President’s Message – January 2009

Dear SRA-NE Members:

Some reminders of upcoming events, with one new announcement:

- Our next seminar will be held on January 29, 2009 at 4 pm. This will be a panel discussion about the recently-released National Research Council report on improving risk analysis methods at the US EPA (“Science and Decisions: Advancing Risk Assessment”). The panel will consist of three representatives from the National Research Council committee (Joshua Cohen of Tufts Medical Center, Gary Ginsberg of the Connecticut Department of Public Health, and myself) and two discussants (Dale Hattis of Clark University, Nick Ashford of MIT). An announcement including the location, abstracts for the presentations, and detailed directions are provided on the subsequent pages. The RSVP deadline has been extended to January 23.

- On January 27, 2009, SRA-NE is co-sponsoring a one-day short course with the North Atlantic Chapter of Society of Environmental Toxicology & Chemistry (SETAC) on nanotechnology. See www.nacsetac.org for more detailed information and to register.

- On February 4, 2009, there will be a course about the Massachusetts Contingency Plan, set up for any professional interested in learning about the process, pitfalls, timelines, and fees, and what to expect from the Massachusetts Department of Environmental Protection. An announcement is attached at the end of this document.

- Finally, we will be holding a poster session to highlight the current research of new researchers in the New England area, including students and post-doctoral researchers. This will be held on March 5, 2009, at 3 pm. The abstract submission deadline is January 30, 2009, so please make any students or post-doctoral researchers you know aware of this event as soon as possible. Abstracts are to be submitted to sranepostersession@gmail.com, and more detail is included on the subsequent pages.

Happy new year….

Jon Levy
SCIENCE AND DECISIONS: ADVANCING RISK ASSESSMENT

Presentations

SUMMARY OF FINDINGS FROM “SCIENCE AND DECISIONS”

Members of the National Research Council Committee on Improving Risk Analysis Approaches Used by US EPA

Joshua Cohen, Tufts Medical Center
Gary Ginsberg, Connecticut Department of Public Health
Jonathan Levy, Harvard School of Public Health

DISCUSSANTS

Nick Ashford, Massachusetts Institute of Technology
Dale Hattis, Clark University

Location
Harvard School of Public Health
FXB Building
651 Huntington Ave.
FXB Room G-13

Please RSVP by Friday, January 23rd to Jon Levy (jilevy@hsph.harvard.edu). We need to know the number of attendees to order refreshments and to give your information to the guard’s desk.
Abstracts of Presentations


A National Research Council (NRC) committee was formed in 2006 to develop scientific and technical recommendations for improving the risk analysis approaches used by the U.S. Environmental Protection Agency (EPA). Taking into consideration past evaluations and ongoing studies by the NRC and others, the committee was tasked to conduct a scientific and technical review of EPA’s current risk analysis concepts and practices, and to recommend improvements that could be made in the near term (2-5 years) and over the longer term (10-20 years). Specific topics that the committee was asked to address included the scientific bases for and alternatives to default assumption choices made in areas of uncertainty, approaches for assessing cumulative risk resulting from multiple exposures to contaminant mixtures, the quantitative implications of different biologically relevant modes of action on dose-response relationships, ways in which the concepts and practices of ecological risk assessment can inform and improve human health risk assessment, and the use of value of information analyses to identify priorities and obtain relevant data to increase the utility of risk analyses. Within this presentation, we will provide a summary of the key conclusions and recommendations developed by the committee in its final report, highlighting aspects related to both the framework in which risk analysis is utilized and the technical details of such analyses. At the 25th anniversary of the “Red Book”, this presentation provides the opportunity to look backwards at the trajectory of risk analysis to date and to look forward at its potential future path.

Dale Hattis. *Competing revolutions for the management of uncertainty in risks from environmental chemicals*

An NRC report “Toxicity Testing in the 21st Century” calls for a long term project to replace much in vivo animal testing for apical endpoints of concern with a large ensemble of high-throughput in vitro test systems involving short term changes in gene expression intended to identify concentrations of environmental chemicals that sufficiently perturb particular toxicity pathways (in tissue culture cells derived from humans) to be of concern. This would essentially direct a large portion of future toxicity testing resources to inform choices on the use of large numbers of poorly studied chemicals within the traditional no-effect-level toxicological paradigm, and without explicit quantitative assessment of likely benefits in the form of reductions in health risks and associated uncertainties.

By contrast, a competing revolutionary proposal (in part advanced by a more recent NRC Report) would expand the reach of quantitative assessment of health risks. This would involve replacing the current set of safety/uncertainty factors for noncancer risk assessment with distributions based on empirical data, and extensive quantitative assessment of likely interactions chemical exposures with background processes involved in existing human pathological conditions. Rather than a vision of static homeostatic systems, it emphasizes analysis of dynamic changes in protective feedback systems, including errors in initial set up and eventual degradation of homeostasis with ageing. Explicit quantitative treatment of uncertainties in this alternative paradigm would facilitate “value of information” analysis for the addition of specific types of test results in clarifying the consequences of alternative regulatory options for human health protection.

Nicholas Ashford. *TBD.*
BIOGRAPHICAL SKETCHES OF PRESENTERS

**Dr. Joshua Cohen** is a Research Associate Professor of Medicine at the Tufts Medical Center Institute for Clinical Research and Health Policy Studies, and Deputy Director of the Center for the Evaluation of Value and Risk in Health. His research focuses on the application of decision analytic techniques to public health risk management problems with an emphasis on quantifying the risks, benefits, and costs of public health interventions. This work has included an analysis of the health benefits and net costs of screening programs to identify Alzheimer’s disease patients, an evaluation of the return on investments in preventive care interventions, and a comparison of the risks and benefits associated with shifts in population fish consumption patterns. Dr. Cohen recently served on the National Research Council Committee on Improving Risk Analysis Methods Used By the U.S. EPA. He currently serves on the Massachusetts Department of Elementary and Secondary Education panel that is rewriting the Commonwealth’s K-12 mathematics curriculum framework. Dr. Cohen received both his Ph.D. in Decision Sciences and his B.A. in Applied Mathematics from Harvard University.

**Dr. Gary Ginsberg** is a toxicologist at the Connecticut Department of Public Health within the Division of Environmental and Occupational Health Assessment. He has responsibility for human health risk assessments conducted in the state. Dr. Ginsberg serves as adjunct faculty at the Yale School of Medicine and is an Assistant Clinical Professor at the University of Connecticut School of Medicine. He recently finished serving on the National Research Council Committee on Human Biomonitoring for Environmental Toxicants, as well as on the National Research Council Committee on Improving Risk Analysis Methods Used By the U.S. EPA. He has been invited to testify at Congressional hearings on toxics issues on a number of occasions. He received a Ph.D. in toxicology from the University of Connecticut (Storrs) and was a post-doctoral fellow in carcinogenesis/mutagenesis at the Coriell Institute for Medical Research. Dr. Ginsberg's toxicology experience has involved a variety of settings: basic research, teaching, working within the pesticide and consulting industries, and now working in public health. He has published in the areas of toxicology, carcinogenesis, physiologically-based pharmacokinetic modeling, inter-individual variability and children's risk assessment. He currently receives research support from USEPA/NCEA to catalogue genetic polymorphisms in enzymes relevant to individual sensitivity to environmental toxicants and he is a co-investigator on a STAR grant looking into using pesticide biomonitoring and health effects data to develop new approaches for RfD derivation. Dr. Ginsberg is also co-author of a book on toxics for the lay public, "What's Toxic, What's Not:" Berkley Books, December 2006.

**Dr. Jonathan Levy** is an associate professor of environmental health and risk assessment in the Department of Environmental Health at the Harvard School of Public Health and an affiliate of the Harvard Center for Risk Analysis. Dr. Levy's research focuses on developing models to quantitatively assess the environmental and health impacts of air pollution from local to national scales, with a focus on urban environments. Recent research has included using geographic information systems (GIS) to determine spatial heterogeneity in levels of air pollution both outdoors and indoors in low-income urban neighborhoods; developing quantitative measures of environmental equity suitable for air pollution risk assessment and benefit-cost analysis, including case studies evaluating power plant and diesel bus control strategies; and methods to extrapolate exposure or risk estimates to unstudied settings. Dr. Levy was the recipient of the Walter A. Rosenblith New Investigator Award from the Health Effects Institute in 2005, and he served on the National Research Council Committee on the Effects of Changes in New Source Review Programs for Stationary Sources of Air Pollutants and on the National Research
Dr. Dale Hattis is Research Professor with the George Perkins Marsh Institute at Clark University. For the past three decades he has been engaged in the development and application of methodology to assess the health, ecological, and economic impacts of regulatory actions. His work has focused on approaches to incorporate interindividual variability data and quantitative mechanistic information into risk assessments for both cancer and non-cancer endpoints. Recent research has explored age-related differences in sensitivity to carcinogenesis and other effects, a taxonomy of different non-mutagenic modes of action for carcinogenesis with likely differential implications for age-related sensitivity, PBPK modeling of acrylamide dose in rats and humans, and mechanism-based dose response modeling of carcinogenic effects from ionizing radiation. Current efforts are using PBPK modeling to better assess dose response relationships for human birth weight changes and developmental delays associated with exposure to the insecticide chlorpyrifos during pregnancy. He is a leader in efforts to replace the current system of uncertainty factors for non-cancer effects with distributions based on empirical observations. He is a member of the Clean Air Science Advisory Committee panel reviewing EPA efforts to reassess the National Ambient Air Quality Criteria for nitrogen oxides and sulfur oxides, and for several years he has served as a member of the Food Quality Protection Act Science Review Board. Until recently he has also been a member of the Environmental Health Committee of the EPA Science Advisory Board. For 2007 he was the Chair of the Dose Response Specialty Group of the Society for Risk Analysis. He has also served as a member of the National Research Council Committee on Estimating the Health-Risk-Reduction Benefits of Proposed Air Pollution Regulations. He has been a councilor and is a Fellow of the Society for Risk Analysis, and serves on the editorial board of its journal, Risk Analysis. He holds a Ph.D. in Genetics from Stanford University and a B.A. in biochemistry from the University of California at Berkeley.

Dr. Nicholas Ashford is Professor of Technology and Policy at the Massachusetts Institute of Technology, where he teaches courses in Environmental Law and Policy; Technology, Law and Public Policy; and Sustainability, Trade and Environment. Dr. Ashford is a Faculty Associate of the Center for Technology, Policy and Industrial Development in the School of Engineering; the Institute for Work and Employment Research in the Sloan School of Management; and the Environmental Policy Group in the Urban Studies Department. Dr. Ashford's research interests include regulatory law and economics; the design of government policies for encouraging both technological innovation, and improvements in health, safety and environmental quality; pollution prevention and cleaner/inherently safer production; the effects of liability in improving product and process safety; the consequences of low-level exposure to chemicals; sustainability, trade and environment; labor's participation in technological change; and environmental justice. He has developed methodologies for decision-making in the regulation of chemicals and has extensively investigated the effects of regulation on technological innovation in the chemical, pharmaceutical, and automobile industries. Dr. Ashford's research activities include work for the United Nations Environment Programme, the OECD, and the European Union, as well as for U.S. regulatory agencies and the U.S. Office of Technology Assessment. He holds both a Ph.D. in Chemistry and a Law Degree from the University of Chicago, where he also received graduate education in Economics. Dr. Ashford also holds an adjunct faculty position at the Harvard University School of Public Health.
GETTING TO THE EVENT

Directions to Harvard School of Public Health:  http://www.hsph.harvard.edu/about/location-and-directions/longwood-campus-directions/index.html

- **From the MBTA Subway (on foot)** – The school is directly across from the Brigham Circle Green Line (E) stop

- **Driving directions**
  
  *From North or South of Boston:* Take I-93 North/South to Exit 26 (Storrow Drive). Follow Storrow Drive approximately 2.5 miles to Kenmore Square/Fenway exit (on left). The exit ramp forks, stay to your right. Take right at first light into Kenmore Square. Take leftmost fork at second light onto Brookline Avenue. Follow Brookline Avenue approximately 1 mile and through a major intersection (Beth Israel Hospital will be on the left). Watch for blue and white Longwood Medical area signs. Take left on Longwood Avenue and a right onto Huntington Avenue.

  
  *From West of Boston:* Take I-90 to exit 18. Follow Storrow Drive eastbound to Kenmore Square/Fenway exit. Follow directions above.

- **Once you arrive at HSPH**
  
  *Parking:* There are a limited number of metered parking spaces available on Huntington Avenue in front of the HSPH, as well as on adjacent streets. There is also limited visitor parking, and/or parking lots.

  
  *Room location:* Enter through the entrance to the FXB Building at 651 Huntington Ave. After going past the guard’s desk, turn right and take the stairs down to the ground floor. Room G-13 will be directly in front of you.
NEW RESEARCHER POSTER CONTEST

Call for Abstracts

- Are you a student or post-doctoral researcher conducting risk analysis research related to human health or ecological risks?
- Is your research related to exposure to environmental hazards?
- Do you conduct toxicology research?
- Do you use decision analysis or cost-benefit analysis to evaluate policy options?
- Do you study the optimal approaches for risk communication?

We invite you to submit an abstract for the upcoming New Researcher Poster Contest being hosted by the New England Chapter of the Society for Risk Analysis (SRA). This poster contest will provide a unique opportunity to showcase some of your current research, to meet other students and post-doctoral researchers in the risk analysis field, and to interact with potential employers and other professionals from around New England. Awards will be given to the top posters in both the student and post-doctoral researcher category.

New Researcher Poster Contest
March 5, 2009 at 3 pm
Kresge Cafeteria
Harvard School of Public Health

Abstracts on any topic related to risk analysis will be considered, including exposure assessment, toxicology, decision analysis, benefit-cost analysis, risk communication, and others. The abstract should include the title, name of author(s) and affiliations, name of advisor/mentor, and whether you are a student or post-doctoral researcher.

Please submit an abstract of 250 words or less to sranepostersession@gmail.com by January 30, 2009. Researchers will be notified of abstract acceptance by February 13, 2009. Inquiries about the poster contest can be directed to Jon Levy at jilevy@hsph.harvard.edu.