RISK BEYOND THE HORIZON

SRA

2024 ANNUAL MEETING

December 8-12, 2024 • Austin, TX

CONFERENCE PROGRAM

Society For Risk Analysis Annual Meeting

2024 Conference Program • December 8-12, 2024

2024 Program Committee

Program Co-Chair:
Jacqueline MacDonald Gibson

Program Co-Chair:
Seth Guikema

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David Berube
Wandi Bruine de Bruin
Allison Cullen
David Johnson
Fabio Massacci
Allison Reily
Jun Zhuang

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Venue and Room Information

JW Marriott Austin
110 East 2nd Street
Austin, Texas 78701

2024 Council

President: Felicia Wu

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Councilors

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Khara Grieger
Jade Mitchell
Laura Rickard
Louie Rivers
Adam Zwickle

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2024 Award Winners

Distinguished Achievement Award
Nick Pidgeon

Chauncey Starr Award
Hiba Baroud

Distinguished Educator Award
James Lambert
Katherine McComas

Richard J Burk Outstanding Service Award
Benjamin Trump

Fellow
Abani Pradhan
Cristina McLaughlin
Joost Santos
Henry Willis

2024 Specialty Group Winners

Advanced Materials and Technologies
Nick Loschin

Applied Risk Management
Megan Gunn

Decision Analysis and Risk
Rajesh Kandel

Hazard and Dose Response
Yun Zhou

Engineering and Infrastructure
Florence Dadzoe

Exposure Assessment
Ying-Qi He

Foundational Issues in Risk Analysis
Hoda Fakhari

Microbial Risk Analysis
Dafne de Brito Cruz
Pei-Chen Chao

Occupational Health and Safety
Ying Chen Lin

Resilience Analysis
Jack Watson
Krisno Nugroho

Risk Communication
Xue Feng

Risk Policy and Law
Megan Marcellin

Student and International Travel Award Winners

Diako Abbasi
Amma Agyekum
Jeffrey Ashby
Edmund Benefo
Blake Boyd
Logan Brunner
Jon Benedik Bunquin
Liton Chakraborty
Pei-Chen Chao
Gyan Chhipi Shrestha
Min-Chien Chien
Chi Kuan Chiu
Bhawana Choudhary
Florence Dadzoe
Manomita Das
Dafne De Brito Cruz
Francesco De Pretis
Francesco De Pretis
Naseem Dillman-Hasso
Darla Doell
Xinxia Dong
Sam Dulin
Beth Ellinport
Hoda Fakhari
Shuyi Feng
Xue Feng
Darcy Glenn
Dipjyoti Gogoi
Megan Gunn
Anchal Gupta
Prerna Gupta
Choonghee Han
Ying-Qi He
Patricia Hsu
Chongfu Huang
Wei-En Huang
Siyari Jamatia
Pragathi Jha
Yin Junjia
Rajesh Kandel
Savanna Kerstiens
Maksim Kitsak
Seyram Pearl Kumah
Yi-Jung Lee
Yi Yin Leong
Lambert Zixin Li
Ying Chen Lin
Peng Liu
Kuan-Hung Lu
Megan C. Marcellin
Lauren Mcmillan
Asal Mehdi Tabrizi
Tierney O'sullivan
Zaira Pagan Cajigas
Poulomee Roy
Alyssa Ryan
Marcelle Scadden
Jose Scott
Kayla Shorter
Joana Sipe
Inna Skarga-Bandurova
Behnam Tahmasbi
Eyup Turmus
Tianye Wang
Jack Watson
Rebekah Wicke
Juan Xu
Shuming Yang
Yue "Major" Zeng
Dinghua Zhang
Annie Zhang
Xing Zhang
Yiqi Zhao
Yun Zhou

Committee Meetings and Events

Sunday, December 8

12:00 PM – 5:00 PM
SRA Board Meeting *(By Invitation Only)*
Brazos Room

5:00 PM – 6:00 PM
Student & New Member Orientation
Lone Star F

6:00 PM – 7:30 PM
Welcome Reception
Lone Star DE

Monday, December 9

7:00 AM – 8:00 AM
New Members, Students, and Early Career Professionals – Welcome Breakfast
Room 310-311

12:10 PM – 1:25 PM
Specialty Group Meetings
See page 5

5:00 PM – 6:00 PM
World Congress Interest Meeting
Room 303

Tuesday, December 10

7:00 AM – 8:00 AM
Grad Student Breakfast
Room 301

8:00 AM – 10:00 AM
Regional Organizations Meeting
Room 303

12:00 PM – 1:30 PM
Business Meeting and Awards Lunch
Lone Star DE

6:00 PM – 9:00 PM
Council Meeting and Dinner *(By Invitation Only)*
Room 310-311

Childcare
Room 209

Monday, December 9	7:30 AM – 5:00 PM
Tuesday, December 10	7:30 AM – 5:00 PM
Wednesday, December 11	7:30 AM – 5:00 PM

Speaker Ready Room Hours
Room 207

Sunday, December 8	2:00 PM – 5:00 PM
Monday, December 9	7:00 AM – 5:00 PM
Tuesday, December 10	7:00 AM – 5:00 PM
Wednesday, December 11	7:00 AM – 12:00 PM

Registration Desk Hours
Lone Star Foyer

Sunday, December 8	4:00 PM – 6:30 PM
Monday, December 9	7:30 AM – 3:00 PM
Tuesday, December 10	8:00 AM – 3:00 PM
Wednesday, December 11	8:00 AM – 3:00 PM

Committee Meetings and Events

Specialty Group Meetings

Monday, December 9

All specialty group meetings will take place during lunch time.
Pick up your box lunch near the registration desk and attend the meeting(s) of your choice.

12:10 PM – 12:45 PM

- Hazard and Dose Response (DRSG)
  Lone Star A
- Economics & Benefits Analysis (EBASG)
  Lone Star B
- Occupational Health & Safety (OHSSG)
  Lone Star C
- Risk, Policy & Law (RPLSG)
  Lone Star F
- Security & Defense (SDSG)
  Lone Star G
- Justice, Equity and Risk (JERSG)
  Lone Star H
- Microbial Risk Analysis (MRASG)
  Room 201-202

12:50 PM – 1:25 PM

- Exposure Assessment (EASG)
  Lone Star A
- Risk Communication (RCSG)
  Lone Star B
- Applied Risk Management (ARMSG)
  Lone Star C
- Decision Analysis and Risk (DARSG)
  Lone Star F
- Advanced Materials and Technologies (AMTSG)
  Lone Star G
- Resilience Analysis (RASG)
  Lone Star H
- Engineering & Infrastructure (EISG)
  Room 201-202
- Foundational Issues in Risk Analysis (FRASG)
  Room 203-204

Specialty Group Mixers

Tuesday, December 10

6:00 PM – 7:30 PM

- Mixer 1: Dose Response, Exposure Assessment, Occupational Health and Safety, Advanced Materials & Technologies
  Room 304
- Mixer 2: Ecological Risk Assessment, Resilience Analysis, Microbial Risk Analysis and Engineering and Infrastructure
  Room 305
- Mixer 3: Decision Analysis and Risk, Foundational Issues in Risk Analysis, Advanced Risk Management, Risk Communication
  Room 306
- Mixer 4: Economics and Benefits Analysis, Justice, Equity and Risk, Risk, Policy and Law, Security and Defense
  Room 308

Workshops

Sunday, December 8

8:00 AM – 12:00 PM

Workshop 1: Eliciting Judgement from Experts and Non-experts

Aylin Sertkaya

Room 302

Decision makers must frequently rely on data or information that is incomplete or inadequate in one way or another. Judgment, often from experts and occasionally from nonexperts, then plays a critical role in the interpretation and characterization of those data as well as in the completion of information gaps. But how experts or non-experts are selected, and their judgments elicited matters – they can also strongly influence the opinions obtained and the analysis on which they rely. Several approaches to eliciting judgments have evolved. The workshop will cover topics ranging from recruitment, elicitation protocol design, different elicitation techniques (e.g., individual elicitations, Delphi method, nominal group technique, and focus groups) to aggregation methods for combining opinions of multiple individuals. The role of judgment elicitation and its limitations, problems, and risks in policy analysis will also be addressed. The workshop will include presentation of two case studies that will include a discussion of the selection process; elicitation protocol development, elicitation technique utilized, and the various issues that arose before, during, and after the elicitation process and the way they were resolved. The class will also include two hands-on exercises where participants will 1) learn about calibration of experts using a mobile application and 2) apply the Delphi and nominal group techniques to examine risk management issues associated with a popular topic.

9:00 AM – 12:00 PM

Workshop 2: A Socratic dialog: Exploring risk assessment, risk management, and their linkages

Robert Waller

Room 303

This workshop format is probably unlike any participants have engaged in before. It will be conducted in the form of a so-called Socratic dialogue, a structured form of dialogue in which all participants actively contribute. The purpose of the dialogue is not to answer technical questions about risk assessment and risk management. The Socratic method provides a safe, open environment for participants to reflect on their own and others understandings of factors leading to the linking of technical risk assessment with risk management and society at large, and to investigate what the essence is behind their own points of view as well as those of others.

8:30 AM – 5:30 PM

Workshop 3: Dose-Response Modeling – Benchmark Dose Modeling Approaches Using EPA's Benchmark Dose Software (BMDS) Suite and NIEHS's ToxicR Platform

Room 304

This workshop will cover dose-response analyses commonly performed in human health risk assessments and participants will learn how to conduct dose-response modeling of dichotomous, continuous, cancer, and developmental toxicity response data using BMDS Online, BMDS Desktop, and pybmds. Demos of pybmds will additionally highlight features of the package that allow for scripted batch processing, advanced graphics, and custom BMD analyses. Following these introductory analyses, participants will learn and practice the use of Bayesian models, including the application of a Bayesian framework for model averaging using ToxicR. Participants will explore model averaging approaches for dichotomous and continuous data, including new model averaging capabilities for continuous data that include the European Food Safety Authority's (EFSA) suite of continuous models currently only available in ToxicR. The research functionality and modeling capacity of the ToxicR platform will be demonstrated. Hands-on exercises in ToxicR will be provided. Participants will be shown how to modify prior assumptions and perform sensitivity analyses to investigate the default prior's effect on a given analysis. Additional features of the package that will also be highlighted.

Workshops

Sunday, December 8

8:30 AM – 5:30 PM

Workshop 4: Risk Models with Influence Diagrams: From Basic Shapes to Software Solutions

Cameron MacKenzie

Room 305

Influence diagrams, also known as Bayesian belief networks, are extremely useful tools in risk analysis. They can incorporate several uncertain factors, combine data and expert opinion, and facilitate Bayesian analysis to update probabilities. However, many risk professionals have little-to-no knowledge about influence diagrams or know how to create an influence diagram to calculate the probability of a risk or the consequences that may arise from the risk. This workshop will teach attendees about influence diagrams by beginning with the basic shapes in influence diagrams and finishing by showing them how to use Netica software to solve influence diagrams.

This workshop will introduce the four basic node types for influence diagrams: uncertainty or chance nodes, decision nodes, deterministic nodes, and value nodes. Arcs or arrows can have different meanings depending on the type of nodes that they connect. Influence diagrams link different factors together via conditional probabilities. Attendees at the workshop will practice creating influence diagrams for different risks in engineering and infrastructure, security and defense, and ecology and climate.

Although influence diagrams represent an easier method to visualize a problem than with a mathematical model, influence diagrams can be very difficult to solve without computer software. Attendees will learn how to use Netica software to solve influence diagrams and identify the optimal risk management alternative for complex, uncertain risks.

8:30 AM – 5:30 PM

Workshop 5: Shedding Light on the Unseen: Rad Risks Explained

Ana Rita Melo

Room 306

"Shedding Light on the Unseen: Rad Risks Explained" aims at offering an introduction to Radiation Risk Perception in Nuclear Sciences and Technologies, addressing pressing issues such as safety and security, radiological protection, and new trends in rad risks communication. Nuclear Sciences and Technologies evolved tremendously since their begining, when radioactivity, the spontaneous disintegration of atoms, was discovered. We learned to tame Ionizing Radiation, a type of energy released by atoms that travels in the form of electromagnetic waves (gamma or X-rays) or particles (i.e. neutrons, beta or alpha), to save lives and have clean energy, for example, but we learned too to use Ionizing Radiation to cause harm or mass destruction. The workshop will explore the fact that rad risks are “unseen, unfelt” and difficult to apprehend, but more and more known. The fundamental principles of Radiation Protection have helped shape Nuclear Sciences and Technologies in predictable ways, enabling new branches of science such as Health Physics, Advanced Materials, and Social Sciences and Humanities not only to contribute, but also to profit from Ionising Radiation Research.

An interdisciplinary team passionate about science will guide participants in a tour to simplify intricate issues pertaining to ionizing radiation and radiation risk perception, addressing: a) how it evolved; b) when it improved or worsened; c) why it matters; and d) what we can expect from it. Finally, exercises such as rad risks’ mental model role-play, live online quizz and general discussions will enable to practice, test and reflect about radiation risks in society.

8:30 AM – 5:30 PM

Workshop 6: Approaches to assessing environmental justice: perspectives from the scientific, regulatory and regulated communities

Uni Blake

Room 308

The environmental justice (EJ) movement arose from community concerns surrounding how people of color and/or low-socioeconomic status have borne the disproportionate impacts of environmental hazards, contributing to disease and health disparities. Risk assessors, risk modelers, and regulatory analysts are tasked with addressing these concerns and finding solutions to address environmental injustice. This workshop explores how the regulators, the scientific community, and the regulated community navigate the complex EJ landscape.

Workshops

Sunday, December 8

1:00 PM – 5:00 PM

Workshop 7: Chemical Mixtures Health Risk Assessment Methods: Contemporary Examples using PFAS, Dioxins, TPHs, and Mixtures Combined with Nonchemical Stressors

Linda K Teuschler

Room 302

This workshop presents chemical mixtures health risk assessment methods using examples of real-world applications to total petroleum hydrocarbons (TPH), dioxins, and per-and polyfluoroalkyl substances (PFAS), along with discussions of health impacts from exposure to chemical mixtures in combination with nonchemical stressors in the environment. A "hands-on" exercise will be conducted, demonstrating the methods. The basics of component-based methods will be briefly introduced (e.g., the hazard index (HI), relative potency factors, integrated addition), followed by a discussion of whole mixture methods. The applications of these methods, which have been incorporated into mixture risk assessment frameworks by many regulatory and public health agencies, will be illustrated: integrated addition of TPH mixtures by USEPA; recent proof-of-concept application of the HI to PFAS mixtures by ATSDR; Bayesian modeling approach to developing a new set of Toxicity Equivalence Factors (TEFs) for assessing risks associated with mixtures of dioxin-like compounds by WHO. Lastly, recent applications of chemical mixtures methods to PFAS will be discussed in terms of difficulties and possible solutions, including the use of New Approach Methods (NAM) as well as considerations for problem formulation when PFAS exposures are combined with nonchemical stressors.

Thursday, December 12

8:00 AM – 12:00 PM

Workshop 9: Risk Communication Beyond Risk: A Strategic Approach

John Besley

Room 202

This workshop will introduce participants to an evidence-based, strategic approach to communicating in the context of risk that builds on the social science of long-term behavior change and trust building. The workshop will provide a strategic framework for identifying clear goals and then making communication choices with the potential to achieve those goals. Part of this approach is recognizing that clearly communicating risk isn't enough; communicators must also consider communicating in ways that help foster outcomes such as beliefs about specific types of benefits, social norms, self-efficacy, elements of trustworthiness, and other potential outcomes. This framework also includes a discussion of the central role that genuine listening must play in any ethical or effective communication strategy.

This workshop is different from other communication workshops in its focus on using social science to think strategically about communication choices. Communication tactics (e.g., compelling visuals, clarity, storytelling) are an important part of communication, but well-executed tactics cannot make up for weak strategy. Similarly, the suggested framework recognizes the value of understanding cognitive biases but focuses on finding ways to meaningfully engage with audiences to help overcome these biases' impacts.

8:00 AM – 5:00 PM

Workshop 8: Bayesian benchmark dose analysis using the BBMD platform and comparison with EPA's BMDS software

Kao Shan

Room 201

This full-day workshop will begin with an introduction on the benchmark dose modeling in a Bayesian framework and then provide participants with hands-on experience of using the Bayesian Benchmark Dose modeling (BBMD) system to perform dose-response assessment using dichotomous, continuous, and categorical dose-response data from toxicological or epidemiological studies. The workshop will cover a number of important topics in Bayesian BMD modeling, including using Markov Chain Monte Carlo (MCMC) algorithm to fit dose-response models, using appropriate statistics to evaluate goodness of fit, estimating the distributions of model parameters and quantities of interest (e.g., BMD), calculating model averaged BMD estimates to take model uncertainty into account, and probabilistic low-dose extrapolation, etc. The workshop will extensively explore the major functionalities of the BBMD system for dose-response assessment through case studies: (1) for toxicological data, BMD analysis of single and multiple datasets for dichotomous, continuous, and categorical data will be discussed and practiced; (2) for epidemiological data, BMD modeling with quantification for exposure uncertainty will be explored. Additionally, the workshop will cover a newly developed function that allows users to conveniently use the BBMD system to model dose-response data in EPA's BMDS system and comparing results with comments and suggestions on the modeling results. In short, the workshop will provide participants with both theoretical and practical skills of using the BBMD system for dose-response assessment.

Keynote Sessions

Monday, December 9

8:30 AM – 10:00 AM

Driving with Headlights: Using Risk Analysis to Navigate an Era of Global Catastrophic Risks

Lone Star DE

Our era is characterized by escalating global conflicts, pandemics, climate change, technological accidents, and societal polarization. Under these conditions, policymakers face the challenge of making consequential decisions under significant uncertainty, confusion, and time-pressure. This presentation will explore how risk analysis can be a critical tool for navigating the threats ahead of us. I'll describe recent real-world examples from US policy where risk analysis played a role; and I'll highlight opportunities for interdisciplinary collaboration, advances in methods and applications, engagement with decisionmakers in government and industry, and training the next generation of researchers and practitioners.

Speaker

Jason Matheny, Johns Hopkins University

Tuesday, December 10

8:30 AM – 10:00 AM

Navigating Unlikely and Unforeseen Risks in Financial Markets: Lessons from 25 Years in Alternative Investments

Lone Star DE

Financial markets are subject to a range of unpredictable and unprecedented risks. Practitioners must navigate events that, while imaginable, seem highly improbable (e.g., a cascade of major financial institution defaults), events that are anticipated but without historical precedent (e.g., Brexit), and completely unforeseen scenarios (e.g., negative oil prices or meme stock surges). Drawing on 25 years of experience in the alternative investment industry, this presentation will explore key lessons and strategies for managing such risks, emphasizing practical approaches to uncertainty in an increasingly volatile financial landscape.

Speaker

Ted MacDonald, Yale University

Wednesday, December 11

12:00 PM – 1:30 PM

Panel Discussion: Managing the Unimaginable: Using Risk Analysis to Increase Societal Resilience to Global Catastrophic Risks – Plenary Lunch

Lone Star DE

Governments worldwide are actively addressing threats and hazards that present the potential for global catastrophe. Some are emerging and new. Others are persistent and familiar. All are shrouded by significant uncertainties. National initiatives, international collaboration, and global scientific exchange improve awareness of these risks and steps that can be taken to manage them. Progress relies on both sound application of principles of risk sciences and innovation to develop and apply new approaches to collaborative risk assessment and governance. This plenary brings together global experts to share experiences and insights from recent work globally and discuss how the risk sciences can be advanced to continue building societal resilience against the risk of global catastrophe.

Speakers

David Alexander, DHS Science and Technology
Aarathi Krishnan, Cambridge Centre for Existential Risk
Anu Narayanan, Pardee RAND Graduate School
Nestor Alfonzo Santamaria, OECD -High Level Risk Forum

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Exhibitors

Exhibition
Lone Star Foyer

Monday, December 9 . . . . 10:00 AM – 4:00 PM
Tuesday, December 10 . . . . 9:30 AM – 4:00 PM
Wednesday, December 11 . . 9:30 AM – 4:00 PM

Coffee Breaks
Lone Star Foyer

AM Coffee Breaks . . . . . 10:00 AM – 10:30 AM
PM Coffee Breaks . . . . . 3:00 PM – 3:30 PM

Center for Truth in Science

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Chicago, IL 60606
www.truthinscience.org
401-227-0586

The Center for Truth in Science is an independent, non-profit organization focused on issues at the intersection of science, justice, and the economy. We seek to foster a healthy and balanced world in which judicial and regulatory decisions are based on objective, unbiased, sound, and comprehensive analyses of scientific evidence.

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Toxicology Excellence for Risk Assessment (TERA)

1250 Ohio Pike, Suite 197
Cincinnati, OH 45102
tera.org
513-542-7475

Toxicology Excellence for Risk Assessment (TERA) is organized for scientific research, and educational purposes, and has provided sponsors with independent, transparent science since 1995. TERA solves human health risk challenges for diverse government and private sponsors through research and collaboration that emphasizes partnership building across scientific expertise and multiple perspectives. Examples include the World Trade Center disasters, the Elk River spill, the International Toxicity Estimates for Risk (ITER) and the Alliance for Risk Assessment (ARA).

USACE ERDC Risk & Decision Sciece Team

riskdecision.el.erdc.dren.mil

The mission of Risk and Decision Science Team, US Army Corps of Engineers, is to improve decision-making and stakeholder engagement through application and development of risk and decision science techniques, including advanced analytics and AI. We would consider job applicants at all levels. See more at https://riskdecision.el.erdc.dren.mil/ or contact igor.linkov@usace.army.mil

7:00 AM-8:00 AM	**New Members, Students, and Early Career Professionals – Welcome Breakfast**, *Room 310-311*
8:30 AM-10:00 AM	**Plenary Session** – Driving with Headlights: Using Risk Analysis to Navigate an Era of Global Catastrophic Risks, *Lone Star DE*
10:00 AM-10:30 AM	**Coffee Break**

	Lone Star A	Lone Star B	Lone Star C	Lone Star F	Lone Star G
10:30 AM – 12:00 PM	M2-A: Symposium: Wildland fire exposure hazards - A case study for integrating occupational and community risk assessment	M2-B: Building Resilience for Critical Infrastructure	M2-C: Risk Perception and Communication I	M2-D: Advanced Risk Assessment and Security Strategies	M2-E: Public and Community Health
12:00 PM – 1:30 PM	Pick up your box lunch near the registration desk and attend the specialty group meeting(s) of your choice. 12:10 PM-12:45 PM - Dose Response (DRSG), Economics & Benefits Analysis(EBASG), Occupational Health & Safety (OHSSG), Risk, Policy & Law (RPLSG), Security & Defense (SDSG), Foundational Issues in Risk Analysis (FRASG), Justice, Equity and Risk (JERSG) 12:50 PM-1:25 PM - Exposure Assessment (EASG), Risk Communication (RCSG), Applied Risk Management (ARMSG), Decision Analysis and Risk (DARSG), Advanced Materials and Technologies (AMTSG), Engineering & Infrastructure (EISG), Microbial Risk Analysis (MRASG), Resilience Analysis (RASG)				
1:30 PM-3:00 PM	M3-A: Poster Platform: Risk, Perception and Communication	M3-B: Disaster Risk Management and Adaptation	M3-C: Community Perceptions of Mobility and Transportation Risks	M3-D: Search for Risk Indicators	M3-E: Public and Community Health II
3:00 PM-3:30 AM	**Coffee Break**, *Lone Star Foyer*				
3:30 PM – 5:00 PM	M4-A: Poster Platform: Risk Potpourri	M4-B: Managing Short- and Long-term Flood Risk in the US	M4-C: Social Systems	M4-D: Symposium: Economics of Cyber Risk Management and Resilience: Innovative Strategies and Regulatory Frameworks	M4-E: Symposium: Estimating and Valuing Changes in Health and Longevity
5:00 PM-6:00 PM	**M5-C: Roundtable** – SRA regions in the new SRA governance structure: How can they contribute to further enhance SRA and risk science? *Lone Star C* **M5-D:** National Science Foundation Program Officer Discussion and Q&A, *Lone Star F*				
6:00 PM-8:00 PM	**Poster Session and Reception**, *Griffin Hall*				

7:00 AM-8:00 AM	**New Members, Students, and Early Career Professionals – Welcome Breakfast**, *Room 310-311*				
8:30 AM-10:00 AM	**Plenary Session** – Driving with Headlights: Using Risk Analysis to Navigate an Era of Global Catastrophic Risks, *Lone Star DE*				
10:00 AM-10:30 AM	**Coffee Break**				
	Lone Star H	**Room 201-202**	**Room 203-204**	**Room 205**	**Brazos Room**
10:30 AM – 12:00 PM	M2-F: Agriculture, Environment, and Risk	M2-G: Environmental Risks: Emerging Contaminants and Pathogens	M2-H: Symposium: Protecting Soft Targets and Crowded Places	M2-I: Ambient Air Pollution: Sources, Monitoring, and Health Effects	M2-J: Roundtable: Updating the Social Amplification of Risk Framework: a process and some accomplishments
12:00 PM – 1:30 PM	Pick up your box lunch near the registration desk and attend the specialty group meeting(s) of your choice. 12:10 PM-12:45 PM - Dose Response (DRSG), Economics & Benefits Analysis(EBASG), Occupational Health & Safety (OHSSG), Risk, Policy & Law (RPLSG), Security & Defense (SDSG), Foundational Issues in Risk Analysis (FRASG), Justice, Equity and Risk (JERSG) 12:50 PM-1:25 PM - Exposure Assessment (EASG), Risk Communication (RCSG), Applied Risk Management (ARMSG), Decision Analysis and Risk (DARSG), Advanced Materials and Technologies (AMTSG), Engineering & Infrastructure (EISG), Microbial Risk Analysis (MRASG), Resilience Analysis (RASG)				
1:30 PM-3:00 PM	M3-F: Plastics: Big and Small	M3-G: Symposium: Risk-Benefit Evaluations of Novel Agrifood Technologies Based on Diverse Stakeholder Views	M3-H: Symposium: Soft target security and deterrence for infrastructure networks	M3-I: Indoor Air Pollution Monitoring, Health Effects and Interventions	M3-J: Roundtable: Teaching risk in high schools: priorities, practicalities, and progress
3:00 PM-3:30 AM	**Coffee Break**, *Lone Star Foyer*				
3:30 PM – 5:00 PM	M4-F: Symposium: Recent Progress in the Development and Application of New Approach Methodologies for Risk Assessment of Advanced Materials	M4-G: Symposium: Arsenic and Old Straits: Foodborne Toxic Elements and New Policies for Their Control	M4-H: Symposium: Advancing Resilience and Risk Management in Critical Infrastructures through Emerging Approaches	M4-I: Symposium: Managing Air Pollution and Climate Change Risks to Public Health in the United Arab Emirates	M4-J: Roundtable: SRA regions in the new SRA governance structure:† How can they contribute to further enhance SRA and risk science?
5:00 PM-6:00 PM	**M5-C: Roundtable** – SRA regions in the new SRA governance structure: How can they contribute to further enhance SRA and risk science? *Lone Star C* **M5-D:** National Science Foundation Program Officer Discussion and Q&A, *Lone Star F*				
6:00 PM-8:00 PM	**Poster Session and Reception**, *Griffin Hall*				

7:00 AM-8:00 AM	**Grad Student Breakfast,** *Room 301*				
8:30 AM-10:00 AM	**Plenary Session** – Navigating Unlikely and Unforeseen Risks in Financial Markets: Lessons from 25 Years in Alternative Investments, *Lone Star DE*				
10:00 AM-10:30 AM	**Coffee Break**				
	Lone Star A	**Lone Star B**	**Lone Star C**	**Lone Star F**	**Lone Star G**
10:30 AM – 12:00 PM	T2-A: Symposium: Layers of Resilience - The Case of Ukraine	T2-B: Improving Hazard Assessments for Building Resilience	T2-C: Risk Perception and Communication II	T2-D: AI and Risk: Perception and Inference	T2-E: Food Safety and Standards
12:00 PM-1:30 PM	**SRA Business Meeting and Awards Lunch,** *Lone Star DE*				
1:30 PM-3:00 PM	T3-A: Symposium: Accessibility and Resilience - Theory	T3-B: Symposium: Coastal Hazards, Equity, Economic prosperity, and Resilience (CHEER) Hub	T3-C: Perceptions of Environmental Risks and Adaptations	T3-D: AI Methods in and for Risk Analysis	T3-E: Food Safety-Methods and Models
3:00 PM-3:30 AM	**Coffee Break,** *Lone Star Foyer*				
3:30 PM-5:00 PM	T4-A: Symposium: Accessibility and Resilience - Application	T4-B: Advances in Post-disaster Electric-power Reliability and Consequence Analysis	T4-C: Symposium: Understanding and Leveraging Uncertainty as a Key Component of Risk	T4-D: AI, Natural Hazards, and Risk Analysis	T4-E: Microbial Risks and Food Safety
6:00 PM-7:30 PM	**Specialty Group Mixers,** *see page 6*				

7:00 AM-8:00 AM	**Grad Student Breakfast,** *Room 301*				
8:30 AM-10:00 AM	**Plenary Session** – Navigating Unlikely and Unforeseen Risks in Financial Markets: Lessons from 25 Years in Alternative Investments, *Lone Star DE*				
10:00 AM-10:30 AM	**Coffee Break**				
	Lone Star H	**Room 201-202**	**Room 203-204**	**Room 205**	**Brazos Room**
10:30 AM – 12:00 PM	T2-F: Symposium: Case Studies in Community-Based Climate Change Adaptation	T2-G: Chemicals and Fibers: Outside and Inside the Body	T2-H: Wildfire - Risk, Community, Communication	T2-I: Lightning Round Talks	T2-J: Roundtable: Too negative for engaging with communities? Reframing risk using positive narratives
12:00 PM-1:30 PM	**SRA Business Meeting and Awards Lunch,** *Lone Star DE*				
1:30 PM-3:00 PM	T3-F: Symposium: Challenges and opportunities of vulnerability and resilience analysis of infrastructure systems	T3-G: Roundtable: Advances in Occupational exposure assessment under TSCA	T3-H: Symposium: Wildfire Risk, Impact, Management	T3-I: Symposium: Organizational Risk - Developing New Models and Extending Applications	T3-J: Symposium: Equity in Disaster Resilience: assessing and addressing impacts on communities
3:00 PM-3:30 AM	**Coffee Break,** *Lone Star Foyer*				
3:30 PM-5:00 PM	T4-F: Roundtable: Preparing for the next pandemic: How can risk and decision analysis support enhanced preparedness and readiness?	T4-G: Modeling and Analyzing Risks: In the Body and the Workplace	T4-H: Symposium: Confronting the Wildfire Crisis Leveraging Risk-informed Wildfire Preparedness and Recovery Strategies	T4-I: Symposium: Risk Analysis in the Arctic	T4-J: Roundtable: Challenges and opportunities for improving communication of air quality risk using real time and forecast air quality index data during smoke season
6:00 PM-7:30 PM	**Specialty Group Mixers,** *see page 6*				

	Lone Star A	Lone Star B	Lone Star C	Lone Star F	Lone Star G
8:30 AM-10:00 AM	W1-A: Symposium: Engineering & Community Resilience	W1-B: Symposium: Advancing Flood Resilience	W1-C: Risk Perception and Communication III	W1-D: AI to Support Risk Assessment	W1-E: Symposium: QMRA in Risk Management
10:00 AM-10:30 AM	**Coffee Break**, *Lone Star Foyer*				
10:30 AM – 12:00 PM	W2-A: Mathematical Models for Applied Risk Analysis	W2-B: Symposium: Solar Climate Engineering: Risks, Governance and Monitoring	W2-C: Variables in Health Risk Communication	W2-D: Disaster Resilience and Risk Assessment	W2-E: Symposium: Applying QMRA to Building Water Risks
12:00 PM – 1:30 PM	**Plenary Lunch** – Panel Discussion: Managing the Unimaginable: Using Risk Analysis to Increase Societal Resilience to Global Catastrophic Risks, *Lone Star DE*				
1:30 PM-3:00 PM	W3-A: Resilience, Security, and Geopolitics	W3-B: Post-disaster Mobility Management	W3-C: Roundtable: Did we make a mistake when we called it 'risk communication'? What now?	W3-D: Risk for High Tech	W3-E: Symposium: Advancing Risk Assessments in Farm to Fork Pathways
3:00 PM-3:30 AM	**Coffee Break**, *Lone Star Foyer*				
3:30 PM-5:00 PM	W4-A: Inclusive Risk Governance	W4-B: Critical Infrastructure Risks	W4-C: Pandemics: Risk Assessment and Risk Perception	W4-D: Innovations and Challenges in Cybersecurity and Information Technology	W4-E: Roundtable: Unseen Risks for Influenza A H5N1 in Cattle, Dairy Workers, and other Humans Roundtable: Unseen Risks for Influenza A H5N1 in Cattle, Dairy Workers, and other Humans

	Lone Star H	Room 201-202	Room 203-204	Room 205	Brazos Room
8:30 AM-10:00 AM	W1-F: Climate Change - Frameworks and Impacts	W1-G: PFAS, PFAS, PFAS	W1-H: Nuclear Issues and Risk Analysis	W1-I: Symposium: Exploratory Risk Analysis Methodology Development for National Critical Infrastructure Applications	W1-J: Risk Communication and Management
10:00 AM-10:30 AM	**Coffee Break,** *Lone Star Foyer*				
10:30 AM – 12:00 PM	W2-F: Climate Change Adaptation	W2-G: Symposium: What's new in microplastics regulation and why should we care?	W2-H: Roundtable: Frontiers of Benefit-Cost Analysis	W2-I: Symposium: Communicating Unseen Risks in Food – FDA Research Informing Communication, Education, and Practice	W2-J: Governance of Risk Complexity
12:00 PM – 1:30 PM	**Plenary Lunch** – Panel Discussion: Managing the Unimaginable: Using Risk Analysis to Increase Societal Resilience to Global Catastrophic Risks, *Lone Star DE*				
1:30 PM-3:00 PM	W3-F: Climate Change Mitigation	W3-G: Roundtable: From a risk science perspective, what have we learned from the COVID-19 pandemic and its risk handling?	W3-H: Symposium: Benefit-Cost Analysis: New Insights and Innovations	W3-I: Water and Risk	W3-J: Symposium: Different Perspectives from the Social Sciences on "Intuitive Risk Management"
3:00 PM-3:30 AM	**Coffee Break,** *Lone Star Foyer*				
3:30 PM-5:00 PM	W4-F: Symposium: Climate Change, Natural Hazards, and Critical Infrastructure	W4-G: Roundtable: A Review of the National Nanotechnology Initiative (NNI) – The Development of a Risk Based Research Infrastructure	W4-H: Symposium: MENA region risk scanning		

Technical Program

10:30 AM – 12:00 PM

M2-A
Symposium: Wildland fire exposure hazards – A case study for integrating occupational and community risk assessment

Lone Star A

10:30 am
Overview and Goals of the Session
Christine Whittaker
NIOSH/CDC

10:45 am
Wildland fire smoke exposure among farmworkers and other outdoor workers
Richard Niemeier
CDC/NIOSH

11:00 am
Use of the U.S. EPA Integrated Science Assessment for Particulate Matter to inform efforts to protect outdoor workers from wildland fire smoke
Douglas Johns
CDC/NIOSH

11:15 am
Modeling community-level exposures to wildland fire smoke in the Contiguous United States
Rish Vaidyanathan
CDC

11:30 am
Assessing and mitigating occupational and community exposures during cleanup operations after a wildland fire
Bill Beadie
Maul, Foster & Alongi, Inc.

10:30 AM – 12:00 PM

M2-B
Building Resilience for Critical Infrastructure

Lone Star B

Chair: Aleksandar Jovanovic

10:30 am
Novel Approaches to Analyzing Risk to the Critical Infrastructure Ecosystem using the Sector Risk Assessments and Infrastructure Prioritization
Andrea Fendt
Cybersecurity and Infrastructure Security Agency

10:45 am
Challenges related to the application of the EU regulation on the resilience of critical infrastructure (entities)
Pia-Johanna Schweizer
Research Institute for Sustainability – Helmholtz Centre Potsdam

11:00 am
Rethinking Resilience: Moving Beyond the Resilience Curve
David Alderson
Naval Postgraduate School

11:15 am
Enhancing the Resilience of Large-Scale Infrastructure Networks Using GNN-Enhanced Deep Reinforcement Learning
Amirhosein Shahlaee
UT Arlington

11:30 am
Applying a Functional Lens to Risk Analysis within CISA's Suite of Tools for the Analysis of Risk
Merideth Secor
Cybersecurity and Infrastrcuture Security Agency

11:45 am
Emergency evacuation from tsunami: Elements that have decided the fates of local schools and communities in the aftermath of the 2011 Great Eastern Earthquake
Mariko Nishizawa
Litera Japan Co.

10:30 AM – 12:00 PM

M2-C
Risk Perception and Communication I

Lone Star C

Chair: Ann Bostrom

10:30 am
Interaction effects between source's group identity and expertise on credibility
Hwanseok Song
Purdue University

10:45 am
Future time perspectives explain conservationist norms and climate adaptation among farmers
Naseem Dillman-Hasso

11:00 am
An Initial Study on Tailoring Risk Communication Messages with Large Language Models
Barry Ezell
Old Dominion University VMASC

11:15 am
ShakeAlert has increased earthquake risk awareness, but may not have increased preparedness
Ann Bostrom
University of Washington

Technical Program

10:30 AM – 12:00 PM

M2-D
Advanced Risk Assessment and Security Strategies

Lone Star F

Chair: Ian Unson

10:30 am
Red Teaming the Strategic Chemical Weapons Threat Landscape
Gary Ackerman
Nemesys Insights

10:45 am
Game-Theoretic Integration of Red Team Survey Data in Multi-Layer Security Systems
Ian Unson
University at Buffalo

11:00 am
Incorporating Terror in Terrorism Risk Assessments
Russell Lundberg
Sam Houston State University

11:15 am
AI Risk as Organizational Failure: A Socio-Technical Systems Perspective
Justin Valentino
Organizational Informatics LLC

10:30 AM – 12:00 PM

M2-E
Public and Community Health I

Lone Star G

Chairs: Patrycja Sleboda, Susan Greco

10:30 am
Climate Change and Health Vulnerability and Adaptation Assessments: Indicators Pertinent to Public Health
Susan Greco
University Of Toronto

10:45 am
Green Earth or healthy plate: Does an environmental message work better to limit beef consumption?
Prerna Shah
University of Georgia

11:00 am
A Cluster Analysis of Health Information Seeking Behavior Among American Indian and Alaska Native People
Kathryn Robinson-Tay
Washington State University

11:15 am
How can infringement incidents trigger the policy agenda for the construction of child-friendly cities?óóA crisp-set qualitative comparative analysis based on 20 child infringement focus incidents
Huimin Yu
South China Agriculture University

10:30 AM – 12:00 PM

M2-F
Agriculture, Environment, and Risk

Lone Star H

Chair: Katie Barnhill

10:30 am
Psychoactive Drugs: Environmental distribution, interactions with microbial communities, and ecotoxicity impacts on oyster larvae
Sheree Pagsuyoin
UMass Lowell

10:45 am
Optimal Sampling Strategy for Probability Estimation: An Application to the Agricultural Quarantine Inspection Monitoring Program
Huidi Ma
The University of Texas at Austin

11:00 am
Understanding the Role of Technological Complexity in Sustainability Transitions using Stochastic, Bi-level Optimization
Nathan Boyd
University of Maryland

11:15 am
An Environmental Reference Framework to Inform More Biofriendly Plastics
Cheng Wang
Argonne National Laboratory

10:30 AM – 12:00 PM

M2-G
Environmental Risks: Emerging Contaminants and Pathogens

Room 201-202

Chair: Madeline Lewis

10:30 am
Quantifying Candida auris and Clostridioides difficile infection risks in acute care settings
Madeline Lewis
Ohio State University College of Public Health

10:45 am
An Overview of US One Health Initiatives: Conflicting Roles and Authorities between Public Health and Emergency Management during Animal Health Infectious Disease Outbreaks
Katarzyna Klasa
University of Michigan

11:00 am
Risk Management for Low Dose Chemicals and Radiation
Richard Williams
Center for Truth in Science

11:15 am
Bottled water quality in rural southwest virginia: comprehensive county-wide analysis of microbiological and chemical parameters
Md Rasheduzzaman
Virginia Polytechnic Institute and State University

11:30 am
Disinfection byproduct occurrences in rural appalachian Virginia: current trends and future directions
Md Rasheduzzaman
Virginia Polytechnic Institute and State University

11:45 am
Value of being the first biosimilar entrant and risk of late entry into US biosimilar markets
John McGeeney
Eastern Research Group, Inc.

10:30 AM – 12:00 PM

M2-H
Symposium: Protecting Soft Targets and Crowded Places

Room 203-204

Chair: Jun Zhuang

Behavioral validation of deterrence for multilayer security games
Richard John
Univ of Southern Californiaa

A Resource Allocation Game Between Attackers and Defenders in a Multi-Entrance, Multi-Layered, and Multi-Target System
Ting Zan

School Safety Perceptions of Students, Staff, and Parents in Response to Three Threat Scenarios
Kevin Kapadia
University of Southern California

Privacy-Preserving Human Tracking and Intrusion Detection in Classrooms Using WiFi Channel State Information
Rojin Zandi
Northeastern Univeristy

Optimizing Risk in Active-Shooter Scenarios by Controlling Automatic Doors
Aniirudh Ramesh
University of Tennessee

10:30 AM – 12:00 PM

M2-I
Ambient Air Pollution: Sources, Monitoring, and Health Effects

Room 205

Chair: Lisa Westbrook

10:30 am
Trends in exposure to air pollutants from Marcellus and Utica shale development
Jeremy Gernand
Penn State University

10:45 am
A study of ambient air monitoring of particulates and crystalline silica near aggregate production operations (APOs) in central Texas
Lisa Westbrook
Texas Commission on Environmental Quality

11:00 am
Ambient air monitoring following natural disasters in Texas
Darrell McCant
Texas Commission on Environmental Quality

11:15 am
Risk of bias tools for air pollution epidemiology
Wenchao Li
Gradient

11:30 am
Preliminary Modeling to Evaluate Route-to-Route Extrapolation for Inhalation of Per- and Polyfluorinated Alkyl Substances (PFAS)
Michael Dzierlenga
US EPA

10:30 AM – 12:00 PM

M2-J
Roundtable: Updating the Social Amplification of Risk Framework: a process and some accomplishments

Brazos Room

The Social Amplification of Risk Framework (SARF) has had significant influence on integrating parts of the field of risk analysis for 35 years. However, despite significant evolution of the practice of risk assessment and management and significant changes in the information/communication ecosystem with the advent of the internet and social media, SARF has been slow to evolve in-kind. There have been some important developments in SARF over the recent years. For example there has been much more focus on mechanisms and consequences of risk attenuation, new consideration of signal transmission in a decentralized social media landscape, and greater work in integrated models that can help predict and understand how risks and risk management actions can have unintended effects in related systems (the so-called "ripple effects"). However, what has been needed is a deeper reconsideration of the framework itself that is better able to capture the breadth of content recently developed that expands upon the original SARF.

Over the past three years, a diffuse group of SRA members with levels of engagement ranging from zeal to supportive has been discussing updates to SARF. At SRA 2023 there were two symposia on SARF along with an informal discussion meeting intended to expand the scope of participation in this venture. Emerging from those encounters was a three-day working meeting at ETH-Zürich to move the process along. That meeting produced a core paper that developed improvements to SARF and elaborated on activities for additional follow up. The paper will be the focus of this roundtable. Also accomplished or in-progress since the last SRA meeting are supplementary papers on the expansion of SARF, including a paper integrating social arena theory into the framework, a literature review of SARF-related publications, a publication that demonstrates how SARF could help to understand the iterative nature of risk characterization and social amplification, and a paper on the communicative strategies anti-offshore wind groups use to amplify risks. Some of these papers have been published or submitted for publication, others are still in draft form.

The purpose of this roundtable is to present the updated vision of SARF that emerged from the various encounters and papers over the past year and was codified at Zurich. That vision includes an updated presentation of the framework along with an appeal for continued further updating of the framework through using, testing and applying it. Panelists include five co-authors of the paper and a commentator with considerable knowledge and experience in SARF and risk communication.

We hope that this roundtable will encourage more SRA members to become engaged in the use of SARF and in reimagining and updating it. Discussion will focus on the strengths and shortcomings of the original SARF and the content developed in Zürich to improve and expand upon the framework. This is very much a work in progress – an initial step, but not the final word. Among the possible future activities that will be discussed is developing and deploying a wiki-like website that can capture existing and emerging literature and offer a structure under which new SARF contributions can be organized and curated on a continual basis. Such a tool should ideally help both encourage and guide research and application related to social amplification. The structure of this repository could be directly informed by the structure of the updated framework.

Session Chair:

- Rob Goble, Clark University

Panelists:

- Angela Bearth, ETH Zurich
- Rui Gaspar, Lusófona University
- Ortwin Renn, Research Institute for Sustainability – Helmholtz Center Potsdam (RIFS)
- Pia-Johanna Schweizer, Research Institute for Sustainability – Helmholtz Centre Potsdam
- Michael Siegrist, ETH Zurich
- Katherine McComas, Cornell University

1:30 PM – 3:00 PM

M3-A
Poster Platform: Risk, Perception and Communication

Lone Star A

1:30 pm
Belief in channels, trust in scientists, perception of capacity: impact of conflicting information exposure on information seeking
Xinxia Dong
Shanghai University

1:35 pm
An Evaluation of US EPA's Updated Soil Lead Guidance Values
Kyle Colonna
Gradient

1:40 pm
Analyzing testimonies about the Great Kanto Earthquake of 1923
Maho Ishibashi
The University of Tokyo

1:45 pm
Panic behaviors in natural disaster, a psychological experiment with VR system in northern Thailand
Shoji Tsuchida
Kansai University

1:50 pm
Disaster communication Network Resilience: An examination of cross-sector disaster response and recovery social network
Xiaochen Angela Zhang
University of Oklahoma

1:55 pm
Perfluoroalkyl and polyfluoroalkyl substances (PFAS) contamination in Texas
Janet Petruska
TCEQ

2:05 pm
Bayesian Statistics Benchmark Dose Modeling Carcinogenic Data of Nitrosodimethylamine (NDMA) and N-Nitrosodiethylamine (NDEA) for International Comparative Cancer Risk due to Consumption of Drinking Water and Beer
Wei-En Huang
National Taiwan University

1:30 PM – 3:00 PM

M3-B
Disaster Risk Management and Adaptation

Lone Star B

Chair: Mitchell Anderson

1:30 pm
Spatial climate risk and adaptation: An evaluation criteria for hazard data quality for climate and natural hazard adaptation planning
Mitchell Anderson
University of Canterbury

1:45 pm
Increasing the adaptive capacity of coastal cities in the US Gulf Coast to extreme climate events
Gabrielle Wong-Parodi
Stanford University

2:00 pm
Assessing Future Hurricane-Related School Closures: A Multi-Scenario Analysis
Diako Abbasi
University of Maryland

2:30 pm
Understanding non-local heat effects of urban infrastructures via physics-based deep learning
Chao Fan
Clemson University

1:30 PM – 3:00 PM

M3-C
Community Perceptions of Mobility and Transportation Risks

Lone Star C

Chairs: Marina Oliveira, Florence Dadzoe

1:30 pm
Prioritization of pavement for maintenance and rehabilitation considering social equity: A focus on Massachusetts
Florence Dadzoe
University of Massachusetts Amherst

1:45 pm
Use Habits and Risk Perceptions of Bicycles and Micromobility Vehicles
Christopher Doehring
University of Michigan IOE

2:15 pm
Spatio-temporal analysis and simulation of urban ecological resilience in the Zhuhai, China: Quantification using urban-ecosystem-health framework
Xing Zhang
Beijing Normal University

2:30 pm
Transforming mobility in the Amazon: A risk analysis and mitigation for ground effect vehicles
Marina Oliveira
Instituto TecnolÛgico de Aeron·utica

1:30 PM – 3:00 PM

M3-D
Search for Risk Indicators

Lone Star F

Chair: Olivia Jensen

1:30 pm
Understanding risk at an individual level: From risk literacy to risk know-how
Leonor Sierra
Sense About Science

1:45 pm
Risk Profiling of E-Cigarette Adoption Among Non-Smokers: Insights from the MINERVA Project
Gloria Brigiari
Unit of Biostatistics, Epidemiology and Public Health. University of Padova

2:00 pm
Risk communication evaluation: constructs, indicators and metrics in scholarship and practice
Olivia Jensen
National University of Singapore

1:30 PM – 3:00 PM

M3-E
Public and Community Health II

Lone Star G

Chair: Patrycja Sleboda

1:30 pm
Understanding air quality (mis)perceptions in New York City: A mixed-methods approach
Christine Gilbert
Stony Brook University

1:45 pm
Risk Communication Using Maps: Reducing the Psychological Distance of Environmental Injustice
Alex Segre Cohen
University of Oregon

2:00 pm
SNAP trading in Los Angeles County: A survey-based human social sensing approach
Jose Scott
University of Southern California

2:15 pm
Development of scientific knowledge of health effects of Plutonium from Seaborg's discovery of this new element in 1940 to the present
Roger McClellan
Toxicology and Risk Analysis

2:30 pm
Environmental concerns matter more than health concerns for not eating red meat: Evidence from a national U.S. survey.
Patrycja Sleboda
Baruch College, City University of New York

1:30 PM – 3:00 PM

M3-F
Plastics: Big and Small

Lone Star H

Chair: Meera Cush

1:30 pm
European approach to the regulation of microplastics
Meera Cush
Ramboll UK Limited

1:45 pm
Fragmentation of plastics in the environment into microplastics, nanoplastics, and dissolved organics to develop a mechanistic model for risk assessment and estimate polymer additive leaching release
Joana Sipe
Duke University

2:00 pm
Quantum chemically calculated Abraham Parameters for quantifying and predicting polymer hydrophobicity
Kevin Hickey
Argonne National Laboratory

2:15 pm
Sources, Impacts and Solutions: Community perceptions of plastic pollution along the Mississippi River
Emily Walpole
The Environmental Protection Agency

1:30 PM – 3:00 PM

M3-G
Symposium: Risk-Benefit Evaluations of Novel Agrifood Technologies Based on Diverse Stakeholder Views

Room 201-202

1:30 pm
Risk-Benefit Evaluations of Novel Agrifood Technologies Based on Diverse Stakeholder Views
Khara Grieger
North Carolina State University

1:45 pm
Advancing risk governance processes for novel agrifood technologies through online engagement platforms
Madison Horgan

2:00 pm
Evaluating environmental risk assessment parameters and processes for genetically engineered crops in select case studies
Nicholas Loschin

2:15 pm
Stakeholder perceptions of risks and benefits related to novel agrifoods
Colin Larter
Iowa State University

2:30 pm
Improving sustainability of novel agrifoods through risk-benefit evaluations and stakeholder perceptions
Khara Grieger
North Carolina State University

1:30 PM – 3:00 PM

M3-H
Symposium: Soft target security and deterrence for infrastructure networks

Room 203-204

Chair: Samrat Chatterjee

1:30 pm
Graph neural networks for analyzing urban rail transit system threat deterrence
Samrat Chatterjee
PNNL

1:45 pm
Learning from Surprise: Training and Exercises for Infrastructure Systems and Soft Targets
David Alderson
Naval Postgraduate School

2:00 pm
A review of emerging risks and computational tools for the US water utilities
Lina Sela
The University of Texas at Austin

2:15 pm
Modeling the Compound Effects of Flood Hazard and Malicious Attacks on Crowd Management in Surface Transportation Facilities
Yifan Wang
Rutgers University

2:30 pm
Bayesian-based Deep Inverse Reinforcement Learning Approach to Protect Soft Targets under Active Shooter Violence
Mohammad Marufuzzaman
Mississippi State University

1:30 PM – 3:00 PM

M3-I
Indoor Air Pollution Monitoring, Health Effects and Interventions

Room 205

Chair: Samrat Chatterjee

1:30 pm
Semivolatile organic compounds in U.S. high schools: Concentrations and associations with building characteristics and seasonal variations
Hongwan Li
University of Oklahoma Health Sciences

1:45 pm
Computational fluid dynamics and QMRA modeling of influenza A virus and rhinovirus transmission in a shared children's bedroom
Amanda Wilson
University of Arizona

2:00 pm
Housing upgrades, the social and behavioral correlates of indoor air quality, and protective action
Gabrielle Wong-Parodi
Stanford University

2:15 pm
Efficient Antiviral Air Filtration Based on MXene and MXene/Laser Induced Graphene
Dheeban Govindan
New Jersey Institute of Technology

2:30 pm
From bioreactors to hospitals: incorporating bench scale studies in mechanistic models to reduce legionellosis outbreaks in healthcare facilities
Kayla Shorter
The College of New Jersey

1:30 PM – 3:00 PM

M3-J
Roundtable: Risk Science and the New Value of Worker Health and Well-Being in a Changing World

Brazos Room

Well before 2020, Warren Buffett stated, "Only when the tide goes out do you discover who's been swimming naked." The changing tides from 2020, particularly our experience with the COVID-19 pandemic, have had significant impacts, and revealed many previously unseen risks, especially related to human and social health. From this, the role of human and social capitals have been gaining increased attention in organizational risk management and decision-making. Corporations and factoring environmental, social, and organizational governance (ESG) standards and public policy into their strategic planning. Assessing values, and determinations of value are central components of capitals-thinking. A significant aspect of this new holistic approach to corporate decision making includes workers consumers, and communities.

This session examines the role risk science including assessment, management, and communication has in "new value" activities related to worker health and well-being. It builds on themes included the National Safety Council's (NSC) 2023 landmark report titled, "The New Value of Safety and Health in a Changing World." This report frames new value in terms of leading indicators that include decision-making, neuroscience, serious injury, illness, and fatality prevention, and human and organizational performance; and emphasizes integrated risk management.

Strategies for managing unseen risks for workers serve as templates for considering more broadly consumers, people in supply chains, and communities. Frameworks and metrics will be discussed along with strategies for increasing their impact. Specific topics include: risk and materiality assessment in ESG; value accounting; the Total Worker Health™ approach and framework; The ISO 45003 standard for psychological health and safety at work; the carbon-footprint assessment methods applied to worker health and well-being; the NSC 2023 report; the Frank R. Lautenberg Chemical Safety for the 21st Century Act, Toxic Substances Control Act (TSCA); capitals-thinking; the Capitals Coalition's Social and Human Protocols; and, ISO 37000 (organizational governance).

The role of stakeholder dynamics in risk communication are discussed and debated within risk society and risk perception contexts offered by Ulrich Beck and Paul Slovic. Speakers address how risk science foundations can, and are being used and leveraged to increase worker, consumer, and community health and well-being. Successes and challenges, along with future-looking thoughts are discussed.

Session Chair:

- Charles Redinger, Redinger 360, Inc.

Panelists:

- Fred Boelter, Boelter Risk Sciences and Engineering LLC
- Frank Hearl, Hearl Environmental Consulting LLC
- Silvia Maberti, ExxonMobil Biomedical Sciences, Inc.
- Mary O'Reilly, University at Albany School of Public Health and Workplace Health Without Borders-US
- Nancy Wilk

3:30 PM – 5:00 PM

M4-A
Poster Platform: Risk Potpourri

Lone Star A

3:30 pm
Examining the relationship between wildfire experiences and climate change engagement in the Western United States
Ran Duan

3:35 pm
Prescribed Fire Implementation and Firefighter Availability in the Okanogan-Wenatchee National Forest
Alison Cullen
University of Washington

3:40 pm
Applications of hierarchical holographic modelling in public health emergency management
Rachel Gowans
Public Health Agency of Canada

3:45 pm
Occupational health risk assessment on gallium arsenide
Ying Chen Lin
National Taiwan University

3:50 pm
Pilot study of consumer product chemicals measured using silicone wristband monitors
Peter Egeghy
U.S. EPA Office of Research and Development

3:55 pm
A longitudinal study of benzene concentrations to retrospectively cancer risk assessment for residents living near a photochemical assessment monitoring station
Ying-Qi He
National Taiwan University

4:00 pm
Microbial hazards in cultivated meat and seafood products
Wei Ng
Vireo Advisors, LLC

4:05 pm
Human health risk assessment for aerosolization of Cryptococcus neoformans from Urban Surfaces
David Kahn
Drexel University

4:10 pm
Reliability Modeling: The harmonization of international food safety standards for facilitating global trade
Daryl De Jean
PathogenFocus

4:15 pm
Probabilistic risk assessment due to exposures to melamine migrated from food containers by using the traditional TDI and probabilistic reference dose method
Min-Chuan Chien
National Taiwan University

4:20 pm
Risk Assessment of Carbohydrate Intake of Mediterranean Diet and Air Pollution on Chronic Lower Respiratory Diseases
Wen-Chao Ho
China Medical University

3:30 PM – 5:00 PM

M4-B
Managing Short- and Long-term Flood Risk in the US

Lone Star B

Chair: Kelsea Best

3:30 pm
Spatial and Temporal Analyses of Municipal Fiscal Stress under Sea Level Rise: Case Study of Dorchester County, MD
Qian He
Rowan University

3:45 pm
Hurricane risks to the coastal North Carolina economy
Dahui Liu
Donghua University

4:00 pm
Joint Structural-Household Inventory Generation for Large-Scale Hurricane Hazard Assessment
Hesam Soleimani
UCLA

4:15 pm
Assessing the equity implications of flood risk to public housing across the United States
Kelsea Best
The Ohio State University

4:30 pm
Rethinking Flood Insurance: Reimagining the Reverse Mortgage to Replace the National Flood Insurance Program
Mia Renna
University of Maryland College Park

3:30 PM – 5:00 PM

M4-C
Social Systems

Lone Star C

Chair: Doug Bessette

3:30 pm
Examining how place, policy, process, and perceptions impact solar development and climate mitigation
Doug Bessette
Michigan State University

3:45 pm
Uncertainty in Work Motivation: A Source of Operational Risk
Yundong Huang
St. Edward's University

4:00 pm
Does explanation of AI-based or statistical risk calculators affect trust and acceptance of risk estimates?
Madhuri Ramasubramanian
University of Michigan

4:15 pm
Scientific literacy interventions and public understanding of research uncertainty: a message experiment with U.S. adults
Chelsea Ratcliff
University of Georgia

4:30 pm
The Disclosure of Corporate Social Irresponsibility as Impression Management
Lambert Zixin Li
Stanford University

3:30 PM – 5:00 PM

M4-D

Symposium: Economics of Cyber Risk Management and Resilience: Innovative Strategies and Regulatory Frameworks

Lone Star F

3:30 pm
Symposium: Economics of Cyber Risk Management and Resilience: Innovative Strategies and Regulatory Frameworks
Omer Keskin
University at Albany

3:45 pm
Secure by Design initiative and its effectiveness in transferring risk
Kenneth Crowther
Xylem

4:00 pm
Security from the Start: Assessing Public Discourse on Secure by Design Software
Brianna Bace
University at Albany

4:15 pm
If employees browse porn, does it increase the risk of malware infection? A large-scale empirical study of individual behavior's impact on cybersecurity risk
Fabio Massacci
Vrije Universiteit Amsterdam

4:30 pm
A systematic review of risk analysis methods and datasets for cyber insurance
Omer Keskin
University at Albany

3:30 PM – 5:00 PM

M4-E

Symposium: Estimating and Valuing Changes in Health and Longevity

Lone Star G

3:30 pm
Updating QALY Estimates in U.S. Regulatory Analysis for Nonfatal Injuries
William Raich
Industrial Economics, Incorporated

3:45 pm
Stated Preference Surveys of Willingness to Pay to Reduce Risk of Infectious Illness and Their Long-term Outcome
Sandra Hoffmann
USDA Economic Research Service

4:00 pm
AI, Air Pollution, and Death: Risk Assessment for Global Benefit-Cost Analysis
Ernani Choma
Harvard University

4:15 pm
Long-Term Associations of Industrial Sector-Specific Air Pollution with All-Cause and Cause-Specific Mortality in Canada
Sabit Cakmak
Health Canada

3:30 PM – 5:00 PM

M4-F

Symposium: Recent Progress in the Development and Application of New Approach Methodologies for Risk Assessment of Advanced Materials

Lone Star H

3:30 pm
Choices and Consequences of Omics in Genetically Engineered Crop Regulation
Nicholas Loschin

3:45 pm
Development of Gastrointestinal, Dermal and Inhalation Models for Next Generation Cellulose Safety Assessments
Yueyang Zhang
Vireo Advisors, LLC

4:00 pm
Integrating New Approach Methodologies into Life Cycle Risk Assessment to Evaluate the Risks of Next Generation Cellulose Materials
James Ede
Vireo Advisors

4:15 pm
Building predictive models for high throughput analyses of environmental contaminants.
Amanda Sevcik
Baylor University

3:30 PM – 5:00 PM

M4-G

Symposium: Arsenic and Old Straits: Foodborne Toxic Elements and New Policies for Their Control

Room 201-202

Chair: Heather Schaefer

3:30 pm
FDA's New Action Levels for Toxic Elements: Public Health vs. Economic Impacts, and Solutions
Felicia Wu
Michigan State University

3:45 pm
Cadmium – Initiatives to reduce dietary exposure
Heather Schaefer
US Food and Drug Administration

4:00 pm
Estimation of a toxicological reference value for dietary arsenic exposure based on cardiovascular disease risk
Charitha Gamlath (Pahala Gallath Rallage)
Michigan State University

4:15 pm
Analysis of Potential Elevated Inorganic Arsenic Content in Brown Rice Compared to White Rice
Christian Scott
Michigan State University

4:30 pm
Quantifying the Burden of Dietary Lead Exposure on Childhood Cognitive and Behavioral Disorders in the US: A DALY Calculation
Patricia Hsu
Michigan State University

3:30 PM – 5:00 PM

M4-H
Symposium: Advancing Resilience and Risk Management in Critical Infrastructures through Emerging Approaches

Room 203-204

Chair: Samrat Chatterjee

3:30 pm
A Network Simulation Approach for Military Installation Resilience Against Compound Extremes
Samrat Chatterjee
PNNL

3:45 pm
Predicting Uncertain Infrastructure Interdependencies: A Case Study of Coupled Power-Transportation Networks
Alireza Rangrazjeddi
Vanderbilt University

4:00 pm
Machine Learning and Artificial Intelligence for Risk Applications
Shital Thekdi
University of Richmond

4:15 pm
Threat Modeling for Optimal Enterprise Protections Against Known Cybersecurity Threats
Branko Bokan
George Washington University

4:30 pm
Catastrophic Cyber Risks: The Role and Challenges of Insurance in Mitigation
Unal Tatar
University at Albany

3:30 PM – 5:00 PM

M4-I
Symposium: Managing Air Pollution and Climate Change Risks to Public Health in the United Arab Emirates

Room 205

Managing Air Pollution and Climate Change Risks to Public Health in the United Arab Emirates
Samrin Ahmed Kusum
North Carolina State University

Development of an Indoor Air Quality Research Plan for the UAE
Jacqueline MacDonald Gibson
North Carolina State University

Sick Building Syndrome, Indoor Air Quality, and Related Health Effects- A Systematic Literature Review
Liudmyla (Mila) Yutskevych
North Carolina State University

Air Pollution and the Risks to Public Health in the UAE- A Systematic Literature Review
Grace Kilroy
NC State University – CCEE

Risk of Cardiovascular Disease Attributable to Climate Change- A Systematic Literature Review
Samrin Ahmed Kusum
North Carolina State University

Assessing Disease Burdens Attributable to Ambient Air Pollution and Climate Change in the United Arab Emirates: An Updated Environmental Burden of Disease Model
Tongchuan Wei
North Carolina State University

3:30 PM – 5:00 PM

M4-J
Roundtable: Teaching risk in high schools: priorities, practicalities, and progress

Brazos Room

Over the past five decades, calls for integrating risk education into school curricula have intensified. Despite this clamour, the conceptualisation and implementation of such initiatives remain complex and contested. Professionals and scholars have been working to bring the concepts of risk to schools, including in the USA, Israel, the Netherlands, and the UK. While insights from prior experiences hold value and promise, further fundamental reflections are necessary. To enhance the conceptualisation of risk education and to thoroughly investigate and analyse its outcomes, this roundtable discussion begins by critically examining the landscape of risk education within the National Curriculum in England, focusing on the challenges and barriers identified through interviews with teachers and education experts. A subsequent panel of esteemed risk scholars will discuss the findings, and promote debate and reflection about the future of risk education in broader international contexts.

Key themes include the interdisciplinary nature of risk education, the diverse pedagogical approaches employed to teach risk-related concepts, the scientific evaluation of teaching risk, and promoting international reflection. Central to the dialogue is identifying future avenues of inquiry and action for risk scholars and practitioners.

Through a collaborative exploration of these challenges, the panel aims to illuminate pathways for optimising risk education in schools.

Session Chair:
- Frederic Bouder

Panelists:
- Sarah Duckett
- Ann Bostrom
- Joe Arvai
- Katherine McComas
- Frederic Bouder
- Wandi Bruine de Bruin

5:00 PM – 6:00 PM

M5-C
Roundtable: SRA regions in the new SRA governance structure: How can they contribute to further enhance SRA and risk science?

Lone Star C

A new SRA governance structure will now be implemented after the proposed governance changes were approved by SRA members this spring. A main change is related to the role of the SRA regions, as they now will be represented in the new advisory council of the Society. In this panel we will discuss implications and opportunities that this change means for the regions and SRA: What are the most urgent topics and issues that the regions should bring forward to the SRA leadership? This concerns administrative and scientific questions, but also challenges in society, in particular emerging risks as a result of geopolitical, societal, technological, economic and environmental changes.

Session Chair:
- Marja Ylonen

Panelists:
- Tom Logan
- Sandra Seno Alday
- Shoji Tsuchida
- Kuen-Yuh Wu

5:00 PM – 6:00 PM

M5-D
National Science Foundation Program Officer Discussion and Q&A

Lone Star F

6:00 PM – 8:00 PM

Poster Session and Reception

Griffin Hall

P.1
Information-seeking behavior during early phases of COVID-19: an examination of a campus community
Rejina Manandhar
Arkansas Tech University

P.2
Systematic evaluation of computational methods in risk and crisis communications research
Madison Munro
Montana State University

P.3
Extreme heat, fine particulate matter, and hospitalizations for COPD and renal disease in San Francisco, California
Annika Ramona
Exponent

P.4
Evaluation of National Ambient Background Ethylene Oxide (EO) Concentrations 2019-2023
Emma Moynihan

P.5
Swarm Distributed Learning for Infrastructure Monitoring
Anthony Devesa
Florida International University

P.6
Bridge deterioration projections: a hybrid model for proactive infrastructure management
Amma Agyekum
University of Massachusetts, Amherst

P.7
Predictive Statistical Methods for Assessing System Resilience
Priscila Silva
University of Massachusetts Dartmouth

P.8
Bioinformatics combined with machine learning unravels differences among environmental, seafood, and clinical isolates of Vibrio parahaemolyticus
Shuyi Feng
University of Maryland

P.9
Using predictive risk models to balance the benefits and health impacts of waste stream reuse in agriculture
Joanna Harrison
Arizona State University

P.10
Risk Assessment of Coincidence and Co-occurrence of Opportunistic Pathogens with Disinfection By-products
Negin Iranpour Boroujeni
Ohio State University

P.11
A review of previous risk prioritization frameworks for emerging contaminants in drinking water
Kate Wernicke
Michigan State University

P.12
“Too Close for My Comfort”: A Content Analysis of Instagram Captions and Comments on Bear Encounter Posts
Rebekah Wicke
Cornell University

P.13
Exploration into Quantitative Methods for Cumulative Risk and Impact Assessments: A Literature Review
Dana Moskowitz
EA Engineering

P.14
A Flexible Radiation Dose-Response Modeling Considering Age Trends of Radiation Effects in Japanese Atomic Bomb Survivors
Munechika Misumi
Radiation Effects Research Foundation

P.15
A scalable toxicity assessment framework that quantitatively integrates mode of action information for the derivation of a more data-driven reference dose (RfD) – a case study of perfluorooctanoic acid (PFOA)
Yun Zhou
Indiana University Bloomington

P.16
Vulnerability and power dynamics: Uncovering health-related issues and structural barriers within the Michigan Department of Health and Human Services
Latifa Salangi
MSU

P.17
Analysis of impact of prior information for BMDL calculation of continuous data from animal study using the Bayesian model software tools.
Asako Fukushima
Chemicals Evaluation and Research Institute, Japan

P.18
Exploring incorporation of genomic data into a risk model for salmonella enterica in chicken meat
Edmund Benefo
University of Maryland

P.19
Understanding Information Avoidance Behavior during Crises: The role of anger and risk perceptions
Nagwan Zahry
University of Tennessee

P.20
Where did lead in soil come from? The prominent role of background urban sources given recent changes to USEPA guidance and modeling tools
Kirby Tyndall
GSI Environmental, Inc.

P.21
Coming Full Circle at Perkins Square
Dana Moskowitz
EA Engineering

P.22
Resilience Assessment of Railway Transportation Network in Coastal Cities in the Context of Climate Change: A Case Study of Shenzhen City in China
Guofang Zhai
Nanjing University

P.23
Effects of street-level thermal comfort on collective behaviors within the diurnal cycle: The moderating effect of streetscape perception
Guofang Zhai
Nanjing University

P.24
Framing Failures: The Role of Locus of Control in Science and Risk Narratives of Research Setbacks
Annie Zhang
University of Michigan

P.25
Geographic and sociodemographic disparities in estimated potential exposure risks of children to ambient air respiratory toxicants at US public schools
Mariah Amter
Oakridge Institute for Science and Education (ORISE)

P.26
Community Perceptions of Environmental Risks & Participatory Mapping Outcomes
Rowena Kirby-Straker
Wake Forest University

P.27
Climate Resilience Analysis of Water Infrastructure Systems Under Uncertainty
Yiyi Zhang
UT Arlington

P.28
Preparedness and communication for mega-events: findings from the 2024 total solar eclipse
Rejina Manandhar
Arkansas Tech University

P.29
Verification of Trials to Mitigate Risk Perception of Electromagnetic Fields Using Teaching Materials for Pregnant Women
Chiyoji Ohkubo
JapanEMF Information Center

P.30
Where does corrective health information come from? A study of complementary channel use for different information exposure conditions
Shuming Yang
Wuhan University

P.31
PFAS Risk Communication: Eye Tracking and Dual Process Models
Amelia Couture Bue
University of Maine

P.32
Data-Driven Analysis of Campaigning on Social Media Platforms
Darla Doell
California Polytechnic State University

P.33
Exploring Hidden Health Risks: Media Representations of Superfoods in Taiwan
Yi-Jung Lee
National Taiwan University

P.34
A study on public behavior of earthquake early warnings and its influencing factors
Xingfei Wei
Lanzhou University

P.35
Can positive labels help to overcome the low popularity of vegan food? A national food choice experiment.
Patrycja Sleboda
Baruch College, City University of New York

P.36
Towards Resilient and Sustainable Supply Chains Through Digital Twins
Thierry Warin
HEC Montreal

P.37
Development of a multidimensional organizational risk management matrix
Charles Redinger
Redinger 360, Inc.

P.38
Exploring risk governance deficits for marine oil spill preparedness and response in Canada
Floris Goerlandt
Dalhousie University

P.39
Exploring risk governance deficits for maritime search and rescue in Canada
Floris Goerlandt
Dalhousie University

P.40
Developing a risk-scoring method to prioritize the remediation of abandoned mine lands in Arizona
Emma Bonham
Arizona State University

P.41
Silver spoons and toxic soups: the influence of health and wealth on risk perceptions near a California hot lab
Jenna Blyler
University of Southern California

P.42
Order Matters: Investigating the Impact of Question Sequence on Multidimensional Risk Perceptions
Savannah Meier
Purdue University

P.43
Navigating Critical Infrastructure Risks through Network Governance: a review of the literature
Krisno Nugroho
University College London

P.44
A systematic review of talc and cancer epidemiology evidence
Denali Boon
Gradient

P.45
Spatial optimization for coastal retreatStrategic Retreat: Balancing Equity, Risk, and Housing Preferences for climate resilience
Kendrick Hardaway
Purdue University

P.46
Similarities and differences between cumulative impact assessment and cumulative risk assessment
Nicolle Tulve
U.S. Environmental Protection Agency

P.47
The association between neighborhood walkability and blood lipids: a Canadian population study
Sabit Cakmak
Health Canada

P.48
Lead exposure estimation through a physiologically based toxicokinetic model using human biomonitoring data and comparison with scenario-based exposure assessment: a case study in Korean adults
Yong-Kook Kwon
National Institute of Food and Drug Safety Evaluation

P.49
"Generational" resilience: A case study of scaling investments in resilient electricity infrastructure at the community level in California
Dan Thompson
World Bank

P.50
Doing Science That Matters: Increasing Value-Driven Research
Scott Peacor
Michigan State University

P.51
Near-road population disparities in major U.S. urban areas: assessing socioeconomic and racial variations in exposure to traffic-related air pollutants
Qingyu Meng
U.S. EPA

P.52
Assessing PFAS risks and regulatory pathways
Julia Griffin
Vireo Advisors, LLC

P.53
How emotions influence resource management decision-making at the National Park Service
Julia Goolsby
Cornell University

P.54
An attempt to establish risk-based recycled plastic grades to enable appropriate plastic recycling
Kyoko Ono
RISS, AIST

P.55
Wildlife values can inform strategic conservation communication efforts
Josephine Martell
Cornell University

P.56
Planning for ever more complex geopolitical scenarios
Ivan Villaverde Canosa
University of Canterbury

P.57
Tools for decision-making under deep uncertainty in community adaptation: which, when and how
Patrick Curran
University of Canterbury

P.58
Estimating Possible Newly Eligible MSM under the Individual Donor Assessment for At-Risk Sexual Behavior
Yin Huang
The US Food and Drug Administration

P.59
Understanding cascading failures in interdependent infrastructure
Logan Brunner
University of Canterbury

P.60
Comparative Analysis of the Performance of Quantitative Structure-Activity Relationship Tools Applied to Flavor Ingredients
Trudi Denoon
Altria-ALCS

P.61
Comparing risk science choices underpinning formaldehyde exposure levels established by independent regulatory and advisory bodies
Katy Goyak
Celanese Corporation

P.62
An Integrated Strategy for Developing Air Pollution Exposure Model Inputs to Quantify Inter-Individual Variability in Human Exposures
Chris Frey
North Carolina State University

P.63
Redefining Robustness in Resilience Planning
Mazin Abdel Magid
Arizona State University

P.64
Optimizing Prescribed Fire Management: A Collaborative Framework for Public and Private Stakeholders
Jia Choi
University At Buffalo

P.65
Risk-Benefit Assessment of Pandemic Virus Identification
Geetha Jeyapragasan
MIT

10:30 AM – 12:00 PM

T2-A
Symposium: Layers of Resilience — The Case of Ukraine

Lone Star A

10:30 am
Mechanism for Recovery in Complex Systems: NSF IMPRESS Project
Gregory Kiker
University of Florida

10:45 am
Energy Resilience in Ukraine
Inna Skarga-Bandurova
Oxford Brookes University

11:15 am
Sumary of the NATO Workshop on Resilience in COuntries in Transition
Paige Du Puy
U.S. Army Engineer Research and Development Center

10:30 AM – 12:00 PM

T2-B
Improving Hazard Assessments for Building Resilience

Lone Star B

Chair: Luke Hogewood

10:30 am
A Matrix-based approach to watershed resilience assessment
Luke Hogewood
US Army Corps of Engineers

10:45 am
Spatial and temporal changes in socioeconomic vulnerability to flood hazards in Canada
Liton Chakraborty
University of Waterloo

11:00 am
Urban Flood Modelling and Risk Assessment of Guwahati City based on Mike +
Dipjyoti Gogoi
University of Madras, Chennai

11:15 am
Quantifying Compounding Weather Hazards: A Bayesian Approach
Sam Dulin
U.S. Army Corps of Engineers

10:30 AM – 12:00 PM

T2-C
Risk Perception and Communication II

Lone Star C

Chair: David Reid

10:30 am
Building a resilient future: insights from the World Risk Poll
David Reid
Lloyd's Register Foundation

10:45 am
Putting Feelings at the Center of Actionable Risk Communication
Mike Nye
US Environmental Protection Agency

11:00 am
Connecting community risk perceptions, experiences, and protective actions after the East Palestine chemical spill and fires
Joseph Toland
Tufts University

11:15 am
Coping with Polycrisis: The concept of systemic risks and its contribution to risk management and communication
Ortwin Renn
Research Institute for Sustainability (RIFS)

10:30 AM – 12:00 PM

T2-D
AI and Risk: Perception and Inference

Lone Star F

10:30 am
When is it Appropriate to Rely on AI? Evaluating User Discernment
Harishankar Vasudevanallur Subramanian
Missouri University of Science and Technology

10:45 am
AI & synthetic biology convergence: adaptive governance principles for balancing opportunities and threats
Megan Marcellin
University of Virginia

11:00 am
Evaluating Impacts of Hurricane Fiona across Puerto Rico through a Hybrid Qualitative Approach leveraging AI
Poulomee Roy
University at Buffalo

11:15 am
National Weather Service (NWS) forecasters' perceptions of AI/ML and its use in operational forecasting
Christopher Wirz
National Center for Atmospheric Research

11:30 am
The use of artificial intelligence for evidence gathering in public health risk assessments
Dima Ayache
Public Health Agency of Canada

10:30 AM – 12:00 PM

T2-E
Food Safety and Standards

Lone Star G

Chair: Mark Powell

10:30 am
Performance assessment of the canadian food inspection agency's importer risk assessment model: application on importers of manufactured foods
Romina Zanabria

10:45 am
Media component categorization for safety evaluation of alternative proteins
Kora Kukk
Vireo Advisors LLC

11:00 am
A hybrid risk modelling approach to explore imported food safety risks using surveillance data from multiple sources (FIRE+: Food Import Risk Explorer+).
Ashwani Tiwari
Canadian Food Inspection Agency

11:15 am
The National Bioengineered Food Disclosure Standard and its impact on approval of bioengineered foods
Cara Cuite
Rutgers University

11:30 am
Trends in Reported Foodborne Illness in the United States Revisited
Mark Powell
USDA/OCE

10:30 AM – 12:00 PM

T2-F
Symposium: Case Studies in Community-Based Climate Change Adaptation

Lone Star H

Engaging with vulnerable communities: A case study of adaptation planning in Buller District
Alyssa Ryan
University Of Canterbury

Addressing Climate Change Food Security with Indigenous Communities in Northern Canada
Cindy Jardine
University of the Fraser Valley

Motivating Collective Action for Climate Resilience
Robyn Wilson
The Ohio State University

Partnering with Communities for Coastal Adaptation Planning in Christchurch, New Zealand
Ruby Clark
University of Canterbury

Horizon Europe DIRECTED project
Benjamin Hofbauer
Research Institute For Sustainability

10:30 AM – 12:00 PM

T2-G
Chemicals and Fibers: Outside and Inside the Body

Room 201-202

Chairs: Debra Kaden, Nancy Beck

10:30 am
Risk assessment for chemicals with endogenous sources
Debra Kaden
Ramboll Americas Engineering Solutions, Inc

10:45 am
Inside/out: How endogenous formation of ethylene oxide informs the cancer dose-response from exogenous exposure
Sabine Lange
Texas Commission on Environmental Quality

11:00 am
Conducting Risk Assessments for Endogenously Produced Chemicals: A Case Study with Formaldehyde.
Robinan Gentry
Ramboll

11:15 am
A systematic review of talc and cancer experimental evidence
Julie Goodman
Gradient

10:30 AM – 12:00 PM

T2-H
Wildfire – Risk, Community, Communication

Room 203-204

Chair: Alison Cullen

10:30 am
Wildfire risk and community adaptation in high-latitude regions
Ivan Villaverde Canosa
University of Canterbury

10:45 am
Burning Doubts: Effects of Jargon in Wildfire Emergency Messaging on Receivers with Differing Experience
Hugh Walpole

11:00 am
Social Networks and Evacuation Timing: Analyzing the Impact of Social Ties on Decision-Making During the 2018 Camp Fire
Behnam Tahmasbi
University of Maryland

11:15 am
Assessing Regional Differences in Public Perceptions and Media Agenda-Setting Around Wildfire Smoke
Zoey Rosen
OU IPPRA

11:30 am
Mitigating wildfire risk with systems analysis of the planetary emergency
Megan Gunn
University of Virginia

10:30 AM – 12:00 PM

T2-I
Lightning Round Talks

Room 205

10:30 am
Meeting people where they are: four phenotypes for risk communication
Leonard Lee
National University of Singapore

10:35 am
Correcting Space Science Misinformation: Analysis of Prevention Strategies and the Impact on the Public
James Phillips
University of Oregon

10:40 am
When The Bill Comes Due: The Economics Behind City Climate Plans
Kendrick Hardaway
Purdue University

10:45 am
Associations between particle shape and orientation and microplastic deposition in the human lung
Ashish Jachak
RHP Risk Management, Inc.

10:30 AM – 12:00 PM

T2-J
Roundtable: Too negative for engaging with communities? Reframing risk using positive narratives

Brazos Room

The concept of risk has been a fundamental tool for scientists, policymakers, and practitioners in addressing complex challenges such as climate change. However, the dominant risk narrative, often characterized by crisis, vulnerability, and urgency, can be a barrier to effective community engagement. This roundtable brings together risk scientists from various disciplines, including those working with Indigenous communities, to explore how we can reframe risk to foster more inclusive, empowering, and culturally responsive approaches to climate adaptation while still leveraging the valuable techniques developed in risk science.

The prevailing risk discourse in the international climate community has been critiqued for its potential to discourage and alienate communities, particularly those who feel ill-equipped to respond to the magnitude of the crisis. This narrative can be especially problematic when engaging with Indigenous communities, as it may clash with their worldviews, cultural values, and traditional knowledge systems. For example, some Indigenous communities in Aotearoa New Zealand have found the Dynamic Adaptive Planning (DAPP) process, a common risk-based approach, to be overly technical, Western-centric, and disconnected from their lived realities and mātauranga (Māori knowledge).

In response, these communities have developed their own frameworks and planning approaches that emphasize relationality with natural processes, an ethics of care for people and place, and a focus on opportunity, flourishing, and abundance. These alternative narratives suggest that reframing risk could lead to more effective and culturally appropriate community engagement in climate adaptation. However, it is crucial to consider how we can incorporate these empowering perspectives while still leveraging appropriate risk assessment techniques and avoiding the inefficiencies and potential maladaptation that may come when communities feel they must reinvent the wheel.

This roundtable will explore how we can reconceptualize risk to better align with the diverse values, experiences, and aspirations of communities while still leveraging the strengths of existing risk science and approaches. We will discuss the limitations of the current risk paradigm, including its potential to reinforce existing power imbalances, marginalize certain voices, perpetuate technocratic, top-down solutions, and overlook opportunities for positive framing and transformative change. By critically examining the assumptions and worldviews that underpin our understanding of risk, we can work towards more inclusive, equitable, and transformative approaches to climate adaptation that build upon the foundation of risk science.

The roundtable will also highlight the importance of embracing diverse knowledge systems, including Indigenous and local knowledge, in reshaping our risk narratives. By valuing and integrating these knowledge systems alongside Western scientific knowledge, we can develop more holistic, context-specific, and culturally resonant approaches to risk assessment and management. This requires a willingness to challenge dominant paradigms, engage in intercultural dialogue, and co-produce solutions with communities. We will explore how risk scientists can frame their work in a way that encourages engagement and avoids outright rejection of risk-based approaches while still being receptive to alternative perspectives and methodologies.

Session Chair:

- Tom Logan

Panelists:

- Cindy Jardine, University of the Fraser Valley
- Amanda Boyd, Washington State University
- Angela Bearth, ETH Zurich
- Mitchell Anderson, University of Canterbury
- John Besley, Michigan State University

1:30 PM – 3:00 PM

T3-A
Symposium: Accessibility and Resilience – Theory

Lone Star A

1:30 pm
Advancing Equitable Access to Essentials: Understanding Community Resilience
Tom Logan
University of Canterbury

1:45 pm
Improving equitable access to critical facilities: insights from data-driven human mobility modeling
Zhiyuan Wei
California Polytechnic State University, San Luis Obispo

2:00 pm
Exploring access and SLR for domestic US military installations
Behnam Tahmasbi
University of Maryland

2:15 pm
Is Access to Services Predictive of Household Recovery?
Tessa Swanson
University of Michigan

2:30 pm
Accessibility and Resilience – Theory
Tom Logan
University of Canterbury

1:30 PM – 3:00 PM

T3-B
Symposium: Coastal Hazards, Equity, Economic prosperity, and Resilience (CHEER) Hub

Lone Star B

1:30 pm
Coastal Hazards, Equity, Economic prosperity, and Resilience (CHEER) Hub
Rachel Davidson
Univ of Delaware

1:45 pm
A stakeholder-based decision support framework for hurricane disaster risk management
Rachel Davidson
Univ of Delaware

2:00 pm
Development of a coupled modeling system for use in a stakeholder-based decision support framework for hurricane disaster risk management
Kendra Dresback
University of Oklahoma

2:15 pm
Joint Structural-Household Inventory Generation for Large-Scale Hurricane Hazard Assessment
Hesam Soleimani
UCLA

2:30 pm
Re-examining the Home Mitigation Process: An Application of the Precaution Adoption Process Model to a Structural Retrofit Incentive Program
Maria Porada
University of Delaware

2:45 pm
Hurricane risks to the coastal North Carolina economy
Ian Sue Wing
Boston University

1:30 PM – 3:00 PM

T3-C
Perceptions of Environmental Risks and Adaptations

Lone Star C

Chair: Natalie Herbert

1:30 pm
Voices from the Fields: Migrant Farmworker's Perspectives on Emerging Plant Biotechnologies and Insights for Engaging Hard-to-Reach Populations "
Sohinee Bera
Cornell University

1:45 pm
Climate change attribution and concern vary with experience in the home
Gabrielle Wong-Parodi
Stanford University

2:00 pm
Associating norms with adaptation actions and future intentions for extreme weather: evidence from three storms across the US
Natalie Herbert
Stanford University

2:15 pm
From uchronia to dystopia (and other, nicer stories): on the use of conceptual models to systematically explore multi-risk storylines encompassing episodic knowledge and counterfactuals.
Massimiliano Pittore
EURAC Research

1:30 PM – 3:00 PM

T3-D
AI Methods in and for Risk Analysis

Lone Star F

1:30 pm
Spatial and Temporal Patterns of EV Charging Usage: A Nationwide Analysis Using Machine Learning Techniques
Safoura Safari
University Of Maryland

1:45 pm
AI-powered statistical methods for risk assessment: conformal prediction, CPML, and Bayesian approaches
Francesco De Pretis

2:00 pm
Analyzing Unseen Risks by Granule-state Intelligent Mathematics
Chongfu Huang
Beijing Normal University

2:15 pm
Digital twins as a security risk?
Roger Flage
University of Stavanger

2:30 pm
Machine Learning for Enhancing Regulatory Prioritization of Workplace Chemicals
Jacob Kvasnicka
U.S. EPA Office of Research and Development

1:30 PM – 3:00 PM

T3-E
Food Safety-Methods and Models

Lone Star G

Chair: Romina Zanabria

1:30 pm
The work tasking logic model – a practical and analytical decision tool for food risk management and optimization of resources
Romina Zanabria

1:45 pm
Improving quantitative microbiological risk assessment through integration with whole genome sequencing – a Listeria monocytogenes case study
Sara Arnaboldi
Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia Romagna

2:00 pm
Establishment of a tertiary model with Bayesian statistics to assess cancer risk due to consuming maize contaminated with aflatoxin B1 influenced by climate change
Pei-Chen Chao
National Taiwan University

2:15 pm
Pediatric cancer patient caretakers' produce safety motivators, barriers, and beliefs
Carly Gomez
Michigan State University

2:30 pm
An Innovative System Modeling for Health Risk Assessment on Dioxin Emission
Chung-Yin Lin
Chang Gung University

1:30 PM – 3:00 PM

T3-F
Symposium: Challenges and opportunities of vulnerability and resilience analysis of infrastructure systems

Lone Star H

1:30 pm
Challenges and potential of integrating low probability high impact events in resilience strategies
Gianluca Pescaroli
University College London -Institute For Risk and Disaster Reduction

1:45 pm
Assessing the vulnerability of water-energy systems using a graph-based approach
Tharindu De Silva Manikkuwahandi
Vanderbilt University

2:00 pm
Limitations and Considerations of Using Composite Indicators to Measure Vulnerability to Natural Hazards
Celine Wehbe
Vanderbilt University

2:30 pm
Assessing Future Hurricane-Related School Closures: A Multi-Scenario Analysis
Diako Abbasi
University of Maryland

1:30 PM – 3:00 PM

T3-G
Roundtable: Advances in Occupational exposure assessment under TSCA

Room 201-202

Under TSCA Risk evaluation, exposure assessment is needed to address both, existing and new chemicals. Occupational exposure assessment has proven challenging in many aspects, ranging from data collection, interpretation, and representativeness to model parametrization and use. In order to be more transparent and efficient, EPA is also requesting data early on in the process to inform the scope and methodology early on.

Despite ongoing challenges, continued dialog between EPA and stakeholders advances progress in this area. There is a need for the risk assessment to be representative of all conditions of use but also generalizable to strike a balance between the level of detail and amount of information needed for each exposure scenario, the ability to represent every scenario, and the need to use data and resources in an efficient way while allowing the ability to scale the needed risk management measures in a fit-for-purpose manner.

Presentations as part of this roundtable will focus on different topic areas where developments are being made to help both to communicate streamline and strengthen occupational exposure assessment:

- Development of Conditions of Use / Occupational Exposure Scenarios: Current activities in their development and establishment and how they guide EPA's assessments in Risk Evaluations.
- Approaches to assess occupational exposures in chemical management regulations vs occupational exposure controls: The case for sentinel scenarios and the use of tiered approaches, and examples on how to apply it.
- Data annotation for occupational exposure submissions. Lessons learned from data submitted for TSCA risk evaluations; advantages and disadvantages of field data; addressing representativeness and uncertainty; efforts and need for key meta data to permit consistent, harmonized data collection.
- Model parametrization: in the absence of monitoring data, models are being used to predict emissions and occupational exposures. What information is available and what would be useful to have to facilitate assessments and improve predictability?

Session Chair:
- Silvia Maberti

Panelists:
- Greg Macek, EPA
- Elke Jensen, Dow
- Andrew Maier, Cardno ChemRisk
- Silvia Maberti, ExxonMobil Biomedical Sciences, Inc.

1:30 PM – 3:00 PM

T3-H
Symposium: Wildfire Risk, Impact, Management

Room 203-204

1:30 pm
Critical Thresholds: Discontinuities in the Determinants of Wildfire Suppression Resource Use
Reed Humphrey
University of Washington

1:45 pm
Assessment and Management of Wildfire Risk Associated with Electric Power Network
Ali Mosleh
University of California, Los Angeles

2:00 pm
Public Safety Power Shutoffs: Evaluating Economic and Human Risks from Wildfire Policy Deliberations in the Western U.S.
Cassie Koerner
Energy Policy Institute, Boise State Univ

2:15 pm
Optimizing Prescribed Burning to Reduce Wildfire Risks and Minimize Healthcare Costs
Jun Zhuang
University at Buffalo

2:30 pm
Finding a Better Fuelbreak Strategy Using Network Separation and Quantum Computing
Kelsey Stoddard
US Army Corps of Engineers – ERDC

1:30 PM – 3:00 PM

T3-I
Symposium: Organizational Risk – Developing New Models and Extending Applications

Room 205

1:30 pm
Organizational Risk: Developing New Models and Extending Applications
Emma Soane
LSE

1:45 pm
The Microfoundations of Organizational Risk
Emma Soane
LSE

2:00 pm
Risk management challenges in cultural organizations.
Robert Waller
Protect Heritage Corp.

2:15 pm
Resilient culture: developing a conceptual model for explaining how high-risk organisations cope with threats and disruptions to safety
Tom Reader
London School of Economics

2:30 pm
Low probability high impacts events in the private sector: leveraging actions for decision makers
Gianluca Pescaroli
University College London -Institute For Risk and Disaster Reduction

1:30 PM – 3:00 PM

T3-J
Symposium: Equity in Disaster Resilience: assessing and addressing impacts on communities

Brazos Room

1:30 pm
Methods for calculating Equitable Value of Lost Load (E-VoLL) that incorporate equity and justice concerns into economic calculations of electrical outage impacts on households
Patrick Murphy
PSE Healthy Energy

2:00 pm
Building Equitable Resilience through Resilience, Education, and Advocacy Centers for Hazard Preparedness
Kelly Stevens
University of Central Florida

2:15 pm
Optimized siting of resilience hubs with solar and energy storage for vulnerable and climate impacted communities in California
Bethany Kwoka
PSE Healthy Energy

3:30 PM – 5:00 PM

T4-A
Symposium: Accessibility and Resilience – Application

Lone Star A

3:30 pm
Integrating Access-based Community Resilience Theories
Benjamin Rachunok
North Carolina State University

3:45 pm
Enhancing Community Resilience: Assessing Post-Disaster Access to Essential Services through Community-Driven Evaluation
Zaira Cajigas
University of Michigan

4:00 pm
Primary care access in the face of climate change
Darcy Glenn
University of Canterbury

4:15 pm
Identifying Vulnerable Communities Through Essential Service Access
Utkuhan Genc
Purdue University

3:30 PM – 5:00 PM

T4-B
Advances in Post-disaster Electric-power Reliability and Consequence Analysis

Lone Star B

Chair: Abigail Beck

3:30 pm
How households adapt to and are impacted by infrastructure system outages
Rachel Davidson
Univ of Delaware

3:45 pm
Equity-driven infrastructure restoration prioritization to mitigate outage impact risk
Abigail Beck
University of Illinois Urbana-Champaign

4:00 pm
Enhanced resilient electricity market planning under capacity expansion risks
Weijie Pan
The George Washington University

4:15 pm
Using Bio-Inspired Reconfiguration to Enhance the Resilience of Electric Power Systems: A Decentralized Approach
Tianye Wang
George Washington University

3:30 PM – 5:00 PM

T4-C
Symposium: Understanding and Leveraging Uncertainty as a Key Component of Risk

Lone Star C

3:30 pm
A Dynamic Adaptive Method for Ecosystem Management Confronting Uncertainty in Lake Eutrophication
Aaron Dewar
Purdue University

3:45 pm
Scenario generators to enable adaptive planning processes under deep uncertainty
David Johnson
Purdue University

4:00 pm
Breaking down uncertainties in risk governance. Challenges and opportunities in risk management and communication
Tom Jansen
RIVM: National Institute for Public Health and the Environment

4:15 pm
Uncertainty in Climate Change Risk Assessments: The Good the Bad and the Misunderstood
Patrick Curran
University of Canterbury

3:30 PM – 5:00 PM

T4-D
AI, Natural Hazards, and Risk Analysis

Lone Star F

Chair: Cameron MacKenzie

3:30 pm
Achieving Effective Two-Way Communication with AI Chatbots: Applications in Natural Disaster Communication
Shupei Yuan
Northern Illinois University

3:45 pm
Analyzing the Ability of AI chatbots to extract data and information about natural disasters
Cameron MacKenzie
Iowa State University

4:00 pm
Towards an AI based climate change multi-risk assessment in the Veneto Region, Italy
Andrea Critto
University Ca' Foscari of Venice

4:15 pm
Surrogate Modeling to Evaluate Flood Risk Reduction from Coastal Restoration Projects
Mohammad Ahmadi Gharehtoragh
Purdue University

4:30 pm
Integrating AI and Climate Change scenarios for multi-risk assessment along the Veneto coastal area
Margherita Maraschini
Centro Euro-Mediterraneo sui Cambiamenti Climatici | Università Ca' Foscari Venezia

3:30 PM – 5:00 PM

T4-E
Microbial Risks and Food Safety

Lone Star G

Chair: Rodney Feliciano

3:30 pm
Uncovering the unseen threat: Prevalence of Uropathogenic Escherichia coli (UPEC) in freshly prepared fruit juices and dynamic kinetic analysis for the growth in sugarcane juice
Liu-Yean Goh
National Taiwan University

3:45 pm
Anti-Microbial Dietary Risk Assessment of Tetracycline Antibiotics in Taiwan
Chi Kuan Chiu
National Taiwan University

4:00 pm
Revealing microbial risk of foodborne urinary tract infection: Hazard identification and predictive modeling for the growth of bacterial uropathogens in ready-to-eat meats
Kuan-Hung Lu
Taipei Medical University

4:15 pm
The health burden associated with the microbial risk from lentil consumption in France and Hungary: Insights for policymakers
Rodney Feliciano
INRAe-Secalim Oniris

4:30 pm
Food Safety With Relationship To Governments Using Patented Technologies
Junia Alva
Seefresh

3:30 PM – 5:00 PM

T4-F
Roundtable: Preparing for the next pandemic: How can risk and decision analysis support enhanced preparedness and readiness?

Lone Star H

Human history is plagued by emerging and re-emerging health threats, with pandemics causing huge human, economic, and societal impacts.

Indeed, the most recent pandemic, COVID-19, has highlighted the need for better pandemic preparedness and readiness - with an efficient allocation of scarce human and material resources for improved health capability building - under conditions of high uncertainty and competing objectives.

In this round table, we will explore how risk and decision analysis can better support pandemic preparedness and readiness. We bring together risk and decision analysts with extensive work in health security risk management and health policymakers with deep expertise in managing emerging and re-emerging health threats.

We invite our risk analysis community to share and exchange ideas on how we can support policymakers and health decision-makers to increase the preparedness and readiness of health systems so we can avoid or, if needed, adequately manage the next pandemic.

Session Chair:
- Gilberto Montibeller

Panelist 1:
- Richard John
- Gilberto Montibeller
- Victor Del Rio Vilas
- Ralph Keeney

3:30 PM – 5:00 PM

T4-G
Modeling and Analyzing Risks: In the Body and the Workplace

Room 201-202

Chair: Pamela Williams

3:30 pm
A review of quantitative structure-permeability relationship models which predict dermal absorption of chemicals
Ashish Jachak
RHP Risk Management, Inc.

3:45 pm
Assessing cumulative risks in the workplace: scoping analysis of two government datasets
Pamela Williams
E Risk Sciences, LLP

4:00 pm
Non-linearity in cancer dose-response relationship: the role of exposure duration and evidence of threshold
Andrey Korchevskiy
Chemistry & Industrial Hygiene, Inc.

4:15 pm
A Bayesian probability measure of dose-responsiveness with applications to pharmacovigilance
Francesco De Pretis

3:30 PM – 5:00 PM

T4-H
Symposium: Confronting the Wildfire Crisis Leveraging Risk-informed Wildfire Preparedness and Recovery Strategies

Room 203-204

Chair: Poulomee Roy

3:30 pm
Confronting the Wildfire Crisis Leveraging Risk-informed Wildfire Preparedness and Recovery Strategies
Poulomee Roy
University at Buffalo

3:45 pm
Forecasting Wildfire Spread to Critical Infrastructure and Assessing Community Vulnerability through Cellphone Mobility Datasets
Holly Eagleston
SNL

4:00 pm
Advancing wildfire preparedness through enhanced assessment of community and utility risk
Matthew P. Thompson
Pyrologix LLC

4:15 pm
Assessing inequities and disparities in the post-wildfire recovery of socially vulnerable WUI communities
Poulomee Roy
University at Buffalo

4:30 pm
Polycentric and Asset-based System Design Approach and Disaster Governance in Wildland Urban Interface
Jungwon Yeo
University of Central Florida

3:30 PM – 5:00 PM

T4-I
Symposium: Risk Analysis in the Arctic

Room 205

3:30 pm
Cascaded classifiers with XGBoost models to improve the prediction of Arctic maritime incidents
Rajesh Kandel
Vanderbilt University

3:45 pm
Global Cargo Vessel Traffic Prediction given Declining Arctic Sea Ice and Changing Risks
Elise Miller-Hooks
George Mason University

4:00 pm
Co-Designing Graphic Guides to Improve Training and Support for Water Utility Workforce in Rural Alaska
Kasey Faust
University of Texas at Austin

4:15 pm
Adapting, Assessing and Mitigating Risks to a Complex Future in the Arctic; a Multi-Stakeholder Framework
Jun Zhuang
University at Buffalo

4:30 pm
Arctic Geopolitical and System Orders Disrupted by Emergent and Future Conditions
Rebecca Rebar
University of Virginia

3:30 PM – 5:00 PM

T4-J
Roundtable: Challenges and opportunities for improving communication of air quality risk using real time and forecast air quality index data during smoke season

Brazos Room

This session explores challenges and opportunities for using the air quality indexes as a risk communication tool during wildfire season. Real time and forecast air quality data present exciting and rapidly evolving opportunities for engaging with communities about air quality hazards, especially during wildfire events. However, index or forecast values alone are not sufficient tools for communicating air quality risks or promoting health protective behavior because they lack context about sources and impacts and may not contain information about protective action. Some user groups may be better served than others depending on how they access air quality data and whether additional context or actionable information is offered through news outlets, social media, or commonly used websites. This roundtable discussion seeks to further explore these challenges and opportunities for using air quality index values as a risk communication tool in three focal areas: how to effectively incorporate and characterize air quality index values or forecasts alongside information about conditions, impacts, and health protective behavior to improve public-facing communications about wildfire smoke risk; how to improve awareness and access to air quality index data for vulnerable and/or more difficult to engage population groups; and how to evaluate outcomes/ understand the real-world effectiveness of air quality index data as a tool for reducing health risk and morbidity during smoke events.

Session Chair:

- Madeline Beal

Panelists:

- Kristy Richardson, CDPHE
- Hank Jenkins-Smith, University of Oklahoma
- Mike Nye, US Environmental Protection Agency
- Ian Macmillan
- Alison Davis

8:30 AM – 10:00 AM

W1-A
Symposium: Engineering & Community Resilience

Lone Star A

8:30 am
Engineering & Community Resilience
Ignacio Sepulveda
North Carolina State University

8:45 am
Towards Operationalizing Ecological Resilience for Infrastructure
Yamil Essus

9:00 am
Power Systems Restoration Planning with Vulnerability and Fairness Constraints
Ignacio Sepulveda
North Carolina State University

9:15 am
The role of culvert failure in community resilience to flood hazards
Jessica Boakye
University of Massachusetts Amherst

9:30 am
Understanding Climate Change impacts on Renewable Energy Generation across the USA
Renee Obringer
Pennsylvania State University

8:30 AM – 10:00 AM

W1-B
Symposium: Advancing Flood Resilience

Lone Star B

8:30 am
Rethinking Flood Insurance: Reimagining the Reverse Mortgage to Replace the National Flood Insurance Program
Mia Renna
University of Maryland College Park

8:45 am
Building for a resilient future: To what extent do temperature anomalies drive green building construction?
Adriana Bryant
University of Maryland

9:00 am
Assessing crop damage under flood risk: integrating remote sensing imagery and hydraulic modeling
Yingqiang Xu
Vanderbilt University

9:15 am
Systematic Evaluation of Risk Communication Practices in Online Flood Risk Portals
Alyssa Pletcher
Purdue University

9:30 am
Group decision-making in the face of flood risk: policy analysis using learning algorithms
Pragathi Jha
Purdue University

8:30 AM – 10:00 AM

W1-C
Risk Perception and Communication III

Lone Star C

Chair: Cindy Jardine

8:30 am
Memetic communication, trust in science, and risk perception among young social media users
Jon Benedik Bunquin
University of Oregon

8:45 am
Too Proud to Be Fooled: Pride in the Inoculation Theory Framework
Blake Boyd
Purdue University

9:00 am
Participatory Risk Communication: Indigenous Youth-Generated Messages for Community Health Promotion
Cindy Jardine
University of the Fraser Valley

9:15 am
Addressing health risks: effective messaging for weight management success
Xuan Qian
Cornell University

8:30 AM – 10:00 AM

W1-D
AI to Support Risk Assessment

Lone Star F

8:30 am
Developing a Trustworthy AI Model for Managing Risks of Sea Turtle Cold-Stunning Events
Miranda White
Texas A&M University-Corpus Christi

8:45 am
Testing the performance of large language models for consumer product risk management
Zachary Collier
Radford University

9:00 am
GPT-based models for the automatic classification of free-text information from pediatric emergency department accesses in children and young adults with medical complexity
Gloria Brigiari
Unit of Biostatistics, Epidemiology and Public Health. University of Padova

9:15 am
Pediatric Influenza Forecasting: A localized Approach to Health System's Decision Making Driven by Novel Public Health Surveillance Data
Beth Ellinport
US Army Corps of Engineers

9:30 am
Objective causal analysis using interventional probability of causation (IPOC)
Tony Cox
Cox Associates

8:30 AM – 10:00 AM

W1-E
Symposium: QMRA in Risk Management

Lone Star G

8:30 am
QMRA in Risk Management
Alexis Mraz
The College of New Jersey

8:45 am
How QMRA has been used to inform criteria for wastewater reuse: examples from California.
Charles Haas
Drexel University

9:15 am
Risk Perceptions of Water Reuse via Advanced Water Purification in a Large Metropolitan City in Arizona
Amanda Wilson
University of Arizona

9:30 am
Risk of campylobacteriosis from raw milk consumption in the United States
Alexis Mraz
The College of New Jersey

8:30 AM – 10:00 AM

W1-F
Climate Change – Frameworks and Impacts

Lone Star H

Chair: Darcy Glenn

8:30 am
Primary care access in the face of climate change
Darcy Glenn
University of Canterbury

8:45 am
Development of a framework for internalizing climate change in human health risk assessment: policy and regulatory directions
Gyan Chhipi Shrestha
BC Ministry of Health

9:00 am
Heatwaves and Urban Transportation: Forecasting Trip Changes in Louisiana
Saeed Saleh Namadi
University of Maryland

9:15 am
Quantifying Indirect Long-term Impacts of Climate Disasters on U.S. Households
Chao Fan
Clemson University

9:30 am
Towards a global conflict heat map Informed by climate change stressors
Pragathi Jha
Purdue University

8:30 AM – 10:00 AM

W1-G
PFAS, PFAS, PFAS

Room 201-202

Chair: Hana Long

8:30 am
PFAS, Reproductive Health, and Risk Perception
Yi Yin Leong
University at Buffalo

8:45 am
Predicting PFAS exposure risks from rural private wells using integrated mechanistic and machine-learned Bayesian Network models
Hana Long
North Carolina State University

9:00 am
What about fish consumption? Risk communication challenges in implementing updates to fish advisories for PFOS across the United States.
Philip Goodrum
GSI Environmental Inc.

9:15 am
PFAS in Rural Private Well Water Across the United States: Using a Participatory Science Approach to Identify, Evaluate, and Communicate Risks and Recommendations
Jacqueline MacDonald Gibson
North Carolina State University

9:30 am
Human Age- and Sex-Dependent Differences in PFAS Elimination
Paul Schlosser
U.S. EPA, CPHEA

8:30 AM – 10:00 AM

W1-H
Nuclear Issues and Risk Analysis

Room 203-204

8:30 am
Consent-based siting for spent nuclear fuel
Cassie Koerner
Energy Policy Institute, Boise State Univ

8:45 am
Consideration for a framework for knowledge creation and utilization using the case of obsolescence management for external events
Riku Tateishi
The University of Tokyo

9:00 am
Risks, Rewards and Reactors: Perceptions of Nuclear Energy and its Alternatives in India
Prerna Gupta
University of British Columbia

9:15 am
Beyond Risk Perception: Understanding Community Attitudes of Nuclear Waste Facilities through Co-Design
Sara Ostad
University of Wisconsin-Madison

8:30 AM – 10:00 AM

W1-I
Symposium: Exploratory Risk Analysis Methodology Development for National Critical Infrastructure Applications

Room 205

8:30 am
A Tripartite Approach to Modeling National Critical Infrastructure and its Functions
Ruby Booth
Sandia National Laboratories

8:45 am
Integrating Multiple Lenses on Critical Infrastructure Risk and Resilience
Jason Reinhardt
Sandia National Laboratories

9:00 am
Prediction Markets for Likelihood Estimation and Understanding Risk Perceptions
Nathan Clough
Sandia National Labs

9:15 am
Characterization and Communication of Unforeseen Cyber Risks
Kevin Griffith
Sandia National Laboratories

9:30 am
Exploratory Risk Analysis Methodology Development for National Critical Infrastructure Applications
Ruby Booth
Sandia National Laboratories

8:30 AM – 10:00 AM

W1-J
Risk Communication and Management

Brazos Room

Chairs: Hoda Fakhari, Pia-Johanna Schweizer

8:30 am
Revisiting the Sandman Outrage model of risk perception.
George Gruetzmacher
WI State Laboratory of Hygiene

8:45 am
How environmental research stations are organizing (or not organizing) to enable effective risk communication
John Besley
Michigan State

9:00 am
Understanding DeepFake: Deception Factors and Efficacy of Training and Alerts
Yiqi Zhao

9:15 am
Don't shoot the messenger: Source reappraisal and the effectiveness of shared values identity between messenger and audience
Alita Boyse-Peacor
The Ohio State University

10:30 AM – 12:00 PM

W2-A
Mathematical Models for Applied Risk Analysis

Lone Star A

Chairs: James Kendra, Mark Moore

10:30 am
Development of a coupled modeling system for use in a stakeholder-based decision support framework for hurricane disaster risk management
Kendra Dresback
University of Oklahoma

10:45 am
Spillover effects among cryptocurrencies in a pandemic: a time frequency approach
Seyram Pearl Kumah
Akenten Appiah-Menkah University of Skills Training and Entrepreneurial Development

11:00 am
Quantitative Bias Analysis: a next step in risk of bias determinations?
David Miller
US Environ. Prot. Agency (retired)

11:15 am
Navigating Long-Term Recovery Pathways at Mt. Taranaki
Martyna Wala
The University of Auckland

10:30 AM – 12:00 PM

W2-B
Symposium: Solar Climate Engineering: Risks, Governance and Monitoring

Lone Star B

10:30 am
Practical Paths to Risk-Risk Analysis of SRM
Mark Borsuk
Duke University

10:45 am
Opportunities for reducing risk of solar geoengineering through learning from other emerging technologies: A comparative analysis with gene drives
Khara Grieger
North Carolina State University

11:00 am
Monitoring for SRM: Goals, Needs, and Governance"
Jonathan Wiener
Duke University

11:15 am
Potential risks, benefits, and trade-offs of SRM – A discussion
Khara Grieger
North Carolina State University

10:30 AM – 12:00 PM

W2-C
Variables in Health Risk Communication

Lone Star C

Chair: Tierney O'Sullivan

10:30 am
Improving the integration of epidemiological data into human health risk assessment: what risk assessors told us they need
Sandrine Deglin
Health and Environmental Sciences Institute

10:45 am
Experience versus Predictions: Exploring How People Evaluate Health Threats
Savanna Kerstiens
Northwestern University

11:00 am
Public health risk network: establishing an international collaboration on qualitative risk assessment for emerging public health threats
Linda Vrbova
Public Health Agency of Canada

11:15 am
Information seeking and sharing behaviors related to mental health issues: An application of the risk information seeking and processing (RISP) model
Kyle Heneveld
University at Buffalo – Department of Communication

11:30 am
Are we on the same page? A primer in health risk communication to address the scientist-audience disconnect
Tierney O'Sullivan
University of Utah

10:30 AM – 12:00 PM

W2-D
Disaster Resilience and Risk Assessment

Lone Star F

Chair: Juan Martin Dabezies

10:30 am
Conceptualizing high-impact, low-probability events: insights from the AGILE project
Lauren McMillan
Northumbria University, UK

10:45 am
A Case Study using Low-Cost Consumer Grade Drones and Image Analysis to Automate the Evaluation Disaster Recovery Progress
Daniel Perrucci
East Carolina University

11:00 am
From biological disease to bioterrorism disruptor: using community detection algorithms to analyze four decades of media resignification of anthrax risks
Juan Martin Dabezies
University of Maryland

11:15 am
Developing Fire Risk Predictive Models with AI
Changhyun Choi
KB

11:30 am
Financing nature-based solutions for disaster risk reduction: the role of insurers
Jo Anne Linnerooth-Bayer
IIASA

10:30 AM – 12:00 PM

W2-E
Symposium: Applying QMRA to Building Water Risks

Lone Star G

10:30 am
Quantitative microbial risk assessment (QMRA) of Legionella aspiration: What are the gaps?
Kerry Hamilton
Arizona State University

10:45 am
Microbial and chemical risk assessment for tradeoffs of premise plumbing water quality interventions: Legionella pneumophila, metals, and trihalomethanes
Hunter Quon
Arizona State University

11:00 am
From bioreactors to hospitals: incorporating bench scale studies in mechanistic models to reduce legionellosis outbreaks in healthcare facilities.
Alexis Mraz
The College of New Jersey

11:15 am
'Utility contribution to Legionella risk and risk management'
Timothy Bartrand
ESPRI

10:30 AM – 12:00 PM

W2-F
Climate Change Adaptation

Lone Star H

Chair: Kendrick Hardaway

10:30 am
Implications of Inuit rights for governance of shipping in the Canadian Arctic: an exploration through a risk governance lens
Floris Goerlandt
Dalhousie University

10:45 am
Conflicting Paradigms: how climate risk assessments can include Indigenous worldviews
Marcelle Scadden
University of Canterbury

11:00 am
Risk, Resilience, Vulnerability, and Adaptation in City Climate Plans: A review of terms
Kendrick Hardaway
Purdue University

11:15 am
Should we change the term we use for "climate change"? Evidence from a US-wide terminology experiment
Wandi Bruine de Bruin
University of Southern California

11:30 am
Public reactions to communication about uncertain science: does issue polarization matter?
Chelsea Ratcliff
University of Georgia

10:30 AM – 12:00 PM

W2-G
Symposium: What's new in microplastics regulation and why should we care?

Room 201-202

10:30 am
What's new in microplastics regulation and why should we care?
Meera Cush
Ramboll UK Limited

10:45 am
Implications of the REACH Restriction on Intentionally Added Microplastics in the European Union
Meera Cush
Ramboll UK Limited

11:00 am
Effects of particle dimensions on microplastic toxicity to marine invertebrates
Shuo Yu
Ramboll

11:15 am
Trend of Microplastic Litigation
Adam Baas
DLA Piper LLP (US)

11:30 am
Human health implications of microplastics exposure
Todd Gouin
TG Environmental Research

10:30 AM – 12:00 PM

W2-H
Roundtable: Frontiers of Benefit-Cost Analysis: Federal Research Priorities

Room 203-204

A basic premise of evidence-based decision-making by the federal government is that the benefits to public wellbeing of a decision should justify the costs. Agencies conduct analyses in a range of contexts to test this premise—from regulatory impact analyses to programmatic cost-effectiveness assessments to environmental impact reviews. Robust analysis of costs and benefits can make the consequences of federal actions more transparent to the public and can provide richer guidance to decision-makers as they weigh, explain, and support policy choices to promote public wellbeing. However, more research is needed on numerous topics of interest to SRA members.

This panel will present the 2023 and 2024 Annual Reports of the National Science and Technology Council's Subcommittee on Frontiers of Benefit-Cost Analysis:

- Advancing the Frontiers of Benefit-Cost Analysis: Federal Priorities and Directions for Future Research (2023)
- Advancing the Frontiers of Benefit-Cost Analysis: Progress on Federal Priorities, Insights for the Research Community, and Emerging Topics (2024)

The reports—and this session—aim to strengthen the exchange of knowledge between federal analysts and the research community. Contributing to this end, the report identifies a set of common effects that federal agencies find difficult to quantify and explores strategies to advance the scientific and economic understanding of those effects. These effects include:

- Non-Fatal Health Effects
- Ecosystem Services Effects
- Wildfires and Extreme Weather Effects
- Value of Information and Transparency
- Valuing the Impacts of Public Benefit Programs

As well as three overarching focal areas:

- Uncertainty
- Distributional analysis
- Multi-market analysis

Panel members include current and former federal officials as well as academics working in these research areas, who will discuss the need for updated methodologies or inputs, supplemental studies or data, fuller characterization of incidence across population groups, or richer treatment of uncertainty in selected areas. They will explain why particular topics are significant, discuss current obstacles to further quantification and monetization, and explore ongoing efforts at advancement.

Session Chair:
- Emily Pindilli

Panelists:
- Weihsueh Chiu
- Sandra Hoffmann
- Lisa Robinson
- Aliya Sassi
- Jonathan Wiener
- Felicia Wu

10:30 AM – 12:00 PM

W2-I
Symposium: Communicating Unseen Risks in Food – FDA Research Informing Communication, Education, and Practice

Room 205

Chair: Fanfan Wu

10:30 am
Communicating Unseen Risks in Food – FDA Research Informing Communication, Education, and Practice
Fanfan Wu
U.S. Food and Drug Administration

10:45 am
Awareness and Understanding of the FDA/EPA messages on fish and shellfish consumption for those who are pregnant, breastfeeding, and caregivers to young children
Amy Lando
U.S. Food and Drug Administration (FDA)

11:00 am
Formative Focus Groups with Parents on Environmental Contaminants in Food for Infants and Young Children
Ewa Carlton
U.S. Food and Drug Administration

11:15 am
Understanding Awareness and Practices Related to Arsenic, Lead, Cadmium, and Mercury in Children's Foods Among Health Professionals: FDA's Closer to Zero In-Depth Interviews
Ewa Carlton
U.S. Food and Drug Administration

11:30 am
Communicating Risk During Food Recalls – FDA Quick Turnaround Consumer Survey on the 2023 Cinnamon Applesauce Pouches Recall
Fanfan Wu
U.S. Food and Drug Administration

10:30 AM – 12:00 PM

W2-J
Governance of Risk Complexity

Brazos Room

10:30 am
Risk complexity: A review and explication of complexity as a construct in the study of risk
Hoda Fakhari
Northwestern University

10:45 am
Towards a Taxonomy of Systemic Risks
Paul Einhäupl
Research Institute for Sustainability – Helmoltz Centre Potsdam (RIFS)

11:00 am
Introducing the Risk-Tandem Framework as a Holistic Approach Towards the Assessment and Governance of Systemic Risks.
Benjamin Hofbauer
Research Institute For Sustainability

11:15 am
Navigating Systemic Risks: Governance of and for Systemic Risks
Pia-Johanna Schweizer
Research Institute for Sustainability – Helmholtz Centre Potsdam

11:30 am
Risk Management of Private Space Activities: Authorization and Continuing Supervision
Jonathan Wiener
Duke University

1:30 PM – 3:00 PM

W3-A
Resilience, Security, and Geopolitics

Lone Star A

Chair: Andrii Davydiuk

1:30 pm
NATO Concept of Layered Resilience and Implication in Ukraine
Andrii Davydiuk
NATO CCDCOE

1:45 pm
Energy Resilience in Ukraine
Inna Skarga-Bandurova
Oxford Brookes University

2:00 pm
Compound Threats and Resilience: A Governance Problem
Katarzyna Klasa
University of Michigan

2:15 pm
Navigating invisible frontiers: adaptive strategies for future riskscapes
Carol Mbeche
University of Johannesburg

2:30 pm
Enhancing Global Security through the NATO Science for Peace and Security (SPS) Program: Risk, Resilience, and Consequence Management Initiatives
Eyup Turmus
NATO Science for Peace and Security Programme

1:30 PM – 3:00 PM

W3-B
Post-disaster Mobility Management

Lone Star B

Chair: Yue Zeng

1:30 pm
Validating a New Community-based Risk Index Focused on Climate Change-induced Flooding Impact on Access to Emergency Services
Jeffrey Ashby
Indiana University

1:45 pm
Impact of Disruptions on Urban Transit: Accessibility and Equity in Washington DC's Public Transportation
Asal Mehditabrizi

2:00 pm
Resilience and Recovery of Multiscale Rail Transit Networks Against Future Precipitation Extremes and Dynamic Flooding
Jack Watson
Northeastern University

2:15 pm
Modeling Rural Service Access and Isolation in Disasters: A Case Study of Earthquake-Triggered Landslides in Nepal
Yue Zeng
University of Michigan

1:30 PM – 3:00 PM

W3-C
Roundtable: Did we make a mistake when we called it "risk communication"? What now?

Lone Star C

The Society for Risk Analysis' Glossary defines risk communication as the "Exchange or sharing of risk-related data, information and knowledge between and among different target groups (such as regulators, stakeholders, consumers, media, general public)."

Arguably, this definition does not describe much of risk communication practitioners' and researchers' real work. The most immediate problem with calling our sub-field 'risk communication' is that people who don't really know us–and some who should know better–seem to believe that risk communication simply means communicating risk information. Sharing risk information is part of risk communication, but the real job is communicating in the context of risk, and that seems meaningfully different than "sharing of risk-related" content.

If we frame the problem as communicating risk information then we tacitly suggest that the path forward is to better share clear risk information (i.e., educate people about risks and the associated science, show clear visualisations, avoid jargon). That's often a reasonable objective but it's often not the real goal. Few communicators would feel successful if they put time and money into communicating the risks of fossil fuels and saw no behavior change. Similarly, telling compelling stories that help parents understand the low risks of vaccines and continuing to see a similar percentage of parents refusing to vaccinate would feel like failure to most risk communicators.

Put differently, our sub-field may benefit from a recognition that the goal of risk communication isn't to communicate risk-related information. Instead, the goal is typically to ethically encourage someone to consider behavior related to real or perceived risks. Also, if listening is central to communication, risk communicators should have goals associated with helping risk managers make better decisions by better understanding the context in which they're operating (i.e., are there things they may not have considered).

There's something that feels democratic about saying that risk communication isn't persuasion; it's just to share information about risks and let people make their own decisions. We hear this regularly at meetings like SRA's when people deride public relations or strategic communication. However, risk information is just one type of information that a communicator can share. What about information about the benefits of a behavior or its alternatives? What about information about social norms, self-efficacy, and source trustworthiness information? Why shouldn't we also share that type of information? What about emotions; are we allowed to intentionally affect those? Which ones? And when does it become unethical? And where does listening fit? If the field is about 'communicating risk,' then what's our rationale for dialogue? Is it just so that we can figure out better ways to share information (as well as "data" and "knowledge"?) about risks?

This panel brings together established experts on 'risk communication' who will share their experiences with recognizing the limitations (and benefits?) that come with the term risk communication. It will seek to help the SRA community think critically about whether our sub-field puts too much focus on communicating risks and risk perceptions at the expense of focusing on helping our community think more broadly about what they hope to achieve from the time and energy we're asking people to put into communication. It will also invite discussion about whether it is possible and reasonable to focus a sub-field around simply communicating risk and understanding risk perceptions. We expect the discussion to include consideration of what a narrow (i.e., focused on communicating risk) or broad (i.e., focused on communication in the context of risk) might mean for how we do our research and support risk managers in making evidence-based decisions about communication.

Session Chair:

- John Besley

Panelists:

- Robyn Wilson, The Ohio State University
- Lee Kahlor, UT-Austin
- Madeline Beal, US EPA
- John Besley, Michigan State University

1:30 PM – 3:00 PM

W3-D
Risk for High Tech

Lone Star F

Chairs: Robert Horton, Ali Mosleh

1:30 pm
Towards a risk-informed decision-support tool for Vehicle-to-Everything (V2X) technologies
Ali Mosleh
Garrick Institute for Risk Sciences

1:45 pm
Do vulnerability curves matter?
Logan Brunner
University of Canterbury

2:00 pm
Evaluating Airport Infrastructure Resilience: A Framework for Benchmarking and Visualization of Performance Indicators
Robert Horton
Dallas Fort Worth International Airport

2:15 pm
AI Risk Management and Quantification: A Comprehensive Framework for Ensuring Trustworthiness and Reducing Negative Impacts
Tara Parhizkar
University of California, Los Angeles

1:30 PM – 3:00 PM

W3-E
Symposium: Advancing Risk Assessments in Farm to Fork Pathways

Lone Star G

1:30 pm
A risk-based framework for comparing the direct and indirect wastewater reuse in agriculture by integrating microbial and chemical risks
Jade Mitchell
Michigan State University

1:45 pm
Environmental stress factors along the romaine lettuce distribution chain: do we have to worry about their impact on microbial risks?
Joshua Owade
Michigan State University

2:00 pm
The development of dose-response models for oral ingestion of L. monocytogenes for pregnant people
Tyler Stump
The Ohio State University

2:15 pm
Pediatric cancer patient caretakers' produce safety motivators, barriers, and beliefs
Carly Gomez
Michigan State University

1:30 PM – 3:00 PM

W3-F
Climate Change Mitigation

Lone Star H

Chair: Mark Borsuk

1:30 pm
Assessing Effects of Corporate Carbon Reduction Efforts via Public Expectation Violation
Shupei Yuan
Northern Illinois University

1:45 pm
Public Perception of Carbon Emission Reduction Strategies: A Moral Psychological Perspective
Haoran Chu
University of Florida

2:00 pm
Political Party Affiliation, Fox News Exposure, and Partisan Divides in Support for Renewable Energy in the United States
Christopher Clarke
George Mason University

2:15 pm
Assessing Public Perception of Fusion Energy: The Role of Knowledge and Risk Perception
Will Livingston
Institute for Public Policy Research and Analysis

2:30 pm
Practical Risk-Risk Analysis of Solar Radiation Modification
Mark Borsuk
Duke University

1:30 PM – 3:00 PM

W3-G
Roundtable: From a risk science perspective, what have we learned from the COVID-19 pandemic and its risk handling?

Room 201-202

The COVID-19 pandemic and its handling involved many issues related to risk. In this panel we will discuss what we have learned from the pandemic and the risk handling, using a risk analysis and risk science perspective. Such a perspective stimulates considerations of the dilemmas the authorities faced because of the uncertainties about the development of the disease and the effectiveness of measures to meet the risks, by discussing the role of science, the appropriateness of the precautionary principle, the need to establish some official narratives, and the use of misinformation/disinformation. We question, how risk science can contribute to improving the risk handling in case of future pandemics and other extreme events.

Session Chair:
- Terje Aven

Panelists:
- Terje Aven, University of Stavanger
- Seth Guikema, University of Michigan
- Michael Siegrist, ETH Zurich
- Felicia Wu, Michigan State University
- Janet Yang, University at Buffalo

1:30 PM – 3:00 PM

W3-H
Symposium: Benefit-Cost Analysis: New Insights and Innovations

Room 203-204

Benefit-Cost Analysis: New Insights and Innovations
Aliya Sassi
US Food and Drug Administration

Monetizing Animal Welfare Impacts for Benefit-Cost Analysis
Mark Budolfson
University of Texas at Austin

Cost-Benefit of Switching from Gas to Electric Stoves on Children's Asthma Control
Youn Soo Jung
Harvard T.H. Chan School of Public Health

A Mixed Methods Approach to Characterizing the Cosmetics Industry and Its Manufacturing Practices
Ayesha Berlind
Eastern Research Group, Inc.

Equity Issues in Food Safety Policy: A Distributional Analysis of Foodborne Illness Burden
Cristina Mc Laughlin
US FDA WO

1:30 PM – 3:00 PM

W3-I
Water and Risk

Room 205

1:30 pm
Development of a Machine Learning Model to Support Low Cost Realtime Legionella Monitoring in Premise Plumbing Systems
Juan Xu

1:45 pm
Unseen assumptions can lead to unseen risk: unveiling the effect of the independence assumption in drinking water QMRA
Dafnede Brito Cruz
University of Waterloo

2:00 pm
Connecting De Facto Wastewater Reuse to Downstream Disinfection Byproduct Risks
Jacelyn Rice-Boayue

2:15 pm
The impact of mass media coverage on the changes in public attitudes toward the offshore discharge of ALPS-treated water from the Fukushima Daiichi Power Station
Midori Aoyagi
National Inst for Environmental Studies

2:30 pm
Developing a risk prioritization framework for emerging contaminants in a Michigan drinking water system
Emily Julien
Michigan State University Biosystems Engineering

1:30 PM – 3:00 PM

W3-J
Symposium: Different Perspectives from the Social Sciences on 'Intuitive Risk Management'

Brazos Room

Different Perspectives from the Social Sciences on "Intuitive Risk Management"
Angela Bearth
ETH Zurich

Predictors of Perceptions of Scientific Uncertainty: Science Literacy and Scientific Reasoning Ability
Caitlin Drummond Otten
Arizona State University

Are environmentalists really better at environmental decision-making?: The psychology of greenwashing
Alex Segre Cohen
University of Oregon

Misperception and miscommunication. Barriers and opportunities for effective communication about risks from chemical substances
Tom Jansen
RIVM: National Institute for Public Health and the Environment

Romantic perception of nature results in biased perceptions
Michael Siegrist
ETH Zurich

Uncomfortable Trade-offs – Public Perceptions of Plant Protection Strategies
Angela Bearth
ETH Zurich

3:30 PM – 5:00 PM

W4-A
Inclusive Risk Governance

Lone Star A

Chair: Ortwin Renn

3:30 pm
Inclusive risk governance for implementing the European Green Deal
Ortwin Renn
Research Institute for Sustainability (RIFS)

4:00 pm
Centering Historically Minoritized Populations to Design Effective Messages about Evidence-Based Policies that Reduce Risk of Childhood Poverty
Jeff Niederdeppe
Cornell University

4:15 pm
Engaging with vulnerable communities: A case study of adaptation planning in Buller District
Alyssa Ryan
University Of Canterbury

4:30 pm
Community and stakeholder capacities needed for effective engagement with integrated modeling frameworks
Seth Tuler
Worcester Polytechnic Institute

3:30 PM – 5:00 PM

W4-B
Critical Infrastructure Risks

Lone Star B

Chair: Ruby Booth

3:30 pm
Indicators in advanced water treatment processes
Patrick Gurian
Drexel University

3:45 pm
Restoration of electrical transmission infrastructure considering distribution-level damage
Stephen Blandford
The University of Texas at Austin

4:00 pm
Assessing the risk of cyber-attack in maritime systems: A Bayesian Approach,
Mawuli Afenyo
Texas A&M University

4:15 pm
Equity-driven power grid resilience planning
Gizem Toplu Tutay
The University of Texas at Austin

4:30 pm
Streamlining Safety Assessments: Developing a Safety-Assessed Ingredient List for Cultivated Meat and Seafood
Kimberly Ong
Vireo Advisors, LLC

3:30 PM – 5:00 PM

W4-C
Pandemics: Risk Assessment and Risk Perception

Lone Star C

3:30 pm
Pandemic Communication Environments: A Longitudinal Investigation of the Differing Effects of Overload, Repetitiveness, Exaggeration, and Fatigue in the COVID-19 Pandemic
Manu Pokharel
Texas State University

3:45 pm
Using dynamic norms to influence attitudes and behavioral intentions towards COVID-19 vaccination and food waste
Alisius Leong
National University of Singapore

4:00 pm
Factors impacting on the participation of first responders during the COVID-19 pandemic: lessons for employers
Ann Largey
Dublin City University

4:15 pm
Reporting delays: a widely neglected impact factor in COVID-19 forecasts
Maksim Kitsak
Delft University of Technology

3:30 PM – 5:00 PM

W4-D
Innovations and Challenges in Cybersecurity and Information Technology

Lone Star F

Chair: David Berube

3:30 pm
Risk perception uncertainties and behavior for information technology dependent transportation technologies vulnerable to cyber attacks
Rae Zimmerman
New York University – Wagner Graduate School of Public Service

3:45 pm
Biothreat Benchmark Generation Framework for Evaluating Frontier AI Models
Gary Ackerman
Nemesys Insights

4:00 pm
Bunk: A Map to Address Misinformation
David Berube
North Carolina State University

4:15 pm
Blockade and Defense level analysis based cybersecurity risk management
Choong Hee Han
Chonnam National Univ & Korea Power Exchange

4:30 pm
Computer network resilience optimization against cyber attacks
Jarrod Shingleton

3:30 PM – 5:00 PM

W4-E
Roundtable: Unseen Risks for Influenza A H5N1 in Cattle, Dairy Workers, and other Humans

Lone Star G

One 'unseen' risk for 2024 is apparent spread of influenza A H5N1 (also termed highly pathogenic avian influenza) from infected wild birds to dairy cows as early as February. Uncertainties about H5N1 transmission in cows and humans appear to be limiting transparency and rigor in risk analysis for H5N1 in occupationally exposed dairy workers and the public. The interdisciplinary panel will focus on lessons learned from H5N1 investigations and interventions primarily in Texas and Michigan.

The historical trends of high human mortality for H5N1 via infected birds in Asia (2003-2009) merit further scrutiny. In 2023, the UK reported current H5N1 virus as distinct genetically from Asian H5N1 viruses previously associated with high human mortality, though lacking adaptations for person-to-person transmission. UK officials identified four asymptomatic poultry workers from occupational monitoring in this period. Risk to the general public in the UK was deemed very low, and risk was deemed low even for those with prolonged direct contact to infected birds without personal protective equipment.

In early 2024, H5N1 was detected in wild birds and dairy cows in multiple US states. The three dairy workers with mild sporadic H5N1 infections all recovered. Eye inflammation was reported in workers in Texas (April 1) and Michigan (May 22). Another MI worker developed eye discomfort and watery discharge and cough (May 30) on a different MI dairy farm.

In early February, Texas dairymen noted mild unexplained illness and lowered milk production for some cows. Nearly 60 days passed before H5N1 was identified in wild birds, cows, and barn cats. TX health officials then encouraged workers on affected farms with flu-like symptoms to get tested for H5N1.

One nasal swab from a group of 20 occupationally exposed workers on one farm was positive for H5N1 (confirmed April 1st). The 13 affected TX farms quarantined sick cows and diverted their milk from the human food supply until recovery. However, the initial spirit of collaboration between state and federal authorities and dairymen in TX fractured recently, due to the perception of federal restrictions on biosecurity and animal movement as unduly punitive, seemingly out of line with mild self-resolving illnesses in cows and a single mild human case of conjunctivitis. A Texas official has advised against CDC and USDA visits to farms where cattle recovered from H5N1.

Twenty years ago, a backlash to restrictions in Vietnam worsened rather than minimized spread of avian flu. A combination of factors likely contributed to years of very high human mortality in Vietnam (e.g., 20 deaths among 28 cases, 71% mortality in 2005), whereas 1 or no human cases were reported there in recent years.

An unexpected backlash this year against US federal recommendations to avoid consuming raw milk raised concerns about fear-mongering. Scientific evidence linking influenza A H5N1 to human food-borne illness is lacking. Data from observation of 3 mild human cases, 12 of 24 TX barn cats with fatal respiratory pathology, and respiratory infection in 5 laboratory mice do not warrant claims of 'theoretical' risk of influenza for human oral exposures. While some officials claim that consumption of milk positive for influenza A may 'theoretically' cause human illness by the oral route, others concede H5N1 causes respiratory disease. Influenza A is not one of seven classes of viruses recognized as infecting human gut cells and causing intestinal flu. Some evidence suggests that consumer demand for raw milk actually increased 21% to 65% in weekly raw milk retail sales since March 25th, as per market research by Nielsen IQ. A university researcher on misinformation views the increasing, not declining, retail raw milk sales as a sign of growing mistrust of government around recent risk communications.

On May 8th, an emergency order on H5N1 risk reduction response went into effect for all dairy and commercial poultry facilities in Michigan to develop and implement specific biosecurity practices. Risk communications from Michigan officials noted: direct exposures of workers to infected animals poses risk to humans; personal protective equipment can prevent future occupational exposures; no evidence exists for person-to-person spread; risk to the public is low; and monitoring of affected herds and worker populations continues.

Media coverage of influenza A H5N1 has escalated controversies, when ideally attention should focus on the evidence and appropriate scientific inferences for robust and cohesive risk analysis. The interdisciplinary panel will focus discussions largely around investigations and responses in the states of Michigan and Texas, as well as reflect on lessons learned about effective risk communication, risk assessment, and risk management of H5N1 in dairy cows and humans contacting them.

Session Chair:

- Peg Coleman

Panelists:

- Laura Rickard, University of Maine
- Mary O'Reilly, University at Albany School of Public Health and Workplace Health Without Borders-US (WHWB-US)
- Margaret Coleman, Coleman Scientific Consulting

3:30 PM – 5:00 PM

W4-F
Symposium: Climate Change, Natural Hazards, and Critical Infrastructure

Lone Star H

Climate change, business disclosures, and greenwashing risks
Robin Cantor
BRG LLC

Economic Consequences of Climate Action Plans: Neither Bankruptcy or Panacea
Adam Rose
University of Southern California

A Holistic Approach for Evaluating Investments in Climate-Resilient Infrastructure Projects along U.S. Inland Waterways
Paul Johnson
Vanderbilt University

Spatial climate risk and adaptation: An evaluation criteria for hazard data quality for climate and natural hazard adaptation planning
Mitchell Anderson
University of Canterbury

3:30 PM – 5:00 PM

W4-G
Roundtable: A Review of the National Nanotechnology Initiative (NNI) – The Development of a Risk Based Research Infrastructure

Room 201-202

In 2003, the 21st Century Nanotechnology Research and Development Act was signed into law and provided guidelines for the responsible development of the technology and to safely utilize the novel properties of nanomaterials through the commercialization of nano-containing products. The subsequent efforts to realize the goals of the Act were known as the National Nanotechnology Initiative (NNI). It was recognized by NNI experts that coordination among federal agencies responsible supporting research into the applications and potential health implications of nanotechnology in addition to those organizations with responsibility for regulating products was needed. This led to the creation of a coordination office, the National Nanotechnology Coordination Office NNCO, and federal committees and working groups to support and facilitate federal interactions. A series of strategic planning documents, including those focused specifically on Environmental, health and safety research data needs referred to as NanoEHS data gaps. These guidance documents provided specific goals and objects regarding the specific types of toxicology, exposure assessment, metrology and other discipline methods needed to develop data that could be used to conduct robust risk assessments, the results of which could inform the public regarding the safe use of nano-enabled products. Recently the NNI celebrated the 20th anniversary of the signing of the act that created the NNI, and a wide range of stakeholders have been engaged in an exercise to evaluate the success of the NNI in meeting the objectives of the Act and the societal impacts of nanotechnology. In the area of NanoEHS, have we adequately addressed the myriad of questions posed by stakeholders regarding the health risk posed by nanomaterials used in products and released into the environment ?

The proposed session will provide participants with a basic understanding of the development of the NNI and key objectives of the new initiative including the importance of adequately addressing the EHS implications of nano-enabled products. Discussion will focus on the development of the NNI EHS research strategy and in addressing the identified data gaps, whether the research was sufficient to provide risk assessors in government, industry and other sectors with the information needed to adequately assess the potential health risks of nanomaterials and the sufficiency of risk communication efforts to inform the public including consumers and other stakeholders on the risks and benefits of using nano-enabled products.

Specific objectives of the session include

- Addressing the adequacy of the NNI research plan
- Were methods in exposure, toxicology, metrology, developed and used to provide data to risk assessors
- Is the public aware of the benefits and the potential risks of nanomaterials. How can we improve awareness of nanotechnology applications and implications among stakeholders?

Session Chairs:
- Treye Thomas
- JoAnne Shatkin

Panelists:
- Shaun Clancy
- Christie Sayes
- Lilia Chen
- Jo Anne Shatkin
- Treye Thomas

3:30 PM – 5:00 PM

W4-H
Symposium: MENA region risk scanning

Room 203-204

3:30 pm
Presentation title: Risk Science in the MENA region: research needs
Frederic Bouder
University of Stavanger

3:45 pm
Why the MENA region needs Risk Science
Frederic Bouder
University of Stavanger

4:00 pm
Risk and decision analytics engagement in MENA region
Megan Marcellin
University of Virginia

4:15 pm
Building climate resilience in a MENA country: lessons and challenges from Kuwait
Viktor Roezer
King's College London

4:30 pm
Risk and decision analytics engagement in Iraq
Thomas L. Polmateer
University of Virginia

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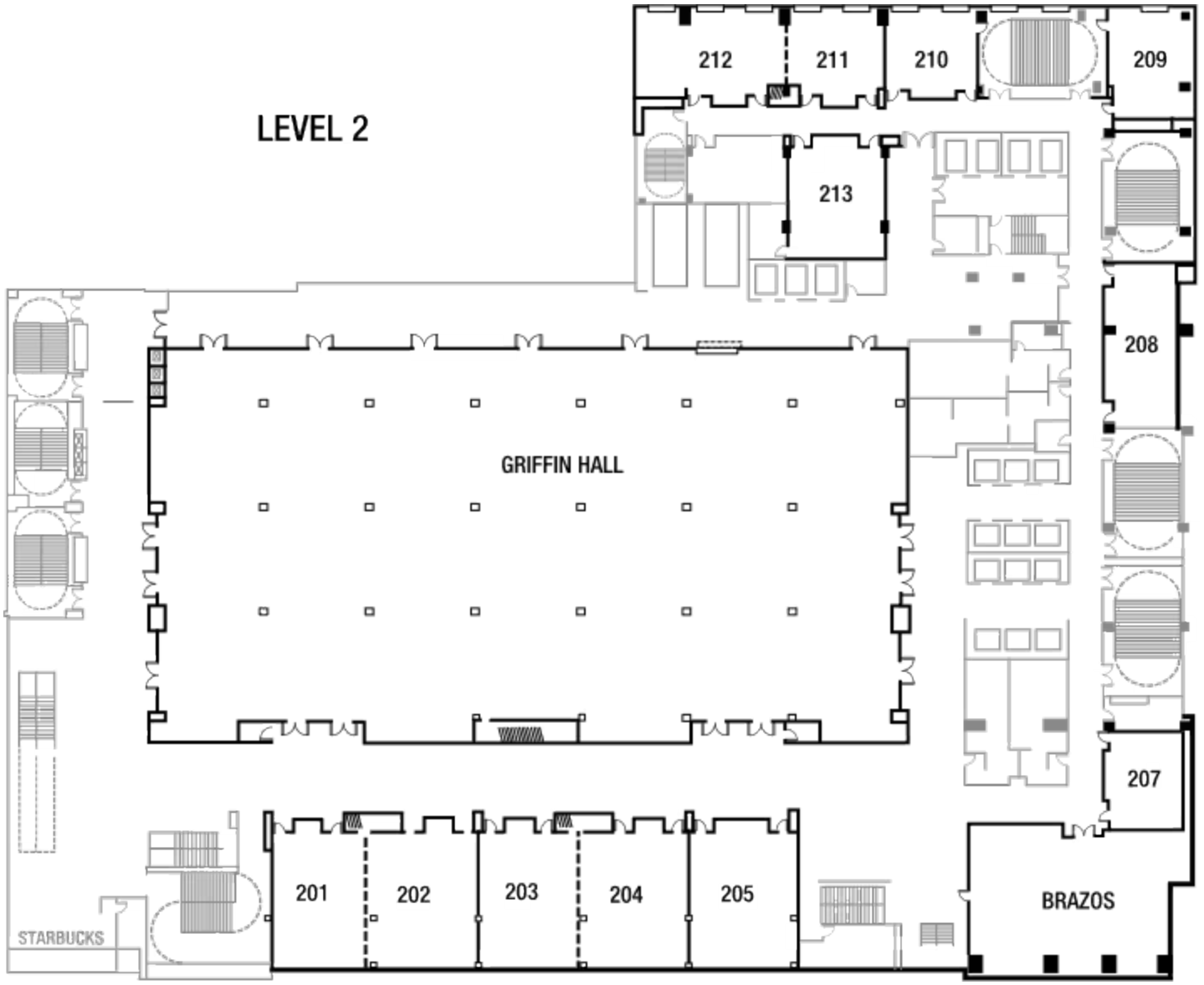
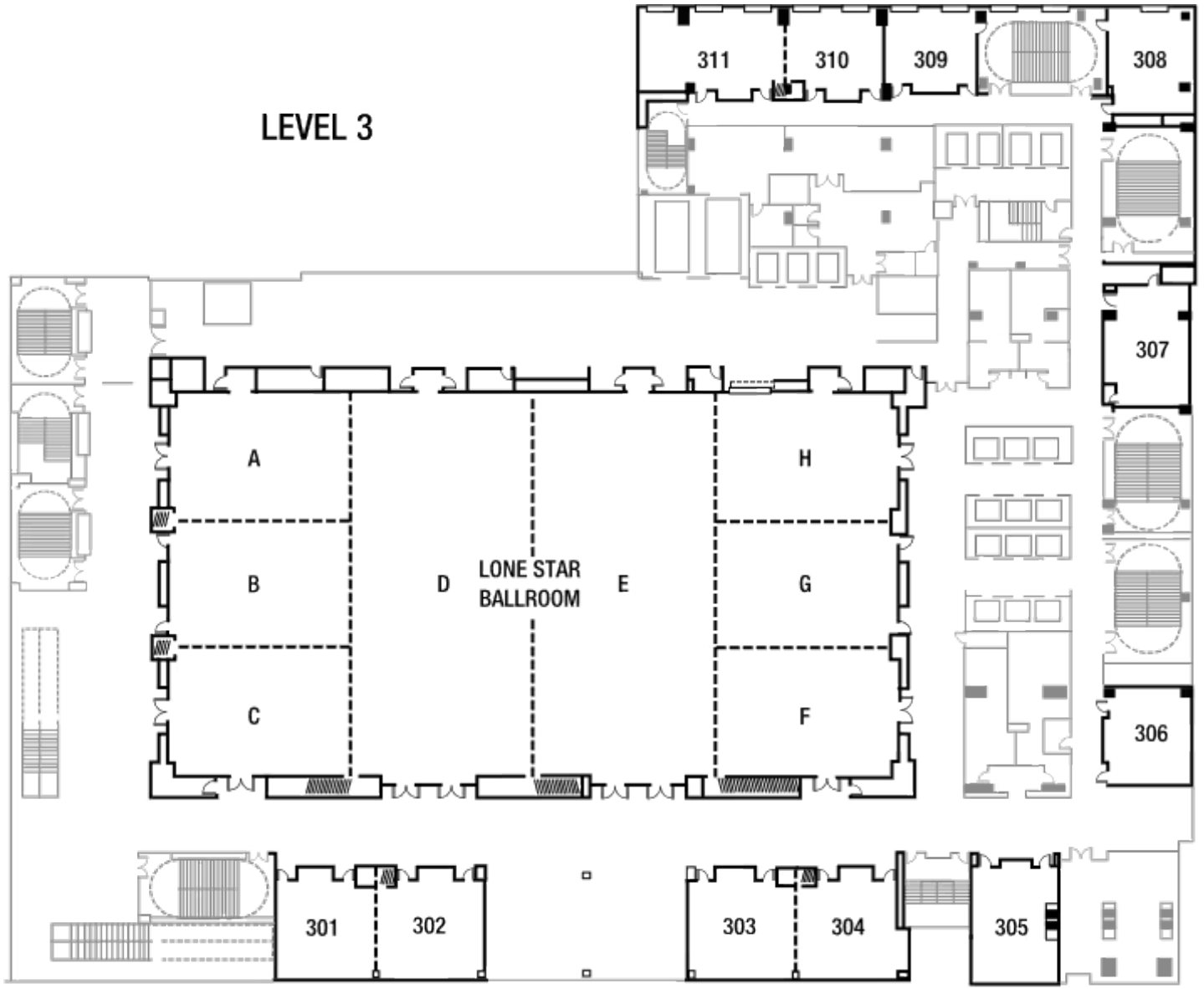
JW Marriott Austin Floor Plans



JW Marriott Austin Floor Plans



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Society for Risk Analysis

2025 Annual Meeting

December 10-14, 2025 · Washington, DC

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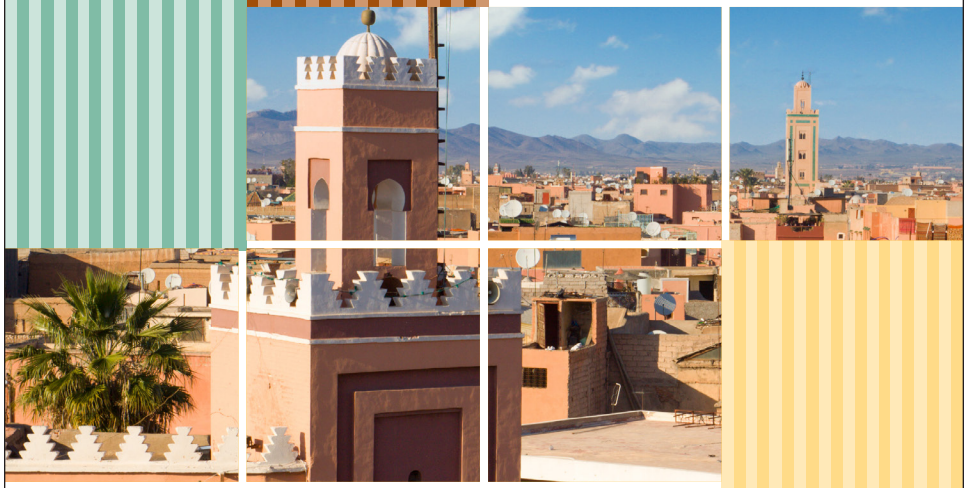
SRA EMERGING AND SYSTEMIC RISK



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