRA-Europe
www.sraeurope.org

Julie Barnett, Secretary

Risk, Governance and Accountability
SRA-Europe Conference 2010

The 19th Society for Risk Analysis-Europe (SRA-E) annual meeting was held 21-23 June 2010 at one of England's oldest and most prestigious institutions—Kings College, London, United Kingdom. We were welcomed to the conference by Sir Lawrence Freedman, vice-principal of Kings College; Ann Enander, president of SRA-E; and Rick Reiss, president of the Society for Risk Analysis.

The special theme of the conference was "Risk, Governance and Accountability," reflecting the increasing centrality of risk analysis to decision making in a wide range of policy and organisational contexts. Conference delegates were fortunate to observe and participate in five outstanding plenary sessions that picked up on different aspects of this theme over the course of the conference: Risk Governance and Precaution (Jonathan Wiener, Nick Pidgeon, and Ethel Forsberg); Science, Risk and the Public (Baruch Fischhoff, Alan Irwin, and David Demeritt); Risk Management and Regulation in the 21st Century: Lessons for Europe (Geoffrey Podger, Steve Wearne, and Mikael Karlsson); Finance, Risk and Governance (Michael Power, Steve Priddy, and Jon Danielsson); and Accounting for Risk Based Governance (W. Kip Viscusi, Julia Black, and Ronan Palmer).

Around 280 delegates from Europe, Asia, North America, Africa, and Australia attended and participated in a full programme of individual papers and symposia during eight parallel sessions. Delegates felt the full benefit of being located in the heart of London, and the conference dinner was on the boat "Hispaniola" moored in the shadow of the London Eye.

At the SRA-E business meeting, the Executive Committee was pleased to make a presentation to the winners of the two SRA-E student scholarships. Both Karen Boll (IT University of Copenhagen) and Jorgen Sparf (Mid Sweden University) will receive a contribution worth 500 euro toward their conference expenses.

All the delegates were very appreciative of the excellent efforts of the local organising committee led by Professor Ragnar Löfstedt and Dr. Henry Rothstein and including Professor George Gaskell, Dr. Renee Miller, and Dr. Anne Katrin Schlag.

Attendees at the 19th SRA-Europe annual meeting

"Science, Risk and the Public" presentation by Baruch Fischhoff, Alan Irwin, and David Demeritt

SRA-Latin America
www.srala.org

Esperanza López-Vázquez, President

The earthquake that occurred on the Chilean coast in February 2010 generated a tragedy for many of our Latin-American brothers and sisters from this country. This fact has made us consider the necessity of continuing our efforts in preventing, evaluating, and attenuating risks and disasters. Now more than ever we feel we must articulate collaborative strategies to generate advances in public, academic, and scientific sectors in order to protect the most vulnerable communities.

This event made us move our calendar of activities so the first Society for Risk Analysis-Latin America Regional Organization (SRA-LA) convention is knocking on the door. From 17 to 20 August we will be receiving colleagues at the Diego Portales University from all over Latin America and the Caribbean, as well as supporters from other countries who will come to share with us their experiences. We hope that this event will allow us to establish collaboration networks at a Latin-American level and generate action plans in both the scientific as well as the applied areas. Among our invited lecturers is Dr. John Graham from the University of Indiana and Dr. Eduardo Soares from the Instituto de Investigaciones Tecnológicas

de San Paulo, Brasil. We will also have two groups of experts, one on pollution and health and the other on energy and climate change. Both groups will include experts who are recognized at a regional and international level. In addition, there will also be multiple oral and printed original presentations by our invited experts. We hope we can count on many participants in this event, where we expect to gather Latin experts from within our continent, it is open to all those interested.

In the next few months we will hold elections for president-elect, secretary, treasurer, and two counselors, who will shape the new Executive Committee of the SRA-LA. The period to submit nominees is open for those who wish to do so. We hope a good team is adjoined to the team that is now in office.

SRA-China

Chongfu Huang, President

Start of Publication of *Journal of Risk Analysis and Crisis Response*

The Society for Risk Analysis-China (SRA-China) and Atlantis Press signed a publishing agreement for the publication of the *Journal of Risk Analysis and Crisis Response* (*JRACR*) as the society journal of SRA-China on 18 April 2010, thus concluding the birth of this international academic publication sponsored by SRA-China.

JRACR publishes both Chinese and English papers. Chinese papers will be charged for publishing. English papers will be published for free, but the level of English should be sufficient or linguistic correction will be required.

Chongfu Huang (left) and Atlantis Press's Zeger Karssen (right) celebrate the cooperation.

As the official international publication of SRA-China, *JRACR* will publish high-quality papers in risk analysis and crisis response. The publication will facilitate the promotion and rapid development of risk analysis theory and application in the world, thus reducing natural and man-made disasters, and avoiding major economic and social crises. The published papers will provide the necessary risk analysis theory and response techniques for a healthy development of society and economy.

Professor Chongfu Huang, president of SRA-China, will serve as the editor in chief for *JRACR*. The Editorial Committee of the journal is composed of the Advisory Board, area editors, and the Editorial Board. The number of Chinese editors is limited to 40 percent. All senior fellows of SRA-China will serve for the journal as editors.

The area editor is responsible for having all submitted articles peer-reviewed in a timely manner, providing constructive feedback to the authors who submit the manuscripts, advising as to which articles are to be published, and forwarding those articles on to the editor in chief. The editor in chief will always be responsible for the final decision regarding the acceptance of an article.

One volume will be published each year, consisting of four issues. The first issue (Volume 1, No. 1) is planned to be published in July 2011. There are about 15 papers in an issue, and the average length of a paper should be between 10 and 15 pages. A specialized staff from SRA-China will be in charge of the coordination of editing, refereeing, submissions, and communications with authors, and these activities are done in conformity with the Editorial Policies and Editorial Services. The time elapsed between the submission and the reviewing of a paper generally will not exceed 10 weeks.

JRACR aims at becoming an internationally recognized journal in the coming years, including indexation in the main indexes like SCI and EI/Compendex.

Chapitre Saint-Laurent
www.chapitre-saint-laurent.qc.ca

Gaëlle Triffault-Bouchet, Présidente, David Berryman, Vice President

The Society of Environmental Toxicology and Chemistry -Society for Risk Analysis (SETAC-SRA) Chapitre Saint-Laurent held its 14th annual symposium under the theme "Protecting Air, Soil, Life and People: Are We Consistent?"

The symposium, chaired by Stéphane Gauthier (environmental manager, Rio Tinto Alcan) took place at the Palace Royal Hotel in Québec City, 27-28 May 2010. The scientific program included 57 platform presentations and 14 posters, with special sessions on chemical analysis methods, soil and sediment risk assessment, air quality, and nanoparticles in the environment.

Guest speakers Yves Couillard (Environment Canada) and Louise Vandelac (Université du Québec à Montréal [UQÀM]), respectively, gave the talks "Canadian Chemical Management Plan" and "Health, Environment, Technoscience and Democracy: New Challenges and Emerging Models of Analysis."

The symposium was also an opportunity to reward students with the following awards:

Excellence awards:

- Mireille Plouffe-Malette, Institut National de la Recherche Scientifique-Institut Armand-Frappier research centre (INRS-IAF): $2,000 from Chapitre Saint-Laurent for her MSc research project "Determination of the Effects of Agricultural Activities on the Development and Integrity of the Reproductive Systems of Populations of Bullfrogs (Lithobates catesbeianus) in the Watershed of the Yamaska River"
- Michel Lavoie, INRS-Centre Eau Terre Environnement (INRS-ETE): $2,000 from Chapitre Saint-Laurent for his PhD research project "Impact of Calcium and

Micronutrients on the Support and Toxicity of Cadmium on Phytoplankton"

Best student platform presentation awards:

- Sophie Dussault, INRS-IAF: $200 from Varian Inc. for "Effect of Agricultural Pesticides on the Retinoid and the Immune System of the Bullfrog (Rana catesbeiana)"
- Danaé Pitre, INRS-ETE: $150 from Varian Inc. for "Support and Adsorption of Aluminum and Fluoride by Green Algae in the Final Effluent of an Aluminum Plant"

Best student poster awards:

- Josée-Anne Sauvageau, UQÀM: $100 from SRA and $100 from Chapitre Saint-Laurent for "Characterizing the Difference in Sensitivity of Human Bronchial and Alveolar Cells to Cadmium Toxicity"
- Ildephonse Nduwayezu, UQÀM: $150 from Chapitre Saint-Laurent for "Immobilization of Lead in a Sandy Soil Amended with Two Organic Amendments"

The symposium was a great success, with 120 participants from academia, government, industry, and private consultants.

We would like to thank all the members of the organizing committee, the speakers, and participants as well as our sponsors: Aquarium du Québec, Société des Etablissements de Plein Air du Québec, Centre d'Expertise en Analyse Environnementale du Québec, CJB Environnement, Environnement Canada, Hydro Québec, INRS-ETE, INRS-IAF, Ministère du Développement Durable, de l'Environnement et des Parcs, OB Info Inc., Perkin Elmer Inc., Phytronix Technologies, Rio Tinto Alcan, Varian Inc., Ville de Québec, SETAC, and SRA.

Our next annual symposium will be held in Montréal in May 2011. For more details on the Chapitre Saint-Laurent go to http://chapitre-saint-laurent.qc.ca.

SRA-Taiwan

Kuen-Yuh Wu, Secretary

On 22 January 2010, SRA-Taiwan held its first annual meeting, the 2010 International Risk Analysis Symposium, at China Medical University, Taichung, Taiwan. This was the first conference on risk analysis held in Taiwan. SRA-Taiwan President Dr. Chang-Chuan Chan welcomed all honorable guests and attendants at the opening ceremony. The main theme of this conference was "Global Perspective of Health Risk Assessment." Experts on risk assessment were invited from abroad and from Taiwan to speak at this conference and address these issues:

- Dr. Richard Reiss, president of the Society for Risk Analysis, gave the plenary lecture "The Evolution of Health Risk Assessment in the United States."
- Dr. Dongchun Shin, former president of the Korean Society of Environmental Toxicology, presented "Risk Assessment in Korea: Experiences and Prospects."
- Dr. Jun Sekizawa, former president of the Society for Risk Analysis-Japan, shared with the audience his experiences in "Risk Communication for Food Safety."
- After the coffee break, Professor Hwong-Wen Ma gave the talk "Risk Assessment and Environmental Impact Assessment."
- Professor Hsu gave the talk "Issues Arising from Recent Chemical Risk Assessment Approach in Taiwan."

Forty posters were presented at a noon poster exhibition.

The afternoon sessions started with Professor Kuen-Yuh Wu's talk "Food Safety Assessment: Making Good Use of Science to Protect the General Public," followed by Professor Shian-Tang Shie's talk "Toxicological Analysis: Tolerable Daily Amount of Melamine in Food." Two recent events, discussed in two separate one-hour forums, were the lift of embargo of U.S. bone-in meat and how to use science in risk assessment for environmental impact assessment. Sharon Lin,

SRA-Taiwan annual meeting guests, speakers, chairs, and organizing committee members: first row, Dr. Jung-Der Wang (2nd from the left), Dr. Winston Dang (3rd), Dr. Jun Sekizawa (4th), Dr. Richard Reiss (5th), Dr. Dongchun Shin (6th), Dr. Chang-Chuan Chan (7th), Ms. Sharon Lin (8th), Dr. Tsun-Jen Cheng (9th), and Dr. Kuen-Yuh Wu (10th); second row, Dr. Shian-Tang Shie (4th from the left), Dr. Kuei-Tien Chou (6th), Dr. Ya-Wen Chiu (7th), Dr. Yi-Ping Lin (8th), Dr. Chow-Feng Chiang (9th), and Dr. Hwong-Wen Ma (11th)

the associate director of the newly established Food and Drug Administration, was invited to answer questions.

SRA-Taiwan thanked the local organization committee, the Department of Risk Management at China Medical University. The past and current chairpersons were devoted to the preparation for this conference and invited all of their faculty members and students to help and hold this successful meeting. More than 150 participants from the academic community, government, and industry attended this meeting.

On the morning after the conference, a meeting was scheduled to discuss how to promote risk analysis in the Asian area. Attendees included Dr. Richard Reiss, Dr. Jun Sekizawa, Dr. Dongchun Shin, Dr. Chang-Chuan Chan, Dr. Hui-Tsung Hsu, and Dr. Kuen-Yuh Wu. This meeting concluded with suggestions: (1) to encourage papers submitted to *Risk Analysis*, such as coordinating manuscripts based on common risk-associated topics in Asia to be submitted to *Risk Analysis* as special issues (coordinated by Dr. Wu), (2) to improve education in risk analysis (coordinated by Dr. Shin), and (3) if possible, to have one-day conferences immediately after the SRA-Japan annual meeting in 2011 to promote the World Congress on Risk in 2012 (depending on the decision from the SRA-Japan councilor meeting).

SRA-Australia/New Zealand
www.acera.unimelb.edu.au/sra/index.html

Janet Gough, President

SRA-Australia/New Zealand (ANZ) is holding its fifth annual conference 28-29 September 2010 in Sydney, Australia. This will be preceded by workshops on Monday, 27 September 2010. We have circulated a preliminary flyer and Call for Abstracts, which can be seen at http://www.acera.unimelb.edu.au/sra/news.html. We are inviting abstracts in the following areas:

- Regulatory applications including biosecurity
- Resource allocation
- Managing critical infrastructure
- Managing risks of new technologies
- Communicating and consulting about risk

We are continuing to increase the diversity of participants and topics at our conferences consistent with our stated purpose "to provide an opportunity for an inclusive, broad-based society that promotes communication between disciplines, a breadth of tools and viewpoints, and platforms for training, workshops, and conferences."

While the topic and format has not yet been finalised, we are planning to hold three workshops:

- Programming in R
- Regulator's forum
- Risk analysis techniques

The SRA-ANZ annual general meeting will be held as part of the conference programme. At the annual general meeting we plan to discuss with members ways of increasing the value of the organisation to them by providing additional activities.

Southern California
www.sra.org/scc

Ken Lew, President

The Southern California Society for Risk Analysis (SCSRA) held its 23rd Annual Meeting/Workshop on 13 May 2010 at the Southern California Gas Company Energy Resource Center in Downey, California.

The first session highlighted the past, present, and future of process safety management (PSM) and risk management planning (RMP) at the state and federal levels. Mary Wesling from the U.S. Environmental Protection Agency Region IX, James Ryel from the California Occupational Health and Safety Administration, and Jack Harrah from the California Emergency Management Agency provided a 10-year retrospective and discussed the future of the California Accidental Release Prevention program, PSM, and federal RMP.

For the second session, we were very fortunate to have the chairman and CEO of the Chemical Safety Board, the Honorable John Bresland, as our keynote speaker. Bresland flew in from Washington, DC, to provide us with an inside perspective of recent high-profile investigations. He discussed critical findings and offered practical suggestions to minimize the risk of potentially catastrophic accidents. He explained that the most difficult part of his job is discussing his agency's findings with the families of the accident victims.

The third session provided a useful overview of current environmental and human health risk issues. Jill Whynot

Sessions at the SRA Southern California Regional Organization annual meeting/workshop

from the South Coast Air Quality Management District presented latest trend data on greenhouse gases. Dr. Ravi Arulanantham of AMEC Geomatrix, Inc., provided recent findings and recommendations from the State of California Underground Storage Tank Task Force. Dr. Heriberto Robles of Enviro-Tox Services, Inc., provided a very informative presentation on human health risk assessment.

At the conclusion of the May 2010 annual meeting, the new officers were introduced: President Kenneth Lew of the Torrance Fire Department, Secretary and President-elect Mary McDaniel, Co-Treasurers Anna Olekszyk and Paul Beswick, and Heriberto Robles and Katie Butler as the new councilors.

During the 2010-2011 activity year, SCSRA is planning to continue its traditional dinner meetings to cover the current issues or emerging risk problems, as well as the 24th Annual Workshop in May 2011. The first dinner meeting will be on 23 September 2010 at 6:00 p.m. Tentatively scheduled is the topic of safety at offshore oil platforms and the risks involved with this technology.

For further information on the SCSRA activities, please visit www.sra.org/scc.

Specialty Groups

Security and Defense Specialty Group

Steve Bennett, Chair

The Security and Defense Specialty Group (SDSG) leadership met in June to organize symposiums, oral presentations, and posters for the Society for Risk Analysis (SRA) 2010 Annual Meeting this December—the first in which SDSG has participated. SDSG will have a great showing at the annual meeting, with over 25 oral presentations in sessions that span two full days of the annual meeting, as well as a number of posters and other events. Our new specialty group is looking forward to a great first year at the annual meeting, and we hope to network with others in the Society about security and defense related risk analysis at our evening mixer (hosted jointly with the Decision Analysis and Risk Specialty Group) in Salt Lake City during the conference. Stay tuned for details; see you in Salt Lake City!

Risk Communication Specialty Group

David M. Berube, Chair

I'd like to introduce myself as the new chair of the Risk Communication Specialty Group. My name is David M. Berube and I am a professor of communication and the director of the Public Communication of Science and Technology Project at North Carolina State University in Raleigh, North Carolina.

Teaching risk and risk communication has become an increasing responsibility for me at this time in my career.

About a decade ago I was on the team that was awarded one of the first social science grants to study emerging nanotechnology. Four major grants later, I am principal investigator on a team determining how the public makes sense of toxicological information on nanoscience. I arrived at North Carolina State University three years ago and direct PCOST (the Public Communication of Science and Technology Project). PCOST has situated me on two National Institutes of Health (NIH) grant proposals. On both of these grants, my duties involve designing algorithms, engaging the public, and completing social science research. Recently, I moved my LLC, the Center for Emerging Technologies, to North Carolina. This consultancy has been completing contracts on social media engagement with a Fortune 500 company.

Risk communication in the 21st century will remain challenging. There are two primary challenges for professionals associated with the Society for Risk Analysis.

First, we must find a way to produce viable risk assessment for newly emerging technologies. In general, these technologies' risk footprints involve high levels of uncertainty, exposure data is lacking, dosage issues have not been meaningfully addressed, and hazard research is incomplete. The traditional protocol to solicit research from toxicologists and environmental material scientists, while important, may not be cost beneficial. Indeed, we may need to find a "new" way to approach risk management given the plethora of unknowns. Merely taking traditionally generated data and forcing it into "old" models may need a rethink.

Second, we must find a way to approach public communication of risk using social media. Data suggest increasing use of web-based resources for news. Recent data indicated the same for information of environmental health and safety. Web-based information gathering by publics of all sorts has been complicated by the ascendency of social media (social networks, micro-blogging, and newsreaders). Publics seek out confirmatory information and social media feeds this proclivity. Risks are amplified and attenuated by traditional media and we expect the same for web-based social media, though we are unsure about degree and extent. Public understanding is affected by priming and framing, and while we expect these phenomena to transfer easily to web-based social media, we need data sets to verify our expectations.

These two issues are important to me and my research and I am always looking for collaborations. They are also issues that continue to be explored by the Risk Communication Specialty Group. I can be contacted at drdmberube@gmail.com.

What Do We Do?

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

Christopher L. Cummings

Where are you a student?
North Carolina State University's (NCSU) Communication, Rhetoric, and Digital Media PhD program.

What are you currently studying?
Risk communication, public communication of science and technology, and social scientific research methods.

How is risk analysis a part of your current studies?
As a PhD student working on a National Science Foundation (NSF) grant, I rely heavily on the risk communication literature. Currently, I am studying under Dr. David Berube as we investigate the public perceptions of risks involved with applied nanoscience.

How was risk analysis part of any past academic study?
I was introduced to the field of risk communication when I was invited to be a coauthor on a summer research team headed by Dr. Berube and Dr. Dietram Scheufele. Our team, comprised of me and other doctoral research assistants, wrote a white paper concerning how to communicate risks in the 21st century for the National Nanotechnology Coordinating Office. The experience helped me contextualize my desires to be a social scientific researcher and motivated me to improve how we communicate about risks of emerging applied sciences.

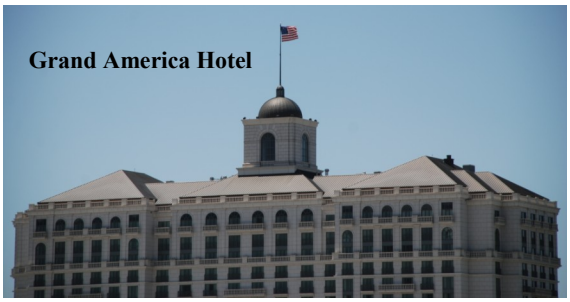
How did you decide to pursue further academic study in risk analysis?
The opportunities I've been fortunate enough to have as a research assistant have cultivated a desire to pursue my doctorate in studying how people attend to and process risk messages.

What jobs, fellowships, work study, etc., have you had related to risk analysis?
Prior to starting my PhD at NCSU I worked as the assistant under Dr. Berube on a Nanotechnology Interdisciplinary Research Team NSF grant while also serving as a lecturer of communication at NCSU.

What is the most interesting/exciting part of your studies?
I would have to say that the most interesting part of my studies is that I am studying emerging issues that are perplexing and troublesome—we have a great deal of work to do in order to better the public communication of emerging science and technology, and I'm happy to be involved in the process.

Do you have any advice for other students considering studies in a risk analysis area?
Be inquisitive; don't be scared to ask questions of those who came before you.

How has membership/involvement in the Society for Risk Analysis (SRA) helped you in your studies and work?
SRA has been vital to my growth as a student and young professional. Traveling to annual and regional conferences has enabled me to meet many wonderful professors, researchers, and other students who have helped to push my research in new directions with their thoughtful questions, comments, and criticisms of my work. The conference presentations, publications, and community set a high standard for research and professionalism in my field—I hope I can keep up!



2010 SRA Annual Meeting
Salt Lake City, 5-8 December

Photos by Mary Walchuk

Climate Change: Global Change and Local Adaptation Summary of the NATO Workshop

Igor Linkov, Todd Bridges, Ahmed Hady, Greg Kiker, James Lambert, Blake MacBride, Jose Palma-Oliveira, Nicola Ranger, Edmond Russo, Alberto Troccoli

Through sea-level rise and altered weather patterns, climate change is expected to significantly alter coastal and inland environments for humans, infrastructure, and ecosystems. Potential land-use changes and population increases, coupled with uncertain predictions for sea-level rise and storm frequency and intensity have created significant planning challenges. Although significant resources have been directed toward predicting potential consequences of climate change, additional emphasis is needed to develop rational approaches to guide decision making under uncertainty and methods for developing and comparing the performance of alternative adaptive strategies within an overall adaptive management approach. While efforts to reduce climate change exposures continue, plans must be developed to reduce the risks that climate change poses to humans, infrastructure, and ecosystems.

To discuss and develop expert answers to these questions, the NATO (North Atlantic Treaty Organization) Advanced Research Workshop "Climate Change: Global Change and Local Adaptation" brought together 60 scientists and engineers and policy makers from 14 different nations and multiple fields, reflecting the global and interdisciplinary nature of climate change research. Held 6-9 June 2010 in Hella, Iceland, the workshop was chaired by Drs. Igor Linkov and Todd Bridges and hosted jointly by the U.S. Army Engineer Research and Development Center and University of Iceland. The meeting was supported by the NATO Science Programme, the Society for Risk Analysis, the U.S. Environmental Protection Agengy, the U.S. Department of Defense, the Strategic Environmental Research and Development Program, the U.S. Navy, the U.S. Geological Survey, and Environ Inc.

The overall objective of the workshop was to discuss an integrated, multicriteria, multihazard risk-informed decision framework that will be suitable for evaluating changes in risks resulting from the consequences of climate change. The concept of national and global security has grown in recent years to include a broader array of factors that threaten the stability and interests of nations, including events that develop over short time periods (for example, tsunamis and floods) to those that develop over longer time frames (for example, famines, droughts, and conflicts over water resources). Risk analysis has emerged as a useful approach to guide assessment, communication, and management of security risks. However, with respect to climate change, the complexity of the problem, the time and spatial scales of relevance, and the uncertainties associated with long-range predictions present critical challenges to current analytical approaches for informing decision risk management decisions. The workshop had five primary purposes:

- Summarize what is known about vulnerability and impacts of climate change at local/regional scales.
- Define the role of risk analysis in managing risks posed by climate change.
- Define the applicability of adaptive management for climate change.
- Identify strategies developing countries can use to manage security risks.
- Identify specific research needs for improving the value of risk analysis as applied to climate change.

The President of Iceland, Dr. Olafur Ragnar Grimmson, opened the workshop with a plenary speech on "Climate Change and New Security Challenges." Dr. Jeff Holland (chief scientist, United States Army Corps of Engineers [USACE]) and Mr. Steven Stockton (director of USACE Civil Works Program) delivered keynote addresses on the research priorities and the current USACE needs. In her keynote address, Lynn Scarlett (Former Deputy Secretary of Interior) highlighted the importance of stakeholder involvement in the adaptation process and shared her experience as a policy maker. Plenary sessions were designed to summarize state-of-the-science in the field, as well as to present new adaptation methods and tools. Participants were organized into three working groups to address climate change adaptation in (A) inland system, (B) coastal areas, and (C) military-specific challenges. The following are summaries of working group discussions.

NATO workshop participants near the Eyjafjallajokull Volcano

A. Coastal Adaptation. The coastal adaptation group highlighted four main points concerning adaptation to climate change within coastal areas: (1) coasts have a set of layered vulnerabilities, distinct from other land areas that contribute to current and future risks, (2) people have a fundamental role in the adaptation process, (3) governance

also plays a critical role in enabling or disabling productive adaptation responses, and (4) while problems abound, all is not lost as there are powerful concepts and tools currently available for adaptation at local and regional scales. Within these four sections, we highlight relevant theories regarding adaptive management of complex socio-ecological systems along with case studies to give examples of progressive analysis and planning for uncertain future events. There is a need to engage people in the adaptation process to build support for adaptation and ensure adaptation meets the objectives and preferences of stakeholders.

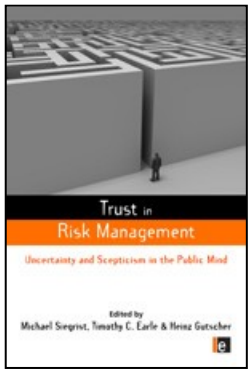
B. Inland Systems. The range of vulnerabilities of inland systems includes soils, water quantity and quality, ecosystems, fires, land-use changes, and many others subject to errors of prediction and monitoring. In addition, inland systems are pressured by climate impacts to coastal regions, such as the case with Baton Rouge (inland) in the aftermath of the Katrina disaster. Recommendations towards an improved framework for climate adaptation of inland systems ranged from ways to address gaps in science and technology to understanding the unique migrations, flows, and social, psychological, and economic factors. Strategic planning for adaptation of inland systems should address the inland "c-levels" which are thresholds of resource quantities per year, resources quantities per capita, resource quantities per production, etc., that allow the inland systems to remain sustainable in the future. For instance, planning should address how marginal lands are vulnerable both to episodic shocks and to steady trends (which may be difficult to measure/monitor), as well as how people will tend to cope to slow environmental changes that could undermine long-term adaptation. Emphasis was also placed on participatory approaches with iterative problem framing and solution generation, respectful of both human dignity and the integrality of nature.

C. National Security and Climate Change. National security is concerned with protecting *peoples* from undue internal and external stresses that may disrupt the normal functioning of nations, states, enterprises, and their citizens. It is built upon collaboration amongst multiple national and international agencies/organizations such as the military, civilian police services, emergency preparedness and responses services, aid and humanitarian organizations, etc. The safety and security of people and their societies have the potential to be threatened in subtle and profound ways by climate change. The effects and impacts of climate change will vary widely over differing scales of time and geography. In order to effectively contemplate likely futures and scenarios for adaption, scientific knowledge and tools must be developed to provide an illuminating path toward a successful future. This chapter details the underpinning principles of situational awareness, scientific models, vulnerability assessments, collaboration, and communication as the ingredients for success in maintaining and restoring national security worldwide. It is written through the lens of national security establishments, recognizing a need to bring together agency missions and governments in addressing these issues.

Proceedings of the workshop will be published by Springer in spring 2011. More information is available at http://el.erdc.usace.army.mil/climate/.

Member News

Michael Siegrist, Timothy C. Earle, and Heinz Gutscher



Michael Siegrist, Timothy C. Earle, and Heinz Gutscher are the editors of *Trust in Risk Management: Uncertainty and Scepticism in the Public Mind*.

Their book, in the Earthscan Risk in Society Series, improves the understandings of the relationships between trust, risk and uncertainty in cooperative risk management.

Trust is an important factor in risk management, affecting judgments of risk and benefit, technology acceptance, and other forms of cooperation.

In this book the world's leading risk researchers explore all aspects of trust as it relates to risk management and communication.

The authors draw on a wide variety of disciplinary approaches and empirical case studies on topics such as mobile phone technology, well-known food accidents and crises, wetland management, smallpox vaccination, cooperative risk management of U.S. forests, and the disposal of the Brent Spar oil-drilling platform.

Insightful analyses are provided for researchers and students of environmental and social science and professionals engaged in risk management and communication in both public and private sectors.

Elisabeth Paté-Cornell

The Ramsey Award Committee of the Decision Analysis Society has selected Elisabeth Paté-Cornell as the recipient of the 2010 Frank P. Ramsey Medal, which is awarded for distinguished contributions in decision analysis. Professor Paté-Cornell is the Burt and Deedee McMurtry Professor of Engineering and the chair of the Management Science and Engineering Department at Stanford University. The award will be presented at the INFORMS annual meeting in Austin, Texas, in November.

The members of the 2010 Ramsey Award Committee were David Bell, Jim Dyer, Ron Howard, Detlof von Winterfeldt, and Bob Winkler (chair). Please join us in congratulating Professor Paté-Cornell on this award.

Diana Del Bel Belluz

Diana Del Bel Belluz, president of Risk Wise Inc., has contributed a chapter on "Operational Risk Management" to the new textbook Enterprise Risk Management: Today's Leading Research and Best Practices for Tomorrow's Executives published by John Wiley & Sons in December 2009.

Risk Wise will be hosting a free webinar with the editors of the above book on 20 September 2010. The session will explore the latest trends in enterprise risk management. Interested SRA members can register at no cost at https://www.riskwise.net/ERM_Webinar.html. Webinar registrants will receive access to a special 25 percent discount on the book as well as a complimentary copy of Chapter 2, "A Brief History of Risk Management," by SRA member Felix Kloman.

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 electronically four times a year. Submit advertisements, with billing instructions, by 30 December for the First Quarter issue (published mid-January), 30 March for the Second Quarter issue (mid-April), 30 June for the Third Quarter issue (mid-July), and 30 September for the Fourth Quarter issue (mid-October). Send to Mary Walchuk, Managing Editor, RISK *newsletter*, 115 Westwood Dr., Mankato, MN 56001; phone: 507-625-6142; email: editormw@hickorytech.net.

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Deadline for RISK *newsletter* Submissions

Send information for the **Fourth Quarter 2010** SRA RISK *newsletter*, which will be on the SRA Web site mid-October, to Mary Walchuk, RISK *newsletter* Editor (115 Westwood Dr., Mankato, MN 56001; phone: 507-625-6142; email: editormw@hickorytech.net) no later than **20 September 2010**.

Future Society for Risk Analysis Annual Meetings

2010-Salt Lake City, Utah, 5-8 December
2011-Charleston, South Carolina
2012-San Francisco, California
2013-Baltimore, Maryland

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.