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Society for Risk Analysis



*Risk Analysis in a Dynamic World:
Making a Difference*



Baltimore, Maryland

2006 Annual Meeting

December 3-6, 2006

Renaissance Harborplace Hotel

Baltimore, MD

Preliminary Program &
Registration Packet

Society For Risk Analysis Annual Meeting

2006 Preliminary Program and Registration Packet

Join us in Baltimore, MD

This year the SRA annual meeting will return to the Renaissance Harborplace Hotel in Baltimore, MD. The theme of the meeting is “Risk Analysis in a Dynamic World: Making a Difference.” Additional information about the meeting, including the call for papers, preliminary program, registration form, pre-conference workshops, program schedule, abstracts, and online registration are available at: www.sra.org.

Meeting theme

Risk analysis, including risk perception, risk assessment, risk management, and risk communication, represents an evolving interdisciplinary field. The annual meeting brings together nearly 1,000 international scientists and practitioners from a wide range of disciplines who recognize the value of diverse perspectives and share both an interest in risk analysis and a commitment to high quality risk analysis methodology and practice. This meeting focuses on highlighting the impacts of risk analysis in making a difference in our increasingly complex and dynamic world.

New this year:

Make your plans to attend the entire meeting, from the opening reception on Sunday (December 3, 5:30-7:00 PM) to the closing (wine and cheese and free t-shirts!) reception on Wednesday (December 6, 5:00-6:00 PM). The meeting includes lunch for all three full days and an exciting new dedicated poster session and reception on Monday evening (5:30-7:30 PM).

Plenaries begin at 8 AM so plan to arrive early!

Calling all authors and exhibitors:

At the SRA exhibition, attendees have a first-hand opportunity to examine, talk about, and learn from the products and services on display. To request a booth at the SRA exhibition or information about displaying a book on our publications table, contact Lori Strong or Sue Burk at SRA Headquarters, (703) 790-1745, email: SRA@BurkInc.com or go to www.sra.org and download the exhibit information.

Got a late breaking abstract?

You can submit a poster abstract until Friday, October 20, 2006. Late breaking abstracts must be emailed to both LStrong@BurkInc.com and kimt@hsph.harvard.edu for consideration in the poster session.

Registration

On-site check-in and registration hours for the meeting:

Sunday, December 3	4:00 - 7:00 PM
Monday, December 4	7:00 AM - 5:30 PM
Tuesday, December 5	7:00 AM - 5:30 PM
Wednesday, December 6	7:00 AM - 5:30 PM

Exhibit schedule:

Monday, December 4	5:30 - 7:00 PM
Tuesday, December 5	9:45 AM - 4:00 PM
Wednesday, December 6	9:45 AM - Noon

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Meeting Highlights

Lunchtime Events

Monday - All participants should pick up their box lunches and take them to the rooms designated for each of the specialty groups or to a large open area where then can enjoy the opportunity to network. All of the specialty groups will hold their business meetings during the Monday lunch block:

11:45 - 12:15 - Business meetings for the Dose-Response Assessment, Economics & Benefits Assessment, and Risk Communication Specialty Groups

12:15-12:45 - Business meetings for the Ecological Risk Assessment, Exposure Assessment, and Risk Science & Law Specialty Groups

12:45-1:15 - Business meetings for the Decision Analysis and Risk, Engineering & Infrastructure, and Biological Stressors Specialty Groups

Plenty of space will also be available for networking and for those interested in potentially starting a new Specialty Group to meet.

Tuesday - Don't miss the annual awards luncheon and Society business meeting, which will include the announcement of the 5 Best Poster Award winners!

Wednesday - All participants should pick up box lunches and attend one of the lunch time discussions on the OMB guidelines or on the internationalization of the SRA. Those wishing to use the time for more networking will also find space available to do so.

Dedicated Poster Session and Reception

This year's meeting will feature one poster session and reception on Monday evening from 5:30 to 7:30, during which time attendees will have the opportunity to vote for the 5 Best Posters. Posters will be on display starting at noon and poster presenters will be at their posters for questions and discussion during the poster session. Don't miss it!

Registration Information



REGISTER ONLINE: at www.sra.org

REGISTER BY FAX: Fax your completed form with credit card information to (703) 790-2672 (**Purchase orders not accepted for workshops**)



REGISTER BY MAIL: Mail your completed form with payment to:



SRA Headquarters
1313 Dolley Madison Blvd., Suite 402, McLean, VA 22101

Mail completed registration form with check, purchase order or credit card information. You are considered registered when full payment or purchase order has been received.

CONFIRMATIONS: Confirmation letters will be mailed once payment has been received.

CANCELLATION POLICY: All cancellations are subject to a \$50 service charge. Cancellations must be in writing to the SRA Secretariat. Cancellation letters received by November 3 will be refunded total registration fees **minus** the \$50 service charge and will be refunded after the meeting. No refunds will be issued on cancellations received after November 4. Please note - speakers will not receive a refund if they cancel.

DIETARY RESTRICTIONS: Please note any dietary restrictions on the forms when you register.

7:00-8:00 AM	Breakfast Meetings: New Member and Fellows Breakfast; Publications Committee				
8:00-9:30 AM	Plenary Session, Ballroom				
9:30-10:00 AM	Comfort break (refreshments available)				
	BALTIMORE A	BALTIMORE B	FEDERAL HILL	MARYLAND A	MARYLAND E
10:00-11:30 AM	M1-A Decision Analysis for Risk Management of Catastrophic Events	M1-B IRIS Toxicological Review of Acrylonitrile	M1-C Interpreting Human Biomonitoring Data in the Context of Risk Assessment: Issues and Challenges Part 1	M1-D The Risk Communication Challenges of Avian Influenza/Pandemic Flu	M1-E Risk Analysis Related to the Electricity Industry
11:45 AM-1:15 PM	Pick up your box lunch and attend the specialty group(s) of your choice (time of the group's business meeting)				
	<i>Decision Analysis & Risk (12:45-1:15 PM)</i>	<i>Dose-Response Assessment (11:45 AM-12:15 PM)</i>	<i>Exposure Assessment (12:15-12:45 PM)</i>	<i>Risk Communication (11:45 AM-12:15 PM)</i>	<i>Economics & Benefits Assessment (11:45 AM-12:15 PM)</i>
1:15-3:00 PM	M2-A Risk Assessment and Decision Analysis: State of Applications in DOD and DHS, Part 1	M2-B Preserving Margins of Safety in the Application of Uncertainty Factors in Chemical Risk Assessment	M2-C Interpreting Human Biomonitoring Data in the Context of Risk Assessment: Issues and Challenges Part 2	M2-D Mass Media and Risk Communication	M2-E Advances in Understanding the Likely Risks of Global Climate Change
3:00-3:30 PM	Comfort break (refreshments available)				
3:30-5:30 PM	M3-A Risk Assessment and Decision Analysis: State of Applications in DOD and DHS, Part 2	M3-B Approaches to Internal Dosimetry	M3-C Community and Occupational Exposures to Benzene	M3-D Risk Perceptions about Fish and Aquaculture	M3-E Modeling the Attribution of Foodborne Illness in the United States
5:30-7:30 PM	Poster Session and Reception, Ballroom Presenters can post their posters starting at noon and will answer questions during the evening session. Please make sure to vote for the 5 Best Poster Awards!				

7:00-8:00 AM	Breakfast Meetings: New Member and Fellows Breakfast; Publications Committee			
8:00-9:30 AM	Plenary Session, Ballroom			
9:30-10:00 AM	Comfort break (refreshments available)			
	FELLS POINT	GUILFORD	HOMELAND	MT. WASHINGTON
10:00-11:30 AM	M1-F Infrastructure Network Reliability and Vulnerability	M1-G Making Sense of Sites: Risk Assessment as a Decision-Making Tool in Site Cleanup	M1-H Risk, Law, and Societal Constructs	M1-I Risk Assessment at FDA: Applications for Informing Science-Based Decisions
11:45 AM-1:15 PM	Pick up your box lunch and attend the specialty group(s) of your choice (time of the group's business meeting)			
	<i>Engineering & Infrastructure (12:45-1:15 PM)</i>	<i>Ecological Risk Assessment (12:15-12:45 PM)</i>	<i>Risk Science & Law (12:15-12:45 PM)</i>	<i>Biological Stressors (12:45-1:15 PM)</i>
1:30-3:00 PM	M2-F Modeling and Communicat- ing Risks to Support Decision Making for Natural Disasters	M2-G Decision Analysis for Natural Hazards	M2-H Risk Acceptability and Context	M2-I The Interagency Microbiologi- cal Risk Assessment Workgroup: Development of Guidance for Microbiological Risk Assessment
3:00-3:30 PM	Comfort break (refreshments available)			
3:30-5:30 PM	M3-F Foundational Issues in Risk Analysis	M3-G Models and Approaches to Ecological and Human Health Risk	M3-H Systems and Risk	M3-I Health Risks in Home Environ- ments: Sources and Solutions
5:30-7:30 PM	Poster Session and Reception, Ballroom Presenters can post their posters starting at noon and will answer questions during the evening session. Please make sure to vote for the 5 Best Poster Awards!			

7:00-8:00 AM		Breakfast Meetings: Chapters and Sections Committee; Specialty Groups Committee; Communication Committee; Students (All graduate and undergraduate students welcome)				
8:00-9:30 AM		Plenary Session, Ballroom				
		BALTIMORE A	BALTIMORE B	FEDERAL HILL	MARYLAND A	MARYLAND E
9:40-11:00 AM		T1-A Managing Uncertain Risks for Nanotechnology Development	T1-B Medical Risks: Patients and Treatments	T1-C US EPA Exposure Assessment Guidance 1: Evolution of Exposure Science	T1-D Conceptual Work in Risk Communication and Visualizing Risk	T1-E New Developments in Expert Judgment Elicitation: Methods and Applications
11:00-11:15 AM		Comfort break (refreshments available)				
11:15 AM-12:15 PM		T2-A Regulatory and Policy Challenges of Nanotechnology: International Perspectives	T2-B Cessation Lag in Regulatory Risk Reduction Analyses	T2-C US EPA Exposure Assessment Guidance 2: Technological Advances and Emerging Issues	T2-D Food Risk Communication and Consumer Confidence	T2-E Accounting for Preferences and Opinions in Economic Analyses
12:15-2:00 PM		Awards luncheon and Annual SRA Business Meeting				
2:15-3:45 PM		T3-A Analyzing Nanotechnology Risks across the Life Cycle: Strategies and Policy Implications	T3-B Complexity in Modeling Mode-of-Action and Other Sources of Non-Linearity in Risk	T3-C Vehicle-Related Exposures	T3-D Terrorism: Risk Perception and Communication	T3-E Risk-Benefit Analysis: Lessons Learned at Federal Agencies
3:45-4:00 PM		Comfort break (refreshments available)				
4:00-5:20 PM		T4-A Risk Analysis and Decision Aspects of Nanotechnology	T4-B Exposure Guides: Methodology to Application	T4-C Early Life Exposure to Chemicals	T4-D Risk Communication for Improved Management of Events	T4-E Risk Analysis and Decision Analysis Applications in Business and Finance
5:30-7:00 PM		Evening Events: National Capitol Area Chapter Mixer Biological Stressors and Economics & Benefits Assessment Joint Mixer				
7:00-8:00 PM		Second World Congress Planning Session				

7:00-8:00 AM		Breakfast Meetings: Chapters and Sections Committee; Specialty Groups Committee; Communication Committee; Students (All graduate and undergraduate students welcome)				
8:00-9:30 AM		Plenary Session, Ballroom				
		FELLS POINT	GUILFORD	HOMELAND	MT. WASHINGTON	GIBSON
9:40-11:00 AM		T1-F Critical Infrastructure and Supply Chains	T1-G Risks and Decisions for Contaminated Water and Sediments	T1-H Better Regulation across the Atlantic: Regulatory Analysis, Information Quality, and Precaution Part 1	T1-I Building on Microbial Risk Assessment to Address Bioterrorism	T1-J Security risk
11:00-11:15 AM		Comfort break (refreshments available)				
11:15 AM-12:15 PM		T2-F Critical Infrastructures and Assets	T2-G Assessing Risks from Emerging Contaminants: Real Risk or Just Guessing	T2-H Better Regulation across the Atlantic: Regulatory Analysis, Information Quality, and Precaution Part 2	T2-I Food Allergies: Issues in Establishing Thresholds	T2-J Interdependent Security: A Discussion of Theory and Practice
12:15-2:00 PM		Awards luncheon and Annual SRA Business Meeting				
2:15-3:45 PM		T3-F Managing Risks for Critical Infrastructures	T3-G Multi-Criteria Decision Analysis Applications	T3-H Bounding Dynamic Risks for Technological Deployment: The Case of Carbon Capture and Sequestration	T3-I Using Risk-Based Analyses to Guide the Allocation of Inspection Resources	T3-J Risk Assessment for Complex Systems
3:45-4:00 PM		Comfort break (refreshments available)				
4:00-5:20 PM		T4-F Risk Assessment and Decision Analysis for Motor Vehicles and Related Infrastructure	T4-G Multi-Criteria Decision Analysis Tools	T4-H Applying Risk Analysis to Nutrition Policy: Exploring a Few Conceptual, Methodological, and Communication Issues	T4-I Foodborne Pathogens	T4-J Methods and Applications of Statistical Methods in Risk Analysis
5:30-7:00 PM		Evening Events: National Capitol Area Chapter Mixer Biological Stressors and Economics & Benefits Assessment Joint Mixer				
7:00-8:00 PM		Second World Congress Planning Session				

7:00-8:00 AM	Breakfast Meetings: Education Committee; Membership Committee; Conferences & Workshops Committee				
8:00-9:30 AM	Plenary Session, Ballroom				
9:30-10:00 AM	Comfort break (refreshments available)				
	BALTIMORE A	BALTIMORE B	FEDERAL HILL	MARYLAND A	MARYLAND E
10:00-11:30 AM	W1-A Emerging Hazards, Technologies, and Risk	W1-B Assessment and Management Health Risks Related to Airborne Hazards	W1-C Exposure Assessment and Soils: Issues of Sampling and Modeling	W1-D Perception, Communication, and Scaling of Human Disease Risks	W1-E Economists Responses to the OMB Risk Assessment Bulletin
11:45 AM-1:15 PM	<p>Pick up your box lunch and attend the lunch discussion of your choice (make sure to indicate your selection when you register): Update on the OMB Guidelines Internationalization of the SRA</p> <p>Personal networking (interested in the box lunch but not attending either discussion)</p>				
1:30-3:00 PM	W2-A Strategies for Risk Communication: Evolution, Evidence, Experience, Part 1	W2-B Issues in Conducting a Biologically Motivated Risk Assessment for Formaldehyde 1: Leukemia Epidemiological Evidence and Mode-of-Action Considerations	W2-C Exposure from Chemical Weapons and Unmonitored Releases	W2-D Risk Perception and Communication	W2-E Applications and Advances in Risk Analysis for Homeland Security, Part 1
3:00-3:30 PM	Comfort break (refreshments available)				
3:30-5:00 PM	W3-A Strategies for Risk Communication: Evolution, Evidence, Experience, Part 2	W3-B Issues in Conducting a Biologically Motivated Risk Assessment for Formaldehyde 2: Rat Nasal Tumors -Modeling Uncertainties and Mode-of-Action Considerations	W3-C Measuring, Modeling, and Managing Persistent Compounds	W3-D Psychological Factors and Risk Perception	W3-E Applications and Advances in Risk Analysis for Homeland Security, Part 2
5:00-6:00 PM	Closing wine & cheese reception - Cool t-shirts given to all attendees!				

7:00-8:00 AM	Breakfast Meetings: Education Committee; Membership Committee; Conferences & Workshops Committee			
8:00-9:30 AM	Plenary Session, Ballroom			
9:30-10:00 AM	Comfort break (refreshments available)			
	FELLS POINT	GUILFORD	HOMELAND	MT. WASHINGTON
10:00- 11:30 AM	W1-F Shoreline Management: Interface of Oceans and Human Health	W1-G Risk Analysis and Decision Analysis in Developing Countries	W1-H Applying the International Risk Governance Council's Risk Governance Framework	W1-I Assessment of Infectious Disease and Disinfection Byproduct Risks
11:45 AM- 1:15 PM	Pick up your box lunch and attend the lunch discussion of your choice (make sure to indicate your selection when you register): Update on the OMB Guidelines Internationalization of the SRA Personal networking (interested in the box lunch but not attending either discussion)			
1:30- 3:00 PM	W2-F Probability and Statistical Methods in Infrastructure and Engineering Risk Analysis	W2-G Risk Analysis in Latin America: State of the Art	W2-H The Role of Expert Peers and Peer Review in Regulatory Risk Assessment	W2-I Drinking Water Risk Management and Public Perceptions
3:00-3:30 PM	Comfort break (refreshments available)			
3:30- 5:00 PM	W3-F Risk in Engineering Systems with a Focus on Aviation	W3-G Risk Perception, Communica- tion, and Acceptability in Latin America	W3-H Competing Interests, World Views, and the Regulatory Process: Where Do We Go from Here?	W3-I Risks Associated with Consumer Products and Indoor Air
5:00-6:00 PM	Closing wine & cheese reception - Cool t-shirts given to all attendees!			

Meeting Events Summary

SRA Council Meetings

Sunday, 12/3, Noon – 5:00 PM and Tuesday, 12/5, 5:00 - 10:00 PM

SRA Welcome Reception – (Cash Bar)

Sunday, 12/4 – 5:30–7:00 PM

New Member and Fellows Breakfast

Monday, 12/4 - 7:00-8:00 AM

All SRA Fellows and 2006 and 2007 New Members (badges with a New Member ribbon) are welcome to attend.

Specialty Group Meetings

Monday, 12/4 - 11:45 AM-1:15 PM

All Specialty Group Meetings will take place during lunch time on Monday, December 4, 2006. Pick up your box lunch and attend the meeting(s) of your choice. See the Monday schedule for locations and note that the groups may meet for the entire lunch block, but they will conduct their business meetings during the times indicated in the schedule.

Other Meetings

Publications Committee, Monday, 12/4 - 7:00-8:00 AM

Chapters and Sections Committee, Tuesday, 12/5 - 7:00-8:00 AM

Communications Committee, Tuesday, 12/5 - 7:00-8:00 AM

Specialty Groups Committee, Tuesday, 12/5 - 7:00-8:00 AM

Student (Graduate and Undergraduate) Breakfast, Tuesday, 12/5 - 7:00-8:00 AM

Biological Stressors/Econ & Benefits Mixer, Tuesday, 12/5 - 5:30-7:00 PM

National Capitol Area Chapter Meeting/Mixer, Tuesday 12/5 - 5:30-7:00 PM

Second World Congress Planning Committee, Tuesday, 12/5 - 7:00-8:00 PM

Conferences and Workshops Committee, Wednesday, 12/6 - 7:00-8:00 AM

Education Committee, Wednesday, 12/6 - 7:00-8:00 AM

Membership Committee, Wednesday, 12/6 - 7:00-8:00 AM

Hotel Reservations

Renaissance Innerharbor Hotel

202 East Pratt Street

Baltimore, MD 21202

Phone: 410-547-1200

<http://marriott.com/property/propertypage/bwish?groupCode=srasraa&app=resvlink>

For reservations go to www.sra.org and follow the links from the annual meeting page (or use the web address above) to make your reservations online using the group code “SRASRAA” OR call 410-547-1200 or 1-800-535-1201 and ask for market code “SRAN” for the Society for Risk Analysis block. Daily room rates for this meeting of \$145 Single/Double are available for the meeting and three days before and after the meeting dates of December 3-6, 2006, subject to availability. SRA has reserved a block of rooms at the meeting rate, but once this block of rooms is sold out the hotel may offer any remaining available rooms at the prevailing rate, so reserve your room early. **The cut off for this rate is November 3, 2006 or until the SRA room block is sold out.**

If you drive to the meeting you can park at the hotel for the daily self-parking rate of \$23/day or valet rate of \$30/day, including in-and-out service.

Career Development Opportunities

The Annual Meeting offers an opportunity to connect Job Posters to Job Seekers. Please send your available-job postings via email to David Drupa at ddrupa@burkinc.com. If you would like to submit a blind resume, please request a form by emailing David Drupa at ddrupa@burkinc.com.

Job postings and blind resume's will be posted at the meeting and will be held at SRA headquarters for 6 months after the meeting.

For Further Information

Please contact SRA Headquarters at:

1313 Dolley Madison Blvd., Suite 402

McLean, VA 22101

(703) 790-1745, FAX: (703) 790-2672

Email: SRA@BurkInc.com; Website: www.sra.org

Workshops – Sunday, December 3

Half Day (Morning): 8:00 am-Noon

WK1 Risk Analysis: Fundamental Concepts, Applications and Controversies

Organizer: David M. Hassenzahl, David.hassenzahl@unlv.edu

Pre-reg: \$140/Onsite: \$165 Room: Homeland

Meetings and publications of the Society for Risk Analysis can be daunting to newcomers. More generally, risk analysis incorporates and spans many disciplines. It is often difficult for people, even those who work on some topic within risk analysis—be it toxicology, terrorist threat assessment or human behavior—to understand how their work fits into the risk analysis “big picture.” Likewise, disciplinary training does not prepare people to understand, much less converse with, fellow practitioners. This workshop, taught by three experts with extensive histories in practice, government and academia, is designed to fill that gap. We introduce fundamental risk analysis concepts, terminology, applications and calculations. The workshop is suitable for first time Society for Risk Analysis Annual Meeting attendees, as well as all individuals new to risk analysis and those who have been involved in only a limited aspect of risk analysis. Participants should have an undergraduate degree in an area relevant to risk analysis, and / or relevant work experience. Upon completion of this course, students will understand the origins, applications and controversies surrounding risk analysis. They will be prepared to evaluate risk analysis reports and presentations. Most importantly, they will be prepared to engage comfortably in the range of conversations that distinguish Society for Risk Analysis Annual Conferences.

For more information see <http://www.unlv.edu/faculty/dmh/RATL/SRA2006.html>

WK2 Incorporating “Omic” Information into Risk Assessment and Policy

Organizer: Elaine Faustman, lry@u.washington.edu

Pre-reg \$250/Onsite \$275 Room: Guilford

This course is designed for risk practitioners who have an interest in the emerging technologies of genomics, proteomics, and metabolomics – increasingly referred to as “Omics”. We will provide both a general overview of the science and describe how they are used in risk assessment and policy. The course will proceed in three discrete modules: (1) The Omic Revolution: The overview will provide background information to understand the central paradigm of the connection between DNA, RNA, and proteins in the functioning of cells and organisms. This session will include a brief introduction to transcription and translation and the flow of information from genes to functional protein. We will provide a definition of “omics and new “omic” technologies will be discussed including genomics, proteomics, metabolomics, metabonomics, nutrigenomics, etc. (2) The Omic Revolution’s Impact on Risk As-

essment: The use of “omic” tools in science is providing new ways to understand the impact of environmental exposures of toxicants on living organisms. We will review examples of how these tools are used to understand toxicological response at the molecular, cellular, organ and organism levels. We will also look at their use in defining mechanisms of toxicity and susceptibility. Examples of how information from new “omic” tools can be incorporated into human health risk assessment. The importance of understanding the sources of variability in applying “omic” tools will be emphasized. Approaches and issues related to data analysis, experimental design, and bioinformatics will be discussed. (3) Current incorporation into Policy: We will look at current policies and practices for incorporating information from “omic” tools into Risk Assessment at two Federal agencies, USEPA and USFDA. Future directions within genomics will be discussed.

For more information, see http://depts.washington.edu/irarc/SRA_genomics_seminar.html.

WK3 Replacing Default Values for Uncertainty Factors with Chemical Specific Adjustment Factors: Reducing Uncertainty in Noncancer Risk Assessment

Organizer: Lynne Haber, Haber@tera.org

Pre-reg \$175/Onsite \$200 Room: Fells Point

The World Health Organization, through the International Programme on Chemical Safety (IPCS), has recently established guidance on the use of mechanistic data to replace default uncertainty factors for interspecies extrapolation and intraspecies variability in deriving risk values such as Reference Doses (RfDs) and Tolerable Concentrations (TCs). This guidance informs the choice and application of data that can be used to replace defaults with chemical specific adjustment factors (CSAFs). CSAFs fall on the continuum of the use of data in deriving risk values. At one end of the continuum is the use of the traditional defaults, while at the other end is the use of extensive chemical-specific data in physiologically-based pharmacokinetic (PBPK) modeling, or even biologically-based dose-response (BBDR) modeling. In between these two extremes are the use of categorical defaults, such as the dosimetric approach used in the U.S. EPA’s RfC and cancer risk assessment methods, and CSAFs. The CSAF framework is based on early work by Renwick and applied by IPCS. This approach first subdivides the uncertainty factors for interspecies differences (UFA) and human variability (UFH) into toxicokinetic (TK) and toxicodynamic (TD) components. The data relevant for each subcomponent is then evaluated to determine whether chemical-specific data can be used in place of the default. Any one or all of these four subfactors can be replaced by chemical-specific data. In the absence of chemical-specific data, default values of 2.5 and 4.0 have established for the TD and TK component of UFA, while the default values for the TD and TK components UFH were each established at one-half order of magnitude (3.2). Use of the CSAF

framework allows the improved use of available data in deriving risk values, and can assist in targeting new studies to address uncertainties and lead to more accurate risk values. CSAFs have been used by the U.S. EPA in deriving an RfD for boron and by Health Canada in deriving a TC for 2-butoxyethanol. This half-day workshop will provide a brief review of the use of uncertainty factors and historical perspective on the reliance on quantitative data to develop values for inter- and intraspecies extrapolation. The course will focus on the IPCS methodology for CSAF development, including the thinking process and steps used for evaluating data. Examples and classroom activities will be used as instructional aids.

For more information, see http://www.tera.org/education/SRA_CSAF2006.htm.

Half Day (Afternoon): 1:00-5:00 pm

WK4 Beyond Point Estimates: Risk Assessment Using Interval and Possibilistic Arithmetic

Organizer: Arlin Cooper, arlincooper@msn.com

Pre-reg \$175/Onsite \$200

Room: Homeland

This workshop introduces interval analysis and possibility theory for propagating uncertainty in quantitative risk analyses where data are very limited. Interval analysis, although less powerful than other methods when information is abundant, can be used for analyzing uncertainty of all kinds no matter what its nature or source. As the simplest method for handling uncertain quantities, we use it to demonstrate many of the commonalities that unite all uncertainty theories. Some of its details can be subtle and inattention to them may lead to seriously erroneous conclusions. Topics will include (i) the algebra you already know can hurt you, (ii) how to specify inputs when you don't know much, (iii) comparison with other approaches of uncertainty analysis, and (iv) combining possibility and probability theories. The methods will be applied to several examples and case studies, including ground water contamination, event-tree safety assessment. Participants will receive a workbook of illustrations used during the workshop.

For more information, see <http://www.ramas.com/interval.htm>.

WK5 An Introduction to Health Risk Assessment of Chemical Mixtures

Organizer: Linda K. Teuschler, teuschler.linda@epa.gov

Pre-reg \$249/Onsite \$275

Room: Fells Point

This introductory workshop presents scientific principles and risk-based methods for assessing cumulative health risk from exposure to chemical mixtures, including descriptions of applied methods, considerations of mixture exposure characterization, discussions of the toxicology and mechanistic basis for joint toxicity, and an introduction to emerging risk assessment approaches. It is designed for anyone interested in gaining a working understanding of chemical mixtures health risk assessment.

Content includes: a general overview of definitions, data evaluation and procedures; component-based methods: Response-Addition, Hazard Index, Relative Potency Factors/Toxicity Equivalence Factors; approaches for incorporating toxicological interactions data (e.g. Interaction-Based Hazard Index, Interaction Profiles), including a discussion of the mechanistic bases for toxicological interactions; and hands-on exercises. Discussions include real world examples, exercise results, issues for application of the procedures, and general questions and comments. Participants are asked to bring a calculator.

WK6 Evaluating the Human Relevance of Modes of Action in Animals

Organizer: Stephen S. Olin, solin@ilsi.org

Prereg \$200/Onsite \$225

Room: Guilford

Note: this workshop is scheduled for 5 hours, 1-6 PM.

Defining the mode(s) of action (MOA) by which chemicals induce toxic effects, including tumors, in laboratory animals is becoming a key to judgments about the relevance of such animal data for human risk assessment. Further, as the risk assessment community continues to move away from practices based on sharp distinctions between characterization of cancer and non-cancer effects, MOA studies are becoming integral to analyses for endpoints other than cancer. Frameworks for analyzing MOA data relating to carcinogens have been under development for more than ten years, culminating in recent publications from the IPCS, the ILSI Risk Science Institute and the U.S. EPA. More recently, based partly on a rapidly expanding data base and partly on government and private sector interest in harmonizing risk assessment practices for cancer and non-cancer endpoints, scientists are expanding the framework concepts developed for carcinogens to apply to reproductive, developmental, neurologic and other toxic effects. The frameworks focus on developing a concordance table for side-by-side comparison of key events in the MOA as defined in animal systems with related information from human systems. The more recent non-cancer framework also uses life stage information as part of the MOA analysis for human relevance. The proposed workshop is designed to give participants hands-on experience in working with MOA data from animal and human systems to assess the human relevance of the animal data for use in assessing human risk. The 5-hour program features a combination of lecture and interactive case studies with group participation. An opening tutorial introduces workshop participants to basic concepts and walks them through a model case study. This leads into a series of interactive case studies in which participants analyze a diverse, and progressively more complex, series of peer reviewed case studies drawn from recent publications involving real-world chemicals. Case studies will examine issues such as the incorporation of kinetic and dynamic information and its impact on cross-species extrapolation, the use of pre-

cursor data in dose-response analysis, and sufficiency of evidence for establishing an MOA and its human relevance. The cases selected illustrate the comparability between MOA analysis for cancer and non-cancer endpoints, the problem of data-poor situations that preclude a full MOA human relevance analysis, and differences in animal-human MOA analysis based on differences in developmental stage. In the closing wrap-up session facilitators and participants will identify outstanding issues and potential controversies. Workshop instructors have been leaders in the development of these frameworks and have extensive experience with their practical use.

Full Day: 8:00 am-5:00 pm

WK7 Sensitivity Analysis Methods Applied to Exposure or Risk Assessment Models

Organizer: Amirhossein Mokhtari, amirh357@yahoo.com

Pre-reg \$295/Onsite \$320

Room: Kent

When should you perform sensitivity analysis? How do you prepare a model to facilitate sensitivity analysis? What are key considerations in the development of scenarios that are the basis for sensitivity analysis? What are some typical sensitivity analysis methods and how can you select among them? How should particular sensitivity analysis methods be applied? How should the results of sensitivity analysis be presented and interpreted? How are the methods applied to exposure or risk assessment model for identifying susceptible subpopulation and important pathways? This workshop will answer these questions. The methods and case studies that will be presented in this workshop are based upon several years of research at NC State University regarding transferring, applying, and adapting sensitivity analysis methods developed in other disciplines (e.g. complex engineering systems) to quantitative exposure and risk assessment models. One of the outcomes of this research is a guidance document regarding selection, application, and interpretation of sensitivity analysis methods applied to quantitative risk assessment models. This workshop helps practitioners in selecting specific sensitivity analysis methods that are relevant to a particular case study and to the characteristics of the model. Practitioners can also use the instructions in the workshop to aid in interpreting results from a sensitivity analysis in response to a particular modeling objective. Workshop participants will be provided with course notes, a copy of the guidance document, and a tutorial with examples for instructing attendees how to perform sensitivity analysis using common sensitivity analysis methods. The methods will also be illustrated with two practical case study examples. This workshop is aimed at practitioners who are already familiar with basic concepts of statistics and probabilistic simulation and who wish to refine their knowledge regarding sensitivity analysis methods.

For more information, see <http://www.ce.ncsu.edu/risk/workshop04/>

WK8 What Monte Carlo Cannot Do: An Introduction to Imprecise Probabilities

Organizer: Scott Ferson, scott@ramas.com

Pre-reg \$200/Onsite \$225

Room: Pride of Baltimore Room

This tutorial introduces the notions of interval-valued probabilities and imprecisely specified probability distributions and their uses in risk analysis. It reviews five practical and quantitative approaches based on these elementary notions. The simplest approach uses the idea of interval probability, in which the probability of an event can be specified as an interval of possible values rather than only as a precise one. This idea, dating from George Boole, provides a convenient way to assess the reliability of fault-tree risk analyses. This idea is generalized by probability bounds analysis, which propagates constraints on a distribution function through mathematical operations, and Dempster-Shafer theory, which recognizes that uncertainty attending any real-world measurement may not allow an analyst to distinguish between events in empirical evidence. These approaches are related to robust Bayes (aka Bayesian sensitivity) methods, in which an analyst can relax the requirement that the prior distribution and likelihood function must be precisely specified. The most general approach comes from the theory of imprecise probabilities in which uncertainty is represented by closed, convex sets of probability distributions.

For more information, see <http://www.ramas.com/ipbaltimore.htm>.

WK9 Applying Publicly Available Environmental Models and Databases within a Single Human and Ecological Risk Assessment Tool: Hands-on Training Using ARAMS

Organizer: Chuck Tomljanovic, chuck-t@ctc.com

Pre-reg \$0 Free to the 1st 25 registrants

Room: Gibson

Public and private organizations have developed numerous models and databases for characterizing the release and transport of contaminants through various media and evaluating exposure pathways and risks to human and ecological receptors. Organizations and risk practitioners can realize efficiencies and cost savings by utilizing existing multimedia and multi-pathway fate/transport, exposure, and effects models and databases. The use of publicly accepted models and databases can also increase the reliability and consistency of risk assessment. These models and databases can be integrated into a single risk assessment software system that supports problem-specific modeling and decision analysis. This workshop will review current efforts to integrate existing models and databases and demonstrate the use of the Adaptive Risk Assessment Modeling System (ARAMS™). ARAMS is a computer-based, modeling, data delivery, and analysis system that integrates multimedia and multi-pathway fate/transport, exposure, intake/uptake, and effects to assess potential human health risks and ecological impacts associated with exposure to contaminants. The conceptual site modeling framework, used by ARAMS, is based on the Frame-

work for Risk Analysis in Multimedia Environmental Systems (FRAMES), which is used by DOE, EPA, DOD, NRC, and industry to link different environmental models together to create a problem-specific modeling system. An open discussion (e.g., mini-breakout sessions) will be accommodated at the end of the day to explore practical application of the risk sciences through ARAMS to select areas such as emerging contaminants.

For more information, see <http://www.ndcee.ctc.com/>.

WK10 Risk Assessment and Decision Support Applications in Military Settings

Organizers: Igor Linkov, Renae Ditmer and Elizabeth Ferguson, linkov@cambridgeenvironmental.com, Renae.Ditmer_CONTRACTOR@dtra.mil, Elizabeth.A.Ferguson@erdc.usace.army.mil

Pre-reg \$375/Onsite \$400

Room: Federal Hill

This workshop will explore decision analysis as an advanced approach to formulating and implementing effective risk management in military and homeland security settings. Proven processes, methods and new tools available to risk assessors, decision makers and communicators will be highlighted. Risk Analysis is a robust and reputable tool for the planning and execution of a broadening spectrum of government programs. In addition, the Government Accountability Office, the Office of Management and Budget, and The Department of Defense require risk-based management tools for and increasing number of government programs. Nevertheless, the mass of guidance documents drafted for such purposes have often further confused efforts to manage various kinds of risk. The development of risk management guidance for military and homeland security applications is particularly challenging due to the knowledge vacuum and constricted timeline in which decisions must be made. This is especially true in managing risks posed by chemical, biological, radiological, and nuclear events. Lecturers will present an array of problems and risk-based decision frameworks used by DOD and DHS. Speakers will illustrate the challenges of applying traditional risk assessment paradigms to design risk management frameworks for military applications, and argue for an integrated risk assessment/risk management approach based on the tools of multicriteria decision analysis.

For more information, see www.risk-trace.com/DOD_Risk.html.

WK11 Approaching Adversity: What's Adverse? What's Not? Why You Should Care

Organizer: Sara Hale Henry, sara.henry@fda.hhs.gov

Pre-reg \$325/Onsite \$350

Room: St. George

As regulatory frameworks increasingly seek a general way to approach toxicological issues in addition to cancer, the importance of determining appropriate "adverse effects" in toxicological assessments has been on the rise. In this full-day course,

participants will gain an understanding of the general legal background that gives weight to adverse effects, the differences among agency approaches to determining what is considered an adverse effect, and the complicated scientific issues upon which such a determination rests. The morning will begin with an overview of the statutory and regulatory background central to adverse effects, including how different federal agencies approach risk assessment concerning adverse effects. The course will then lead participants through an examination of four cases, each of which will raise a different issue with an adverse effect determination. Issues will range from using biomarkers as surrogates for deciding that an adverse effect is present, to the challenge of extrapolating from adverse neurological effects in animals to humans, to deciding when, in a continuous spectrum of response, the response becomes adverse. The day will conclude with a step back from the specifics of cases to summarize the general challenges involved with adverse effects as a key regulatory designation, including a discussion of whether formal guidance on determining adversity would be useful or helpful.

For more information, see http://www.tera.org/education/sra_adversity2006.htm.

WK12 Measuring Risk Perceptions and Behaviors: Developing High-Quality Questionnaires

Organizer: Clifford Scherer, cws4@Cornell.edu

Workshop 12 Prereg \$250/Onsite \$275

Room: Baltimore Salon B

Surveys remain one of the most popular tools organizations use to gather information about itself and to evaluate the effects of change over time. They are used for climate studies, attitude, perception and behavior studies, needs assessments and program evaluations. Only a well-constructed survey instrument, however, generates useful data. No amount of analysis can salvage an instrument with invalid and unreliable measures. Instructors will work with participants past or current surveys to introduce elements in survey design, distinguish various approaches to constructing an instrument, and identify and rework problematic questions. This workshop will provide participants with a practical approach to designing high quality survey questionnaires. Key topics will include defining your variables, asking the right questions, designing the instrument, using the right approach to administering the survey, and issues that compromise your data. Participants will be asked to share a questionnaire they are either planning, or have used in their work. These questionnaires will be used as working examples to highlight issues in questionnaire development work.

Disclaimer: Workshops may be cancelled for low enrollment or reasons beyond our control. Enrollees of cancelled workshops will be given a refund or an opportunity to attend a different workshop.

Preliminary Program Subject to Change – Go to www.sra.org for new updates and a complete listing of sessions, presentations and abstracts!!

Society for Risk Analysis – Registration Form December 3-6, 2006 – Marriott Innerharbor, Baltimore, MD

Preregistration Deadline: Friday, November 4

Presenter Registration Deadline: Friday, September 15

PLEASE PRINT CLEARLY

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WEDNESDAY LUNCH

PLEASE CHECK FOR A BOX LUNCH: Yes No Not attending Wednesday

Please indicate which session you plan to attend: Internationalization of SRA OMB Networking

ARE YOU PRESENTING AT THIS MEETING?

Yes No

FEES

Continuing Member* (to renew chapter/section dues continue to next page) \$490.00 **Preregistration After 11/4/2006** \$590.00

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One Day Monday Tuesday Wednesday \$225.00 \$225.00

WORKSHOPS (SUNDAY, DECEMBER 3)

- WK1 Risk Analysis: Fundamental Concepts, Applications & Controversies (AM) \$140.00 \$165.00
- WK2 Incorporating "Omic" Information into Risk Assessment & Policy (AM) \$250.00 \$275.00
- WK3 Replacing Default Values for Uncertainty Factors with Chemical... (AM) \$175.00 \$200.00
- WK4 Beyond Point Estimates: Risk Assessment Using Interval... (PM) \$175.00 \$200.00
- WK5 An Introduction to Health Risk Assessment of Chemical Mixtures (PM) \$249.00 \$275.00
- WK6 Evaluating the Human Relevance of Modes of Action in Animals (PM) \$200.00 \$225.00
- WK7 Sensitivity Analysis Methods Applied to Exposure of Risk... (All Day) \$295.00 \$320.00
- WK8 What Monte Carlo Cannot Do: An Introduction to Imprecise... (All Day) \$200.00 \$225.00
- WK9 Applying Publicly Available Environmental Models & Databases... (All Day) \$000.00 To 1st 25 reg \$000.00
- WK10 Risk Assessment and Decision Support Applications in Military Settings... (All Day) \$375.00 \$400.00
- WK11 Approaching Adversity: What's Adverse? What's Not? Why You... (All Day) \$325.00 \$350.00
- WK12 Measuring Risk Perceptions & Behaviors: Developing High... (All Day) \$250.00 \$275.00

*Includes Meeting Registration & 2007 Membership Dues (you must have paid your 2006 dues); **Includes 1 year SRA Membership for 2007

Registration Total _____

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Please either FAX (703-790-2672) your completed form to register. If you FAX your form, do not mail it.

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SPECIAL TIES: (You may choose a maximum of 3)

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- (31) Ecological Risk Assessment
- (32) Economics and Benefit Analysis
- (33) Engineering
- (34) Exposure Assessment
- (35) Food Safety Risk Assessment
- (36) Risk Communication
- (37) Risk Science & Law
- (38) Decision Analysis & Risk

DISCIPLINE (choose one)

- Highest Degree
- (60) Economics
- (61) Engineering
- (62) Environmental Sciences
- (63) Law and Policy
- (64) Philosophy
- (65) Psychology/Sociology
- (66) Public Health Sciences
- (67) Other: _____

EMPLOYMENT (Choose one)

- (90) Government
- (91) Industrial
- (92) Medical
- (93) National Laboratory
- (94) University
- (95) Other
- (96) Private Practice
- (97) Military

MEMBERSHIP OPTIONS – ANNUAL DUES (JANUARY 1-DECEMBER 31, 2006)

- Full Membership\$105
- Supporting Membership (Supports Reduced Fee Memberships)\$155
- Reduced Fee Memberships (Salary under \$30,000 USD)\$55
- Student Membership\$55
- Student Membership w/o Journal\$10

All members receive a subscription to the Journal, *Risk Analysis*, with the exception of Student Membership without Journal.

SPECIALTY GROUP DUES

- Decision Analysis & Risk\$0
- Dose Response\$15
- Ecological Risk Assessment\$5
- Economics and Benefit Analysis\$10
- Engineering\$0
- Exposure Assessment\$10
- Food Safety Risk Assessment\$15
- Risk Communication (Student's Exempt)\$10
- Risk Science & Law\$0

CHAPTER DUES

- Greater Pittsburgh (Student's Exempt)\$20
- Lone Star Chapter\$20
- National Capital Area\$10
- Northern California\$15
- NY, NJ, CT (Metro Chapter)\$15
- Ohio\$5
- Research Triangle Park\$20
- Southern California\$10

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SPECIALTY GROUP DUES _____

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