

Risk Analysis: Advancing Analysis



Society for Risk Analysis



2012 Annual Meeting

9-12 December

Hyatt Regency San Francisco
San Francisco, California

FINAL PROGRAM

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www.SRA.org

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Society For Risk Analysis Annual Meeting

2012 Final Program

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Meeting Highlights

Poster Reception!

This year's meeting will feature a poster reception with food and drinks in the Grand Ballroom, on Monday evening from 6:00 to 8:00 pm. Posters set up starts at noon, and poster presenters will be at their posters for questions and discussion during the reception. Vote for the best poster awards. Don't miss it!

Meeting Events! - All events take place at the Hyatt Regency San Francisco. Start with the opening reception on Sunday (9 December, 6:00-7:30 PM, Cash Bar), and continue to the closing Die Hard Risk Analyst - DHRA - T-Shirt Give-away on Wednesday (12 December, 5:00-6:00 PM). The meeting includes three Plenary Sessions, and lunch on all three days.

NEW! Business Networking Breakfast - Tuesday, December 11, 7:30am-8:15am, Marina Room. All those interested in making business connections while attending SRA, come prepared with your 30 second commercial. Each participant will have 30 seconds to stand and let others know what type of business they're in, who their prospects are, and how others present can help them connect the dots. Make YOUR SRA experience really pay off! A continental breakfast will be available. Bring your business cards!

Oral Presenter's Reminder

If you are an Oral Presenter at the meeting, don't forget to upload your presentation in the Speaker Ready Room (Plaza Room) at least 24 hrs prior to your presentation.

If you have already uploaded your talk, come by the Ready Room to ensure it has been received and uploaded correctly.

Hyatt Regency San Francisco

5 Embarcadero Center
San Francisco, CA 94111
415-788-1234; Fax: 415-398-2567

**SRA 2012 Specialty Group
Award Winners**

Decision Analysis & Risk

Douglas Bessette
Danail Hristozov

Dose-Response

Casey Ta

Ecological Risk Assessment

Heitor Duarte

Economics and Benefits Analysis

Magdalene Matthews

Emerging Nanoscale Materials

Christian Beaudrie

Engineering and Infrastructure

Stephen Rose

Microbial Risk Analysis

Hao Pang
Jory Wahlen

Risk and Development

John Coles

Risk Policy & Law

Tsung-ling Lee
Reut Snir

Security & Defense

David Blum

**SRA 2012 Student &
International Award Winners**

Amlot, Richard
Andrijcic, Eva
Bessette, Douglas
Blazquez, Carola
Cabrera, Camila
Catalano, Marie
Cheadle, Jessica
Christian, Rochelle
Chua, Yi Ting
Cisternas, Pamela
Coles, John
Cummings, Christopher
DeMichelis, Sandra
Demski, Christina
du Plessis, Elsabe
El Yahchouchy, Rana
Empereur-Bissonet, Pascal
Ertem, Mehmet
Fan, Gang-Zhi
Gottschalk, Fadri
Guivant, Julia
Guo, Zhenyu
Hajbagheri, Mansour
Hamilton, Michael

Hristozov, Danail
Huang, Tailin
Jamshidi, Taher
Jiao, Wan
Kenney, Lisa
Kim, Hye Kyung
Kim, Se-Jin
Kowal, Stephanie
Lapuente, Pilar
Lu, Connie
Matthews, Magdalene
Neela, Guha
Nicol, Anne-Marie
Pang, Hao
Parra, Lina
Pica Tellez, Andres
Poortvliet, Marijn
Poulizac, Claire
Rajan, Ravi
Retchless, David
Rodriguez, Sergio
Roh, Sungjong
Rolfe-Redding, Justin
Romero, Andres

Rose, Stephen
Sadeghi, Farzad
Salsal, Mohammad
Schetula, Viola
Shan, Xiaojun
Snir, Reut
Srdjevic, Bojan
Staid, Andrea
Strappa, Valentina
Ta, Casey
Tatham, Elisa
Thomas, Merryn
Turner, Amalia
Wagner, Charlotte
Wahlen, Jory
Wang, Wen
Wang, Hui
Way, Dominic
Welburn, Jonathan
Yao, Jiayun
Zwickel, Adam

Meeting Events and Highlights

Registration Hours

Hyatt Regency San Francisco - Grand Ballroom Foyer

Sunday 9 December	4:00 - 6:30 PM
Monday 10 December	7:00 AM - 5:00 PM
Tuesday 11 December	8:00 AM - 5:00 PM
Wednesday 12 December	8:00 AM - 4:00 PM

Conference Events, Committee Meetings

Sunday 9 December

SRA Council Meeting

Noon–5:00 PM - Regency Room

SRA Welcome Reception – (Cash Bar)

6:00–7:30 PM - Atrium 2-4

Monday 10 December

New Member and Fellows Networking & Breakfast

7:00-8:00 AM - Atrium 3-5

All SRA Fellows as well as 2012 and 2013 New Members (badges with a New Member ribbon) are welcome to attend.

Regional Organizations/Chapters Chairs Breakfast

7:30-8:30 AM - Marina

Conferences and Workshops Committee

7:30-8:30 AM - Board Room A

Opening Plenary Session

8:30-10:00 AM - Grand Ballroom

Specialty Group Meetings - Pick up your box lunch by the SRA Registration Desk

12:05-1:30 PM - See Page 4

Publications Committee

2:00-3:00 PM - Board Room A

Finance Committee

3:30-5:00 PM - Board Room B

Poster Reception

6:00–8:00 PM - Grand Ballroom

Tuesday 11 December

Grad Student Breakfast

7:00-8:00 AM - Golden Gate

Business Networking Breakfast

7:30-8:15 AM - Marina Room

Specialty Group Chairs Breakfast

7:30-8:30 AM - Pacific Concourse H

Communications Committee

7:30-8:30 AM - Board Room A

Plenary Session

8:30-10:00 AM - Grand Ballroom

SRA Awards Luncheon and Business Meeting

Noon-1:30 PM - Grand Ballroom

Career Fair & Young Professionals Mixer - (Cash Bar)

5:00-6:30 PM - Grand Ballroom Foyer

SRA Council Meeting

6:30-10:00 PM - Regency Room

Wednesday 12 December

Audit Committee

7:00-8:00 AM - Board Room B

Education Committee Breakfast

7:00-8:00 AM - Marina Room

Website Redesign Subcommittee: SG and RO Website Development Training

7:30-8:30 AM - Pacific Concourse I

Plenary Luncheon

Noon-1:30 PM - Grand Ballroom

T-Shirt Giveaway

Be a Die Hard Risk Analyst - Stay until the end of the sessions and receive a t-shirt

5:00–6:00 PM, Grand Ballroom Foyer

Specialty Group Meetings

12:05-1:30 PM

All Specialty Group Meetings will take place during lunch time on **Monday 10 December**. Pick up your box lunch near the Registration desk and attend the meeting(s) of your choice.

12:05-12:30 pm

Dose Response, *Pacific Concourse L*
 Economics & Benefits Analysis, *Pacific Concourse M*
 Security & Defense, *Pacific Concourse N*
 Risk Communication, *Pacific Concourse O*

12:35-1:00 pm

Ecological Risk Assessment, *Pacific Concourse L*
 Exposure Assessment, *Pacific Concourse M*
 Risk, Policy & Law, *Pacific Concourse N*
 Risk & Development, *Pacific Concourse O*

1:05-1:30 pm

Decision Analysis & Risk, *Pacific Concourse L*
 Emerging Nanoscale Materials, *Pacific Concourse M*
 Engineering & Infrastructure, *Pacific Concourse N*
 Microbial Risk Analysis, *Pacific Concourse O*

Specialty Group Mixers

Tuesday 11 December

6:00 - 7:30 PM

DRSG, MRASG, EASG - Hospitality Room
SDSG, DARSG, EISG - Atrium 4
ERASG, RCSG - Atrium 2
EBASG, RPLSG, ENMSG, RDSG - Atrium 3

Key to Specialty Group Designations

DARSG = Decision Analysis and Risk	ERASG = Ecological Risk Assessment
DRSG = Dose-Response	MRASG = Microbial Risk
EASG = Exposure Assessment	RCSG = Risk Communication
EBASG = Economics & Benefits Analysis	RDSG = Risk & Development
EISG = Engineering and Infrastructure	RPLSG = Risk Policy and Law
ENMSG = Emerging Nanoscale Materials	SDSG = Security and Defense

Exhibition - Grand Ballroom Foyer

Monday 10 December 3:00 - 8:00 PM

Poster Reception 6:00 - 8:00 PM

Tuesday 11 December..... 9:45 AM - 4:00 PM

Wednesday 12 December..... 9:45 AM - Noon

Exhibitors

Exponent

Booth 4

1800 Diagonal Road, Suite 300
 Alexandria, VA 22314
 571-227-7229; Fax: 571-227-7299
 www.exponent.com

Exponent is a scientific and engineering consulting firm that provides solutions to complex technical problems. Our multidisciplinary team of scientists, engineers, physicians, and business consultants performs in-depth research and analysis in more than 90 technical disciplines. Exponent operates in 20 regional offices and 5 international locations.

Gower Books

Booth 6

110 Cherry Street, Suite 3-1
 Burlington, VT 05401
 802-865-7641; Fax: 802-865-7847
 www.icfi.com

Gower is recognized as one of the world's leading publishers of specialist business and management books and resources. Our publishing program covers many of the main business processes and functions and we are continuously developing new titles. Founded in 1967, Gower is an independent, global publisher.

ICF International

Booth 2

9300 Lee Highway
 Fairfax VA 22031
 703-934-3000; Fax: 703-934-3740
 www.icfi.com

Since 1969, ICF International (NASDAQ:ICFI) has been serving government at all levels, major corporations, and multilateral institutions. With more than 50 offices and more than 4,500 employees worldwide, we bring deep domain expertise, problem-solving capabilities, and a results-driven approach to deliver strategic value across the lifecycle of client programs. At ICF, we partner with clients to conceive and implement solutions and services that protect and improve the quality of life, providing lasting answers to society's most challenging management, technology, and policy issues. As a company and individually, we live this mission, as evidenced by our commitment to sustainability and carbon neutrality, contribution to the global community, and dedication to employee growth.

Toxicology Excellence for Risk Assessment (TERA)

2300 Montana Avenue, Suite 409
 Cincinnati, OH 45211
 513-542-7475; FAX: 513-542-8674
www.tera.org

TERA is a non-profit risk assessment organization dedicated to the best use of toxicity information for risk assessment. Information on key TERA projects and resources will be available, including risk databases (ITER, RiskIE) and training, the Alliance for Risk Assessment, assessments, and peer review.

US Coast Guard

USCG's risk model aims to optimize deployment of 50,000 personnel and 2,200 sea/aircraft to ensure the safety, security, and stewardship of America's maritime interests. An Armed Force under the Department of Homeland Security, USCG is resourcing a booth to increase dialogue on mission requirements and personnel needs to improve mission effectiveness.

US Environmental Protection Agency (US EPA)

1200 Pennsylvania Avenue NW
 Maildrop 8601P
 Washington, DC 20460
 703-347-8545
www.usepa.org

EPA publications and information about EPA - Office of Research and Development.

Booth 1**Booth 5****Booth 3****DHHS/FDA/ORA/SAN-DO & JIFSAN****Joint Institute for Food Safety and Applied Nutrition (JIFSAN)**

www.jifsan.umd.edu; <http://foodrisk.org/>

JIFSAN was founded in 1996 by the University of Maryland and US Food & Drug Administration. Its mission is to advance sound strategies to improve public health, food safety, and applied nutrition using risk analysis principles through collaborative research, education, and outreach programs. JIFSAN conducts trainings and research worldwide and hosts foodrisk.org, the only comprehensive on-line resource for food safety risk analysis. Information on training and research programs and new web-based tools (iRISK, FCID, ICRA) currently found foodrisk.org will be available.

US Food & Drug Administration, San Francisco District Office (SAN-DO)

www.fda.gov

FDA San Francisco District Laboratory is an A2LA and ISO 17205 accredited laboratory with the mission of protecting the public health through the analysis of FDA regulated products such as food, drugs, devices, and cosmetics. The laboratory provides analytical support in areas of organoleptic, microbiological, elemental, product sterility, and food chemistry (e.g. colors and food additives). Key specialization areas include our Problem Solving Lab for unknown contaminants, our Virology Center of Excellence and Sterility Suite, and our capabilities in Select Agent analysis. We also conduct research in methods development and validation for foodborne, drug, and cosmetic contamination. A major strength is our ability to develop cooperative collaborations and partnerships with other sister agencies focused on Public Health and Food Safety. As part of the Food Emergency Response Network (FERN) the laboratory is a key player in developing increased capacity for rapid sample analyses in case of a national disaster or terrorist event.

Booth 7

...Back by Popular Demand...Back by Popular Demand...Back by Popular Demand...

Sponsored in part by: Geosyntec and EPA

SRA Career Opportunities, Tuesday, 5:00-6:30 pm - Grand Ballroom Foyer

Finding the right job. Continuing education. Work-force training. Career advancement. It's a giant puzzle, but the career fair at this year's SRA Annual Meeting can help you put all the pieces together. During this event, job seekers can network with employers looking to fill vacancies as well as participate in on-site interviews. This will be your opportunity to show off your first impressions, resumes and get one-on-one time with local recruiters and employment resources.

Come dressed professionally, and bring along plenty of résumés and a winning attitude. Remember, this is an employer's first impression of you, so treat this event like you would a job interview.

If you are a Student or Young Professional, join us for the Mixer while doing some networking at the Career Fair!

Workshops - Sunday 9 December

Full Day Workshops – SUNDAY 8:30 am – 5:30 pm (Lunch is on your own, 12:30-1:30 pm)

Workshop 1: Benchmark Dose Modeling (BMD) Analysis – an Introduction to BMD Methods and Application of EPA’s Benchmark Dose Software

Instructors: J. Allen Davis, MSPH, US Environmental Protection Agency (EPA); Jeff Gift, Ph.D.(EPA); Jay Zhao, MD, MPH, Ph.D. (EPA)

Onsite Registration \$350

This workshop will provide participants with interactive training on the use of the U.S. EPA’s Benchmark Dose Software (BMDS) and its application to risk assessment. The course will provide an overview of the BMD process, including determination of data adequacy, model fitting and comparison, and selection of a benchmark response level. This workshop will cover all BMD models available in BMDS 2.2—including the new MS-COMBO model, which calculates multi-tumor composite risk values. Instruction will also be given in regard to new features that have been implemented in version 2.2.

This interactive training workshop will consist of morning and afternoon sessions. The morning session will include instructor presentations covering the basic science and theory of BMD modeling, and is intended for those with no prior experience in BMD modeling. The afternoon session will expand upon the morning session and will consist of a demonstration of EPA’s BMDS 2.2 through individual and group class modeling exercises. Questions and critical discussions of presentation material and class activities are highly encouraged.

Participants planning to attend the afternoon session need to bring their own laptops to the workshop with BMDS 2.2 installed (with necessary administrative rights). The latest version of the software can be found at: <http://epa.gov/ncea/bmnds/>. To ensure students receive the maximum benefit from participating in the workshop, it is recommended that they examine the online training and tutorial materials prior to the workshop. Training and tutorial materials can be found at: <http://www.epa.gov/ncea/bmnds/training/index.html>.

Workshop 2: Ecological Risk Assessment and Management – Processes and Applications

Organizer: Mala Pattanayek, MS, ARCADIS

Instructors: Ned Black, PhD, USEPA; Bridgette DeShields, MS, ARCADIS; Mala Pattanayek, MS, ARCADIS; Judy Nedoff, MS, ARCADIS

Onsite Registration \$300

This workshop will cover the science and practice of Ecological Risk Assessment (ERA). The content will include case study exercises to provide hands-on experience for participants in weight-of-evidence ERA and the principles of risk management. While the focus will be primarily on chemical contaminants, multi-stressor issues will also be covered. This workshop is suitable for participants with little ERA experience, as well as those with a moderate level of understanding. The course will be composed of two modules: 1) a broad overview of the ERA process/framework and an introduction to core scientific principles and disciplines, including basic systems ecology, toxicology, population biology, fate and transport, empirical and applied modeling, data collection (design and data quality objectives), and regulatory policy and guidelines, and 2) application of the ERA process to current global environmental issues. Case studies will be used to frame discussion on the broad application of the ERA framework to address environmental issues, and risk management decision-making, the overall goal being to demonstrate how the ERA process/frameworks can be used to evaluate a broad array of environmental issues from localized contaminated sites to global issues such as climate change. Materials will be provided to course participants for follow-up study, including: suggested reading lists (including a focused list of publications on the subject matter), links to relevant internet sites, terminology/definition sheets, and electronic versions of key ERA regulations, guidance documents, and related materials, as well as workshop slides on a USB drive.

Workshop 3: Application of Web-based Risk Assessment Information System (RAIS) and Free Spatial Analysis and Decision Assistance (SADA) Software

Organizer: Debra Stewart

Instructors: Debra Stewart, University of Tennessee, Oak Ridge National Laboratory; Fred Dolislager, University of Tennessee, Oak Ridge National Laboratory; Leslie Galonway, University of Tennessee, Oak Ridge National Laboratory; Robert Stewart, Oak Ridge National Laboratory

Onsite Registration \$350

The first half of this workshop is interactive training on the Risk Assessment Information System (RAIS). The RAIS is a web-based system that provides risk tools and supplies information for both chemicals and radionuclides for human health and ecological risk assessment. Taking advantage of searchable and executable databases, menu-driven queries, and data downloads using the latest web technologies, the RAIS offers essential tools and information for the risk assessment process established by the U.S. EPA and can be tailored to meet site-specific needs for another government agency, the public, or an international user. The course will provide a general overview of the risk assessment process and introduce freely available RAIS tools, including toxicity values, PRGs, forward risk calculations, ecological screening benchmarks, and radionuclide decay. More information can be found at <http://rais.ornl.gov>. The second half of the workshop will present Spatial Analysis and Decision Assistance (SADA). SADA is free software that incorporates tools from environmental assessment fields into an effective problem solving environment. These tools include integrated models for visualization, geospatial analysis, statistical analysis, human health risk assessment, ecological risk assessment, cost/benefit analysis, sampling design, and decision analysis. Instruction will be hands-on and include case studies and exercises. Participants are encouraged to bring their own laptops with wireless internet capability. For SADA, participants are encouraged to visit the SADA website (<http://www.tiem.utk.edu/~sada/index.shtml>) and download the latest copy of SADA prior to the workshop. Approximately 80% of this workshop will be focused on human health risk assessment and 20% on ecological risk assessment.

Workshop 7: Probabilistic Risk Analysis with Hardly any Data

Instructors: Scott Ferson, Ph.D., Applied Biomathematics and Jack Siegrist, Ph.D., Rutgers University

Onsite Registration \$325

This full-day tutorial introduces and compares methods for developing a probabilistic risk analysis when little or no empirical data are available to inform the risk model. The talks are organized around the basic problems that risk analysts face: not knowing the input distributions, not knowing their correlations, not being sure about the model itself, or even which variables should be considered. Possible strategies include traditional approximative methods and recent robust and bounding methods. Numerical examples are given that illustrate the use of various methods including traditional moment propagation, PERT, maximum entropy, uniformity principle, probability bounds analysis, confidence boxes, Bayesian model averaging, and sensitivity analysis. All of the approaches can be used to develop a fully probabilistic estimate useful for screening decisions and other planning. The advantages and drawbacks of the various approaches are examined. Essentially, the drawbacks are that bounding approaches may say too little about risks, and the rough and ready approximate methods may say too much. The discussion addresses how defensible decisions can be made even when little information is available, and when one should break down and collect some data and, in that case, what data to look for. The presentation style will be casual and interactive. Participants will receive a handout and CD of the illustrations used during the tutorial.

Workshop 10: Cumulative Risk Assessment: Addressing Combined Environmental Stressors

Organizer: Linda K. Teuschler, MS, US Environmental Protection Agency (EPA)

Instructors: Amanda Evans, MSPH, Oak Ridge Institute for Science and Education; Richard C. Hertzberg, PhD, Biomathematics Consulting; Margaret MacDonell, Ph.D., Argonne National Laboratory; Moiz Mumtaz, Ph.D., Agency for Toxic Substances and Disease Registry; Glenn E. Rice, ScD, EPA; Jane Ellen Simmons, Ph.D., EPA; J. Michael Wright, Ph.D., EPA

Onsite Registration \$400

Cumulative risk assessment (CRA) addresses the impacts of multiple chemical and nonchemical stressors on real world individuals and communities, resulting in complex exposures for individuals and populations with a variety of vulnerabilities, in applications that range from environmental justice and community sustainability to individual health promotion and protection.

Nonchemical stressors include biological and physical agents (e.g., microbes and noise) as well as socioeconomic stressors and psychosocial conditions (e.g., associated with natural disasters). Public concerns that can initiate CRAs include (1) elevated environmental measurements or biomonitoring data; (2) multiple sources of pollutants or stressors; and (3) changes in disease rates or patterns (e.g., leukemia cluster) or ecological effects (e.g., loss of wildlife diversity). This workshop focuses on human health and begins with an overview of three CRA elements: analysis, characterization, and quantification (as feasible) of the combined risks from multiple stressors. Teaching methods include lectures and hands-on exercises. Presentations highlight basic concepts, methods, and resources for conducting a population-based CRA. A central theme is integrating exposure and dose-response information with population characteristics during planning and scoping based on initiating factors. Vulnerability factors are addressed, e.g., diet/nutritional status, behaviors, genetic traits, socioeconomic status, sensitivities, and psychosocial stress. Methods for estimating human health risks are discussed and applied, including epidemiologic approaches and assessing the joint toxicity of chemical mixtures. In the exercises, participants develop chemical, biological and physical stressor groups using exposure and toxicity factors, link them with population vulnerability factors and conduct a risk characterization. Participants are asked to bring a calculator.

Workshop 12: Use of Expert Elicitation to Inform Decisionmaking

Organizer: Aylin Sertkaya

Instructors: Aylin Sertkaya, Eastern Research Group Inc. (ERG); Cristina McLaughlin, Food and Drug Administration

Onsite Registration \$350

Risk analysis often requires making inferences or estimating parameter values from studies that contain inconsistent or conflicting results or address dissimilar contexts. Such inferences or estimates should be consistent with the weight of evidence. Deciding whether and how to combine information from multiple studies requires thinking carefully about the nature of the problem to be addressed and the characteristics of the available evidence. In the first part of the workshop, we will introduce the range of methods for evaluating and combining evidence and explore three prominent approaches in detail: systematic review, meta-analysis, and expert elicitation. These methods are used widely in the social sciences and medicine as well as in risk assessment. Each begins with a careful review of the research literature, but then the approaches

diverge. Systematic review involves a largely qualitative evaluation of available studies against established criteria to identify those that are most appropriate for use in a particular context. Meta-analysis involves selecting studies from the available literature using formal criteria and then using statistical models to calculate summary estimates and explore sources of variation across studies. Expert elicitation uses a structured process to select experts who provide subjective probability distributions that characterize their knowledge about a quantity. The second part of the workshop will focus more on expert judgment elicitation topics ranging from recruitment, elicitation protocol design, different elicitation techniques (e.g., individual elicitations, Delphi method, nominal group technique, etc.) to aggregation methods for combining opinions of multiple individuals and quantifying uncertainty. The role of expert judgment elicitation and its limitations, problems, and risks in policy analysis will also be addressed. The class will conclude with a hands-on exercise designed to better convey challenges with expert calibration.

Half Day Workshops – SUNDAY 8:00 am – Noon **Workshop 1A: Benchmark Dose Modeling (BMD) Analysis – an Introduction to BMD Methods and Application of EPA’s Benchmark Dose Software**

Instructors: J. Allen Davis, MSPH, US Environmental Protection Agency (EPA); Jeff Gift, Ph.D.(EPA); Jay Zhao, MD, MPH, Ph.D. (EPA)

Onsite Registration \$225

See Workshop 1 for description.

Workshop 5: Simplicity in Biocomplexity: Influence Diagrams for Modeling Human-Environment Interactions

Organizer: Matteo Convertino

Instructor: Matteo Convertino, Risk and Decision Science Team, Department of Agricultural and Biological Engineering, University of Florida, Environmental Lab, ERDC USACE

Onsite Registration \$275

This 4-hour workshop will cover the fundamental aspects of influence diagrams for incorporating results of decision models, process-based models, and monitoring data in order to propose solutions of complex issues about human and natural systems. The multifaceted problems of our society require more and more the integration of basic-science (e.g. modeling predictions), stakeholder preferences and decisions, and real time data.

Using an example of a large restoration effort for the Everglades, the workshop will explain the ability of influence diagrams to incorporate spatial and temporal complexities of complex systems into a mental model of ideal environmental managers. The theoretical foundations of influence diagrams will be mentioned; however, the focus will be on the application of these probabilistic decision models. The workshop will start by introducing elementary Bayesian inference techniques (automated and non-automated) for assessing the probabilistic structure of input variables of influence diagrams and of their uncertainty. The assessment of the conditional probabilities among variables and the structuring of the decision problem will be central topics of this workshop. The value of information in Bayesian networks and influence diagrams will be shown as a potential instrument to guide policy-making. A global sensitivity and uncertainty analysis will be explained in order to quantify the importance of each variable and of their uncertainties in the magnitude and uncertainty of the output of influence diagrams. The workshop will address also the role of visualization of influence diagram results. This is important in order to improve the communication of risk and decisions to stakeholders, the general public, and the scientific community at large.

The workshop built on the concepts of transdisciplinarity, system theory and quantitative decision analysis is certainly useful for policy makers that aspire to have a more quantitative preparation about the best use of models in their everyday practice, to basic-scientists who want to find applications of basic science to real problems, and for students (from engineering, life sciences, to management) that are new to these topics. Because of the application focus of the workshop, participation is encouraged for people who do not have background in these topics. All the topics will be introduced in a very interactive way by examples built in Matlab. Participants will receive an electronic copy of the slides and numerical examples used during the workshop (Dropbox folder shared among participants).

Workshop 8: Project Risk Management

Organizer: Ovidiu Cretu

Instructors: Ovidiu Cretu and Vlad Cretu, Cretu Group LLC; Jong-Know Lim, Infrastructure Asset Management Co., LLC

Onsite Registration \$245

The workshop will focus on the risk management process as an integral part of project management. The instructors will present the Risk Management Cycle, including the fundamentals of integrated project cost and sched-

ule risk assessment, and compare deterministic and probabilistic approaches. The notion of base estimate (for the cost and schedule) is introduced and then the instructors will elaborate on defining the base uncertainty as a combination between base variability and market conditions. Briefly the instructors will present the ISO 31000 definition of risk followed by the dilemma of “How many risks should be assessed?” Two project case studies will be presented to exemplify the controversy between “Professional Sophistication” and “Keep It Short and Simple.” The instructors will cover the characteristics of risk, including (1) probability of occurrence, (2) consequences, and (3) conditionality (dependency and correlation). Risk evaluation tools, including Monte Carlo analysis, Tornado diagrams, risk matrices, and risk maps also will be discussed. The workshop will conclude with risk management plans and tips for success.

Half Day Workshops – SUNDAY 1:00 – 5:00 pm

Workshop 1B: Benchmark Dose Modeling (BMD) Analysis – an Introduction to BMD Methods and Application of EPA’s Benchmark Dose Software

Instructors: J. Allen Davis, MSPH, US Environmental Protection Agency (EPA); Jeff Gift, Ph.D.(EPA); Jay Zhao, MD, MPH, Ph.D. (EPA)

Onsite Registration \$225

See Workshop 1 for description.

Workshop 4: Fundamental Concepts of Risk Management, Risk Assessment, and Risk Perception/Communication

Organizer: Branden B. Johnson

Instructors: Branden B. Johnson, Decision Research, Inc.; Darrell W. Donabue, Maine Maritime Academy

Onsite Registration \$350

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 two experts with extensive histories in practice, government and academia, is designed to fill that gap. We introduce fundamental risk analysis concepts and terminology, including elements of risk management, risk assessment, and risk perception

and communication. Exercises (microbial risk focused) will be used to allow the participants to apply these basic concepts of risk analysis. Upon completion of this course, students will understand the fundamental concepts of risk analysis. 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. They will be prepared to engage comfortably in the range of conversations that distinguish Society for Risk Analysis Annual Conferences.

Workshop 6: Training Resources for Research Ethics and Cultural Competence in Risk Assessment

Organizer: Dianne Quigley

Instructor: Dianne Quigley, PhD, Adjunct Assistant Professor, Center for Environmental Studies, Brown University

Onsite Registration \$115

Risk assessment research recently has been involving more community groups, particularly racially/culturally-diverse groups. Additionally, IRBs are requiring human subjects protections for interviews, surveys, oral histories, etc. Training in human subjects protections is needed both for individual human subjects protections and for respecting individuals as members of place-based communities. Additionally, cultural groups within local communities in the US and internationally have particular histories and traditions, group processes and research experiences that are important to learn about from case study and applied ethics articles. These group conditions are frequently critical contextual conditions to consider in the design of risk assessments.

At this workshop, we will review basic human subjects protections, new research protections for place-based communities and cultural groups, cultural competence, environmental justice and ethical approaches to justice. Training resources will be shared with interested environmental studies faculty and graduate students including: training curriculum for graduate student mentoring programs, a preview of a faculty/ student mentoring web-based resources (MyCourses and Blackboard), and samples of case studies and digital training slides. Interested faculty and graduate students are invited to attend this discussion to take advantage of these resources and to offer ways that they could bring their expertise and field experience to this collective research ethics/ cultural competence training efforts.

Workshop 11: An Overview of the Science, Economics and Policy on Climate Change

Organizer: Elisabeth Gilmore

Instructors: Klaus Keller, Pennsylvania State University; Katherine Calvin, Joint Global Change Research Institute (JGCRI), Pacific Northwest National Laboratory/University of Maryland; Arden Rowell, University of Illinois College of Law

Onsite Registration \$325

The far-reaching implications of climate change ensure that it will remain an important policy issue. This workshop aims to provide participants with an overview of climate change science, economics and policy. First, we provide an overview of the science and risks of climate change, which is designed to be accessible to non-scientists. Second, we provide an assessment of the economics of mitigation and damages. This will include an introduction to integrated assessment models (IAMs), which played a critical role in establishing the US government's social cost of carbon (SCC). Third, we discuss climate policy, focusing on the evolution of US domestic policy through the Clean Air Act and the courts. While this workshop will not directly address expectations of future domestic or international climate policy, participants should be able to better analyze and critique the effect of future developments on socio-economic systems and climate risks.

Workshop - Thursday 13 December

Full Day Workshop – THURSDAY

8:30 am – 5:30 pm

Workshop 13: Probabilistic Risk Analysis with Hardly any Data

Organizers: Scott Ferson, Applied Biomathematics and Jack Siegrist, Rutgers University

Instructors: Scott Ferson, Ph.D., Applied Biomathematics and Jack Siegrist, Ph.D., Rutgers University

Onsite Registration \$325

See description for Workshop 7.

PLENARY SESSIONS

All Plenary Sessions will be held in the Hyatt Regency San Francisco

Opening Plenary Session

Monday 10 December 8:30 – 10:00 AM, Grand Ballroom

“Advancing Risk Regulation: The UK’s Review of Health and Safety Rules”

Panelists: Ragnar Löfstedt, *Professor and Director of the King’s Centre for Risk Management at King’s College London;*
Geoffrey Podger, *Chief Executive of the UK Health and Safety Executive;*
Jan Willem Weck, *Ministry of Health of the Dutch Government*

Tuesday 11 December, Plenary Session 8:30 – 10:00 AM, Grand Ballroom

“National Risk Assessment: Analysis to Guide Risk Management Around the World”

Speakers: Alan Cohn, *Deputy Assistant Secretary for Policy (Strategic Plans), Department of Homeland Security Office of Strategy, Planning, Analysis & Risk;*
Elaine Dezenski, *Senior Director, World Economic Forum;*
Henry Willis, *Rand Corporation*

Wednesday 12 December, Plenary Luncheon, Noon – 1:30 PM, Grand Ballroom

“Advancing Public Understanding of Risk Through the Media”

Speaker: Andrew Revkin, *DotEarth blogger, The New York Times*

Monday 10 December 2012

7:00-8:00 AM **New Member and Fellows Breakfast - *Atrium 3-5***

8:30-10:00 AM **M1 Plenary Session - *Grand Ballroom***
 “Advancing Risk Regulation: The UK’s Review of Health and Safety Rules”

10:00-10:30 AM **Coffee Break - *Grand Ballroom Foyer***

	Pacific Concourse D	Pacific Concourse K	Pacific Concourse E/J	Pacific Concourse F	Pacific Concourse G
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10:30 AM- Noon	M2-A Roundtable: Risk & Regulation: Recommendations for the Next Administration	M2-B Symposium: Ready for Prime Time? The Role of High Through-Put Screening in Risk Assessment for Engineered Nanomaterials	M2-C Poster Platform: Indoor Air & Products: Exposure & Risks	M2-D: Visual Communication	M2-E Symposium: New Developments in Transparency: A Transatlantic Perspective
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Noon-1:30 PM Pick up your box lunch near the Registration desk and attend the specialty group meeting(s) of your choice. **See page 4 for details.**
 12:05-12:30 PM - Dose-Response, Economics & Benefits, Security & Defense, and Risk Communication Specialty Groups
 12:35-1:00 PM - Ecological Risk Assessment, Exposure Assessment, Risk Policy & Law, and Risk & Development Specialty Groups
 1:05-1:30 PM - Decision Analysis and Risk, Emerging Nanoscale Materials, Engineering & Infrastructure, and Microbial Risk Analysis Specialty Groups

1:30- 3:00 PM	M3-A: Food & Environmental Hazards: Trust and the Public	M3-B Symposium: Structuring Risk Decisions: Policy and Personal Perspectives	M3-C Poster Platform: Topics on Applied Economic Analysis	M3-D Symposium: Using Maps to Communicate Geospatial Risk and Uncertainty: Weather Forecasts and Environmental Hazards	M3-E Symposium: Risk and Uncertainty in Ecosystem Restoration Planning: Methodology and Case Studies
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3:00-3:30 PM **Coffee Break - *Grand Ballroom Foyer***

3:30- 5:00 PM	M4-A Symposium: Risk Communication for Pandemic Influenza: Lessons Learned in Canada from the H1N1 Outbreak	M4-B Symposium Part I: Framework and Methods - Recent Efforts for Advancing the Risk-Informed Decision Making System in the FDA Foods Veterinary Medicine (FVM) Program	M4-C Poster Platform: Sustainable Cities and Military Installations: Energy, Water, Infrastructure and Climate Change	M4-D Symposium: Emerging Methods for Risk Assessment and Governance of Engineered Nanomaterials	M4-E Symposium: Frontiers in Benefit-Cost Analysis: Valuing Risks and Equity
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6:00-8:00 PM **Poster Reception - *Grand Ballroom***

7:00-8:00 AM **New Member and Fellows Breakfast - *Atrium 3-5***

8:30-10:00 AM **M1 Plenary Session - *Grand Ballroom***
 “Advancing Risk Regulation: The UK’s Review of Health and Safety Rules”

10:00-10:30 AM **Coffee Break - *Grand Ballroom Foyer***

	Pacific Concourse H	Pacific Concourse I	Pacific Concourse L	Pacific Concourse M	Pacific Concourse N	Pacific Concourse O
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10:30 AM- Noon	M2-F Symp: Challenges Associated with Using Human Surveillance Data for Foodborne Illness Source Attribution	M2-G: Estimating Terrorism Risk & Economic Impacts	M2-H Symposium: New Concepts in Security Risk: Warnings and Comparative Assessment	M2-I: Network Representations of Critical Infrastructure Systems for Reliability Assessment	M2-J Symposium: Technocracy and Democracy in Risk Governance	M2-K Symposium: Wildfire Risk Perceptions and Attitudes & Implications for Wildfire Management
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 1:05-1:30 PM - Decision Analysis and Risk, Emerging Nanoscale Materials, Engineering & Infrastructure, and Microbial Risk Analysis Specialty Groups

1:30- 3:00 PM	M3-F Symposium: Produce Safety: Data Collection and Risk Assessments to Support the Development of Metrics and Regulations	M3-G: Analysis of Cyber Security Risk	M3-H: Low-Dose, MOH and Cancer Methods	M3-I Symposium: Governing Sustainability: Different Approaches to Societal Integration in Risk Management Issues	M3-J Roundtable: The Transatlantic Debate on Risk Regulation	M3-K: Cumulative Exposure & Risk Screening
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3:00-3:30 PM **Coffee Break - *Grand Ballroom Foyer***

3:30- 5:00 PM	M4-F: Risk and Development Potpourri		M4-H Symposium: Challenging the Linear-No-Threshold Dose-Response Model	M4-I: Resilience Evaluation Approaches for the Analysis of Complex Systems	M4-J Roundtable: Smarter Regulation through Nudges, Information, Incentives	M4-K Symp: Cumulative Risk Assessment 1: The Leading and Trailing Edge: Multiple Agency Perspectives on Cumulative RA
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6:00-8:00 PM **Poster Reception - *Grand Ballroom***

7:00-8:00 AM **Grad Student Breakfast - Golden Gate**

8:30-10:00 AM **T1 Plenary Session - Grand Ballroom**
 “National Risk Assessment and Analysis to Guide Risk Management Around the World”

10:00-10:30 AM **Coffee Break - Grand Ballroom Foyer**

	Pacific Concourse D	Pacific Concourse K	Pacific Concourse E/J	Pacific Concourse F	Pacific Concourse G
10:30 AM- Noon	T2-A Symposium: From GMOs to Genetic Engineering and Synthetic Bio: Integrating Physical and Social Sciences for Risk-based Decision Making	T2-B Symposium Part II: Applications - Recent Efforts for Advancing the Risk-Informed Decision Making System in the FDA Foods Veterinary Medicine (FVM) Program		T2-D: Research Methods	T2-E: Social Media
Noon- 1:30 PM	SRA Awards Luncheon and Business Meeting - Grand Ballroom Includes all SRA Awards, and the 5 Best Poster Award Winners from Monday’s Poster Reception. (Included in Registration Fee)				
1:30- 3:00 PM	T3-A: Ecological Risk Assessment I	T3-B: New Voices	T3-C Poster Platform: Topics in Risk, Policy, Law and Governance	T3-D: Security Risk, Preparedness and Costs	T3-E Symposium: Preferences for Climate Change Mitigation and Geo-engineering
3:00-3:30 PM	Coffee Break - Grand Ballroom Foyer				
3:30- 5:00 PM	T4-A Symposium: Dietary Exposure Assessments in Regulatory Decision Making	T4-B: Decision Making in Food and Medicine Supply Chains	T4-C Poster Platform: Supply Chain Risk Management: Challenges and Solutions	T4-D Symposium: Challenges in Developing and Assessing Tobacco Control Regulations	T4-E: Psychological Processes
6:00 - 7:30 PM	Specialty Group Mixers, See Page 4 for details				

7:00-8:00 AM **Grad Student Breakfast** - *Golden Gate*

8:30-10:00 AM **T1 Plenary Session** - *Grand Ballroom*
 “National Risk Assessment and Analysis to Guide Risk Management Around the World”

10:00-10:30 AM **Coffee Break** - *Grand Ballroom Foyer*

	Pacific Concourse H	Pacific Concourse I	Pacific Concourse L	Pacific Concourse M	Pacific Concourse N	Pacific Concourse O
10:30 AM- Noon	T2-F: Innovative QRA Models: Food Safety & Disease Transmission	T2-G Symposium: Risk Analysis within the Department of Defense: Methods, Successes and Opportunities...	T2-H: Modeling of Biological Agents	T2-I Symposium: Climate Change and Its Risks to Infrastructure	T2-J: Estimates of Regulatory Costs and Public Attitudes About Them	T2-K Symposium: Exploring the Limits of Risk Governance: How States Account for Failure in Europe (HowSAFE)

Noon-
1:30 PM **SRA Awards Luncheon and Business Meeting** - *Grand Ballroom*
 Includes all SRA Awards, and the 5 Best Poster Award Winners from Monday’s Poster Reception. (Included in Registration Fee)

1:30- 3:00 PM	T3-F Symposium: Innovative QRA Models for Food Safety: Complex Models to Answer Complex Questions	T3-G: Game Theory and Randomization	T3-H: Shuffling the Deck on Chemical Risk Assessment	T3-I: Topics in Critical Infrastructure Risk Modeling	T3-J Symposium Part I: Unpacking to Advance Governance of Synthetic Biology Applications	T3-K: Trench Models & Vapor Intrusion
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3:00-3:30 PM **Coffee Break** - *Grand Ballroom Foyer*

3:30- 5:00 PM	T4-F: Risk, Development and Health	T4-G Symposium: Applying Quantitative Risk Assessment to Meet Stakeholder Needs	T4-H Symposium: Putting It All Together: Recent Developments in Risk Assessment Approaches	T4-I Symp: Human Health and Environmental Risk Assessment Issues Related to the Exploration, Development, and Operation of Unconventional ...	T4-J Symposium Part II: Unpacking to Advance Risk Governance of Synthetic Biology Applications	T4-K Symposium: Strategic Risk Management of Department of Defense Emerging Contaminants
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6:00 - 7:30 PM **Specialty Group Mixers**, *See Page 4 for details*

	Pacific Concourse D	Pacific Concourse K	Pacific Concourse E	Pacific Concourse F	Pacific Concourse G	Pacific Concourse H
8:30-10:00 AM	W1-A: News Media	W1-B Symposium: Supporting Policy for Sustainable Everyday Behaviors: The EU Pachelbel Project	W1-C: Risk Analysis & Systems Safety	W1-D Symposium: The Wisdom of Crowds: A Role in Evaluating and Managing Potential Risks of Emerging Issues?	W1-E Symposium Part I: What Lawyers and Birds have in Common: Risk and Decisions in Coupled Human-Natural Systems	W1-F: New Methods for QRA: Sampling, Transfer Rates & Health Risks
10:00-10:30 AM	Coffee Break - Grand Ballroom Foyer					
10:30 AM-Noon	W2-A: New Technologies	W2-B Symposium: Decision Analysis Tools in Risk Assessment	W2-C Symposium: Variability and Uncertainty in Air Quality Damage Estimates	W2-D Symposium: Cultural Factors in Risk Perception and Communication of Crisis Situations	W2-E Symposium Part II: What Lawyers and Birds have in Common: Risk and Decisions in Coupled Human-Natural Systems	W2-F Symposium: Use of Risk Assessment to Meet the Requirements of Healthy People 2020
Noon-1:30 PM	Plenary Luncheon, "Advancing Public Understanding of Risk Through the Media" - Grand Ballroom					
1:30-3:00 PM	W3-A: Health Risk Prevention		W3-C Symposium: Combining Life Cycle Assessment, Valuation and Cost-Benefit Analysis	W3-D Symposium: Carbon Capture and Storage: Risk Communication and Perceptions of an Emerging Energy Technology	W3-E: Career Panel	W3-F: Risk and Development: Latin America
3:00-3:30 PM	Coffee Break - Grand Ballroom Foyer					
3:30-5:00 PM		W4-B Symposium: New Directions in Risk Assessment with Roadmap for Success	W4-C Symposium: India at Risk: Capacity, Institutions and Expertise	W4-D Symposium: Novel Online Tools for Risk Communication Research: Applications in Food Risk Communication	W4-E: Career Panel	W4-F: Occupational Exposure & Health
5:00-6:00 PM	T-Shirt Giveaway - Free T-Shirt, sponsored by Wiley-Blackwell - Grand Ballroom Foyer					

	Pacific Concourse I	Pacific Concourse L	Pacific Concourse M	Pacific Concourse N	Pacific Concourse O	Pacific Concourse J
8:30-10:00 AM		W1-H Symp: The Road Ahead-Developing a Research Agenda for Nanomaterial Environmental, Health and Safety Risk Assessment	W1-I: From GIS to Bayesian Search: Risk Management Grab Bag	W1-J Roundtable: Improving Risk Regulation through Retrospective Analysis	W1-K Symposium: Risk Analytics to Strengthen the National Residue Program	W1-L: Service, Enterprise and Systems Risk Analysis Grab Bag
10:00-10:30 AM Coffee Break - Grand Ballroom Foyer						
10:30 AM-Noon	W2-G Symposium: Describing and Influencing Disaster Mitigation and Recovery Decision Making	W2-H: Current Issues in Chemical Dose Response	W2-I Symposium: Advances in Risk Models for Infrastructure Systems Management	W2-J Symposium: Retrospective Regulatory Review	W2-K Symposium: Cumulative Risk Assessment 2: International Dimensions in Combining Chemical and Non-Chemical Stressors...	W2-L Symposium: Adaptive Risk Governance for the Rapid Energy Transition in Germany
Noon-1:30 PM Plenary Luncheon, "Advancing Public Understanding of Risk Through the Media" - Grand Ballroom						
1:30-3:00 PM	W3-G: Evaluating Security Measures	W3-H: Quantitative Models: The Chemical Risk	W3-I: Reliability Assessment for Electric Power Systems	W3-J: Studies of Risk Governance Systems	W3-K: Ambient Air: Particulate Matter Exposure	W3-L: Ecological Risk Assessment II
3:00-3:30 PM Coffee Break - Grand Ballroom Foyer						
3:30-5:00 PM	W4-G Symposium: Risks of Transportation Disruptions and Dangerous Goods		W4-I: Simulation Approaches for Assessing Critical Infrastructure Vulnerability to National Hazards	W4-J: Emerging Technologies: Nano to Synthetic Bio	W4-K Symposium: Challenges in Conducting a Risk Assessment for Drug Residues in Milk and Milk Products	
5:00-6:00 PM T-Shirt Giveaway - Free T-Shirt, sponsored by Wiley-Blackwell - Grand Ballroom Foyer						

10:30 AM - Noon
Pacific Concourse D
M2-A Roundtable: Risk & Regulation: Recommendations for the Next Administration
Co-Chairs: George Gray, Ann Bostrom

The 2012 Presidential election provides an opportunity to reflect on the Administration's record and to make recommendations for future years, regardless of which candidate wins. This panel will bring together former senior government officials and other leading experts to discuss the current status of U.S. environmental, health, and safety regulation and future challenges.

Participants:
 Driesen DM, Syracuse University; Sudley S, George Washington University; Graham J, Indiana University; Livermore M, New York University; Morgenstern R, Resources for the Future; O'Hare M, University of California, Berkeley; Thompson B, Stanford University

10:30 AM - Noon
Pacific Concourse K
M2-B Symposium: Ready for Prime Time? The Role of High Through-Put Screening in Risk Assessment for Engineered Nanomaterials
Chair: Jo Anne Shatkin

10:30 am **M2-B.1**
 Development of environmental impact assessment models for engineered nanomaterial
Cohen Y, Liu H, Liu R, Rallo R, Godwin H, Nel A
 University of California, Los Angeles

10:50 am **M2-B.2**
 High-throughput screening: a transformative approach to nanotoxicology
Godwin H, Nel A
 University of California, Los Angeles

10:30 AM - Noon
Pacific Concourse E/J
M2-C Poster Platform: Indoor Air & Products: Exposure & Risks
Chair: Chris Frey
M2-C.1 Characterization of PM2.5 Concentration in indoor residential microenvironment
Jiao W, Frey HC
 North Carolina State University

M2-C.2 Field measurement of in-vehicle to ambient concentration ratio of fine particulate matter
Jiao W, Frey HC
 North Carolina State University

M2-C.3 Building chemical safety into toy product design - the foreseeable use based risk assessment
Liu Y, Altkorn B, Chen X, Rider G
 Intertek

M2-C.4 Assessment of the contribution of indoor surface residues to SVOC exposure: nicotine as a model compound
Cooper EL, Shirai JH, Kissel JC
 University of Washington

M2-C.5 PCBs in the indoor environment
Zemba SG, Green LC
 Cambridge Environmental Inc

M2-C.6 EPA-expo-box: a web-based toolbox for exposure and risk assessors
Turley AT, Cawley MA, Phillips L
 ICF International, US EPA National Center for Environmental Assessment

M2-C.7 Use of exposure scaling factors to facilitate rapid screening of risk associated with multimedia exposures
Burch DF, Overton RA, McVey MM, Varghese A, Henning C, Hirtz J
 ICF International, US Environmental Protection Agency

M2-C.8 Diacetyl exposure from cigarette smoke: implications for assessing diacetyl exposure-response in popcorn and flavor manufacturing workers
Finley BL, Pierce JS, Abelmann A, Spicer LJ, Adams RE*
 ChemRisk

M2-C.9 Radon exposure risks from residential shale gas combustion in the northeast
Mitchell AL, Casman EA, Griffin MW
 Carnegie Mellon University

M2-C.10 Screening chemicals of interest for biomonitoring: bisphenol A substitutes as an example
Hoover SM, Plummer LE, Krowech GA
 Office of Environmental Health Hazard Assessment, Cal/EPA

10:30 - 11:30 AM
Pacific Concourse F
M2-D Visual Communication
Chair: Janet Yang
10:30 am **M2-D.2**
 Using pictographs for low numerates and percentages for high numerates in risk communication? A study of visual attention
Keller C, Hess R, Siegrist M
 ETH Zurich

10:50 am **M2-D.3**
 Visual typologies: expanding how we think about visualizing risk uncertainty
Eosco GM, Scherer CW
 Cornell University

11:10 am **M2-D.4**
 Improved methods for visualizing risk
Amundrud O, Aven T
 University of Stavanger

10:30 AM - Noon
Pacific Concourse G
M2-E Symposium: New Developments in Transparency: A Transatlantic Perspective
Chair: Frederick Boulder

10:30 am **M2-E.1**
 Communicating risks and benefits in an open and distrustful world
Boulder FB, Lofstedt RL
 Maastricht University

10:50 am **M2-E.2**
 Transparency and the FDA: two qualitative studies
Chakraborty S, Lofstedt R
 University of Oxford, Kings College London

11:10 am **M2-E.3**
 The darker side of transparency
McComas KA
 Cornell University

11:30 am **M2-E.4**
 Transparency strategies at the European Medicines Agency
Way DHP
 King's College London

If a paper is presented by other than the first author, the presenter's name has an asterisk (*)

Don't forget to attend the Specialty Group Meeting of your choice, 12:05 - 1:30 pm, (see page 4 for details) after picking up your box lunch at the SRA Registration Desk.

10:30 AM - Noon <i>Pacific Concourse H</i> M2-F Symposium: Challenges Associated with Using Human Surveillance Data for Foodborne Illness Source Attribution <i>Co-Chairs: Dana Cole, Michael Batz</i>	10:30 AM - Noon <i>Pacific Concourse I</i> M2-G Estimating Terrorism Risk & Economic Impacts <i>Chair: Adam Rose</i>	10:30 AM - Noon <i>Pacific Concourse L</i> M2-H Symposium: New Concepts in Security Risk: Warnings and Comparative Assessment <i>Chair: Henry Willis</i>	10:30 AM - Noon <i>Pacific Concourse M</i> M2-I Network Representations of Critical Infrastructure Systems for Reliability Assessment <i>Co-Chairs: Roshanak Natgbi, Francis Royce</i>	10:30 AM - Noon <i>Pacific Concourse N</i> M2-J Symposium: Technocracy and Democracy in Risk Governance <i>Chair: Seth Baum</i>	10:30 AM - Noon <i>Pacific Concourse O</i> M2-K Symposium: Wildfire Risk Perceptions and Attitudes & Implications for Wildfire Management <i>Chair: Matthew Thompson</i>
10:30 am M2-F.1 A jungle of surveillance numbers, attribution methods, and uncertainties <i>Cole D</i> <i>Centers for Disease Control and Prevention</i>	10:30 am M2-G.1 Incorporating socio-cultural dynamics in estimating small area populations at risk <i>Stewart RN, Urban M</i> <i>Oak Ridge National Laboratory</i>	10:30 am M2-H.1 Indicators and warnings for biological events: managing homeland security risk through biosurveillance <i>Bennett SP, Quitugua TN</i> <i>National Biosurveillance Integration Center, US Department of Homeland Security</i>	10:30 am M2-I.1 Topological performance measures as surrogates for physical flow models for electric power systems <i>LaRocca S, Johansson J, Hassel H, Guikema S</i> <i>Johns Hopkins University, Lund University</i>	10:30 am M2-J.1 Voice and democraticity in electoral and technocratic environmental decision procedures <i>Baum S</i> <i>Global Catastrophic Risk Institute</i>	10:30 am M2-K.1 Human dimensions of wildfire risk management <i>Thompson MP</i> <i>US Forest Service</i>
10:50 am M2-F.2 The 400 pound gorilla: missing data and bias <i>Hoekstra M</i> <i>Centers for Disease Control and Prevention</i>	10:50 am M2-G.2 Terrorism risk: the need to reassess our assessments <i>Decker DK</i> <i>Booz Allen Hamilton</i>	10:50 am M2-H.2 A probabilistic framework for tactical warning: inferring localized drug violence <i>Blum D, Pate-Cornell E</i> <i>Stanford University</i>	10:50 am M2-I.2 Towards risk, resilience, and recovery analysis of complex systems with critical infrastructures exposed to multiple hazards <i>Salazar DE, Chatterjee S</i> <i>University of Southern California</i>	10:50 am M2-J.2 A middle-ground in risk governance: strong objectivity, critical realism, and post-normal science applied to the case of genetically engineered mosquitos <i>Kuzma J</i> <i>University of Minnesota</i>	10:50 am M2-K.2 Approaches and challenges to quantify homeowner wildfire risk perceptions <i>Venn TJ, Stetler KM, O'Donnell D</i> <i>The University of Montana</i>
11:10 am M2-F.3 Estimating the lion's share: novel methods for attributing sporadic foodborne illnesses <i>Gu W</i> <i>Atlanta Research and Education Foundation</i>	11:10 am M2-G.3 Quantifying uncertainty in direct consequences and economic impacts of terrorism events <i>Chatterjee S, Avetisyan M*, Salazar DE</i> <i>University of Southern California</i>	11:10 am M2-H.3 Belief network sharing for uncertainty assessment in the intelligence community <i>Olson KC, Karvetski CW, Gantz DT</i> <i>George Mason University</i>	11:10 am M2-I.3 Differential syntax and semantics for equivalent bayesian network representations of engineered systems <i>Sentz K, Henson KM</i> <i>Los Alamos National Laboratory</i>	11:10 am M2-J.3 Regulation by number: using numeracy to inform democratic risk governance <i>Rowell A</i> <i>University of Illinois College of Law</i>	11:10 am M2-K.3 Salient factors influencing fire manager decisions and outcomes <i>Hand MS</i> <i>US Forest Service, Rocky Mountain Research Station</i>
11:30 am M2-F.4 Cutting through the thicket: evaluating the applicability of outbreak-based attribution <i>Batz MB, Hoffmann SA, Morris JG</i> <i>University of Florida</i>	11:30 am M2-G.4 A framework for analyzing urban security-commerce tradeoffs <i>Rose A, Avetisyan M, Chatterjee S</i> <i>University of Southern California</i>	11:30 am M2-H.4 Reflecting public values in national risk assessments <i>Willis HH, Potoglou D, Lundberg R, Bruine de Bruin W</i> <i>RAND Corporation, RAND Europe, Carnegie Mellon University</i>	11:30 am M2-I.4 A stochastic inventory input-output model for enhancing economic resilience in extreme-event situations <i>Resurreccion JZ, Santos JR</i> <i>The George Washington University</i>	11:30 am M2-J.4 Nanotechnology risk governance: the politics of disclosure <i>Snir R</i> <i>Bar Ilan University</i>	11:30 am M2-K.4 Risk-risk tradeoffs in wildfire management: suppression utilization versus firefighter safety <i>Calkin DE, Presented by Thompson MP</i> <i>US Forest Service</i>

<p>1:30 - 3:00 PM <i>Pacific Concourse D</i></p> <p>M3-A Food & Environmental Hazards: Trust and the Public <i>Chair: Stijn Pieters</i></p> <p>1:30 pm M3-A.1 Risk communication activities for radiation risks in Fukushima <i>Murayama TM, Shioya HS, Totoki YT</i> <i>Tokyo Institute of Technology</i></p> <p>1:50 pm M3-A.2 Communicating food risks in an era of growing public distrust <i>Lofstedt R</i> <i>Kings College London</i></p> <p>2:10 pm M3-A.3 Influences on farmers' decision making to avoid drug residues in dairy cows - a mental modeling approach to risk communication <i>Thorne S, Hartogensis M, Ackermann S, Kovacs D</i> <i>Decision Partners; US Food and Drug Administration</i></p> <p>2:30 pm M3-A.4 The role of compensation in the trust-risk-acceptability relationships between environmental hazards <i>Gutiérrez VV, Bronfman NC, Cifuentes LA</i> <i>Universidad Diego Portales</i></p>	<p>1:30 - 3:00 PM <i>Pacific Concourse K</i></p> <p>M3-B Symposium: Structuring Risk Decisions: Policy and Personal Perspectives <i>Chair: Robin Gregory</i></p> <p>1:30 pm M3-B.1 Structuring choices: the decision sketch <i>Gregory R</i> <i>Decision Research</i></p> <p>1:45 pm M3-B.2 Decision aiding for the creation of energy strategies <i>Bessette DL, Arvai JL</i> <i>University of Calgary</i></p> <p>2:05 pm M3-B.3 Creating proactive alternatives to prevent youth deaths <i>Keeney RL, Palley AB</i> <i>Duke University</i></p> <p>2:25 pm M3-B.4 Evaluative structures to aid understanding of uncertainty <i>Dieckmann NF, Gregory R, Peters E</i> <i>Decision Research, Oregon Health & Sciences University, Ohio State University</i></p>	<p>1:30 - 3:00 PM <i>Pacific Concourse E/J</i></p> <p>M3-C Poster Platform: Topics on Applied Economic Analysis <i>Co-Chairs: Frank Hearl, Cristina McLaughlin</i></p> <p>M3-C.1 A prioritization process for updating permissible exposure limits <i>Hearl FJ, Asfaw AG, Barsan ME</i> <i>National Institute for Occupational Safety and Health</i></p> <p>M3-C.3 An estimation method for lightning damage on telecommunication equipment and a cost-benefit analysis of lightning countermeasure <i>Zhang X, Sugiyama A*, Sawada T</i> <i>Nippon Telegraph and Telephone Corporation</i></p> <p>M3-C.4 Cost per life-year saved in the regulation of radioactive food contamination due to the Fukushima I nuclear accident <i>Oka T</i> <i>Fukui Prefectural University</i></p> <p>M3-C.5 Methods for elicitation of attribute weights using ordinal judgments about utilities <i>Wang C, Bier VM</i> <i>University of Wisconsin-Madison</i></p>	<p>1:30 - 3:00 PM <i>Pacific Concourse F</i></p> <p>M3-D Symposium: Using Maps to Communicate Geospatial Risk and Uncertainty: Weather Forecasts and Environmental Hazards <i>Chair: Lori Severtson</i></p> <p>1:30 pm M3-D.1 The influence of map design and hazard proximity on risk beliefs and mitigation intentions for maps of arsenic in private residential water wells <i>Severtson DJ</i> <i>University of Wisconsin-Madison</i></p> <p>1:50 pm M3-D.2 Representations of risk space and decision-making in tornado warnings <i>Klockow KE, McPherson RA, Thomas RP</i> <i>University of Oklahoma</i></p> <p>2:10 pm M3-D.3 Mapping climate change uncertainty: a pilot study of effects on risk perceptions and decision making <i>Retchless DP</i> <i>Penn State University</i></p> <p>2:30 pm M3-D.4 Beyond the cone of uncertainty: effect of alternate hurricane forecast maps on evacuation intent <i>Trumbo C, Peek L, Lueck M, Marlatt H, McNoldy B</i> <i>Colorado State University, University of Miami</i></p>	<p>1:30 - 3:00 PM <i>Pacific Concourse G</i></p> <p>M3-E Symposium: Risk and Uncertainty in Ecosystem Restoration Planning: Methodology and Case Studies <i>Chair: Matthew Bates</i></p> <p>1:30 pm M3-E.1 Metric selection for ecosystem restoration: dealing with risk and uncertainty <i>Craig A, Convertino M, Baker K, Lu C, Vogel J, McKay K, Linkov I</i> <i>US Army Engineer Research and Development Center, Environmental Lab</i></p> <p>1:50 pm M3-E.2 Enhanced adaptive management: application to the everglades ecosystem <i>Linkov I, Convertino M, Foran C, Keisler JM, Scarlett L, LoSchiavo A, Kiker GA</i> <i>US Army Engineer Research and Development Center, University of Massachusetts Boston, Resources for the Future, US Army Corps of Engineers Jacksonville District, University of Florida</i></p> <p>2:10 pm M3-E.3 Characterization of risk and uncertainty for developing a decision-based enhanced adaptive management framework for submerged aquatic vegetation restoration at Starved Rock Pool, Illinois River, USA <i>Plumley MB, Haring CP, Suedel BC, Baker KM, Vogel JT, Linkov I</i> <i>US Army Corps of Engineers</i></p>	<p>2:30 pm M3-E.4 Methodology for addressing risk and uncertainty in ecosystem restoration planning and for developing adaptive management frameworks <i>Suedel BC, Linkov I, Convertino M, Foran CM, Baker KM, Vogel JT</i> <i>US Army Corps of Engineers, Engineer Research and Development Center</i></p>
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- 1:30 - 3:10 PM**
Pacific Concourse H
M3-F Symposium: Produce Safety: Data Collection and Risk Assessments to Support the Development of Metrics and Regulations
Co-Chairs: Yubuan Chen, Karin Hoelzger
- 1:30 pm** **M3-F.1**
Experimental field trials, pathogen transfer coefficients, and QPRAM (FDA's virtual produce farm risk assessment model)
Oryang D, Atwill R, Anderson M, FDA-CFSAN, UC Davis, RTI
- 1:50 pm** **M3-F.2**
Risk profile on Listeria monocytogenes in fresh and fresh-cut produce: how far do the available data take us towards understanding the risk?
Hoelzger K, Cabill SM, Dennis S, US Food and Drug Administration
- 2:10 pm** **M3-F.3**
Lettuce, enterohemorrhagic E. coli and irrigation water: application of FDA's iRISK tool for rapid risk assessment to support proposed produce regulation
Chen Y, Dennis S, Hoelzger K, Pouillot R, Food and Drug Administration - CFSAN
- 2:30 pm** **M3-F.4**
Combining commercial data collection, targeted greenhouse and field trials and risk modeling, and risk assessment modeling to support scientifically informed risk management metrics for produce
Buchanan RL, Center for Food Safety and Security Systems, University of Maryland
- 2:50 pm** **M3-F.5**
The role of EFSA in the EU monitoring systems for residues: milk residues
Serratoso J, European Food Safety Authority
- 1:30 - 3:00 PM**
Pacific Concourse I
M3-G Analysis of Cyber Security Risk
Chair: Barry Ezzell
- 1:30 pm** **M3-G.1**
Communicating application security risk & business value
O'Kane JB, Atri A, Vigilant, Inc.
- 1:50 pm** **M3-G.2**
Industrial control system cyber risk to regional transportation
Ezell B, Robinson M, Flanagan D, Weiss J, Old Dominion University's VMASC, Innovative Decisions, Inc.
- 2:10 pm** **M3-G.3**
A novel integrated approach to cyber-physical infrastructure risk assessment
Panjwani S, Thane Incorp.
- 2:30 pm** **M3-G.4**
A stochastic network-interdiction model for cyber security
Ertem M, Bier VM, University of Wisconsin-Madison
- 1:30 - 3:00 PM**
Pacific Concourse L
M3-H Low-Dose, MOH and Cancer Methods
Co-Chairs: Julie Fitzpatrick, Bette Meek
- 1:30 pm** **M3-H.1**
Efficient stress-dependent tumorigenesis: a new cancer theory and implications for chemical carcinogen risk extrapolation
Bogen KT, Exponent, Inc. - Health Sciences
- 1:50 pm** **M3-H.2**
Using model averaging and semiparametric methods in low dose extrapolations
Wheeler MW, Bailer AJ, National Institute for Occupational Safety and Health
- 2:10 pm** **M3-H.3**
Elicitation of expert judgment on the form of the dose-response curve for genotoxic carcinogens at low exposures - more questions than answers!
Flari V, Boobis A, Gosling JP, Hart A, Craig P, Rushton L, Government; Academia
- 2:30 pm** **M3-H.4**
Mode of Action Human Relevance (MOA/HR) framework - comparative analysis of weight of evidence
Meek ME, Bachman A, North C, Palermo C, Lewis RJ, McLaughlin Center for Population Health Risk Assessment, University of Ottawa, ExxonMobil Biomedical Sciences, Inc
- 1:30 - 3:00 PM**
Pacific Concourse M
M3-I Symposium: Governing Sustainability: Different Approaches to Societal Integration in Risk Management Issues
Co-Chairs: Myriam Merad, José Manuel Palma-Oliveira
- 1:30 pm** **M3-I.1**
The governance of organizations: dealing with complexity and sustainability demands
Merad M, Marcel F, INERIS
- 1:50 pm** **M3-I.2**
Risk communication without 'risk communication' or a scientific risk communication: the case of secl cement production in Portugal and Tunisia
Palma Oliveira JM, University of Lisbon
- 2:10 pm** **M3-I.3**
Environmental management: tools and methods for stakeholder engagement
Collier ZA, Bates ME, Linkov I, US Army Engineer Research & Development Center
- 2:30 pm** **M3-I.4**
Measuring risk, resilience and adaptive capacity
Convertino M, Seager TP, Linkov I, University of Florida and Risk and Decision Science Team (USACE ERDC)
- 1:30 - 3:00 PM**
Pacific Concourse N
M3-J Roundtable: The Transatlantic Debate on Risk Regulation
Chair: Ragnar Lofstedt
- M3-J.1** Perspectives on the US-Canada-EU risk assessment methodology dialogue: accomplishments and challenges
Beck NB, American Chemistry Council
- M3-J.2** From drugs to food and the environment: regulatory tennis games across the Atlantic
Bouder, FF, Maastricht University
- M3-J.3** Actions not words: examining risk levels across the Atlantic
Gray G, George Washington University
- M3-J.4** Responsibility, liability, and the nanny state
Hammitt JK, Harvard/TSE
- M3-J.5** Divided by a common language? Exploring the diffusion of risk ideas across the Atlantic
Rothstein H, Kings College London
- M3-J.6** Explaining the transatlantic shift in risk regulation
Vogel D, University of California, Berkeley
- M3-J.7** The real pattern of precaution, and the diffusion of regulatory oversight
Wiener JB, Duke University
- 1:30 - 2:30 PM**
Pacific Concourse O
M3-K Cumulative Exposure & Risk Screening
Chair: Margaret MacDonell
- 1:30 pm** **M3-K.2**
Cumulative exposure to neurodevelopmental stressors in U.S. women of reproductive age
Evans AM, Rice GE, Tenschler LK, Wright JM, Association of Schools of Public Health, US Environmental Protection Agency
- 1:50 pm** **M3-K.3**
An intermediate screening assessment for multipathway risk incorporating site-specific characteristics
Henning C, Marin K, Holder C, Varghese A, Burch D, Hirtz J, ICF International, US Environmental Protection Agency
- 2:10 pm** **M3-K.4**
Citizen sensing: new era of pollutant monitoring for environment health protection and sustainability
MacDonell M, Finster M, Raymond M, Wyke D, Temple B, Argonne National Laboratory

3:30 - 5:10 PM
Pacific Concourse D
M4-A Symposium: Risk Communication for Pandemic Influenza: Lessons Learned in Canada from the H1N1 Outbreak

Chair: Cindy Jardine

3:30 pm M4-A.1
 Developing population specific risk communications messaging: a Manitoba Metis Federation intervention for Metis citizens concerning pandemic H1N1
Driedger SM, Maier R
University of Manitoba

3:50 pm M4-A.2
 Decision-making in times of uncertainty: vaccination uptake of pregnant women during the H1N1 pandemic
du Plessis E, Avery L
University of Manitoba

4:10 pm M4-A.3
 Risk and decision-making: a case study of healthcare workers perceptions regarding the 2009 H1N1 outbreak
Elmieh N, Nicol AM, Astrakianakis G
Quest University Canada, University of British Columbia

4:30 pm M4-A.4
 Information sources in pandemic risk communication: a comparison between the SARS and H1N1 outbreaks
Jardine CG, Boyd AD, Boerner FU, Driedger SM
University of Alberta, University of Calgary, Institute for Technology Assessment and Systems Analysis, University of Manitoba

4:50 pm M4-A.5
 Pregnant women's decision making processes during the H1N1 pandemic: perspectives of a threatening virus and a risky response
Koval SP, Jardine CG, Bubela TM
University of Alberta

3:30 - 5:10 PM
Pacific Concourse K
M4-B Symposium: Part I: Framework and Methods - Recent Efforts for Advancing the Risk-Informed Decision Making System in the FDA Foods Veterinary Medicine (FVM) Program

Co-Chairs: Kara Morgan, Yubuan Chen

3:30 pm M4-B.2
 Leveraging epidemiology and risk assessment methods to inform risk-based food safety decisions
Hoffmann SA
USDA, Economic Research Service

3:50 pm M4-B.3
 Applying the IOM framework to FDA's current FVM program
Hooberman B, Morgan K, Pomeroy E, Kern J, Feldstein F, Anderson B, Schroeder J, Harms B, Mokebtari A, Pierson K
Food and Drug Administration

4:10 pm M4-B.4
 Economics-based methodology for ranking foodborne microbiological contaminants
Lasber AB, Minor T, Brown B, Parish M*
FDA-CFSAN

4:30 pm M4-B.5
 Developing a path forward to advancing risk informed decision making in the Food Veterinary Medicine Program (FVM) at FDA
Morgan K, Hooberman B, Pomeroy E, Kern J, Feldstein F, Anderson B, Schroeder J, Harms B, Mokebtari A, Pierson K
US Food and Drug Administration

3:30 - 5:00 PM
Pacific Concourse E/J
M4-C Poster Platform: Sustainable Cities and Military Installations: Energy, Water, Infrastructure and Climate Change

Chair: Igor Linkov

M4-C.1 Risk analysis and water resources management for sustainable cities and military installations
Lambert JH
University of Virginia

M4-C.2 Decision support for net zero installations: integration of technical data and subject matter expertise in a virtual testbed to support optimization of high performance buildings, combined heat and Po
Case MP, Swanson M, Bates M
US Army Engineer R&D Center

M4-C.3 Measuring a buzz word: a review of sustainability metrics
Tatham E, Foran C, Linkov I
Boston University-USACE

M4-C.6 Integrated perspectives on sustainable infrastructures for cities and military installations
Myriam M, Wilbanks T
National Institute for Environment, Oak Ridge National Laboratory

M4-C.8 Energy security: using multicriteria decision analysis to select power supply alternatives for small settlements under risk and uncertainty
Tkachuk A, Collier Z, Linkov I, Travelev A, Levchenko V, Levchenko A, Kazansky Y, Parad S
Karlsruhe Institute of Technology,

Simulations Systems Ltd., Obninsk State Technical University for Nuclear Power Engineering, ETH Zurich

M4-C.9 Software tools for achieving sustainability
Tkachuk A, Thorne S, Butte G, Williams L, Kovacs D, Linkov I, Levchenko V
Decision Partners LLC, USACE ERDC, Simulation Systems LTD

3:30 - 5:10 PM
Pacific Concourse F
M4-D Symposium: Emerging Methods for Risk Assessment and Governance of Engineered Nanomaterials

Chair: Danaïl Hristozov

3:30 pm M4-D.1
 We can't study everything: a value of information case study to prioritize nanomaterials research
Bates ME, Keisler JM, Wender BA, Zussblatt N, Linkov I
US Army Engineer R&D Center, University of Massachusetts Boston, Arizona State University, Massachusetts Institute of Technology

3:50 pm M4-D.2
 Risk and regulation for the production of nano-materials: the decade ahead
Kniiken T
Woodrow Wilson International Center for Scholars

4:10 pm M4-D.3
 Modeling stochastically environmental concentrations and risks of engineered nanomaterials
Gottschalk F, Sonderer T, Ort C, Kost E, Scholz RW, Nowack B
ETH Zurich

4:30 pm M4-D.4
 A weight of evidence approach for hazard screening of engineered nanomaterials
Hristozov DR, Zabeo A, Foran C, Critto A, Marcomini A, Linkov I
Ca' Foscari University Venice, US Army Corps of Engineers

4:50 pm M4-D.5
 What LCAs tell us about nano-products: a case study in copper treated lumber
Meyer D, Tsang M, Ingversen W, Hawkins T
Environmental Protection Agency; Association of Schools for Public Health

3:30 - 5:10 PM
Pacific Concourse G
M4-E Symposium: Frontiers in Benefit-Cost Analysis: Valuing Risks and Equity
Chair: Lisa Robinson

3:30 pm M4-E.1
 The social value of mortality risk reduction: VSL vs. the social welfare function approach
Adler MD, Hammitt JK, Treich N*
Harvard University

3:50 pm M4-E.2
 Valuing morbidity risk: willingness to pay per quality-adjusted life year
Hammitt JK, Haninger K
US Department of Health and Human Services

4:10 pm M4-E.3
 Comparing risk preferences over financial and environmental lotteries
Riddell MC
University of Nevada, Las Vegas

4:30 pm M4-E.4
 Cost-benefit analysis and distributive weights
Adler MD
Duke University

4:50 pm M4-E.5
 Improving prediction market forecasts for policymaking
Karvetski CW, Olson KC
George Mason University

3:30 - 5:00 PM
Pacific Concourse H
M4-F Risk and Development Potpourri
Chair: Alison Cullen

3:30 pm M4-F.1
 When is enough sampling enough? An ESHIA survey
Shibata MF, Hausmann NT
ERM, Inc.

3:50 pm M4-F.2
 Commodification of a risky business
Hällgren M, Jacobsson M
Umeå School of Business and Economics, Umeå University

4:10 pm M4-F.3
 Cumulative risk assessment approach for tribal members at the Hanford site
Callahan KL, Ridolfi C, Cirone P
Ridolfi Inc.

4:30 pm M4-F.4
 Exposure to artificial ultraviolet radiations from sunbed: health impact assessment on cutaneous melanoma in France
Boniol M, Coignard F, Vacquier B, Benmarhnia T, Gaillot-de Saintignon J, Le Tertre A, Dore JF, Empereur-Bissonnet P
IPRI, InVS, INPES, INCA, INSERM

3:30 - 5:10 PM
Pacific Concourse L
M4-H Symposium: Challenging the Linear-No-Threshold Dose-Response Model
Chair: Gail Charnley

3:30 pm M4-H.1
 Historical basis for using the linear-no-threshold model in chemical regulation
Golden R
TaxLogic LLC

3:50 pm M4-H.2
 Results of the US Department of Energy's low-dose radiation research program
Brooks A
Washington State University (Retired)

4:10 pm M4-H.3
 Developing dose-response genotoxicity and toxicogenomic data to replace default assumptions of the linear-no-threshold (LNT) dose-response model
Recio L
Integrated Laboratory Systems, Inc

4:30 pm M4-H.4
 Thresholds for chemically induced toxicity: theories and evidence
Schoeny R
US EPA

4:50 pm M4-H.5
 Impact of the linear-no-threshold model on reported regulatory benefits
Dudley SE
The George Washington University

3:30 - 5:10 PM
Pacific Concourse M
M4-I Resilience Evaluation Approaches for the Analysis of Complex Systems
Chair: Royce Francis

3:30 pm M4-I.1
 Developing a resilience metric to measure effectiveness of various defensive investments
Tas S, Bier VM
Penn State Berks, UW-Madison

3:50 pm M4-I.2
 A framework for assessing infrastructure risk
Phillips JA, Basset GW, Buehring WA, Carlson JL, Whitfield RG, Peerenboom JP
Argonne National Laboratory

4:10 pm M4-I.3
 Risk performance indicators for increasing the protection and resilience of critical infrastructure
Fisher RE, Petit FD
Argonne National Laboratory

4:30 pm M4-I.4
 The role of human factors in enhancing current and future resilience of critical national infrastructure
Pearce JM, Rogers MB
King's College London

4:50 pm M4-I.5
 Risk to resilience: a new approach for comprehensive assessment of complex systems
Bekera B, Francis R
George Washington University

3:30 - 5:00 PM
Pacific Concourse N
M4-J Roundtable: Smarter Regulation through Nudges, Information, Incentives
Co-Chairs: Sally Kane, Susan Dudley

The Obama Administration has issued a variety of directives aimed at improving regulatory outcomes through disclosure, flexible compliance options, default rules, and 'humanized cost benefit analysis'. This roundtable will explore 1) the potential for these regulatory approaches, which according to E.O. 13563, "include warnings, appropriate default rules, and disclosure requirements as well as provision of information to the public in a form that is clear and intelligible," to "reduce burdens and maintain flexibility and freedom of choice for the public;" 2) the extent to which these innovations are being incorporated into rulemaking, and 3) lessons learned including challenges of incorporating behavioral approaches ('nudges') into regulatory approaches.

Panelists:
Finkel A, Rowell A, Williams R
UMDNJ School of Public Health, University of Illinois College of Law, Richard W. and Marie L. Corman Scholar, George Mason University

3:30 - 5:10 PM
Pacific Concourse O
M4-K Symposium: Cumulative Risk Assessment 1: The Leading and Trailing Edge: Multiple Agency Perspectives on Cumulative Risk Assessment
Chair: Steve Gibb

3:30 pm M4-K.1
 Cumulative risk assessment at EPA - assembling the pieces
Martin LR
US Government

3:50 pm M4-K.2
 A practical approach to cumulative risk assessment: lessons learned from a California cumulative impacts screening methodology
*August LA, Cushing L, Faust JB, Alexceff G**
State Government

4:10 pm M4-K.3
 Integration of cumulative risk and environmental justice assessments: methods and a case study example
Barzyk TM, Martin L
US Environmental Protection Agency

4:30 pm M4-K.4
 Communicating risk and health education can be an important aspect of cumulative risk assessment
Mumtaz MG
Agency for Toxic Substances and Disease Registry

4:50 pm M4-K.5
 The 'Trailing Edge' on cumulative risk assessment - communication lessons from the US EPA's cumulative exposure project
Gibb SK
The Scientific Consulting Group, Inc.

Poster Categories
Basic Psychological Processes P1-10
Communications P11-P19, P22, P25, P59, P107, P113
Dose Response P20, P55-P58, P60-P62, P64-P74, P112, P120, P178
Exposure P21, P24, P63, P96-P106, P109-111, P114-119, P121-127, P135, P169
Decision, Analysis & Risk P26-P54
Ecological Risk Assessment P75-P83
Economics and Benefits Analysis P84-P86
Emerging Nanoscale Materials P87-P88, P163
Technologies P89, P134, P159-P162, P164-P165
Engineering and Infrastructure P90-P95
Tech Hazards Psychological Processes P108, P139, P166-P168, P170-P171, P173-176
Health P128-133, P136, P158
Natural Hazards Psychological Processes P137-P138, P172
Risk and Development P142-P143
Risk Assessment; Food Safety & Disease Transmissions P144-P151
Security & Defense P152-P157
Works-In-Progress P179-P202

Monday
6:00 - 8:00 PM

Grand Ballroom

P Poster Reception

- P1** Effects of time series change of presented frequency of aversive stimuli on overestimation of frequency
Kugihara N
Osaka University
- P2** The impact of risk-related uncertainty on people's demands for the regulation of risks
Poortvliet PM
Wageningen University
- P3** Blaming the butterfly for the hurricane: risk perception in a chaotic world
Steinhardt J
Cornell University
- P4** From process-based risk analysis to organizational attention – Learning from Fall of France 1940 and K2 2008
Kutsch E, Hall M
Cranfield University, School of Management
- P7** Moral aspects and the role of fragility in perceiving societal risks
Bassarak C, Pfister HR, Böhm G
Leuphana University Lueneburg; University Bergen
- P8** A mental model approach to understanding poaching behavior
Dempsey T, Rivers, III L
MSU
- P10** Gender and risk perception among police officers
Chua YT, Rivers L
Michigan State University

- P11** Communication confusion: an analysis of the controversy surrounding the regulation of Bisphenol A in Europe
Cheadle JL
King's College London
- P12** Visual typologies: a case study of uncertainty in wall-to-wall tornado coverage
Eosco GM, Steinhardt J, Scherer CW
Cornell University
- P13** Assessing intercultural differences in response to risk messages related to oil spills and dispersant use
Lachlan KA, Spence PR
University of Massachusetts Boston
- P15** Informing management for socioecological resilience in the Sierra Nevada bioregion
Winter PL, Skinner CN, Long J, Patterson T, Charnley S
USFS Pacific Southwest Research Station
- P16** I share, therefore I am: a U.S.-China comparison of information sharing behaviors related to climate change
Yang ZJ, Kablor L
SUNY at Buffalo
- P17** Identifying the role of social and psychological factors in farmer nutrient management choices
Wilson RS, Ritter T
Ohio State

- P18** Social media value modeling applications and best practices in decision-making and risk communication strategy
Graham KC, Freberg KJ, Vidoloff KG, Eosco G
United States Military Academy, West Point
- P19** Professional and public perceptions of information needs during a drinking water contamination event
Yund C, Minamyer S, Tardif R
US Environmental Protection Agency
- P20** Peer review the ITERate way: results of four chemical reviews
Nance P, Willis A, Patterson J, Dourson M
Toxicology Excellence for Risk Assessment
- P21** Advancing collaboration in workplace health risk assessment: the Occupational Alliance for Risk Science (OARS)
Nance P, Maier A
Toxicology Excellence for Risk Assessment
- P22** Risk communication in the light of different risk perspectives
Veland H, Aven T
University of Stavanger
- P24** Estimating the relative impact of shipping traffic, vehicular traffic and domestic solid fuel combustion upon air quality in Cork City, Ireland: a case study
Healy RM, Hellebust S, O'Connor IP, Al-lanic A, Sodeau JR, Wenger JC, Evans GJ
University College Cork, University of Toronto

- P25** An innovative approach to circumpolar risk communication research on environmental contaminants
Leech T, Furgal C, Gilman A, Kruemmel E, Tikhonov C, Odland J, Berner J, Bonefeld-Jorgensen E, Dudarev A, Rautio A
Health Canada, Trent University, Arctic Monitoring and Assessment Program
- P26** Is there overlap in US hazard characterization programs that focus on environmental exposure—an evaluation of the data
Beck NB, Becker RA
American Chemistry Council
- P27** Delphi survey of issues after the 2011 Great East Japan Earthquake: interim report 3
Maeda Y, Seo K, Motoyoshi T
Shizuoka University, Aoyama Gakuin University, Kansai University
- P28** Characterization of risk to population health
Lapiente PLF, Cifuentes LAC, Pica APT
Pontificia Universidad Católica de Chile
- P29** Human health risk assessment of hydraulic fracturing
Pawlisz A
Conestoga-Rovers & Associates
- P30** Health impact assessment or risk assessment: what's the difference?
MacDonald Gibson J, Singleton-Baldrey L, Dennerlein T, Rodriguez D
University of North Carolina, Chapel Hill
- P31** Hazard identification: PBT assessment of hydraulic fracturing fluids from coal-seam gas field in Australia
Biksey T, Goulding N, Bevan C
EHS Support, Inc., EHS Support, Inc., Bevan, CJB Consulting LLC

- P.32** A simulation-based approach for conducting n-way sensitivity analysis
Simon J, Wall KD
Naval Postgraduate School
- P.33** Semi-quantitative risk analysis and scenario development as decision-making support: a case study
Parra LM, Suarez MC, Munoz F
Universidad de los Andes
- P.34** The health impact of aviation - what impact can consumer choices have?
Wagner CC, Norris G, Evans JS
Cyprus International Institute, Harvard School of Public Health
- P.35** Support for Environmental Rapid Risk Assessment Database (SERRA)
Yoder Bowling C, Stone H, Nichols T, Adeshina F (Presented by Garraban KG)
US Environmental Protection Agency
- P.36** Identification of the risk related criteria for multi-criteria analysis and optimization of water resources systems
Srdjevic B, Srdjevic Z, Bajcetic R, Pipan M
University of Novi Sad
- P.37** Anchorage: an unexpected bias in randomized intervention trials?
Eisinger F, Giordanella JP, Julian-Reynier C, Pingannaud MP, Seitz JF, Faivre J, Sobol H, Allemand H
Paoli-Calmettes Institute
- P.38** Individual risk management decisions in the wake of a wide-area anthrax release: is antibiotic prophylaxis enough?
Hamilton MA, Gurian PL, Casman L, Hong T, Jackson E, Alizadehtazi B
Drexel University
- P.39** Using cognitive science methods and tools to define influences on user participation in environment Canada's science alert database
Kovacs DC, Pollock JS, Thorne S, Butte G, Renaud D
Decision Partners; Environment Canada, Science and Technology Branch
- P.40** Quantitative analysis of risk vs. risk trade-offs for substituting lead-free solder for lead solder
Ono K, Tsunemi K, Kawamoto A, Fuse M, Gamo M, Takeshita J, Makino R
National Institute of Advanced Industrial Science and Technology (AIST)
- P.41** Decision aiding for climate risk mitigation in developing countries
Kenney L, Arvai J
University of Calgary
- P.43** Greenhouse gas emissions, air pollution, and overall societal cost for household heating scenarios in Finland
Kollanus V, Taimisto P, Taimio M, Tuomisto JT
National Institute for Health and Welfare, Finland, Systems Research Institute, Poland
- P.45** Integrated cost and schedule risk analysis
Gilmer G, Druker ER, Anderson CW
Booz Allen Hamilton
- P.46** Environmental risk assessment at construction project's feasibility study phase using Fuzzy TOPSIS method
Sadeghi F, Hajbagheri M
Pardazesh Samaneh Farbound Consulting Co.
- P.47** Project risk management practices in Middle East construction industry: an empirical investigation
Sadeghi F, Hajbagheri M
Pardazesh Samaneh Farbound Consulting Co.
- P.48** Risk analysis with non-probabilistic robustness: is it a good (probabilistic) bet?
Ben-Haim Y
Technion
- P.49** A neural network-based model for predicting risk of supplier's environmental failure
Hajbagheri M, Salsal M
Meisam Paper Co.
- P.53** Risk preferences and decision making in a wildland fire context: insights from a multi-attribute lottery experiment
Hand MS, Wibbenmeyer M, Calkin DE, Thompson MP
US Forest Service, Rocky Mountain Research Station
- P.54** Heavy metal screening tool
Tran N, Barraj L, Troxell T, Scraftford C*
Exponent, Inc.
- P.55** Health risk assessment of weight gain and allergic rhinitis
Fan GZ, Wang IJ, Hsieh CJ, Lin MH, Tsai MS, Ho WC, Chen PC, Lin RS
China Medical University
- P.56** A statistical method for analysis of relative toxicity values and its application to risk vs. risk trade-offs of metals
Takeshita J, Gamo M, Kanefuji K, Tsubaki H
National Institute of Advanced Industrial Science and Technology (AIST), The Institute of Statistical Mathematics
- P.57** Bayesian nonparametric analysis for benchmark dose estimation from continuous data
Shao K, Giff JS
National Center for Environmental Assessment, US EPA
- P.58** Detecting tumor response to therapy with automated analysis of contrast-enhanced ultrasound
Ta CN, Yi BH, Wu Z, Mattrey RF, Kummel AC
University of California San Diego
- P.59** TRI: communicating health effects to communities
*Russell P, Reid J, Chun A, Brown L, Lynch M**
US EPA, US Public Health Service (Ret.), and Abt Associates
- P.60** EPA's benchmark dose modeling: current capabilities and future direction
*Lowe LL, Davis JA, Giff JS**
US Environmental Protection Agency
- P.61** Identification of critical data gaps in the development of a key events dose-response framework for Bacillus anthracis
Hines SA, Comer JE
Battelle
- P.62** Setting occupational exposure limits for potent pharmaceuticals
Cragin DW
Merck, Sharp & Dohme
- P.63** A quantitative risk assessment model for Vibrio parahaemolyticus in shrimps washed with lactic acid and chitosan during postharvest processing
Wang W, Li M, Fang W, Li Y
Zhejiang University
- P.64** A quantitative risk assessment model for Listeria monocytogenes in ready-to-eat poultry products
Li M, Wang W, Fang W, Li Y*
Zhejiang University
- P.65** Weight of evidence evaluation of diacetyl exposure response relationship in popcorn and flavoring worker studies
Roberts LJ, Pierce JS, Johns LE, Lievens L, Finley BL
ChemRisk
- P.66** Derivation of a chronic oral reference dose for cobalt
Monnot AD, Gaffney SH, Paustenbach DJ, Finley BF
ChemRisk, LLC
- P.67** Birth weight, household smoking, and the risk of wheezing in one million adolescents: a retrospective cohort study
Lin MH, Ho WC, Chen PC, Wu TN, Lin RS
China Medical University
- P.68** Aggregate risk assessment for Bisphenol A in Taiwan
Hsiao IL, Huang YJ, Wu KY
National Taiwan University
- P.69** Assessment of cadmium (a tobacco smoke toxicant), as a driver of genotoxicity.
Cunningham FH, Fiebelkorn SA, Dillon DM, Meredith C
Group Research and Development, British American Tobacco, UK
- P.71** Structured expert judgment for characterize uncertainty between PM2.5 exposure and mortality in Chile: preliminary results
Cisternas PC, Bronfman NC, Celsi RB, Cifuentes LA
Universidad Andres Bello

- P.72** Non-cancer risk assessment of 1, 3-Butadiene: draft acute and chronic reference exposure levels for California
Brown JP, Winder B, Salmon AG, Marty MA, Alexeeff GV
California Environmental Protection Agency
- P.73** Application of a Multiple Model Data Fusion Framework (MMDF) for chemical warfare agents toxicology and their degradation products from a public health and clinical risk assessment perspective
Mobapatra AK
Health Canada
- P.74** Aggregate human health risk assessment of urban daily life environment in Beijing
Xin S, Linyu X
Beijing Normal University, P.R.China
- P.75** Parameters for a biomonitoring plan for mercury in freshwater ecosystems
Burger J, Gochfeld M, Kosson D, Powers CW, Clarke J
Rutgers University and CRESA
- P.76** Bioavailability and ecological risk of metals in an estuarine habitat: evaluation of multiple lines of evidence
Konatzman JA
Black & Veatch Special Projects Corp.
- P.78** Compilation and evaluation of associations between Deformities, Erosions, Lesions and Tumors (DELT Anomalies) in freshwater fish and chemical and non-chemical stressors for EPA's causal analysis
Burris JA, Suter G, Gerritsen J
CDM Smith
- P.79** The analysis of geographical patterns of climate variability changes. Using inter-quantile distances and surface temperature data
Timofeev AA, Sterin AM
RIHMI-WDC
- P.80** Application of ROC curves in analyzing meteorological risks
Agurenko AO
RIHMI-WDC
- P.82** Gaining the social license to operate
Froese KL, Kapustka LA
SLR Consulting, Canada
- P.83** Methodology for the estimation of the environmental risk
Pica APT, Cifuentes LAC, Lapuente PLF
Pontificia Universidad Católica de Chile
- P.84** Valuation methodology for the health benefits associated to reducing PM2.5 concentration
Cifuentes L, Cabrera C
Pontificia Universidad Católica de Chile
- P.85** Risk trade-off analysis on the substitution of automotive coatings from organic solvent-borne coatings to water-borne coatings
Kajihara H, Takai A, Inoue K
National Institute of Advanced Industrial Science and Technology
- P.86** Theoretic analysis of human behavior in a chemical plant on the basis of Probabilistic Risk Analysis (PRA) and game theory
Makino R, Takeshita J
National Institute of Advanced Industrial Science and Technology
- P.87** Development of innovative methodology for safety assessment of industrial nanomaterials: overview of research framework
Gamo M, Honda K, Yamamoto K, Fukushima S, Takebayashi T
National Institute of Advanced Industrial Science and Technology (AIST), Japan Bioassay Research Center, Keio University
- P.88** A model of the oxidation of nanosilver in surficial freshwater sediments: exploring research needs and the role of sediments in nanosilver risk forecasting
Dale AL, Lowry GV, Casman EA
Carnegie Mellon University
- P.89** A risk based perspective suitable for high reliability seeking organizations: with applications to the oil and gas industry
Khorsandi JD, Aven T
University of Stavanger
- P.90** Accuracy and simulation speed comparison between the Lattice Boltzmann Method with free surface and fluent applied to a process safety case study
Rodríguez SE, Díaz JC, López OD, Muñoz F
Universidad de los Andes
- P.91** Technology for ubiquitous uncertainty propagation
Ferson S, O'Rawe J, Mickley J, Cheng B
Applied Biomathematics
- P.92** Identifying and prioritizing shared rail corridor safety & other technical challenges
Saat MR, Caughron B, Barkan C
University of Illinois at Urbana-Champaign
- P.94** Project risk management cycle
Cretu V, Cretu O, Lim JK
Cretu Group LLC
- P.95** The value of cost and schedule risk management
Stillman M
Kleinfelder
- P.97** Estimating occupational accidents severity: a fuzzy approach for reducing its subjectivity
Pinto A
ISEC - Instituto Superior de Educação e Ciências - Lisboa, Portugal
- P.98** New TCE and PCE toxicity values and implications for vapor intrusion sites
Liu C, Luke N
CDM Smith
- P.99** Probabilistic analysis of Legionellosis outbreak data and its potential contribution to microbial risk assessment
Wallet F, Fontenay L, Cabanes PA
EDF Service des Etudes Médicales, France, Société de Calcul Mathématique, France
- P.100** An alarm for ALARA: decision analysis applied to radiation protection
Lee RC, Black P, Perona R, Tauxe J, Lee R
Neptune and Company, Inc.
- P.101** Phase I impact assessment results for polybrominated diphenyl ethers and vanadium compounds
Rak A, Bass N, Vogel C, Lanier K
Noblis, US Army Public Health Command
- P.102** Human health risk assessment of pesticide mixtures
Chiang SY, Wu HC, Wu KY
China Medical University
- P.103** Using food label data to assess the intake of sodium for various US subpopulations
Brookmire LM
FDA
- P.104** Estimating parameters from categorical food consumption and food handling survey data
Chardon JE, Swart AN
RIVM, National Institute for Public Health and the Environment, The Netherlands
- P.105** Hand and object to mouth contact activities and non-dietary soil and dust ingestion rates for young children in Taiwan
Chien LC, Winston D, Ozkaynak H, Tsou M, Hseu ZY, Hsi HC, Bradham K, Beamer P
Taipei Medical University, Taiwan, US EPA, National Pingtung University, Taiwan, National Taipei University of Technology, Taiwan, University of Arizona
- P.106** Apportionment of exposure and risk from contaminants of emerging concern
Greene CW, Goeden HM, Rice N, Shubat PJ
Minnesota Department of Health
- P.107** Developing a communication tool of food-related radiation risk
Hosono H, Kumagai Y, Sekizaki T
The University of Tokyo
- P.108** Does the trust on food safety system affect Japanese risk perception on foods after Fukushima accident?
Hosono H, Nakashima Y
The University of Tokyo
- P.109** Health risk assessment of fine suspended particulate in rural and urbanizing areas of Taiwan
Ho WC, Lin MH, Tsai MS, Chen PC, Cheng TJ
China Medical University

- P.110** Exposure and toxicity assessment for size-related airborne particulate matter from nearby traffic in Seoul
Kim JY, Yang JY, Kim SH, Jo MJ, Lim YW, Kim CS, Shin DC
Yonsei University
- P.111** Methylene Chloride - common lab contaminant or mutagenic contaminant?
Krupka EA
CDM Smith
- P.112** Carcinogenic risk assessment approaches for new animal drugs used in food-producing animals
Zhou T, Ekelman K, Greenlees K
US Food and Drug Administration, Center for Veterinary Medicine
- P.113** The impact of risk communication on individual perception in a complex interactive and tightly coupled organisation
Marynissen H, Ladkin D, Denyer D, Snoeijers E, Van Achte T
Cranfield University, University of Antwerp, PM
- P.114** GIS capabilities in risk-based model for prioritization of environmental inspections in Chile
Romero A, Borchers N, Cifuentes L, Pica A
Pontificia Universidad Católica de Chile
- P.115** Evaluation of potential take home exposure during laundering activities: a simulation study of airborne chrysotile concentrations associated with handling clothing exposed to known levels of airborne
Sahmel J, Barlow CA, Donovan B, Gaffney S, Madl AK, Henshaw J, Lee RJ, Van Orden D, Paustenbach DJ
CHEMRISK LLC
- P.116** Dietary exposure estimates of frequently and infrequently consumed foods in the US
Srinivasan JR, Brookmire L, DiNovi MJ
US FDA
- P.117** Importance of the population exposure model in the impact of PM and daily mortality
Strappa V, Jorquera H, Cifuentes LA
Pontificia Universidad Católica de Chile
- P.118** Estimating indoor air exposure concentrations of biodegradable VOCs using API's BioVapor Spreadsheet Model
Turnham P, Richter RO, Griffin JR
Exponent
- P.119** Investigation of cobalt steady-state levels in five healthy adult volunteers taking 14-days of a cobalt supplement
Tvermoes BE, Otani J, Unice K, Finley B, Paustenbach DJ, Galbraith D
ChemRisk, LLC
- P.120** Advancements in risk assessment: evolving methods and future directions
Williams PRD, Dotson GS, Maier A
E Risk Sciences, LLP
- P.121** Update on MTBE in public drinking water wells in California (1995 to 2011)
Williams PRD
E Risk Sciences, LLP
- P.123** Addressing potential risks of emerging technologies: a comparative study of R&D cases at AIST
Kishimoto A
National Institute of Advanced Industrial Science and Technology
- P.126** High tension wires: risk of leukemia in the Lebanese childhood population
El Yabchouchy R
Cyprus International Institute in Association with Harvard School of Public Health
- P.127** Health-related monitoring and surveillance activities under the Government of Canada's Chemicals Management Plan
Yome JL
Health Canada
- P.128** Investigation of differing rates of protective behavior adoption on West Nile virus by Hispanics and non-Hispanics: a cognitive-affective risk perception approach
Kim S-J, Davidson CP, Lueck MM, McLane DN, Trumbo CW
Colorado State University
- P.129** Predicting cancer preventive intentions with the Theory of Planned Behavior: behavior novelty as a potential moderator of descriptive norm-intention relationship
Kim HK, Kim SY, Niederleppe J
Cornell University
- P.131** Risk communication in the doctor-patient relationship
Gresh DL, Deleris LA, Eisinger F
IBM Research, Institut Paoli-Calmettes
- P.132** Risk communication of H1N1 information to nurses in two Canadian provinces
Jardine C, Driedger M, Keelan J, Boerner F, Kain N, Visram A
University of Alberta
- P.133** Shame, obesity, and persuasion
Timberlake SE
North Carolina State University
- P.134** Risk of emerging pollutants: the presence of pharmaceuticals in water bodies
*Castineira D, Gomez N, Rodriguez Morreyra M, Monzon AN, Demichelis SO**
National University of Lanus, JF Kennedy University of Argentina
- P.135** Sanitary risk in vulnerable districts: the villa Porá In Lanús a case of study
*Jazmin N, Quintana J, Rimoldi B, Monzon AN, Demichelis SO**
National University of Lanus
- P.136** Public perception of wood smoke and traffic-related air pollution as health risks in Finland
Ung-Lanki S, Lanki T
National Institute for Health and Welfare
- P.137** Does a great disaster make the public pessimistic or optimistic?
Nakayachi K, Oki S, Yokoyama HM
Doshisha University
- P.138** A multidimensional examination of hurricane preparedness and evacuation intention
Trumbo C, Peek L, Lueck M, Marlatt H, McNoldy B, Gruntfest E, Schubert W
Colorado State University, University of Miami, University of Colorado at Colorado Springs
- P.139** Whole energy systems, risk perception and low carbon transitions with the UK public
Pidgeon NF, Butler C, Parkhill KA
Cardiff University
- P.140** Deliberating geoengineering risks: the case of stratospheric aerosols and the SPICE Project
Pidgeon NF, Parkhill KA, Corner A, Vaughan N
Tyndall Centre, Cardiff University and University of East Anglia
- P.142** Framework proposal to corporate risk management for holding companies
Ladario MP, Ávila RG, Laudares CC, Mota AG
ELO Group Desenvolvimento E Consultoria
- P.143** Framework proposal to support the integration of risk management and business continuity management
Ladario MP, Farias Filho JR
ELO Group Desenvolvimento E Consultoria
- P.144** Quantification of pathogens in graywater using molecular approaches
Wahlen JB, de los Reyes FL, Frey HC
North Carolina State University
- P.145** Quantitative risk assessment for Escherichia coli O157:H7 in leafy greens
Pang H, Pradban AK
University of Maryland
- P.146** Prototyping study for the French Food Safety Observatory
Cuzzucoli D, Gauchard F, Poisson S, Touze B, Sanaa M
Anses
- P.147** Interactive online catalogue on risk assessment
Swart A, Nauta M, Ruzante JM
The National Institute for Public Health and the Environment (RIVM), National Food Institute and University of Maryland

Monday

- P.148** Validation of a risk assessment model of variant Creutzfeldt-Jakob Disease (vCJD) transmission via red cell transfusion
Yang H, Gregori L, Asber D, Piccardo P, Anderson SA
US Food and Drug Administration
- P.149** Quantitative microbial risk assessment for gastrointestinal illnesses associated with recreational water exposure, using time-lapse photography in the Philadelphia area
Sunger NS, Haas CNH
Drexel University
- P.150** Using lessons learned from the field to inform microbial exposure assessment
Silvestri E, Chappie D, Lordo R, Taft S, Hines S, Stone H, Nichols T
US Environmental Protection Agency, Battelle Memorial Institute
- P.151** Prioritizing risks and uncertainties from intentional release of selected category A pathogens
Hong T, Gurian PL, Huang Y, Haas CN
National Exposure Research Laboratory, USEPA
- P.152** Multi-period defensive resource allocation considering equity and possibly non-strategic attackers
Shan X, Zhuang J
University at Buffalo, SUNY
- P.156** Exploring the health care surge capacity requirements during a terrorist attack on the food supply
Hartnett E, Lysak K, Schaffner D, Hedberg C, Paoli G
Risk Sciences International, Clarity Healthcare, Rutgers, University of Minnesota
- P.157** Import security: assessing the risks of imported food
Welburn JW, Bier VM, Hoerning SQ
University of Wisconsin - Madison
- P.158** High risk perception and low risk prevention in high risk cancer families
Flander LB, Speirs-Bridge A, Rutstein A, Niven H, Win AK, Ouakerim DA, Hopper JL, Keogh L, Gaff C, Jenkins MA
University of Melbourne
- P.159** Polychlorinated Naphthalene, another PCBs?
Julias C, Marcum T, Luke N
CDM Smith
- P.161** 'Controllable' risk and attributing responsibility for causing and preventing an accident: a study of three US National Parks
Rickard LN
SUNY College of Environmental Science and Forestry (ESF)
- P.162** Coordination in a risky environment
*Jacobsson M, Hällgren M**
Umeå School of Business and Economics, Umeå University
- P.163** Green chemistry and green engineering as a key driver of innovation in life sciences industry - case studies
Kim ST, Seid D, Schatz J
Life Technologies
- P.164** A risk based approach to shipping life sciences reagents at ambient temperature to reduce environmental impact and retain their quality and stability
Kim ST, Schatz J
Life Technologies
- P.165** Rivers, world of leisure activities and industrial world: from confrontation to risk management
Guillaume O
Electricite De France R&D
- P.166** Uncertainty and identity as moderators of fairness perceptions in the context agricultural biotechnology
Besley JC, McComas KA, Steinhardt J
Michigan State University
- P.167** Public perceptions of the deadly 2011 Listeria in cantaloupe outbreak
*Cuite CL, Senger-Mersich A, McWilliams RM, Hallman WK**
Rutgers, The State University of New Jersey
- P.168** Public perception of renewable energy technologies: examining the notion of widespread support and the role for climate change and energy security risk perceptions
Demski CC, Pidgeon N, Poortinga W
Cardiff University
- P.169** Development of an indoor exposure assessment tool (iAIR)
Higashino H, Shinozaki H
National Institute of Advanced Industrial Science and Technology
- P.170** Weighing environmental vs. economic risks, costs, benefits, and values: predicting home energy upgrade program participation
Priest SH, Neill H, Young G
University of Nevada, Las Vegas
- P.171** Safer spaces: public perceptions of, engagement with and reactions to countering terror in public places
Rogers MB, McAndrew C, Triggs T, Luxton R, Wooton A
King's College London, London College of Communication, University of the West of England, University of Salford
- P.172** Mental model of the dust bowl migration
Rivers L, Whitley C, Bryant S, Schmitt Olabisi L, Molen N, Ljgmann-Zielinska A, Marquart-Pyatt S
Michigan State University
- P.173** Effects of acknowledging uncertainty over time: the case of intentional food contamination
Hallman WK, McWilliams RM, Senger-Mersich A, Cuite CL*
Rutgers University
- P.174** Adopting future biotechnologies: the role of risk perception, trust, knowledge, and social norms
Poortvliet PM, De Bruin M, Mulder B, Lugtig P
Wageningen University, Utrecht University
- P.175** Nuclear power before and after Fukushima: how are attitudes, ambivalence and knowledge related?
Vischers V, Wallquist L
ETH Zurich
- P.177** Risks of advanced artificial intelligence
Anissimov MA
Singularity Institute
- P.178** Relationships between administered dose, body burden and thermoregulatory response after acute oral exposure to multiple pyrethroid insecticides in rats
*Mosquera Ortega ME, Pato AM, Romero DM, Sosa Holt CS, Alvarez G, Ridolfi A, Villaamil Lepori E, Wolansky MJ**
University of Buenos Aires (UBA) and Argentine National Research Council (CONICET)
- Works-In-Progress**
- P.179** Case studies: human food safety assessment of hormone-like drugs used in food-producing animals
Zhou T, Yan D, Gaido K, Friedlander LG, Ekelman KB, Aguila MC*
Food and Drug Administration, Center for Veterinary Medicine
- P.180** A false balance? Affect, exemplars, and media coverage of controversial risk
Dixon GN
Cornell University
- P.182** Applying the source to outcome pathway concept to chemical risk assessment: assessing consumer safety and environmental impact together
Soumpasis I, Malcomber I, Maxwell G
SEAC UNILEVER
- P.183** Introduction of risk size in the determination of uncertainty factor UFL in risk assessment
Xue JL, Lu Y, Velasquez N, Hu HY, Yu RJ, Liu ZT, Meng W
Tsinghua University, China
- P.184** An agent-centered risk and decision-analytic approach to climate change adaptation
Clifford K, Huisenga MT, Travis WT, Clifford KR
University of Colorado
- P.185** California setting the standard with low-threat UST closure criteria
*Arulanantham R, Cheung R**
Geosyntec Consultants - Engineering Consulting
- P.186** Psychological distance of adaptation and mitigation
Sposato RG
Cardiff University
- P.187** RAMPART - Risk Assessment Methodology Property Analysis Ranking Tool
Pohl P, Brown J, Deitch B
Sandia National Laboratory

P.188 Prioritizing emerging pathogens in transfusion safety through expert elicitation

Neslo REJ, Janssen MP, Oei W Julius Center for Health Sciences and Primary Care

P.189 Characterisation and regulatory oversight of carbon monoxide risks from heating appliances in Ontario

Sridharan S, Veeramany A, Mangalam S TSSA, Canada

P.190 Why intuitive risk judgments deviate from statistical risk estimates, and how can the deviations be mediated?

Komatsu H Central Research Institute of Electric Power Industry (CRIEPI)

P.191 Electromagnetic interference: risk of exceeding immunity of medical equipment in a hospital ward with a roaming wireless device

Ardavan M, Schmitt KA, Trueman CW Concordia University, Canada*

P.192 Using GIS with human health risk analysis to discover an unexpected soil pollutant source

Wallace LN, Wurzel KA NewFields

P.193 Effects of mental models on risk judgments among receivers of hazard and exposure information about dioxins

Diebol JK University of Michigan

P.194 Respiratory effects associated with NO₂ dose in the context of workplace exposures, Part A: examination of changes in symptomatology and pro-inflammatory mediators

Davies DB, Bryant DW, Bibeau K, VanGeest J Intrinsic Environmental Sciences*

P.195 Respiratory effects associated with NO₂ dose in the context of workplace exposures, Part B: meta-analysis of changes in lung function and airway hyper-responsiveness

Souweine K, Butler K, LeClair H, McDaniel M McDaniel Lambert

P.196 Stimulating reflexive research among undergraduate researchers of nanotechnology

Eosco GM, Tallapragada M, McComas KA, Brady MM Cornell University, Bates College*

P.197 Probabilistic cost-effectiveness analysis of influenza control strategies using an agent-based model

Karimi E, Schmitt K, Akgunduz A Concordia University*

P.198 Risk of an outbreak and excess cancer associated with varying drinking water regulatory stringency in Canada

Sali A, Schmitt K Concordia University*

P.199 Modeling the influence of drinking water quality on residential property value

Pashanasangi G, Schmitt K Concordia University*

P.200 Stakeholder mental models of port seismic risk: a case study of two high-hazard ports

Bostrom A, Scharke T, Reimann-Garretson L, Rix G University of Washington

P.201 Recreationists and exposure to ozone in two Los Angeles communities

Winter PL, Padgett PE, Rounsaville T USFS, Pacific Southwest Research Station

P.202 Perception and Measurement of Climate and Climate Impacts Among the Rural Poor in Vietnam

Cullen AC, Anderson CL Evans School of Public Affairs, University of Washington, Seattle

**SRA looks forward to seeing you in
Baltimore, Maryland
December 8-11, 2013**

See you next year!

<p>10:30 AM - 12:10 PM <i>Pacific Concourse D</i> T2-A Symposium: From GMOs to Genetic Engineering and Synthetic Bio: Integrating Physical and Social Sciences for Risk-Based Decision Making <i>Chair: Igor Linkov</i></p>	<p>11:50 am T2-A.5 Using structured expert judgment to guide early decisions for synthetic bioremediation <i>Bates ME, Grieger KD, Trump B, Linkov I</i> <i>US Army Engineer Research and Development Center, Research Triangle Institute, University of Michigan</i></p>	<p>10:30 AM - Noon <i>Pacific Concourse K</i> T2-B Symposium: Part II: Applications - Recent Efforts for Advancing the Risk-Informed Decision Making System in the FDA Foods Veterinary Medicine (FVM) Program <i>Co-Chairs: Barry Hooberman, Aylin Sertkaya</i></p>	<p>10:30 AM - Noon <i>Pacific Concourse F</i> T2-D Research Methods <i>Chair: Virna Gutierrez</i></p>	<p>10:30 AM - Noon <i>Pacific Concourse G</i> T2-E Social Media <i>Chair: Gina Eosco</i></p>	<p>10:30 AM - Noon <i>Pacific Concourse H</i> T2-F Innovative QRA Models: Food Safety & Disease Transmission <i>Co-Chairs: Emma Hartnett, Aamir Fazil</i></p>
<p>10:30 am T2-A.1 Assessing and mitigating the biological risks of genetically modified bacteria in the environment <i>Lee S, Tarjan D, Geller JT, Singer ME, Wu C, Torok T, Hazen TC, Hillson NJ, Arkin AP</i> <i>Lawrence Berkeley National Laboratory, Joint Bioenergy Institute, University of California, Berkeley</i></p>		<p>10:30 am T2-B.1 A novel approach to attributing illness to food <i>Sertkaya A, Jessup A, Morgan K</i> <i>Eastern Research Group Inc.</i></p>	<p>10:30 am T2-D.1 Using perception analyzers to measure uncertainty in risk messages <i>Steinhardt J, Eosco GM</i> <i>Cornell University</i></p>	<p>10:30 am T2-E.1 The role of social media as a trusted risk communication tool <i>Pieters S, Van Achte T, Marynissen H</i> <i>PM, Cranfield University</i></p>	<p>10:30 am T2-F.1 A QRA on the change in the likelihood of rabies introduction into the UK as a consequence of adopting the existing harmonised community rules for the non-commercial movement of pet animals <i>Goddard AD, Donaldson NM, Horton DL, Fooks AR, Snary EL</i> <i>Animal Health and Veterinary Laboratories Agency</i></p>
<p>10:50 am T2-A.2 Synthetic biology in the environment and the Army <i>Perkins EJ</i> <i>US Army Engineer Research and Development Center, Environmental Lab</i></p>		<p>10:50 am T2-B.3 FDA's novel resource allocation tool for food safety risk management <i>Mokbtari A, Bowles E, Beaulieu S, Little K, Oryang D, Dennis S</i> <i>RTI International, US Food and Drug Administration</i></p>	<p>11:10 am T2-D.3 Errors of judgment: the effects of survey construction on public opinion of nanotechnology and what they mean for scientists and policymakers <i>Binder AR, Cacciatore MA</i> <i>North Carolina State University, University of Wisconsin-Madison</i></p>	<p>10:50 am T2-E.2 Corporate reputation in times of social media: from scarce clouds to the perfect storm <i>Hosseinali-Mirza V, de Marcellis-Warin N, Warin T</i> <i>École Polytechnique de Montréal and CIRANO</i></p>	<p>10:50 am T2-F.2 Exploring microbial contamination in beef slaughter facilities <i>Hartnett E, Wilson M, Paoli G</i> <i>Risk Sciences International, Ottawa, Canada</i></p>
<p>11:10 am T2-A.3 A review of risks associated with GMOs, synthetic organisms, and gene therapy <i>Ferguson E, Foran C, Kelly K, Trump B</i> <i>USACE-ERDC, University of Michigan</i></p>		<p>11:10 am T2-B.4 FDA's Tool to Prioritize hazards, commodities, and their combinations based on public health and non-public health criteria <i>Beaulieu S, Mokbtari A, Black P, Oryang D, Dennis S</i> <i>RTI International, Neptune and Company Inc., US Food and Drug Administration</i></p>	<p>11:30 am T2-D.4 A study of risk perception in different methods: comparing internet survey and face to face survey <i>Aoyagi M</i> <i>National Institute for Environmental Studies, Japan</i></p>	<p>11:30 am T2-E.3 Making the most of new media for risk communication <i>Dunn AJ</i> <i>Office of Environmental Health Hazard Assessment</i></p>	<p>11:10 am T2-F.3 Risk based multiple-microbial criteria for Listeria monocytogenes, Salmonella spp and Shiga toxin-producing E. coli in raw milk soft cheese <i>Perrin F, Tenenhaus-Azizga F, Sanaa M</i> <i>ANSES, CNIEL</i></p>
<p>11:30 am T2-A.4 Regulatory path and risk governance of emerging technologies and synthetic biology in particular <i>Bowman D, Stokes E</i> <i>The University of Michigan, Cardiff University</i></p>				<p>11:30 am T2-E.4 The influence of social media on risk perception <i>De Marcellis-Warin N, Peignier I</i> <i>Ecole Polytechnique de Montreal</i></p>	<p>11:30 am T2-F.4 A simulation model to predict public health risks of pathogens in a Canadian food distribution system <i>Fazil A, Otten A, Hashemi Beni L, Villeneuve S, McKellar R, Delaquis P, LeBlanc D</i> <i>Public Health Agency of Canada</i></p>

10:30 AM - Noon
Pacific Concourse I
T2-G Symposium: Risk Analysis within the Department of Defense: Methods, Successes and Opportunities for Advancement

Chair: Benjamin Trump
10:30 am T2-G.1
 Merging existing risk management within the department of defense with decision analytical tools
Trump B, Morel B, Linkov I
The University of Michigan, Carnegie Mellon University, US Army Corps of Engineers

10:50 am T2-G.2
 The Chairman of the Joint Chiefs of Staff: risk-based strategy decisions
Rouse JF
Arete Associates supporting the Joint Staff

11:10 am T2-G.3
 Acquisition risk management
Scriven J
Army Logistics University

11:30 am T2-G.5
 Examining profiles of risk within the Swedish Armed Forces
Borjesson M, Enander AE
Swedish National Defence College

10:30 AM - Noon
Pacific Concourse L
T2-H Modeling of Biological Agents
Co-Chairs: Mark Borsuk, Ilias Soumpasis

10:30 am T2-H.1
 Unscrambling dose response relationships of pathogenic and opportunistic pathogenic micro-organisms
Soumpasis I
SEAC Unilever

10:50 am T2-H.2
 Dose-response models of vCJD infection by blood transfusion
Huang Y, Anderson S, Asher D, Gregori L, Yang H
FDA

11:10 am T2-H.3
 The impact of the degree of dispersion of viral pathogens in organic media on the probability of transmission to susceptible animals
Malladi S, Weaver JT, Clouse TL, Bjork KE, Johnson K, Sampredo F, Halvorson DA
University of Minnesota, United States Department of Agriculture

11:30 am T2-H.4
 Bayesian network approaches to modeling gene-environment interactions and cancer risk
Su C, Andrew A, Karagas M, Borsuk MB
Dartmouth College

10:30 AM - Noon
Pacific Concourse M
T2-I Symposium: Climate Change and Its Risks to Infrastructure
Chair: Roshanak Natghi

10:30 am T2-I.1
 Discovering plausible future climate scenarios using the EN-GAGE agent-based modeling framework
Gerst MD, Wang P, Borsuk ME
Dartmouth College

10:50 am T2-I.2
 Long-term impacts of climate change on hurricane activity and power system reliability in hurricane-prone regions
Natghi R, Guikema SD, Quiring SM
Johns Hopkins University, SMQ, Texas A&M University

11:10 am T2-I.3
 Risk and decision framework for offshore wind farms in hazard-prone areas
Staid A, Guikema SD
Johns Hopkins University

11:30 am T2-I.4
 Impact of the August 2003 power outage on mortality in New York, NY
Anderson GB, Bell ML
Johns Hopkins School of Public Health

10:30 AM - 12:10 PM
Pacific Concourse N
T2-J Estimates of Regulatory Costs and Public Attitudes About Them
Co-Chairs: Adam Finkel, Aylin Sertkaya

10:30 am T2-J.1
 What will it really cost? Hidden indirect costs and countervailing risks in regulatory impact assessment
Cantor RA, Schmier JK, Hulme-Lowe CK, Meer S
Exponent, Inc.

10:50 am T2-J.2
 Technological forecasting and environmental policy
Taylor MR
Lawrence Berkeley National Laboratory

11:10 am T2-J.3
 Towards a theory of regulatory cost perception, part 1: main results from a survey of life-saving tradeoffs with uncertainty in regulatory costs and interindividual variation in cost burden
Finkel AM, Johnson BB
University of Pennsylvania Law School, Decision Research

11:30 am T2-J.4
 Towards a theory of regulatory cost perception, part 2: effects of demographic variables, numeracy, regulatory ideology,
Johnson BB, Finkel AM
Decision Research, University of Pennsylvania

11:50 am T2-J.5
 A VSLY approach for evaluating welfare impacts of public health policies
Rheinberger CM, Hammitt JK
Toulouse School of Economics, Harvard University

10:30 AM - Noon
Pacific Concourse O
T2-K Symposium: Exploring the Limits of Risk Governance: How States Account for Failure in Europe (HowSAFE)
Chair: Frederic Bourder

10:30 am T2-K.1
 The state can't fail! Accounting for the limited diffusion of risk-based approaches in France
Borraç O
Sciences Po

10:50 am T2-K.2
 Searching for 'sensible' Health and Safety risk management? The changing nature of risk-based approaches in the Netherlands and the UK
Bourder, FB
Maastricht University

11:10 am T2-K.3
 King Canute vs. the little Dutch boy: nature, national identity, and the limits of risk-based management of flooding in the UK and the Netherlands
Demeritt D
King's College London

11:30 am T2-K.4
 Risk and the limits of governance: exploring varied patterns of risk-based governance across Europe
Rothstein H, Borraç O, Huber M
Kings College London

Join us at the SRA Awards Luncheon and Business Meeting
Noon - 1:30 pm
Grand Ballroom
 Includes all SRA Awards, and the 5 Best Poster Award Winners from Monday's Poster Reception.
 (Luncheon is included in Registration Fee)

<p>1:30 - 3:00 PM <i>Pacific Concourse D</i> T3-A Ecological Risk Assessment I <i>Chair: Greg McDermott</i> 1:30 pm T3-A.1 Potential risks to ecological receptors posed by hydraulic fracking <i>Jones SM</i> <i>Conestoga-Rovers & Associates</i> 1:50 pm T3-A.2 Ecological risk assessment of coal seam gas hydraulic fracturing fluids in Australia <i>Biksey T, Goulding N, Bevan C</i> <i>EHS Support, Inc., CJB Consulting LLC</i> 2:10 pm T3-A.3 Methodologies to support Australia's carbon farming initiative <i>Christian R</i> <i>Australian Government Department of Agriculture Fisheries and Forestry</i> 2:30 pm T3-A.4 Quantitative ecological risk assessment of industrial accidents: the case of oil ship transportation in coastal tropical area at Northeastern Brazil <i>Duarte HO, Droguett EL, Araújo M, Teixeira SF</i> <i>Universidade Federal de Pernambuco</i></p>	<p>1:30 - 3:00 PM <i>Pacific Concourse K</i> T3-B New Voices <i>Chair: Craig Trumbo</i> 1:30 pm T3-B.1 The same, but different: theorizing about temporal framing effects of statistical risk messages in health communication <i>Rob S</i> <i>Cornell University</i> 1:50 pm T3-B.2 Values or attitudes? Cultural worldviews, climate change attitudes and belief in scientific consensus <i>Rolfe-Redding J</i> <i>George Mason University</i> 2:10 pm T3-B.3 Risk communication: mental models in the context of natural hazards <i>Schetula V</i> <i>University of Stuttgart</i> 2:30 pm T3-B.4 Public perceptions of sea-level change on the Severn Estuary, UK <i>Thomas MJ, Pidgeon N, Whitmarsh L, Ballinger R</i> <i>Cardiff University</i></p>	<p>1:30 - 3:00 PM <i>Pacific Concourse E/J</i> T3-C Poster Platform: Topics in Risk, Policy, Law and Governance <i>Chair: Richard Williams</i> T3-C.2 Dissecting NCD risks and regulatory mixes: a prescription for a cure or a malignant growth for global health? <i>Lee TL</i> <i>Georgetown University Law Center</i> T3-C.4 Quantitative risk assessment of tobacco-burning and tobacco-heating cigarettes <i>Marano KM, Nurfal ZN, Borgerding MF, Potts RJ</i> <i>R.J. Reynolds Tobacco Company</i> T3-C.6 How many substances are illegally listed in the biennial report on carcinogens? <i>Belzer RB</i> <i>Regulatory Checkbook</i> T3-C.7 Pharmaceutical risk communication, regulation, and liability <i>Edwards BD</i> <i>NDA Regulatory Science Ltd</i> T3-C.8 Applications of MCDA in RI/FS process: a review <i>Lu C</i> <i>Massachusetts Institute of Technology</i></p>	<p>1:30 - 3:00 PM <i>Pacific Concourse F</i> T3-D Security Risk, Preparedness and Costs <i>Chair: Steve Bennett</i> 1:30 pm T3-D.1 Reducing conservatism in protective-action strategies following a nuclear power accident <i>Hammond GD, Bier VM</i> <i>University of Wisconsin-Madison</i> 1:50 pm T3-D.2 The cost-effectiveness of window-related mitigation measures for buildings to protect against vehicle bomb attacks <i>Heatwole NT</i> <i>University of Southern California</i> 2:10 pm T3-D.3 Screening simulation for balancing congestion and security and facing strategic applicants <i>Catalano M, Newell E, Coles J, Zhuang J</i> <i>University At Buffalo</i> 2:30 pm T3-D.4 Betting on risk: modeling investment in preparedness in a cournot market <i>Jamsbidi T, Bier VM</i> <i>University of Wisconsin - Madison</i></p>	<p>1:30 - 2:30 PM <i>Pacific Concourse G</i> T3-E Symposium: Preferences for Climate Change Mitigation and Geoengineering <i>Co-Chairs: Robert Kopp, Elisabeth Gilmore</i> 1:30 pm T3-E.1 Objectives, performance measures and values: using structure decision making to examine uncertainty in expert opinions of geoengineering. <i>Merz AM</i> <i>University of Calgary</i> 1:50 pm T3-E.3 How do long-shot outcomes affect preferences for climate change mitigation? <i>Riddell MR</i> <i>University of Nevada, Las Vegas</i> 2:10 pm T3-E.4 Climate change risk in benefit-cost analysis: key sensitivities for the social cost of carbon and optimal emissions trajectories <i>Kopp RE</i> <i>Rutgers University</i></p>	<p>1:30 - 3:00 PM <i>Pacific Concourse H</i> T3-F Symposium: Innovative QRA Models for Food Safety: Complex Models to Answer Complex Questions <i>Co-Chairs: Jane Van Doren, Régis Pouillot</i> 1:30 pm T3-F.1 Cross-contamination modeling of L. monocytogenes in retail environments <i>Gallagher D, Pouillot R, Bauer N, Dennis S, Kause J</i> <i>Virginia Tech, FDA, USDA</i> 1:50 pm T3-F.2 Quantitative assessment of the risk of listeriosis from soft-ripened cheese consumption in the United States and Canada <i>Pouillot R, Nguyen L, Dennis S</i> <i>Fda/Cfsan, Health Canada - Santé Canada</i> 2:10 pm T3-F.3 Mitigation of foodborne illnesses by implementation of pathogen controls at beef slaughter establishments <i>Johnson RA, Schlosser WD, Bauer NE</i> <i>United States Department of Agriculture Food Safety and Inspection Service</i> 2:30 pm T3-F.4 The joint United States-Canadian norovirus in shellfish quantitative risk assessment: capturing variability and taming uncertainty <i>Van Doren JM, Holtzman J, Buenaventura E, Burkhardt III W, Calci KR, Catford A, Edwards R, Hajen W, Pouillot R, Smith M</i> <i>US FDA, Health Canada, Canadian Food Inspection Agency, Environment Canada</i></p>
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1:30 - 3:00 PM
Pacific Concourse I
T3-G Game Theory and Randomization
Chair: Milind Tambe
1:30 pm T3-G.1
 TRUSTS: Scheduling Randomized Patrols for Fare Inspection in Transit Systems
Yin Z, Jiang AX, Johnson MP, Tambe M, Kiekintveld C, Leyton-Brown K, Sandholm T, Sullivan JP
University of Southern California, University of Texas at El Paso, University of British Columbia, Carnegie Mellon University, LA County Sheriff's Department
1:50 pm T3-G.3
 Randomization protocol: risk mitigation for ports, waterways and coastal securities
DiRenzo J, Jackson JF, Manle BJ, Moretti KA
US Coast Guard
2:10 pm T3-G.4
 Operational context and modeling risk for transit policing
Sullivan JP
Los Angeles County Sheriff's Department
2:30 pm T3-G.5
 Game theory for security: key algorithmic principles, deployed systems, lessons learned
Tambe M
University of Southern California

1:30 - 3:00 PM
Pacific Concourse L
T3-H Shuffling the Deck on Chemical Risk Assessment
Co-Chairs: Resha Putzrath, George Woodall
1:30 pm T3-H.1
 Cumulative risk assessment: transforming traditional risk methods
Williams PRD, Dotson GS, Maier A
E Risk Sciences, LLP
1:50 pm T3-H.2
 Is dose addition really useful for mixture risk assessment?
Hertzberg RC
Biomathematics Consulting
2:10 pm T3-H.3
 When mixture models collide
Putzrath RM
Navy and Marine Corps Public Health Center, US Navy
2:30 pm T3-H.4
 Aggregate risk assessment of polycyclic aromatic hydrocarbons in urban human settlement environment
Linyu X, Xin S
Beijing Normal University, P.R. China

1:30 - 2:30 PM
Pacific Concourse M
T3-I Topics in Critical Infrastructure Risk Modeling
Chair: Rapik Saat
1:30 pm T3-I.1
 Analysis of major risk factors for passenger trains on freight rail corridors
Saat MR, Caugbron B, Barkan C
University of Illinois at Urbana-Champaign
1:50 pm T3-I.2
 Analyzing risks to highway bridge systems-of-systems through model-based precursor modeling framework
Guo Z, Haimes YY
UVA CRMES
2:10 pm T3-I.3
 Scenario-based analysis of decentralized greywater infrastructure
Schmitt KA, Francis RA
Concordia University, George Washington University

1:30 - 3:00 PM
Pacific Concourse N
T3-J Symposium Part I: Unpacking to Advance Governance of Synthetic Biology Applications
Chair: Sally Kane
1:30 pm T3-J.1
 Application of risk-analytical methods in governance contexts: cases of synthetic biology for agriculture and the environment
Kuzma J
University of Minnesota
1:50 pm T3-J.2
 What can databases containing applications, products and bio bricks do to inform risk governance strategies of synthetic biology?
Kuiken T
Woodrow Wilson International Center for Scholars
2:10 pm T3-J.3
 Cases of synthetic biology and medical products: legal, ethical, and policy challenges in risk governance
Fatehi L
University of Minnesota
2:30 pm T3-J.4
 Risk management challenges from DIY SynBio
Marchant GE
Arizona State University

1:30 - 3:00 PM
Pacific Concourse O
T3-K Trench Models & Vapor Intrusion
Chair: Pamela Williams
1:30 pm T3-K.1
 Estimating exposure concentrations for trench workers from vapors emanating from soils and groundwater using computational fluid dynamics modeling
Richter RO, Schulman LL, DesAutels CG
Exponent
1:50 pm T3-K.2
 Calculating inhalation exposures for utility workers at contaminated sites
Custance R, Heynes O, Villaroman C, Ettinger R
Geosyntec Consultants
2:10 pm T3-K.3
 The use of multiple lines of evidence to identify an indoor air source of volatile constituents
Sager SL, Friezcell A, Darby T, Davis A, Shirley P
ARCADIS US, Inc.
2:30 pm T3-K.4
 Indoor air exchange rates in developing countries: a pilot study in rural Peru
Williams PRD, Unice K
E Risk Sciences, LLP, ChemRisk

<p>3:30 - 5:10 PM <i>Pacific Concourse D</i></p> <p>T4-A Symposium: Dietary Exposure Assessments in Regulatory Decision Making <i>Chair: Jannavi R. Srinivasan</i></p> <p>3:30 pm T4-A.1 Development of a method for estimating long-term intake of foods and nutrients <i>Berraj L, Murphy M, Scrafford C, Bi X</i> <i>Industry</i></p> <p>3:50 pm T4-A.2 Databases from what we eat in America, NHANES for use in dietary exposure assessments <i>Moshfegh AJ, Martin CL, Bonman SA, Montville JB</i> <i>US Department of Agriculture</i></p> <p>4:10 pm T4-A.3 How EPA uses dietary data for exosure assessments of pesticide residues in food with an updated consumption database in publically available dietary exposure model <i>Hrly D</i> <i>EPA/Office of Pesticide Programs</i></p> <p>4:30 pm T4-A.4 Exposure to furan from irradiated foods <i>DiNovi MJ, Edwards AJ</i> <i>US Government</i></p> <p>4:50 pm T4-A.5 Assessment of sodium intake among the US population <i>Cogswell ME, Wang C-Y, Pfeiffer CM, Loria CM</i> <i>Centers for Disease Control and Prevention and National Institutes of Health</i></p>	<p>3:30 - 5:10 PM <i>Pacific Concourse K</i></p> <p>T4-B Decision Making in Food and Medicine Supply Chains <i>Co-Chairs: Marc Walderhaug, Richard Forsbee</i></p> <p>3:30 pm T4-B.1 A probabilistic risk assessment framework for modeling risk in global drug supply chain <i>Rahaman F, Kazemi R, Urban J</i> <i>US Food and Drug Administration</i></p> <p>3:50 pm T4-B.2 Multi-criteria decision analysis for prioritization of clinical trial inspections <i>Okwesili P, Rahaman F, Kassim S</i> <i>Food and Drug Administration</i></p> <p>4:10 pm T4-B.3 Effect of blood use protocols on the day-on-hand supply using a stock and flow simulation of the U.S. blood supply that incorporates ABO +/- blood types <i>Simonetti A, Walderhaug M</i> <i>Center for Biologics Evaluation & Research, US FDA</i></p> <p>4:30 pm T4-B.4 Risk management during a highly pathogenic avian influenza outbreak: using simulation models to inform decisions on egg industry product movement and potential recalls during animal health emergencies <i>Weaver JT, Malladi S, Clouse TL, Bjork KB, Halvorson DA</i> <i>United States Department of Agriculture, University of Minnesota</i></p> <p>4:50 pm T4-B.5 Estimating the risks and benefits of home-use HIV tests <i>Forsbee RA, Cowan E, Hoffman H, Simonetti A, Yang H</i> <i>FDA/CBER/OBE</i></p>	<p>3:30 - 5:00 PM <i>Pacific Concourse E/J</i></p> <p>T4-C Poster Platform: Supply Chain Risk Management: Challenges and Solutions <i>Co-Chairs: Igor Linkov, Zach Collier</i></p> <p>T4-C.1 Supply chain risk management: tools and methods <i>Collier ZA, Linkov I</i> <i>US Army Corps of Engineers, Engineer Research and Development Center</i></p> <p>T4-C.2 The impact of supply chain disruptions on imports and exports to the United States economy <i>Leung B</i> <i>REMI</i></p> <p>T4-C.3 A simulation of severe international supply chain disruptions <i>MacKenzie CA, Barker K, Santos JR</i> <i>Naval Postgraduate School</i></p> <p>T4-C.5 Radiological and nuclear terrorism risk to the global supply chain <i>Streetman SS</i> <i>Data Architecture Solutions, Inc.</i></p> <p>T4-C.6 Global pharmaceutical supply chain: information gaps and challenges <i>Claycamp HG</i> <i>US FDA, Office of Foods, Center for Veterinary Medicine</i></p> <p>T4-C.8 Modeling market dynamics to inform risk assessment and decision-making for critical materials <i>Pouliqac C, Field F, Alonso E, Kirchain R, Roth R</i> <i>Massachusetts Institute of Technology</i></p>	<p>3:30 - 5:10 PM <i>Pacific Concourse F</i></p> <p>T4-D Symposium: Challenges in Developing and Assessing Tobacco Control Regulations <i>Chair: Kevin Haninger</i></p> <p>3:30 pm T4-D.1 Reporting harmful and potentially harmful constituents in tobacco products <i>Choiniere CJ, Hall T</i> <i>Food & Drug Administration</i></p> <p>3:50 pm T4-D.2 International use of graphic warnings and other controls for reducing tobacco use <i>Eyraud J, McCullough C</i> <i>Eastern Research Group Inc.</i></p> <p>4:10 pm T4-D.3 Economic and developmental psychology perspectives on adolescent risk-taking: implications for tobacco regulation <i>Kenkel D, Reyna V</i> <i>Cornell University</i></p> <p>4:30 pm T4-D.4 Valuing benefits under conditions of addiction, risk misperception, and decisionmaking anomalies <i>Robinson LA</i> <i>Harvard Kennedy School</i></p> <p>4:50 pm T4-D.5 Perspectives on benefits analysis and future research <i>Jessup AI, Hall T</i> <i>HHS</i></p>	<p>3:30 - 5:10 PM <i>Pacific Concourse G</i></p> <p>T4-E Psychological Processes <i>Chair: Robyn Wilson</i></p> <p>3:30 pm T4-E.1 Construing risk: testing the effects of psychological distance on risk mitigation <i>Zwinkle AK, Wilson RS</i> <i>Ohio State University</i></p> <p>3:50 pm T4-E.2 Pseudoinefficacy: a barrier to helping persons at risk <i>Slovic P, Vastfjall D, Mayorga M</i> <i>Decision Research</i></p> <p>4:10 pm T4-E.3 Water quality risks and dual-system processing <i>Slagle KM (presented by Wilson R)</i> <i>The Ohio State University</i></p> <p>4:30 pm T4-E.4 The use of the symbolic significance heuristic as a source of biased decisions <i>Siegrist M, Sütterlin B</i> <i>ETH Zurich, Switzerland</i></p> <p>4:50 pm T4-E.5 Understanding the chemical properties of dioxins: an important target for risk communication <i>Zikmund-Fisher BJ, Turkelson AE, Allerton L, Franzblau A, Diebol JK, Parker EA</i> <i>University of Michigan</i></p>	<p>3:30 - 5:00 PM <i>Pacific Concourse H</i></p> <p>T4-F Risk, Development and Health <i>Chair: John Coles</i></p> <p>3:30 pm T4-F.1 Interagency partnership selection: disaster relief partnership as a two-stage game <i>Coles J, Zhuang J</i> <i>State University of New York at Buffalo</i></p> <p>3:50 pm T4-F.2 Food security: risks and vulnerabilities at the country-level <i>Falconi SM, Shortridge J, Guikema SD, Zaitchik B</i> <i>The Johns Hopkins University</i></p> <p>4:10 pm T4-F.3 The constitution of technological risks: the case of carbon nanotube <i>Amorim TA, Guivant JS</i> <i>Universidade do Estado de Santa Catarina</i></p> <p>4:30 pm T4-F.4 National burden of disease attributable to selected risk factors: cost effectiveness of proposed environmental health interventions in a recovering Liberia <i>Matthews MA</i> <i>Cyprus International Institute for Environmental and Public Health</i> <i>Harvard School of Public Health</i></p>
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<p>3:30 - 5:10 PM <i>Pacific Concourse I</i> T4-G Symposium: Applying Quantitative Risk Assessment to Meet Stakeholder Needs <i>Chair: Jessica Cox</i></p>	<p>4:50 pm Applying the CTRA to meet stakeholders needs <i>Cox JA, Gooding R, Whitmire MT, Kolakowski JE, Winkel D, Hawkins BE, Shroy B, Good K, Stoeckel DM, Luedeke JD</i> <i>Department of Homeland Security</i></p>	<p>T4-G.5 3:30 - 5:10 PM <i>Pacific Concourse L</i> T4-H Symposium: Putting It All Together: Recent Developments in Risk Assessment Approaches <i>Co-Chairs: Julie Fitzpatrick, Lynn Pottenger</i></p>	<p>3:30 - 5:10 PM <i>Pacific Concourse M</i> T4-I Symposium: Human Health and Environmental Risk Assessment Issues Related to the Exploration, Development, and Operation of Unconventional Natural Gas Plays via Hydraulic Fracturing <i>Chair: Andrew Pavlisz</i></p>	<p>3:30 - 5:00 PM <i>Pacific Concourse N</i> T4-J Symposium Part II: Unpacking to Advance Risk Governance of Synthetic Biology Applications <i>Chair: Jennifer Kuzma</i></p>	<p>3:30 - 5:10 PM <i>Pacific Concourse O</i> T4-K Symposium: Strategic Risk Management of Department of Defense Emerging Contaminants <i>Chair: Kelly Scanlon</i></p>
<p>3:30 pm Applying the CTRA for chemi- cal industry safety and defense <i>Whittaker I, Wilson P*, Shroy B, Hawkins B, Gooding R, Kolakowski J</i> <i>Battelle Memorial Institute and De- partment of Homeland Security (DHS), Chemical Security Analysis Center (CSAC)</i></p>	<p>T4-G.1</p>	<p>3:30 pm Navigating risk assessment rec- ommendations <i>Dourson ML</i> <i>Toxicology Excellence for Risk Assess- ment</i></p>	<p>T4-I.1 Environmental impact of shale gas production: health risks asso- ciated with air contaminants and toxic chemicals <i>Duncan IJ</i> <i>BEG, University of Texas at Austin</i></p>	<p>3:30 pm Synthetic biology: the power of metaphors in risk communica- tion <i>Pauwels EM</i> <i>Public Policy Scholar, Woodrow Wil- son International Center for Scholars</i></p>	<p>3:30 pm The evolution of the Depart- ment of Defense's program for identifying, assessing and managing risks from emerging contaminants <i>Yaroschak PJ</i> <i>Office of the Secretary of Defense</i></p>
<p>3:50 pm Applying the CTRA for food safety and defense <i>Hawkins B, Luedeke J, Buchta D, Cox J, Whitmire M</i> <i>Battelle Memorial Institute and De- partment of Homeland Security (DHS), Chemical Security Analysis Center (CSAC)</i></p>	<p>T4-G.2</p>	<p>3:50 pm EPA's path forward in addressing NRC recommendations <i>Fitzpatrick JW</i> <i>US Environmental Protection Agency</i></p>	<p>3:50 pm Hydraulic fracturing: risk or per- ceived risk to water resources <i>Hanson GM</i> <i>Red River Watershed Management Institute Louisiana State University Shreveport</i></p>	<p>3:50 pm Regulation and synthetic biol- ogy: towards a risk based ap- proach in Europe <i>Chakraborty SS, Creutzfeldt-Banda N</i> <i>University of Oxford</i></p>	<p>3:50 pm The changing landscape of chemical toxicity values and challenges presented with tri- chloroethylene <i>Meyer AK</i> <i>Army Corps of Engineers</i></p>
<p>4:10 pm Applying the CTRA to inform public health response <i>Winkel D, Good K, VonNieder- hausern M, Hawkins B, Cox J, Whitmire M</i> <i>Battelle Memorial Institute and De- partment of Homeland Security (DHS), Chemical Security Analysis Center (CSAC)</i></p>	<p>T4-G.3</p>	<p>4:10 pm Continuing advances via the ARA beyond science and deci- sions workshop series <i>Meeke ME</i> <i>University of Ottawa</i></p>	<p>4:10 pm Utilization of market analysis and strategy to minimize risk in water management of unconventional oil and gas plays <i>Robart C, Fetters C</i> <i>CRA/PacWest</i></p>	<p>4:10 pm An integrated framework for governing emerging technolo- gies <i>Paddock LC, Masterton M*</i> <i>The George Washington University Law School</i></p>	<p>4:10 pm Possible impacts from in- creased regulatory action for deca-bromodiphenyl ether on the Department of Defense <i>Rak A, Bass N, Vogel C, Lanier K</i> <i>Noblis, US Army Public Health Command</i></p>
<p>4:30 pm Creation of a notional water distribution system and applying the CTRA for water safety and defense <i>Stoeckel DM, Hawkins BE, Nilsen MD, Whitmire M</i> <i>Battelle Memorial Institute</i></p>	<p>T4-G.4</p>	<p>4:30 pm Weight-of-evidence frameworks, systems, and tools: a survey of existing approaches and notes on best practices <i>Rhomberg LR, Goodman JE, Bailey EA, Prueitt RL</i> <i>Gradient</i></p>	<p>4:30 pm Pragmatic and modeling ap- proaches to understanding risks of leakage in shale gas wells <i>Wang H, Duncan I, Bickle E</i> <i>University of Texas at Austin</i></p>	<p>4:30 pm Risk and synthetic biology gov- ernance: progress and opportu- nities for further engagement by the risk community <i>Kane SM, Dana GV</i> <i>Independent Consultant</i></p>	<p>4:30 pm Alert without alarm: communi- cating risk to a broad audience of phthalate users in the De- partment of Defense. <i>Scanlon K, Barrett A</i> <i>Concurrent Technologies Corporation</i></p>
		<p>4:50 pm Panel discussion - putting it all together: recent developments in risk assessment approaches <i>Pottenger LH, Fitzpatrick JW</i> <i>The Dow Chemical Company and US Environmental Protection Agency</i></p>	<p>4:50 pm Describing and minimizing risk from well construction and hy- draulic fracturing <i>King G</i> <i>Apache Corporation</i></p>		

<p>8:30 - 10:00 AM <i>Pacific Concourse D</i> W1-A News Media <i>Chair: David Berube</i></p>	<p>8:30 - 10:00 AM <i>Pacific Concourse K</i> W1-B Symposium: Supporting Policy for Sustainable Everyday Behaviors: The EU Pachelbel Project <i>Chair: Ana Prades</i></p>	<p>8:30 - 10:00 AM <i>Pacific Concourse E</i> W1-C Risk Analysis & Systems Safety <i>Co-Chairs: Behailu Bekera, S.C. Lewis</i></p>	<p>8:30 - 10:10 AM <i>Pacific Concourse F</i> W1-D Symposium: The Wisdom of Crowds: A Role in Evaluating and Managing Potential Risks of Emerging Issues? <i>Chair: Mike Davis</i></p>	<p>9:30 am Traditional vs. nanoenabled flame retardant coatings applied to upholstery textiles: using a comprehensive environmental assessment framework to lay out the facts for risk managers <i>Turner AA, Fedak K, White RH, Burch DF, Shatkin JA, Powers C, Meacham C, Gillespie P</i> <i>ICF International, CLF Ventures, EPA/NCEA</i></p>	<p>8:50 - 10:00 AM <i>Pacific Concourse G</i> W1-E Symposium Part I: What Lawyers and Birds have in Common: Risk and Decisions in Coupled Human-Natural Systems <i>Co-Chairs: Matteo Convertino, Nigel Quinn</i></p>
<p>8:30 am W1-A.1 Effects of exposure to news stories about uncertain cancer causes and preventive behaviors on confusion and information overload <i>Niederdeppe JN, Lee T, Robbins R, Kim HK, Kresovich A, Kirshenblatt D, Standridge K, Clarke CE, Jensen J, Fowler EF</i> <i>Department of Communication, Cornell University</i></p>	<p>8:30 am W1-B.1 Understanding and supporting policy-making for sustainability: an overview of project PACHELBEL <i>Prades A, Horlick-Jones T</i> <i>Public Research Body (Spanish Ministry)</i></p>	<p>8:30 am W1-C.1 Risk-weighted metrics for maritime search and rescue resource planning <i>Pelot RP</i> <i>Dalhousie University</i></p>	<p>8:30 am W1-D.1 The wisdom of crowds: what contributes to better collective decisions about risk-related issues? <i>Davis JM</i> <i>US EPA (Retired)</i></p>	<p>9:50 am W1-D.5 Expert judgment-based risk screening for emerging nanotechnologies: a collaborative approach <i>Beaudrie CEH, Kandlikar M, Long G, Gregory R, Wilson T, Satterfield T</i> <i>University of British Columbia</i></p>	<p>8:30 am W1-E.2 The value of spatial information in marine protected areas: coupling biocomplexity and management <i>Fiorenza M</i> <i>Stanford University</i></p>
<p>8:50 am W1-A.2 Framing climate change in the public sphere <i>Hart PS, Feldman L</i> <i>American University</i></p>	<p>8:50 am W1-B.2 Opportunities and barriers for sustainable everyday behaviours from a citizen perspective: a Swedish case study <i>Enander AE, Hede S</i> <i>Swedish National Defence College</i></p>	<p>8:50 am W1-C.2 Effects of land use and socioeconomic characteristics on child pedestrian casualties in Santiago, Chile <i>Blazquez CA</i> <i>Universidad Andres Bello</i></p>	<p>8:50 am W1-D.2 Interdisciplinary approaches to assessing the environmental risks of nanomaterials: a practical case study in tandem investigation and knowledge synthesis <i>Hendren CO, Wiesner MR</i> <i>Duke University</i></p>		<p>8:50 am W1-E.3 Spatial portfolio decision model for the management of complex human-natural systems: the case of the Florida coastal ecosystem threatened by sea-level rise <i>Convertino M, Keisler JM, Dokunin D, Foran M, Linkov M</i> <i>University of Florida and Risk and Decision Science Team, ERDC-USACE</i></p>
<p>9:10 am W1-A.3 Social representations of natural gas development in print media <i>Evensen DT, Clarke CE, Dixon GN</i> <i>Cornell University</i></p>	<p>9:10 am W1-B.3 Any saving implies a cost? How could we save energy and why we do not do so <i>Espluga J, Boso A, Oltra C, Prades A</i> <i>Universitat Autònoma de Barcelona</i></p>	<p>9:10 am W1-C.3 Risk to resilience: a new approach for comprehensive assessment of complex systems <i>Bekera B, Francis R</i> <i>George Washington University</i></p>	<p>9:10 am W1-D.3 Identifying and prioritizing research gaps for nanomaterials: drawing insight from diverse experts <i>Powers C, Gillespie P, Hendren CO, Davis JM</i> <i>National Center for Environmental Assessment, Office of Research and Development, US Environmental Protection Agency, Research Triangle Park</i></p>		<p>9:10 am W1-E.4 Dynamic climate change simulator: decisions from experience reduce misconceptions about climate change <i>Gonzales C</i> <i>Carnegie Mellon University</i></p>
<p>9:30 am W1-A.4 Communicating risks about science: exploring the interactive effects of cognitive schema and journalist news frames on public risk perceptions <i>Cacciatore MA, Scheufele DA, Corley EA</i> <i>University of Wisconsin-Madison, Arizona State University</i></p>	<p>9:30 am W1-B.4 Citizens making sense of product lifetimes: signs of sustainability? <i>Barnett J, Marcu A, Horlick-Jones T</i> <i>Brunel University, UK</i></p>				

<p>8:30 - 10:00 AM <i>Pacific Concourse H</i></p> <p>W1-F New Methods for QRA: Sampling, Transfer Rates & Health Risks <i>Co-Chairs: Moez Sanaa, Mark Powell</i></p> <p>8:30 am W1-F.1 Optimal food safety sampling under a budget constraint <i>Powell MR</i> <i>US Department of Agriculture</i></p> <p>8:50 am W1-F.2 Using confidence distributions to generate confidence intervals for health risks <i>Siegrist J, Ferson S</i> <i>Applied Biomathematics</i></p> <p>9:10 am W1-F.3 Bayesian framework for microbial transfer rates data statistical analysis <i>Sanaa M, Poisson S, Schaffner DW, Nauta M</i> <i>ANSES, Rutgers University, Technical University of Denmark</i></p> <p>9:30 am W1-F.4 Traditional and ludic quantification of the meanings of hedges in numeric expressions <i>Ferson S, Goode J, Lubmann C, McGill W, O'Rawe J, Siegrist J</i> <i>Applied Biomathematics and Penn State University</i></p>	<p>8:30 - 10:00 AM <i>Pacific Concourse L</i></p> <p>W1-H Symposium: The Road Ahead - Developing a Research Agenda for Nanomaterial Environmental, Health and Safety Risk Assessment <i>Chair: Ronald White</i></p> <p>8:30 am W1-H.1 Environmental health and safety risks of engineered nanomaterials: a report from the National Research Council <i>Samet JM</i> <i>University of Southern California</i></p> <p>8:50 am W1-H.2 The road ahead - developing a research agenda for nanomaterial environmental, health and safety risk assessment <i>Tinkle ST</i> <i>National Nanotechnology Coordination Office</i></p> <p>9:10 am W1-H.3 Environmental health and safety research of engineered nanomaterials: Environmental Protection Agency perspective <i>Vandenberg J, Powers C, Gillespie P</i> <i>US Environmental Protection Agency</i></p> <p>9:30 am W1-H.4 Ninety-day inhalation study of vapor grown carbon nanofibers in male and female rats <i>Warheit DB, Reed KL, DeLorme MP</i> <i>DuPont Haskell Global Centers</i></p>	<p>8:30 - 10:00 AM <i>Pacific Concourse M</i></p> <p>W1-I From GIS to Bayesian Search: Risk Management Grab Bag <i>Co-Chairs: Stanley Levinson, Cameron MacKenzie</i></p> <p>8:30 am W1-I.1 Localization of control rooms using an MINLP approach on accidental explosion scenarios <i>Rodríguez SE, Sierra LM, Gómez JM, Muñoz F</i> <i>Universidad de los Andes</i></p> <p>8:50 am W1-I.2 Using the risk paradigm to link weather to emergency management decisions <i>Galluppi KJ, Losego J, Montz B</i> <i>Arizona State University, University of North Carolina, East Carolina University</i></p> <p>9:10 am W1-I.3 A Bayesian approach for munitions risk at Fort Missoula, Montana <i>Fitzgerald M, Catlett KM, Black PK, Barnett WS</i> <i>Neptune and Company, Inc.</i></p> <p>9:30 am W1-I.4 A generic framework for synthesizing the societal disturbance of typhoon events <i>Huang T, Lee CS, Lee HC, Yang HH</i> <i>National Science and Technology Center for Disaster Reduction</i></p>	<p>8:30 - 10:00 AM <i>Pacific Concourse N</i></p> <p>W1-J Roundtable: Improving Risk Regulation through Retrospective Analysis <i>Chair: Lisa Robinson</i></p> <p>Predicting the future impacts of potential environmental, health, and safety regulations has been an important part of the US. policymaking process for many years. But how accurate are these forecasts? The Obama Administration now requires that agencies conduct retrospective analyses to identify ways to improve existing regulations, as well as to enhance our ability to prospectively estimate impacts. Retrospective analysis does not eliminate the need for prediction, however, because the impacts of the policies must be compared to a counterfactual scenario. This panel brings together Federal agency staff, consultants, and scholars to discuss the challenges of conducting retrospective analysis and the implications of the findings.</p> <p><i>Participants:</i> <i>Willis H, RAND Corporation; Hammit JK, Harvard University; Jessup A, US Department of Health and Human Services; Nardinelli C, US Food and Drug Administration; Neumann JE, Industrial Economics Incorporated; Schwartz J, New York University</i></p>	<p>8:30 - 10:00 AM <i>Pacific Concourse O</i></p> <p>W1-K Symposium: Risk Analytics to Strengthen the National Residue Program <i>Chair: Kerry Dearfield</i></p> <p>8:30 am W1-K.1 Overview: strengthening a public health-based National Residue Program <i>Dearfield KL</i> <i>US Department of Agriculture</i></p> <p>8:50 am W1-K.2 Systematic hazard identification and updated hazard ranking algorithms <i>Edwards S</i> <i>US Department of Agriculture</i></p> <p>9:10 am W1-K.3 Establishing food safety icon-taminant level goals for chemical contaminants in meat, poultry, and egg products <i>Domesle ARM</i> <i>US Department of Agriculture</i></p> <p>9:30 am W1-K.4 Use of new hazard identification methods for sampling of chemical contaminants <i>Esteban E</i> <i>US Department of Agriculture</i></p>	<p>8:30 - 10:00 AM <i>Pacific Concourse J</i></p> <p>W1-L Service, Enterprise and Systems Risk Analysis Grab Bag <i>Chair: Joost Santos</i></p> <p>8:30 am W1-L.1 We haven't got time for the risk: bringing risk analysis to health-care infrastructure <i>Curren S, Reed B, Overbey D, Lewis J</i> <i>US Department of Health and Human Services, RA International</i></p> <p>8:50 am W1-L.2 Utilizing advanced risk assessment methods for environmental risk analysis in paper industry <i>Salsal M, Hajbagheri M</i> <i>P and PLLC</i></p> <p>9:10 am W1-L.3 Case study comparison of acquisition risk assessments conducted for a complex infrastructure <i>Panjwani S, Morris C</i> <i>Thane Incorp</i></p>
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Plenary Luncheon
Noon-1:30 PM
Grand Ballroom

“Advancing Public Understanding of Risk Through the Media”
(Luncheon is included in Registration fee)

10:30 AM - Noon <i>Pacific Concourse D</i>	10:30 AM - Noon <i>Pacific Concourse K</i>	10:30 AM - Noon <i>Pacific Concourse E</i>	10:30 AM - Noon <i>Pacific Concourse F</i>	10:30 AM - Noon <i>Pacific Concourse G</i>	10:30 AM - Noon <i>Pacific Concourse H</i>
W2-A New Technologies <i>Chair: Anne-Marie Nicol</i>	W2-B Symposium: Decision Analysis Tools in Risk Assessment <i>Co-Chairs: Ashish Mohapatra, Kelsie Baker</i>	W2-C Symposium: Variability and Uncertainty in Air Quality Damage Estimates <i>Co-Chairs: Elizabeth Gilmore, Lindsay Ludwig</i>	W2-D Symposium: Cultural Factors in Risk Perception and Communication of Crisis Situations <i>Chair: Brooke Rogers</i>	W2-E Symposium Part II: What Lawyers and Birds have in Common: Risk and Decisions in Coupled Human-Natural Systems <i>Co-Chairs: Matteo Convertino, Nik Sawa</i>	W2-F Symposium: Use of Risk Assessment to Meet the Requirements of Healthy People 2020 <i>Co-Chairs: Michael Williams, Neal Golden</i>
10:30 am W2-A.1 Comparison of risk attitudes in Quebec and France during the controversy about shale gas <i>Deluzze G, Legris Desportes C, EDF R&D</i>	10:30 am W2-B.1 Human Health Assessment of Remediation Technology (HEART): a case study for application of a Decision Analytic Tool (Part II) <i>Soultani A, Dyck R, Hossaini N, Henage K, Sadiq R, Mohapatra AK, Health Canada</i>	10:30 am W2-C.1 Effect of air quality model choices on damages costs <i>Gilmore EA, Moore A, Adams PJ, University of Maryland</i>	10:30 am W2-D.1 Identifying vulnerabilities and communicating risks across cultures within cultures and multiple audiences within nations <i>Rashid S, Öhman S, Olofsson A, National University</i>	10:30 am W2-E.1 A conditional Weibull approach to modeling the impacts of technology, weather, and sample selection on crop yield distributions: implications for federal crop insurance <i>Woodard JD, Cornell University</i>	10:30 am W2-F.1 Risk assessment as a means for developing public health strategies to meet FSIS' Healthy People 2020 Salmonella goal <i>Golden NJ, Williams MS, Ebel ED, Risk Assessment Division, Food Safety and Inspection Service</i>
10:50 am W2-A.2 Emerging technology, human behavior, and risk: public threat and efficacy appraisal of nano-formulated sunscreens in the United States <i>Cummings CL, North Carolina State University</i>	10:50 am W2-B.2 Integration of life cycle assessments, risk analysis and decision analysis for sediment management <i>Kelly K, Bates ME, Sparrevik M, Bridges TS, Linkov I, Massachusetts Institute of Technology</i>	10:50 am W2-C.3 Health impact versus incidence: explaining and propagating the variance <i>Brand KP, University of Ottawa</i>	10:50 am W2-D.2 Cultural considerations for risk communication to immigrant populations in Canada <i>Lemyre L, Yong A, Dumitrescu A, University of Ottawa</i>	10:50 am W2-E.2 Neuroimaging of environmental valuation <i>Sawa N, Knutson B, Stanford University</i>	10:50 am W2-F.2 The magnitude of the problem <i>Hoekstra RM, Cole DJ, Centers for Disease Control and Prevention</i>
11:10 am W2-A.3 Emerging risk communication challenges associated with natural gas development in shale formations <i>Clarke CE, Evensen DTN, Jacquet JB, Stedman RC, Cornell University</i>	11:10 am W2-B.3 Bioaccumulation Risk Assessment Modeling System (BRAMS): software for evaluating human health and ecological risks associated with contaminants in dredged material <i>Baker KM, Vogel JT, Tkackuk A, Guza O, Farris CN, Bridges T, Linkov I, USACE ERDC, USEPA Region 1</i>	11:10 am W2-C.4 Mortality effects associated with exposure to ambient PM2.5 using dynamic population modeling <i>Neumann J, Ludwig L, Roman H, Walsh T, Verby C, Gentile M, De-Mocker J, Industrial Economics, Inc. and United States Environmental Protection Agency</i>	11:10 am W2-D.3 Communicating with the public following a chemical spill: a comparison of practitioner expectations and public intentions in the UK and Poland <i>Pearce JM, King's College London</i>	11:10 am W2-E.3 Energy efficient lighting: results form three pieces to understand the engineer-economics aspects, consumer perceptions of light and color and consumer decision-making models <i>Azevedo I, Carnegie Mellon University</i>	11:10 am W2-F.3 Polymerase chain reaction screening for salmonella and enterohemorrhagic escherichia coli on beef products in processing establishments <i>Samadpour M, Institute for Environmental Health, Inc.</i>
11:30 am W2-A.4 Sunscreens and nanoparticle labeling: challenges and consequences <i>Berube DM, Berube D, North Carolina State University</i>	11:30 am W2-B.4 The Chemical Hazards Emergency Medical Management (CHEMM) tool: application of mental models stakeholder research <i>Kovacs DC, Thorne S, Butte G, Chang F, Pakiam J, Siegel D, Hakkinen P, Decision Partners, National Institute of Child Health, Human Development</i>		11:30 am W2-D.4 Public responses to biological and radiological terrorism in Britain and Germany: A practitioner's view <i>Amlôt R, Health Protection Agency, UK</i>	11:30 am W2-E.4 A Mental Modeling approach for designing and implementing USACE's engineering with nature initiative <i>Bridges T, Thorne S, Butte G, Kovacs D, United States Army Corps of Engineers, Decision Partners LLC</i>	11:30 am W2-F.4 Heuristic technique for rapidly screening the effectiveness of risk management options <i>Williams MS, Ebel ED, Food Safety and Inspection Service, USDA</i>

<p>10:30 AM - Noon <i>Pacific Concourse I</i> W2-G Symposium: Describing and Influencing Disaster Mitigation and Recovery Decision Making <i>Chair: Hather Rosoff</i> 10:30 am W2-G.1 How terrorism near-misses influence perceptions of risk: comparisons and contrasts <i>Dillon RL, Tinsley CH, Burns WB, Slovic P</i> <i>Georgetown University</i> 10:50 am W2-G.2 Public response to terrorism: risk communication as a means of preserving confidence in security measures <i>Burns WJ, Ivanov B, Sellnow T, Veil S, Slovic P, Petrum E</i> <i>Decision Research, University of Kentucky</i> 11:10 am W2-G.3 How near-misses influence public preparedness and response to tornado weather warnings <i>Rosoff HB, John R, Dillon-Merrill R</i> <i>University of Southern California - CREATE</i> 11:30 am W2-G.4 Heuristics and biases in cyber security dilemmas <i>John RS, Rosoff H, von Winterfeldt D</i> <i>CREATE, University of Southern California</i></p>	<p>10:30 AM - Noon <i>Pacific Concourse L</i> W2-H Current Issues in Chemical Dose Response <i>Co-Chairs: George Woodall, Richard Reiss</i> 10:30 am W2-H.1 Non-cancer risk assessment of nickel: reference exposure levels for nickel and nickel compounds <i>Brown JB, Salmon AG, Marty MA, Alexeeff GV</i> <i>Office of Environmental Health Hazard Assessment, California Environmental Protection Agency</i> 10:50 am W2-H.2 Biological plausibility of organophosphorous insecticide epidemiologic studies <i>Reiss R</i> <i>Exponent</i> 11:10 am W2-H.3 Reporting the outcome of IARC Monograph 106: trichloroethylene and some other chlorinated compounds <i>Guba N, Baan R, Loomis D, Grosse Y, Lanby B, El Ghissassi F, Bouvard V, Benhabib-Tallaa L, Straif K</i> <i>International Agency for Research on Cancer - World Health Organization</i></p>	<p>10:30 AM - Noon <i>Pacific Concourse M</i> W2-I Symposium: Advances in Risk Models for Infrastructure Systems Management <i>Chair: Shital Thekedi</i> 10:30 am W2-I.1 Harmonizing engineering practices and socio-economic modeling via strategic long-term planning models for transportation infrastructure systems <i>Andrijeic E, Haines YY</i> <i>University of Virginia</i> 10:50 am W2-I.2 Risk ranking and multi-stage decision analysis for financing of energy R&D portfolios <i>Hamilton M, Lambert J</i> <i>University of Virginia</i> 11:10 am W2-I.3 Assessing the interdependencies across 'human infrastructure' systems in the context of disaster preparedness <i>Santos JR</i> <i>GWU</i> 11:30 am W2-I.4 Stakeholder-informed investment for risk management of infrastructure systems <i>Thekedi SA</i> <i>University of Richmond</i></p>	<p>10:30 AM - 12:10 PM <i>Pacific Concourse N</i> W2-J Symposium: Retrospective Regulatory Review <i>Chair: Linda Abbott</i> 10:30 am W2-J.1 Retrospective review: promises and challenges <i>Dudley SE</i> <i>The George Washington University</i> 10:50 am W2-J.2 Ending successful risk programs <i>Williams RA</i> <i>Mercatus Center at George Mason University</i> 11:10 am W2-J.3 Retrospective review of the special supplemental nutritional program for women, infants and children (WIC) <i>Mojduszka E, Abbott LC</i> <i>US Department of Agriculture</i> 11:30 am W2-J.4 Using a systems approach to retrospective regulatory review: quantifying economic impact and potential risk reduction due to cumulative regulatory actions in an agricultural watershed in Washington <i>Abbott LC, Schaub JD</i> <i>US Department of Agriculture</i> 11:50 am W2-J.5 Criteria for evaluating the regulatory reasonableness of risk reduction programs <i>Rabinovici SJ</i> <i>Mills College</i></p>	<p>10:30 AM - Noon <i>Pacific Concourse O</i> W2-K Symposium: Cumulative Risk Assessment 2: International Dimensions in Combining Chemical and Non-Chemical Stressors in Cumulative Risk Assessment <i>Chair: Bradley Schultz</i> 10:30 am W2-K.1 Air quality management policies that better account for social stressors <i>Fann NL, Roman HR, Fulcher CM, Gentile MA, Hubbell BJ, Wesson KH, Lery JI</i> <i>US Environmental Protection Agency</i> 10:50 am W2-K.2 International experience in addressing combined exposures <i>Meek ME</i> <i>University of Ottawa</i> 11:10 am W2-K.3 Environmental justice and cumulative risk assessment: why it matters and what researchers can do about it <i>Payne-Sturges D</i> <i>US Environmental Protection Agency</i> 11:30 am W2-K.4 Community-level cumulative risk assessment in the USA and other countries <i>Schultz BD</i> <i>US Environmental Protection Agency</i></p>	<p>10:30 AM - Noon <i>Pacific Concourse J</i> W2-L Symposium: Adaptive Risk Governance for the Rapid Energy Transition in Germany <i>Chair: Ortwin Renn</i> 10:30 am W2-L.1 Governance requirements for adaptive and integrative energy policies <i>Renn O</i> <i>Stuttgart University</i> 10:50 am W2-L.2 The smart grid as black box - the role of consumers in the governance of future energy systems <i>Buescher C, Orvat C</i> <i>Karlsruhe Institute of Technology</i> 11:10 am W2-L.3 Adaptive risk governance <i>Schweizer PJ</i> <i>University of Stuttgart</i></p>
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<p>1:30 - 3:00 PM <i>Pacific Concourse D</i> W3-A Health Risk Prevention <i>Chair: Chris Clarke</i></p> <p>1:30 pm W3-A.1 The tick talk project: communicating risks to children using animation and education <i>Nicol AM, Bartlett K, Blewett C, Henry B, Hurrell AC</i> <i>University of British Columbia</i></p> <p>1:50 pm W3-A.2 Assessing vaccination risk communication needs for pregnant immigrant mothers in Alberta, Canada <i>Kowal ST, Jardine CG, Bubela TM</i> <i>University of Alberta</i></p> <p>2:10 pm W3-A.3 Whether 'tis better to vaccinate? Perceptions and experiences of the management of the A/H1N1 influenza pandemic in Sweden <i>Enander AE, Börjesson M, Hede S, Carlsson H</i> <i>Swedish National Defence College</i></p> <p>2:30 pm W3-A.4 Cancer screening tests, what makes it worrisome or reassuring? The case of colorectal cancer <i>Eisinger F, Morere JF, Pivot X, Blay JY, Coscas Y, Lbomel C, Viguiet J</i> <i>Paoli-Calmettes Institute</i></p>	<p>1:30 - 3:00 PM <i>Pacific Concourse E</i> W3-C Symposium: Combining Life Cycle Assessment, Valuation and Cost-Benefit Analysis <i>Chair: Eric Williams</i></p> <p>1:50 pm W3-C.1 Towards a life cycle aware risk analysis <i>Kuczenski B, Geyer R, Boughton B</i> <i>University of California, Santa Barbara</i></p> <p>1:50 pm W3-C.2 The link between risk, LCA and cost-benefit analysis: large scale energy system case studies <i>Bergerson JA</i> <i>University of Calgary</i></p> <p>2:10 pm W3-C.3 Advancing life-cycle assessment through geographically-explicit emission inventories <i>Chester M</i> <i>Arizona State University</i></p> <p>2:30 pm W3-C.4 Life cycle benefit-cost analysis of monoethanolamine carbon capture and sequestration <i>Sekar A, Williams E</i> <i>Rochester Institute of Technology</i></p>	<p>1:30 - 3:00 PM <i>Pacific Concourse F</i> W3-D Symposium: Carbon Capture and Storage: Risk Communication and Perceptions of an Emerging Energy Technology <i>Co-Chairs: Jennie Stephens, Amanda Boyd</i></p> <p>1:30 pm W3-D.1 Finding a 'Place' for community in risk research <i>Boyd AD, Einsiedel EF</i> <i>University of Calgary</i></p> <p>1:50 pm W3-D.2 Communication about prospects and limitations of simulation results for policy makers: the case of Carbon Capture and Storage <i>Doe JB, Scheer D</i> <i>University of Stuttgart</i></p> <p>2:10 pm W3-D.3 Communicating CCS risk to the public: putting theory and evidence into practice <i>Dybnad C, Ralko J, Hardy C</i> <i>IPAC-CO2 Research Inc</i></p> <p>2:30 pm W3-D.4 Is the CO2 leaking? Contrasting media and expert risk perception of the alleged leakage at the Weyburn CCS Project <i>Wilson E, Stephens J, Pollak M, Peterson T, Meadowcroft J, Liu Y, Einsiedel E, Boyd A</i> <i>University of Minnesota, Clark University, University of Minnesota, Texas A&M, Carleton University</i></p>	<p>1:30 - 3:00 PM <i>Pacific Concourse K</i> W3-E Career Panel <i>Chair: TBD</i></p> <p>Participants include: <i>Hiscock M, National Center for Environmental Research (NCER); O'Connor B, National Science Foundation</i> Robert O'Connor from NSF will be speaking on Grant Writing and will provide one on one guidance on NSF Grants Michael Hiscock from NCER/EPA will be speaking about Opportunities for Grants CJ Johnson from US Coast Guard will be speaking on career transitions, guidance and interviewing techniques</p>	<p>1:30 - 3:00 PM <i>Pacific Concourse H</i> W3-F Risk and Development: Latin America <i>Chair: Sandra Demichelis</i></p> <p>1:30 pm W3-F.1 The influence of local characteristics on public concern about electricity generation: differences across Chile <i>Bronfman NC, Jimenez RB</i> <i>Universidad Andres Bello</i></p> <p>1:50 pm W3-F.2 Inclusion of clean technologies into the public transport fleet for cost-effective GHG reductions in Santiago, Chile <i>Sandoval D, Bronfman NC, Jimenez RB</i> <i>Universidad Andres Bello</i></p> <p>2:10 pm W3-F.3 Diminishing risk of floods by management of urban pluvial in Buenos Aires city <i>Hanuch MS, Monzon AN, Demichelis SO</i> <i>National University of Lanus</i></p> <p>2:30 pm W3-F.4 Risks produced by the loss of permeability of soils and the growth of the population on the grey and black water sewages and pluvial systems in the municipality of Avellaneda <i>Hanuch S, Bianchi J, Corizzo A, Halpern L, Papzuck I, Monzon AN, Demichelis SO</i> <i>National University of Lanus</i></p>	<p>1:30 - 3:00 PM <i>Pacific Concourse I</i> W3-G Evaluating Security Measures <i>Chair: Natasha Hawkins</i></p> <p>1:30 pm W3-G.1 Black swans, pale men <i>Lathrop JF</i> <i>Innovative Decisions, Inc.</i></p> <p>1:50 pm W3-G.2 Sometimes there is no "most-vital" arc: assessing and improving the operational resilience of systems <i>Alderson DL, Brown GG, Carlyle WM, Cox Jr LA</i> <i>Naval Postgraduate School</i></p> <p>2:10 pm W3-G.3 Using decomposition to model effectiveness in a diverse Homeland Security portfolio <i>Hawkins N, Susel I, Toms C, Szved P</i> <i>Department of Homeland Security</i></p> <p>2:30 pm W3-G.4 A decision analysis framework for Near-Earth Object (NEO) risk management <i>Lee RC, Jones TD, Chapman CR</i> <i>Neptune and Company, Inc., Florida Institute for Human and Machine Cognition, Southwest Research Institute</i></p>
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<p>1:30 - 3:00 PM <i>Pacific Concourse L</i> W3-H Quantitative Models: The Chemical Risk <i>Co-Chairs: Kan Shao, George Woodall</i></p> <p>1:30 pm W3-H.1 A quantitative role for zebrafish in the assessment of human developmental toxicity <i>Fleming CR, Lambert JC, US EPA</i></p> <p>1:50 pm W3-H.2 Bayesian non-parametric methods in operational risk modeling <i>Rivera-Mancia ME, McGill University</i></p> <p>2:10 pm W3-H.4 Is the assumption of normality or lognormality for continuous response data critical for benchmark dose estimation? <i>Shao K, Gift JS, Setzler RW, National Center for Environmental Assessment, US EPA</i></p> <p>2:30 pm W3-H.5 Benchmark calculation using categorical regression for multiple end-point responses <i>Chen CC, NHRI</i></p>	<p>1:30 - 3:00 PM <i>Pacific Concourse M</i> W3-I Reliability Assessment for Electric Power Systems <i>Chair: Alessandra Colli</i></p> <p>1:30 pm W3-I.1 An approach for reliability assessment and risk evaluation of photovoltaic systems <i>Yue M, Colli A, Brookhaven National Laboratory</i></p> <p>1:50 pm W3-I.2 A FMEA analysis for photovoltaic systems: assessing different system configurations to support reliability studies <i>Colli A, Yue M, Brookhaven National Laboratory</i></p> <p>2:10 pm W3-I.3 Increasing PRA scope for nuclear power plants: how fast? How far? <i>Levinson SH, AREVA Inc.</i></p> <p>2:30 pm W3-I.4 Analyzing societal consequences of power failures: integration of physical models and regional inoperability input-output models <i>Johansson J, Svegrup L, Hassel H, Lund University</i></p>	<p>1:30 - 2:30 PM <i>Pacific Concourse N</i> W3-J Studies of Risk Governance Systems <i>Chair: Chabane Mazri</i></p> <p>1:30 pm W3-J.1 The need for 2nd order risk management <i>Saner MA, University of Ottawa</i></p> <p>1:50 pm W3-J.2 Credibility of risk assessments <i>Wiedemann PM, Boerner F, Karlsruhe Institute of Technology, Germany</i></p> <p>2:10 pm W3-J.3 Risk analysis on GMOs: the complex overlapping of scientific, political and economic issues in the debates in Brazil <i>Guivant JS, Federal University of Santa Catarina</i></p> <p>2:30 pm W3-J.4 Comparing human health risk values across organizations <i>Holman E, Gray G, Francis R, US Environmental Protection Agency, George Washington University</i></p>	<p>1:30 - 3:00 PM <i>Pacific Concourse O</i> W3-K Ambient Air: Particulate Matter Exposure <i>Chair: Louis Cox</i></p> <p>1:30 pm W3-K.1 Overview and evaluation of alternative air quality exposure metrics used in air pollution epidemiological studies <i>Ozkanak H, US EPA</i></p> <p>1:50 pm W3-K.2 Using dose assessment results to optimize environmental monitoring plans <i>Perona R, Rytty RT, Tiller B, Neptune and Company, Inc., Environmental Assessment Services, Inc.</i></p> <p>2:10 pm W3-K.3 Evaluation of a wildfire smoke forecast system for public health risk assessment <i>Yao J, Brauer M, Henderson SB, University of British Columbia, Canada, British Columbia Centre for Disease Control, Canada</i></p> <p>2:30 pm W3-K.4 Warmer is healthier: effects on mortality rates of changes in average fine particulate matter (PM2.5) concentrations and temperatures in 100 U.S. cities <i>Cox LA, Cox Associates, University of Colorado</i></p>	<p>1:30 - 3:00 PM <i>Pacific Concourse J</i> W3-L Ecological Risk Assessment II <i>Chair: Randall Rytty</i></p> <p>1:30 pm W3-L.1 Mapping ecological risks with a portfolio-based technique: incorporating uncertainty and decision-making preferences <i>Yemsbanov D, Koch F, Ducey M, Koehler K, Natural Resources Canada, Canadian Forest Service, USDA Forest Service, University of New Hampshire, Canadian Food Inspection Agency</i></p> <p>1:50 pm W3-L.2 Informing hazardous fuels prioritization at national and regional scales <i>Thompson MP, US Forest Service</i></p> <p>2:10 pm W3-L.3 A risk and uncertainty analysis of coastal flood statistics for South San Francisco Bay <i>Andes L, Wu F, Lo JM, MacWilliams M, Lu CC, US Army Corps of Engineers San Francisco District</i></p> <p>2:30 pm W3-L.4 Risk assessment for non-indigenous plants for the intermountain Western United States <i>Landis WG, Ayre KK (presented by Hines E), Western Washington University</i></p>
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<p>3:30 - 5:10 PM <i>Pacific Concourse K</i> W4-B Symposium: New Directions in Risk Assessment with Roadmap for Success <i>Co-Chairs: Kenneth Olden, Abdel-Razak Kadry</i></p> <p>3:30 pm W4-B.1 A 'roadmap' for revising IRIS: recommendations from the National Research Council <i>Samet JM</i> <i>University of Southern California</i></p> <p>3:50 pm W4-B.2 The IRIS Program - a key resource for public health risk assessment <i>Salmon A, Marty M, Zeise L</i> <i>Cal/EPA Office of Environmental Health Hazard Assessment</i></p> <p>4:10 pm W4-B.3 Retooling of IRIS: what progress has actually been made over the last 20 months? <i>Becker RA, Pottenger LH, Fensterheim RJ, Wise K</i> <i>American Chemistry Council</i></p> <p>4:30 pm W4-B.4 NGO perspective on IRIS process and progress <i>Janssen SJ</i> <i>Natural Resources Defense Council (NRDC)</i></p> <p>4:50 pm W4-B.5 EPA's path forward for the Integrated Risk Information System Program <i>Clark B, Deener K, Cogliano V, Kadry A</i> <i>US Environmental Protection Agency, Washington, DC</i></p>	<p>3:30 - 5:00 PM <i>Pacific Concourse E</i> W4-C Symposium: India at Risk: Capacity, Institutions and Expertise <i>Chair: Ravi Rajan</i></p> <p>3:30 pm W4-C.1 "One in infinity": assessing nuclear risks in India <i>Ramana MV</i> <i>Princeton University</i></p> <p>3:50 pm W4-C.2 India at risk - the perception and governance of risks in India <i>Moor R</i> <i>Indian Institute of Management Bangalore</i></p> <p>4:10 pm W4-C.3 Missing expertise: accountability, capacity, and risk mitigation infrastructures in India <i>Rajan SR, Rajan SR</i> <i>University of California, Santa Cruz</i></p>	<p>3:30 - 5:00 PM <i>Pacific Concourse F</i> W4-D Symposium: Novel Online Tools for Risk Communication Research: Applications in Food Risk Communication <i>Chair: Julie Barnett</i></p> <p>3:30 pm W4-D.1 Deliberation about the risks and benefits of red meat: what do we learn from people's questions? <i>Barnett J, Marcu A</i> <i>Brunel University, UK</i></p> <p>3:50 pm W4-D.2 Psycho-social media analysis of threat coping expressions on twitter during a food crisis <i>Gaspar RF, Gorjão SI, Seibt CB, Lima ML</i> <i>Instituto Universitário de Lisboa, ISCTE - IUL, Centro de Investigação e Intervenção Social (CIS)</i></p> <p>4:10 pm W4-D.3 Determinants of duration and thoroughness of information seeking: insights from online search behaviour <i>Kuttschreuter M, Hilherda MD</i> <i>University of Twente</i></p> <p>4:30 pm W4-D.4 Informing risk communication practices through the analysis of user-generated content on online media websites <i>Regan A</i> <i>University College Dublin, Ireland</i></p>	<p>1:30 - 3:00 PM <i>Pacific Concourse K</i> W4-E Career Panel <i>Chair: TBD</i></p> <p>Participants include: <i>Hiscock M, National Center for Environmental Research (NCER); O'Connor B, National Science Foundation</i> Robert O'Connor from NSF will be speaking on Grant Writing and will provide one on one guidance on NSF Grants <i>Michael Hiscock from NCER/EPA will be speaking about Opportunities for Grants</i> <i>CJ Johnson from US Coast Guard will be speaking on career transitions, guidance and interviewing techniques</i></p>	<p>3:30 - 4:30 PM <i>Pacific Concourse H</i> W4-F Occupational Exposure & Health <i>Chair: Kelly Scanlon</i></p> <p>3:30 pm W4-F.1 Evaluation of chrysotile fiber adherence to clothing exposed to known airborne asbestos concentrations before and after handling and shaking out of the clothing <i>Barlow CA, Sabmel J, Macl AK, Donovan B, Gaffney S, Henshaw J, Lee RJ, Van Orden D, Paustenbach DJ</i> <i>ChemRisk LLC</i></p> <p>3:50 pm W4-F.2 Integrating occupational health impacts into life cycle assessment <i>Scanlon K, Gray G, Francis R, Lloyd S, LaPuma P</i> <i>The George Washington University, School of Public Health and Health Services, Department of Environmental and Occupational Health</i></p> <p>4:10 pm W4-F.3 Cumulative chrysotile fiber exposures from sanding historical joint compound formulations: Inter- vs. intra-individual variability <i>Sheehan PJ, Bogen KT</i> <i>Exponent</i></p>	<p>3:30 - 5:00 PM <i>Pacific Concourse I</i> W4-G Symposium: Risks of Transportation Disruptions and Dangerous Goods <i>Chair: Cameron MacKenzie</i></p> <p>3:30 pm W4-G.1 Undeclared and unreported: addressing gaps and improving data quality in hazmat transportation <i>Locke MS, Teicher P</i> <i>Pipeline and Hazardous Materials Safety Administration, USDOT</i></p> <p>3:50 pm W4-G.2 Risk management tools to maximize the effectiveness of dangerous goods regulatory activities <i>Oliver GM, Samura F, Tardif C</i> <i>Transport Canada</i></p> <p>4:10 pm W4-G.3 Risk-management self-assessment tool for hazardous materials carriers <i>Peignier I, de Marcellis-Warin N, Trépanier M, Demortier A</i> <i>CIRANO</i></p> <p>4:30 pm W4-G.4 Seaport security (PortsSec): The next phase - incidents, special events and risk <i>Orosz M, Maya I, Lennon E, Chatterjee S, Salazar D, Southwell C, Chen J, Ioannou P, Yanbo Z, Butakov V</i> <i>University of Southern California</i></p>
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3:30 - 5:10 PM

Pacific Concourse M

W4-I Simulation

**Approaches for Assessing
Critical Infrastructure
Vulnerability to National
Hazards**

Chair: Rachel Davidson

3:30 pm W4-I.1

On the correlation of hurricane
wind and surge

Lin Ning

Princeton University

3:50 pm W4-I.2

Evaluation of a community-level
flood damage assessment and its
applicability to extreme events:
implications for future adapta-
tion decisions

Camp JV, Abkowitz MD

Vanderbilt University

4:10 pm W4-I.3

Quantifying the catastrophe risk
of hurricanes to offshore wind
power

Rose SM, Apt J

Carnegie Mellon University

4:30 pm W4-I.4

Evaluating the unconditional
probability of exceeding net-
work-level performance levels in
highway bridge networks subject
to seismic hazards

Rokneddin K, Hernandez-Fajardo I,

Duenas-Osorio L

Rice University

4:50 pm W4-I.5

Modeling insurer-homeowner
interactions in managing natu-
ral disaster risk

Kesete Y, Gao Y, Peng J, Davidson

RA, Nozick LK, Kruse J

*Cornell University, University of Del-
aware, East Carolina University*

3:30 - 5:10 PM

Pacific Concourse N

W4-J Emerging

**Technologies: Nano to
Synthetic Bio**

Chair: Christian Beaudrie

3:30 pm W4-J.1

Tracking media and internet
coverage of nanotechnology's
risks over the years

Friedman SM, Egolf BP

Lehigh University

3:50 pm W4-J.2

Strategies to develop occupa-
tional exposure limits and haz-
ard bands for nanomaterials

Kuempel ED

*National Institute for Occupational
Safety and Health*

4:10 pm W4-J.3

Nanotechnology EHS consid-
erations for waste management

Sheremeta L

*National Institute for Nanotechnol-
ogy*

4:30 pm W4-J.4

Emerging technologies: friend
or foe? Can structured expert
judgment help deciding?

Flari V, Nesto R, Chaudhry Q,

Hugo S, Kerrins G, Blackburn J,

Hart A

Government, Academia

4:50 pm W4-J.5

Changing chassis and inventing
elements: developing a combined
systems biology and engineering
approach to designing complex
function in cells

Arkin AP

University of California Berkeley,

Lawrence Berkeley National Lab

T-Shirt Giveaway
Be a Die Hard Risk Analyst (DHRA)

5:00–6:00 PM, Registration Area

Stay to the end of the sessions and

receive a free T-shirt!

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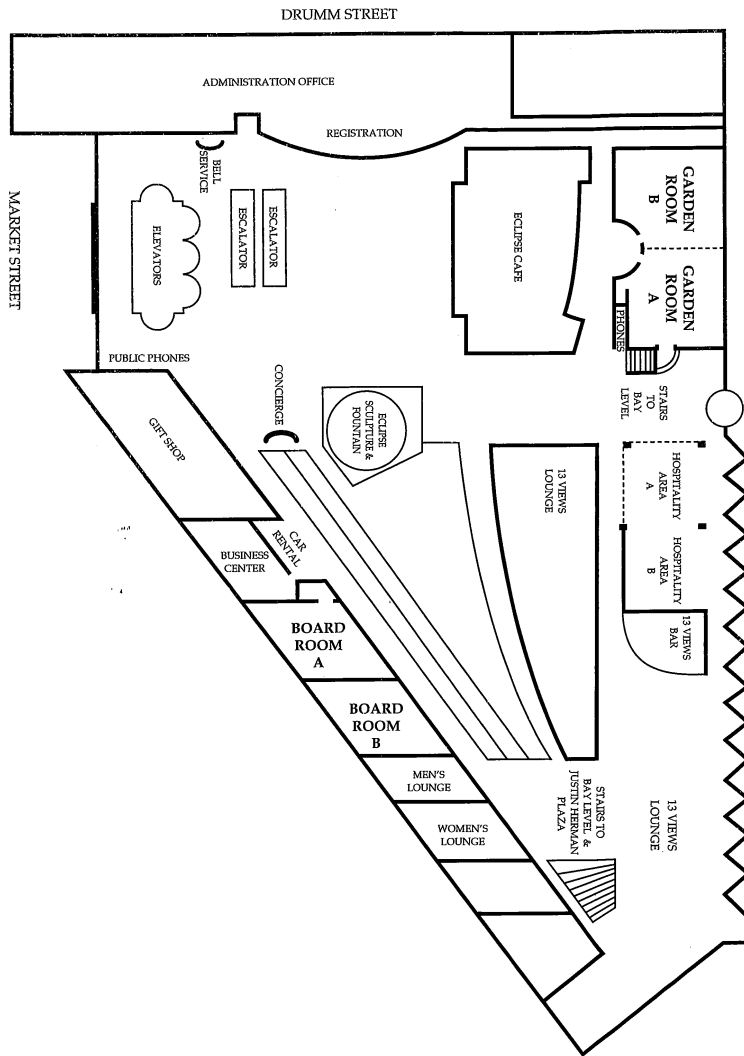
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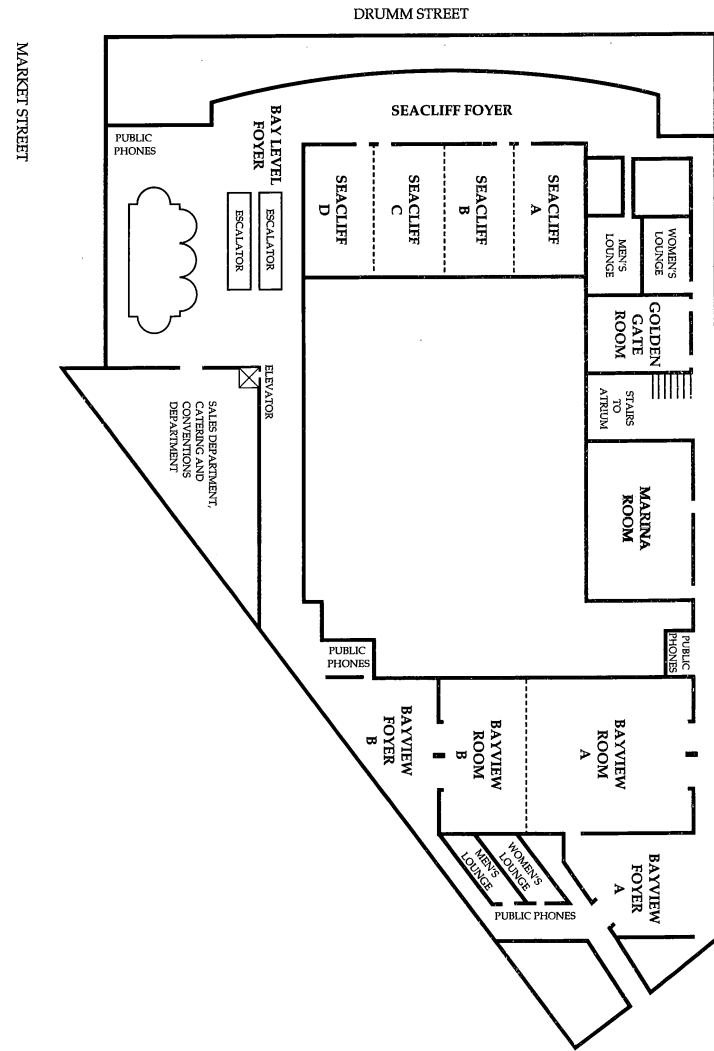
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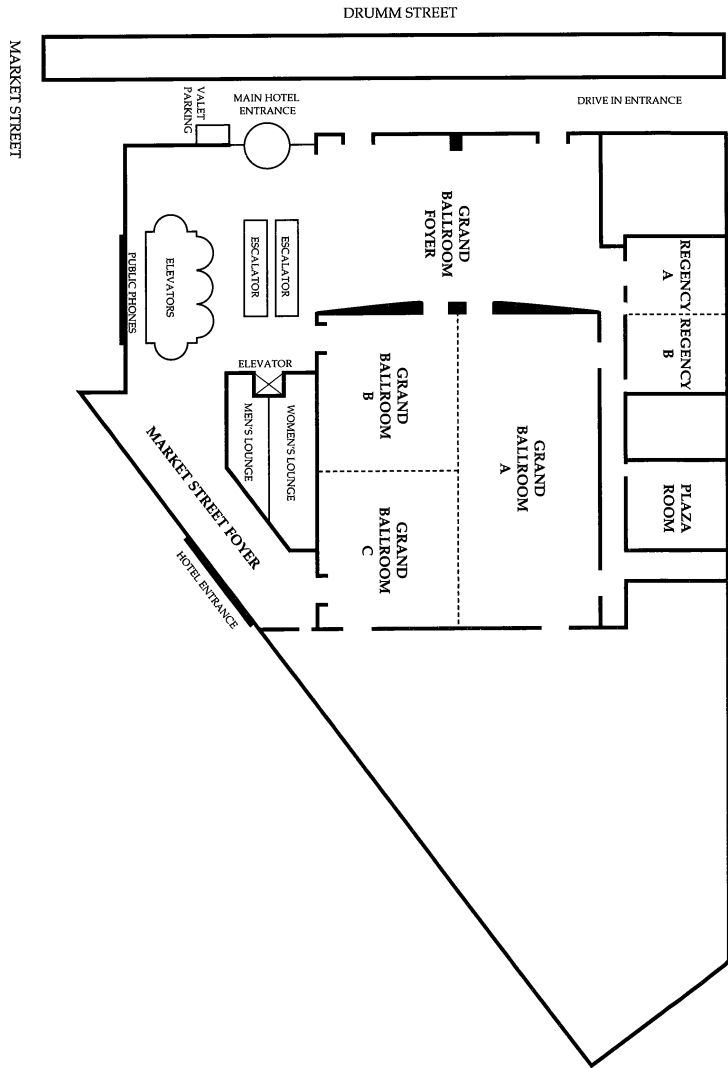
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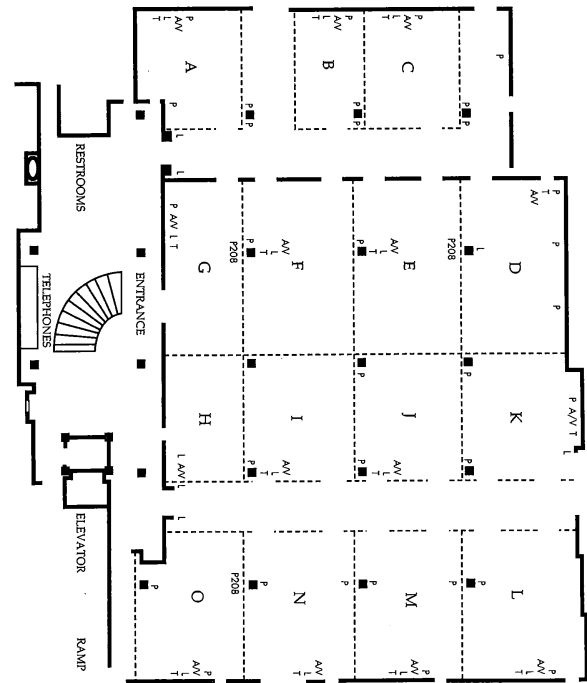
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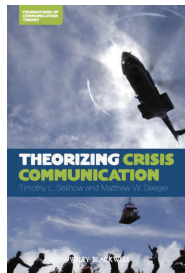
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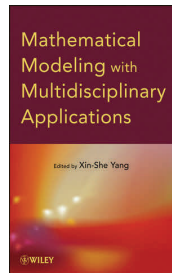
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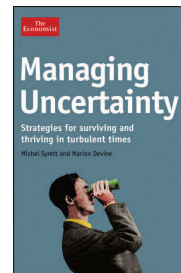
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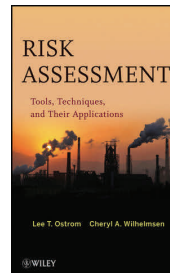
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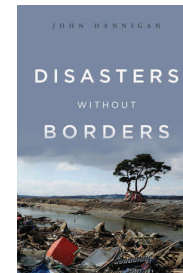
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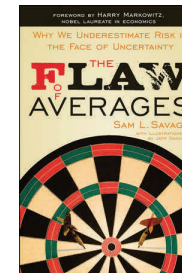
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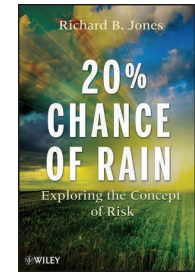
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