



Conference Program

2021 Annual Meeting • December 5-9, 2021 • Virtual

Welcome

Hello, and welcome to the 2021 Society for Risk Analysis Annual Meeting! Thank you for visiting. We have been working hard to adjust our regular in-person meeting to be a memorable virtual experience for the second year in a row. While we would all prefer to gather in person, as per the pre pandemic format, we have planned some additional events this year that we think will still encourage networking and the informal conversations that you value.

Here is a brief overview of what you can expect.

1. The meeting will run from 9 AM to 5:30 PM Eastern from Monday, December 6th to Thursday, December 9th.
2. We will kick off the programming each day at 10 AM Eastern Monday through Thursday and we will have Plenary Sessions each day from 12 PM to 1:30 PM. The meeting will run through a platform from Pathable.
3. We will conduct three daily tracks of sessions featuring 32 symposia, 38 oral sessions, 17 roundtables, 7 lightning sessions (featuring 5-minute talks), and 1 poster session.
4. Our virtual poster session will give you access to 104 posters by specialty group, with pre-recorded 3-minute overviews. While you can view these throughout the meeting, during the dedicated session you can also video chat live one-on-one with the presenter.
5. Reserved time for specialty group meetings who chose to meet during the annual meeting will occur at 9 AM Eastern Tuesday and Wednesday.
6. The business meeting content will be available throughout as pre-packaged video updates, and award winners will be announced each day through the online system at 11:30 AM Eastern as the morning break begins.
7. The meeting will formally wrap during a closing session at 4:15 PM Eastern on Thursday, December 9th, but all meeting content will be recorded and made available through January 2022 for meeting registrants.
8. Thank you for your participation. We encourage you to take advantage of the online platform and set up video chats with your colleagues and individuals who you want to connect and network with throughout the events. We have set breaks where you can make this happen! Enjoy!

Ragnar Lofstedt, PhD

Professor of Risk Management, King's College London

Incoming President, Chair of the Annual Meeting Program Committee

2021 Specialty Group Winners

Advanced Materials and Technologies

Shraddha Shahane

Applied Risk Management

Tamara Savage

Dose-Response

Amanda Bernstein

Ecological Risk Assessment

Jeffrey Ashby

Economics and Benefits Analysis

Jose Esther

Engineering and Infrastructure

Jingya Wang

Exposure Assessment

Kathryn Budd

Foundational Issues in Risk Analysis

Zaira Pagan-Cajigas

Justice, Equity and Risk

Mathilde de Goër de Herve

Microbial Risk Analysis

Shraddha Karanth

Occupational Health and Safety

Zhiyuan Wei

Resilience Analysis

Jack Watson

Risk Policy and Law

Ebot Daniel

Plenary Sessions

Monday, December 6

12:00 PM – 1:30 PM

Plenary Session on COVID-19

Tuesday, December 7

12:00 PM - 1:30 PM

Plenary Session on Prof. Anu Bradford's book, "The Brussels Effect"

Wednesday, December 8

12:00 PM - 1:30 PM

Plenary Session: Climate Change: Lesson for Risk Analysts Post COP 26

Thursday, December 9

12:00 PM - 1:30 PM

Plenary Session in the Memory of Prof. Roger Kasperson

Workshops

Sunday, December 5

8:00 AM – 12:00 PM

Workshop 2: Eliciting Judgments from Experts and Non-experts to Inform Decision-making

Workshop 4: Dose-Response Modeling - EPA Standard Benchmark Dose Modeling Approaches Using The Newest Version of EPA/NIOSH BMDS Software including BMDS-Online

1:00 PM – 5:00 PM

Workshop 3: Using the Bayesian Benchmark Dose Modeling (BBMD) System for Dose-Response Assessment

Workshop 5: Dose-Response Modeling –Bayesian Modeling with the Newest Version of BMDS and ToxicR

8:00 AM – 5:00 PM

Workshop 6: Environmental Justice and Equity, Human Health Risk Assessment, and Modeling: A practical workshop for the risk assessor, risk modeling and regulatory communities

Workshop 7: Monte Carlo simulation and probability bounds analysis in R with hardly any data

Friday, December 10

8:00 AM – 12:00 PM

Workshop 8: Case study and Lessons Learned from applying the FAO Guide to Ranking Food Safety Risks at the National Level

Workshop 10: Combining quantitative natural and social science methods for extreme weather and climate event (EWCE) risk assessment

1:00 PM – 5:00 PM

Workshop 12: A Framework for Building Environmental Health Literacy and Understanding of Risks in Health Equity Populations

8:00 AM – 5:00 PM

Workshop 9: Chemical Mixtures Health Risk Assessment of Environmental Contaminants: Concepts, Methods, Applications and Advanced Topic

Workshop 13: What Scenarios Are You Missing? A systemic approach to black swans, perfect storms, dragon-kings

Technical Program

10:15 AM – 11:45 AM

M1

Symposium: Fighting the COVID-19 pandemic with enhanced risk communication (PAN-FIGHT)

Chair: frederic.bouder@uis.no

10:15 am

Fighting the Covid19 pandemic with enhanced risk communication (PAN -FIGHT)

Frederic Bouder, Kristin Sørung Scharffscher

10:35 am

The Moral Power of Relatedness: Popular Responses to Covid-19 Risk-Communication in Rogaland, Norway

Matan Shapiro, Frederic Bouder

10:55 am

Strategies of communicating health-related risks to vulnerable groups of immigrants during a pandemic: a scoping review of qualitative and quantitative evidence

Olena Koval, Ole Andreas Hegland Engen, Jacob Kringen, Siri Wiig

11:15 am

Similarities and differences in response to pandemic communication across five European countries

Darrick Evensen, Frederic Bouder, Matan-Ilan Shapiro

10:15 AM – 11:45 AM

M2

Empowering Women as Change Agents in the Climate Change Narrative: A Review of the Risk & Gender Research and Experience in Climate Change

Chair: alamm@uga.edu

10:15 am

Facilitating Innovation & Climate Action: Could Gender be a Factor in Change?

Emily Dustman

10:35 am

Women's Voices, Women's Wisdom in the Climate Change Narrative: a literature review

Camille Ryan

10:55 am

Factoring in Gender in the Equation of Climate Change Costs

Eleni Bickell

11:15 am

Exploring Climate Change Conversations on Twitter: Is the Feminine Voice Getting Lost in the Argument?

Alexa Lamm

10:15 AM – 12:00 PM

M3

Symposium: How to Enhance Resilience of Critical Systems, Infrastructures and Functions Exposed to x-Threats (Emerging Multiple, Hybrid and Systemic Risks)?

Chair: jovanovic@risk-technologies.com

10:15 am

Energy VPA – Decision support tool to prioritize resilient energy alternatives

Frederic Petit, Duane Verner, Bruce Hamilton, Lawrence Paul Lewis

10:30 am

Resilience and Engineering Asset Management at Times of Major, Large-Scale Instabilities and Disruptions at Electrical Utilities: Case Study of extreme ice storm in Quebec in 1998

Dragan Komljenovic

10:45 am

Planning Fit-for-the-Future Energy Systems: The Argument for Resilience

Giovanni Sansavini, Katherine Lonergan

11:00 am

Stress-testing Resilience against x-Threats: The Efforts to Standardize Management of Emerging Risks in Order to Enhance Resilience of Critical Systems

Aleksandar Jovanovic

11:15 am

Return on Security Investment Portfolio Optimization for Hardware Security and Trust

Zachary Collier, Brett Briglia, Tom Finkelston, James Lambert

11:30 am

Fostering Sustainable Development: A Systemic Perspective on the Risks and Opportunities of Digitalization

Pia-Johanna Schweizer, Grischa Beier, Ortwin Renn

11:45 am

Hybrid Threats And Critical Infrastructures

Aleksandar Jovanovic, Pia-Johanna Schweizer, Giovanni Sansavini, Dragan Komljenovic, Zachary Collier, Georgios Giannopoulos, Frederic Petit, Luca Galbusera

Monday
Technical Program

10:15 AM – 11:45 AM

M4

Understanding Community Exposures to PFAS

Chair: zhezhou@iu.edu

10:15 am

Machine-learning Approaches to Characterize PFAS Exposure from Private Well Water

Jacqueline MacDonald-Gibson

10:35 am

Exposure pathways for PFAS in humans: what do we know to improve exposure characterization in epidemiological studies?

Linda Dell

10:55 am

Human exposure to per- and polyfluoroalkyl substances (PFAS): Data from The National Health and Nutrition Examination Survey (NHANES)

Antonia Calafat

11:15 am

Current breast milk PFAS levels in the US and Canada: After all this time why don't we know more?

Judy LaKind, Helen Goeden, Marc-Andre Verner, Daniel Naiman, Satori Marchitti, Geniece Lehmann, Erin Hines, Suzanne Fenton

10:15 AM – 11:35 AM

M5

Micro and Nanoplastics

Chair: christie_sayes@baylor.edu

10:15 am

Plastic is not just plastic – early warning signs applied to the most produced types

Steffen Hansen, Freja Paulsen, Maria Nielsen, Yvonne Shashoua, Kristian Syberg

10:35 am

Constructing a Framework for Risk Ranking of Microplastics (MPriskrank)

Arun Kumar, Vaishali Ashok, Tanushree Parsai, Surya Sujathan, Regina Nogueira

10:55 am

Exploring the link between processing methods and environmental degradation for bioplastics

Philip Onffroy, Hari Sridhari, Griffin Stewart, Kevin Zong, Margaret MacDonell

11:15 am

Combining polymer and chemical data to facilitate design of new bioplastics for recyclability and upcyclability

Hari Sridhari, Griffin Stewart, Philip Onffroy, Kevin Zong, Margaret MacDonell

10:15 AM – 11:35 AM

M6

Symposium: Recent Progress in the Development and Application of Alternative Testing Strategies for Risk Assessment of Advanced Materials

Chair: jede@vireoadvisors.com

10:15 am

Implementing new developments in nanomaterial safety science to promote regulatory uptake and policy change

Shareen Doak

10:35 am

The consideration of new approach methodologies within the risk assessment framework for manufactured nanomaterials in commerce in canada

Djordje Vladislavljevic, Kathy Nguyen, Yi Zhang, Jane Pappas

10:55 am

New Approach Methods (NAMs) in the US EPA New Chemicals Program Under the Toxic Substances Control Act (TSCA)

Louis Scarano

11:15 am

Translating Scientific Advances in the AOP Framework to Decision Making for Nanomaterials

James Ede, Jo Anne Shatkin

10:15 AM – 11:45 AM

M8

Advancing Risk Science

Chair: tom.logan@canterbury.ac.nz

10:15 am

Integrating risk and resilience

Tom Logan, Terje Aven, Roger Flage, Seth Guikema

10:35 am

Distributed sensemaking in organisational risk response

Jacob Taarup-Esbensen

10:55 am

Explaining Public Reactions to COVID-19 Infection in China and the United States: Cultural Biases, Risk Perceptions, Political Trust, and Protective Actions

Meng Yuan, Marcus Mayorga, Branden Johnson, Brendon Swedlow

11:15 am

Amplification without the event: the rise of the reductarian

Dominic Duckett, Altea Lorenzo-Arribas, Graham Horgan, Anna Conniff

10:15 AM – 11:55 AM

M9

21st Century Risk Communication: Trust, Misinformation, Scientific Credibility

Chair: *db729@cornell.edu*

10:15 am

Deference to scientific authority and its moderating role in the formation and utilization of trustworthiness dimensions

Hwanseok Song, Prince Adu Gyamfi

10:35 am

Is social media a curse or a blessing for safety? Lessons from avalanche risk communication.

Amélie Goulet-Boucher, Pascal Haegeli

10:55 am

Knowledge Mobilization of Food Risk and Nutrition Topics -- Some Strategies

Steven Gibb, Abby Steketee

11:15 am

Using Best Practices from the Health Communication Literature to Inform Results Communication to Citizen Science Participants

Emeline Ojeda-Hecht, Elizabeth Williams, Ashley Anderson, Marilee Long

11:35 am

Bitting the Bullet: Developing an evidence-informed strategy for communicating lead ammunition risks

Dominic Balog-Way, Katherine McComas, Alisius Leong

10:15 AM – 11:55 AM

M10

Symposium: Data-Centric Approaches for Efficient Disaster Risk Management and Climate Change Adaptation in the Digital Era

Chair: *sayantim@buffalo.edu*

10:15 am

Reducing the Inequity of Drought Resilience Measures

Ben Rachunok, Sarah Fletcher, Sarah Fletcher

10:35 am

Simulating the Role of Water Conservation Attitudes on Urban Drought Preparation and Mitigation in the Southwestern United States

Renee Obringer

10:55 am

Multi-Objective Optimization of Tradeoffs and Synergies Between Structural and Nonstructural Coastal Protection Projects

Nathan Geldner, Jingya Wang, Andrew Zehr, David Johnson

11:15 am

Modeling Wildfire-induced Failure Risk of Interdependent Infrastructure Systems: A Hybrid Approach Using a Bow-Tie Model and Bayesian Network

Prasangsha Ganguly, Sayanti Mukherjee

11:35 am

Tracking Disaster Expenditures: An Evaluation of Donor and Donee Counties

Allison Reilly, Deb Niemeier, A.R. Siders

10:15 AM – 11:45 AM

M11

Roundtable: Distributional Equities

Chair: *colemanmellen@gmail.com, elizabeth.quin@fda.hhs.gov*

10:15 am

Distributional Equities

Aaron Kearsley

10:15 AM – 11:45 AM

M12

Symposium: Conventional vs. new technologies for evaluating and validating engineering controls through the SARS-CoV-2 pandemic and beyond

Chair: *fpagone@rhprisk.com*

10:15 am

Best-practice engineering control evaluations and recommendations for reducing transmission of SARS-CoV-2 and improving indoor air quality.

Benjamin Heckman

10:35 am

Use of liquid aerosols as a measurement of dilution ventilation and filtration efficacy for indoor spaces and its comparison with conventional tracer gas method for assessing air changes.

Frank Pagone, Jacob Persky, Benjamin Heckman, Ilan Arvelo, Erik Malmstrom, Phil Arnold, Ulrike Hodges, Carlos Carpio, Nick Clements

10:55 am

Use of DNA-tagged bioaerosol tracers for estimating the risk of infection of airborne diseases

Nicholas Clements, Ilan Arvelo

11:15 am

Putting 'Emerging Technology' Air Purification Devices to the Test.

Jacob Persky, Luke Nienhaus

10:15 AM – 11:45 AM

M14

Roundtable: Governing collision risk from space debris in low Earth orbit

Chair: marie-valentine.florin@epfl.ch

10:15 am

Governing collision risk from space debris in low Earth orbit

Marie-Valentine Florin

10:15 AM – 11:45 AM

M34

Roundtable: How do we promote quality in analyses supporting risk management?

Chair: plarkin@explornet.com

10:15 am

How do we promote quality in analyses supporting risk management?

Patricia Larkin

10:15 AM – 12:00 PM

M96

Symposium: EU Food Safety Risk Communication

Chair: Anthony.SMITH@efsa.europa.eu

10:15 am

Introduction: A mandate from the EC for technical assistance on food safety risk communication

Tony Smith, Barbara Gallani

10:35 am

Audience analysis and targeted risk communication – an audience-first framework

Domagoj Vrbos, Mario Mazzocchi

10:55 am

Using social insights for risk profiling – a new tool for communications planning

Giorgia Zamariola, Laura Maxim

11:15 am

Communications strategies for increasing public knowledge and understanding of the food safety system

Claire Rogers, Stephan van den Broucke

11:35 am

Food safety – the next target for fake news? Strategies for dealing with false information

Fabiana Zollo

4:00 PM – 5:30 PM

M7

Symposium: Climate adaptation: Community-engaged risk analysis

Chair: tom.logan@canterbury.ac.nz

4:00 pm

The Evolution of Coastal Flood Risk Management in Louisiana: A Decade of Decision Support

David Johnson

4:20 pm

Identification of critical roads to monitor for flooding in rural transportation networks

Zeinab Y. Jasour, Allison Reilly

4:40 pm

Compounding the complexity of risk analysis: Incorporating intangible and Indigenous values into flood risk assessment in a changing climate.

Tamsin Lyle, Silja Hund, Robert Larson

5:00 pm

Christchurch's Coastal Adaptation Plan: The Risks to the Built, Natural, Community, and Cultural Domains

Tom Logan, Mitchell Anderson

4:00 PM – 5:20 PM

M13

Symposium: Modeling and Analyzing Emerging Risks

Chair: rld9@georgetown.edu

4:00 pm

Autonomous Decision Systems: New Risks & Old Biases

Robin Dillon-Merrill, Peter Madsen, Kostas Triantis, Bart Roets

4:20 pm

Optimizing COVID-19 Contact Tracing for the World Health Organization

Gilberto Montibeller, Victor Del Rio Vilas, Götz Giering, Cameron MacKenzie, Christopher Zobel

4:40 pm

Analyzing pandemic risk perception and avoidance behavior

Richard John, Jeremy Barajas, Katie Byrd

5:00 pm

Risk quantification can help intuition

Elisabeth Pate-Cornell

4:00 PM – 5:30 PM

M15

Roundtable: Why we need an SRA Chapter for the MENA region and what it may bring

Chair: jacmgibs@iu.edu

4:00 pm

Why we need an SRA Chapter for the MENA region and what it may bring

Jacqueline McDonald Gibson

4:00 PM – 5:30 PM

M16

Air and Water Risks around the World

Chair: xly@bnu.edu.cn

4:00 pm

Influence of urban road traffic sources on the PAHs pollution of surrounding cultivated land in Guangzhou

Linyu Xu, Xiaorong Zhang

4:20 pm

Risk assessment of waterborne pathogens for water reuse applications in Jaipur City, India

Ayushi Chaudhary, Amit Kumar, Arun Kumar, Vivek Perumal, Walter Betencourt, Rajveer Singh, Patrick Gurian

4:40 pm

The frames and actors of the risk of air pollution in Delhi: A discourse analysis of the Indian media reports

Bhavna Joshi

5:00 pm

Spatial Variation of Health Risk from Exposure to Ambient BTEX and Styrene in Taiwan

Lam Nguyen Thi Hong, Tzai-Hung Wen, Kuen-Yuh Wu, Kuen-Yuh Wu

4:00 PM – 5:30 PM

M18

Lightning Session: Advances in Modeling and Quantitative Risk Assessment

Chair: sguikema@umich.edu

4:00 pm

Three studies examining the indirect effects of elaboration on risk behavior intentions

Ken Lachlan, Xialing Lin, Patric Spence

4:05 pm

Managing Cyber Risks for Over-the-Air Firmware Updates in Industrial Internet of Things Devices

Kenneth Crowther

4:10 pm

Human Factors: A Cognitive Risk Framework for the Digital Economy

James Bone

4:15 pm

A Novel Method for Risk Assessment in Chemical Clusters Based on Fuzzy Measure and Choquet Integral

Zhichao He, Wenguo Weng, Wenguo Weng, Wenguo Weng

4:25 pm

Time-Series Anomaly Detection Algorithm Comparison for Risk-Based Decision-Making

Julia Coxen, Seth Guikema

4:30 pm

BBMD: A web-based system for Bayesian benchmark dose estimation of in-vitro genomic data

Chao Ji, Andrew Weissmann, Owen Gordon, Kan Shao

4:35 pm

International Government Midair Collision Safety Regulations Designed to Increase Collision Risk Compared to Disobedient Random Altitude Pilots Violating Regulations

Robert Patlovaný

4:40 pm

A probabilistic approach to quantify certainty in the Adverse Outcome Pathway

Laura Martino, Antonio Hernández Jerez, Antonio Hernández Jerez, Andrea Terron, Federica Barrucci

4:45 pm

Evaluating magnitude and distribution of public health and economic burden of tobacco use across Oregon communities at county scale

Anna Belova, Michelle Bover Manderski, Sharon Coryell, Sarah Hargand, Kristie Healey, Yun Kim, Adam Lee, Robynne Locke

4:50 pm

LNG Bunkering: A Quantitative Risk Assessment

Nikolaos Ventikos, Vasileios Podimatas, Alexandros Koimtzoglou

4:55 pm

A systematic approach to identifying chemicals for cumulative exposure assessment – a case study of 1,4-dioxane in consumer products

Qingyu Meng, Lei Huang, Loveriza Sarmiento, Olivier Jolliet, Anne Cooper Doherty

4:00 PM – 5:10 PM

M19

Decision Analysis and Risk in the Broad Energy Space

Chair: gisela.boehm@uib.no

4:00 pm

Using a convergent decision-support tool to evaluate clean energy risks, benefits, and opportunities

Douglas Bessette, Richelle Winkler, Laura Brown, Ryan Williams, Sarah Mills

4:15 pm

Public perceptions of energy transition pathways

Gisela Böhm, Rouven Doran, Daniel Hanss, Hans-Rüdiger Pfister

4:30 pm

Trade-offs on resilience and efficiency in energy systems

Benjamin Trump, Maureen Golan, William Hynes, Igor Linkov

4:45 pm

Value of Information in Analyzing Energy Infrastructure Resilience Considering Economic Impacts

Harsh Anand, Mohamad Darayi

10:00 AM – 11:30 AM

T20

Lightning Session: New Developments in Public Health and Food Safety Communication

Chair: laura.rickard@maine.edu

10:00 am

Effects of COVID-19 misinformation on information seeking and information processing
Janet Yang, Xinxia Dong, Zhuling Liu, Shaojing Sun, Chuanshen Qin

10:05 am

Human Behavior and Effective Chronic Wasting Disease Management
Kristina Slagle, Gabe Karns, Jeremy Bruskotter, Robyn Wilson

10:10 am

The relationships between uncertainty tolerance, health literacy, information seeking, and information verification during the covid-19 pandemic
Rebekah Wicke, Madison Speece, Hannah Smith

10:15 am

The influence of descriptive and injunctive norms, response-efficacy, and social trust on Chinese adults' intention to receive the COVID-19 vaccine
Xinxia Dong

10:20 am

Spit, Disgust, and Parasite Stress Theory: A Message Experiment
Daniel Chavez-Yenter, Helen Lille, Sebastiaan Gorissen, Kevin John, Alexis Vega, Jakob Jensen

10:25 am

Comparing the persuasive effects of fear-hope appeals on promoting MMR vaccination
Hang Lu, Shupeí Yuan

10:30 am

Communicating sexual health risks to U.S. adults: explicit language, dispositional disgust, and reactance
Sebastiaan Gorissen, Helen Lillie, Daniel Chavez-Yenter, Alexis Vega, Kevin John, Jakob Jensen

10:35 am

Digital detection of clinical risk cues and communication for preeclampsia prophylaxis among prenatal care patients
Tamar Krishnamurti, Alexander Davis, Samantha Rodriguez, Miriam Bernard, Hyagriv Simhan

10:40 am

“Fish prisons” and “bluehouses”: Perceived risk and benefit of emergent aquaculture technology in four U.S. states.
Laura Rickard, Cynthia Houston, Bridie McGreavy, Branden Johnson, Gabriella Gurney

10:45 am

Framing risks in the new media era: Socio-psychological mechanisms underlying on online public opinion about cultured meat
Alisius Leong

10:00 AM – 11:50 AM

T21

Symposium: Neighborhood Level Inequity in Exposure to Risks and Access to Resources

Chair: jacmgibs@iu.edu, agracew@umich.edu

10:00 am

Water and sanitation infrastructure matters in addressing inequities in the U.S./Mexico border region
Michelle Del Rio, William Hargrove, Marcelo Korc

10:20 am

Urban population outcomes and their connections to historic discriminatory housing practices
Anna White, Seth Guikema, Tom Logan

10:40 am

Collaborating with Communities for Environmental Justice: The Case of Oil in Los Angeles
Jill Johnston, Bhavna Shamasunder, Marissa Chan, Kristen Okorn

11:00 am

Studying the Past to Understand the Present: Residential Segregation and Healthy Food Access in the Rust Belt
Phillip Warsaw, Rick Sadler

11:20 am

Thirst for Justice: Inequitable Exposure from Water and Sanitation Discrimination
Brandon Hunter

10:00 AM – 11:45 AM

T22

Symposium: Thresholds in the Real World: Ignore them Unless They Matter

Chair: adfinkel@umich.edu

10:00 am

Perspective on the Challenges of Proposing Safe Exposures for Putative Threshold Effects
Lorenz Rhomberg

10:20 am

There's a Limit to the Limits: Misinterpretation of Thresholds in Occupational Environments
Michelle Deveau

10:40 am

Science-Based Regulatory Risk Assessment Above Any Biological Thresholds
Weihshueh Chiu

11:00 am

“Invoking” Thresholds is Driving the De-Evolution of Carcinogen Risk Assessment
Adam Finkel

10:00 AM – 11:10 AM

T23

Air Quality, Exposure, and Public Health

Chair: dkaden@ramboll.com

10:00 am

Long-term effect of air pollution on re-hospitalization in children discharged from Pediatric Intensive Care Units

Elisa Gallo, Rosanna Comoretto, Dario Gregori, Andrea Wolfler, Angela Amigoni

10:20 am

Assessing health implications of indoor air quality for energy-efficient manufactured homes

Peyton Lee, Kayesha Hancel, Margaret MacDonell, Young-Soo Chang

10:40 am

Comparison of Air Pollution Exposure in for Persons Living in Public Versus Private Housing for a Selected City

Sailaja Eluri, Christopher Frey

10:00 AM – 11:50 AM

T24

Symposium: Building a roadmap for a risk-based food safety in low- and middle-income countries

Chair: morgan.1353@osu.edu

10:00 am

Implementing the scoping phase from FAO's guidance to Conduct a National Level Risk Ranking

Kara Morgan, Laura Binkley, Arie Havelaar, Pattama Ulrich, Barbara Kowalcyk

10:20 am

Developing National Level Foodborne Disease Risk Estimates from Limited Available Data

Allison Howell, Kara Morgan, Arie Havelaar, Leon Gorris, Barbara Kowalcyk

10:40 am

Raw Milk Consumption and Hygienic Handling Along the Dairy Value Chain in Ethiopia: A One Health Quantitative Microbial Risk Assessment Model

Pattama Ulrich, Mark Weir, Mark Weir, Mark Weir

11:00 am

Outline and Development of a Mixed Effects Total exposure QMRA method for food safety in LMIC Contexts

Mark Weir, Pattama Ulrich

11:20 am

A Framework to Assess Food Safety Interventions in Low and Middle Income Countries (LMICs)

Robert Scharff

10:00 AM – 11:30 AM

T25

Roundtable: Risk analysis foundations in light of Covid-19

Chair: haas@drexel.edu

10:00 am

Covid Foundations

Charles Hass

10:00 AM – 11:30 AM

T26

Climate Change Risk Communication: Psychological Distance vs. Personal Experience

Chair: gwongpar@stanford.edu

10:00 am

Disaster Exposure and the Psychological Distance of Climate Change

Haoran Chu, Sixiao Liu

10:20 am

Can fires focus our attention on climate change? A comparative analysis of wildfire news coverage in Australia and California

Amanda Molder, Mikhaila Calice

10:40 am

Psych! Inferring psychological distance via language abstractness in a climate change context

Natasha Strydorst, Haoran Chu

11:00 am

Environmental extremes personal experience, subjective attribution, and pro-environmental attitudes and intentions

Gabrielle Wong-Parodi, Nina Berlin Rubin

10:00 AM – 11:30 AM

T27

Symposium: Resilience modeling of energy systems – Part I

Chair: njacks@sandia.gov, hiba.baroud@vanderbilt.edu

10:00 am

Characterization of extreme weather events during large-scale power outages

Nicole Jackson, Jinzhu Yu, Hiba Baroud, Andrea Staid, Jean-Paul Watson

10:20 am

Balancing Co-Dependence: An Evaluation of Renewable Energy Production Resilience to Natural Disasters

Thushara Gunda, Andrea Staid, Ben Emery

10:40 am

A Geo-AI Based Framework for Modeling Wildfire-induced Failure Risk of Electric Power Grid

Prasangsha Ganguly, Sayanti Mukherjee

11:00 am

A Repair Crew Coordination Model Under Uncertainty for Power Outage Restoration

Elnaz Kabir, Seth Guikema

10:00 AM – 11:30 AM

T28

Roundtable: New Developments and Guidelines for Economic Impact Assessments of Risk Reducing Policies

Chair: Aliya.Sassi@fda.hhs.gov

10:00 am

New Developments and Guidelines for Economic Impact Assessments of Risk Reducing Policies

Aliya Sassi

10:00 AM – 11:50 AM

T29

Advanced Methods in Risk Analysis for Food Safety

Chair: don.schaffner@rutgers.edu

10:00 am

Validation of a simple two-point method for assessing the microbiological risk in cooling foods.

Donald Schaffner, Adam Kramer

10:20 am

A novel machine learning-based weighted modeling approach to incorporating Salmonella enterica gene information in dose-response modeling

Shraddha Karanth, Abani Pradhan, Abani Pradhan

10:40 am

Detection and quantitative microbial risk assessment of pathogenic Vibrio cholerae in an urban stream used for fresh produce irrigation, drinking, domestic and recreational purposes

Vincent Chigor, Chizoba Ozochi, Victor Ujor, Emmanuel Adukwu

11:00 am

A new approach to quantitative microbial risk assessment

Joachim Scholderer, David Vose

11:20 am

SAFE - A Paradigm Shift in Managing Microbial Risk

Clare Thorp, Seamus Fanning, Sandrine Pigat

2:00 PM – 3:50 PM

T30

Navigating Emerging Technology Risk Communication: Gene Editing, AI, and Energy Tech

Chair: walpole.23@osu.edu

2:00 pm

Evaluating risk and trust building priorities for proponents and critics of Gene Editing in Agriculture

Christopher Cummings, Carmen Bain, Theresa Selfa, Sonja Lindberg

2:20 pm

The media's taste for gene-edited food

Michael Dahlstrom, Zhe Wang, Sonja Lindberg, Kasey Opfer, Christopher Cummings

2:40 pm

The Indirect-Effects of Episodic-Thematic Framing on Information Sharing about the Economic Threat of Artificial Intelligence

Alex Kirkpatrick, Amanda Boyd, Jay Hmielowski

3:00 pm

Public perceptions of enhanced rock weathering in westernised countries

Elsbeth Spence, Nick Pidgeon, Emily Cox

3:20 pm

Competing imaginaries of energy and place in negotiations of local geothermal energy acceptance

Catherine Lambert

2:00 PM – 3:30 PM

T31

Lightning Session: Enhancing the Effectiveness of Climate Change and Natural Hazard Communication

Chair: zwicklea@msu.edu

2:00 pm

Closer ≠ Better: Using Distance-Framed Narrative to Communicate Ocean Plastic Pollution

Sixiao Liu, Janet Yang

2:05 pm

Framing climate change impacts as moral violations: the pathway of message credibility

Jialing Huang, Janet Yang, Haoran Chu

2:10 pm

Communicating biodiversity loss: how gain/loss framing and emotions influence conservation intentions

Josephine Martell, Amanda Rodewald

2:15 pm

Consumer willingness to pay for sustainable products

Prerna Shah, Janet Yang

2:20 pm

Information Seeking about Recycling: The Role of Objective Knowledge and Subjective Knowledge

Zhuling Liu, Janet Yang

2:25 pm

Enhancing the value of hazard communications with education interventions

Pascal Haegeli, Katie Fisher

2:30 pm

Towards an integrated approach: Exploring synergies in sustainability, climate adaptation and community resilience planning strategies

Emily Walpole, Matthew Malecha, Christopher Clavin

2:35 pm

The Effects of Data Enhancement in Collaborative Hazard Mitigation Planning

Adam Zwickle, Richard Margerum, Josh Bruce

2:40 pm

The Influence of Domestic Migration on Extreme Weather and Climate Risk Perceptions

Aarika Forney, America Gaviria-Pabon, Makenzie Krocak, Joseph Ripberger

2:45 pm

Winter is coming?: A nationwide survey of perceived risk of severe winter weather

Hugh Walpole, Julie Demuth, Joe Ripberger, Jinan Allan, Makenzie Krocak, Alyssa Cannistraci

2:00 PM – 3:30 PM

T33

Symposium: Addressing Community and Worker Health from Land-Based Pollution in Low- and Middle-Income Countries (LMICs): Where Do We Go From Here?

Chair: pwilliams@erisksciences.com

2:00 pm

Evaluating Community Health Impacts from Land-Based Pollution in LMICs: The Role of Risk Analysis

Pamela Williams, Katherine von Stackelberg, Ernesto Sanchez-Triana

2:20 pm

Using a Systematic Framework to Collect Sampling and Survey Data to Support Analyses of Community Health Impacts from Land-Based Pollution in LMICs

Katherine von Stackelberg, Pamela Williams, Ernesto Sanchez-Triana

2:40 pm

Interrelationship Between Worker and Community Exposures and Health Impacts Given Rise of Informal Small-Scale Activities in LMICs

Mary O'Reilly, Tuan Nguyen, Aubrey Arain

3:00 pm

How Can We Better Inform Risk Management and Public Policy Development Relating to Health Impacts from Land-Based Pollution in LMICs

Ernesto Sanchez-Triana1, Katherine von Stackelberg, Pamela Williams

2:00 PM – 4:10 PM

T35

Micro- and Nanoplastics: Data needs for environmental and human health risk assessment

Chair: christie_sayes@baylor.edu, arunku@civil.iitd.ac.in, Alison_Elder@URMC.Rochester.edu

2:00 pm

Constructing a Framework for Risk Ranking of Microplastics (MPriskrank)

Arun Kumar, Vaishali Ashok, Tanushree Parsai, Surya Sujathan, Regina Nogueira

2:20 pm

Environmental Effects and Toxicological Mechanisms of Nanoplastics in Aqueous Systems

Christie Sayes

2:40 pm

Analysis of Airborne Microplastics in Indoor Environments: Toxicological Considerations

Alison Elder, David Chalupa, Samantha Romanick, Gregory Madejski, James McGrath

3:00 pm

Producing micro- and nanoplastics for health risk assessments and environmental fate simulations

Phillip Potter, Quinn Whiting, Souhail Al-Abed

3:20 pm

Micro- and nanoplastics: Data needs for environmental and human health risk assessment

Christie Sayes, Arun Kumar, Alison Elder

3:40 pm

Early Warning Signs applied to Plastic

Steffen Hansen, Freja Paulsen, Maria Nielsen, Yvonne Shashoua, Kristian Syberg

2:00 PM – 3:30 PM

T36

Symposium: Foundational Issues in Artificial Intelligence to Support Risk Analysis

Chair: sguikema@umich.edu

2:00 pm

The need for risk science in autonomous vehicle adoption

Kendrick Hardaway, Roshanak Nateghi, Roger Flage, Seth Guikema, Seth Guikema

2:20 pm

Assumptions in artificial intelligence and the relation to risk

Andreas Hafver, Elizabeth Traiger, André Ødegårdstuen, Frank Pedersen, Christian Agrell, Kaia Stødle, Roger Flage

2:40 pm

Uncertainty, Predictive Machine Learning, and Risk Analysis

Seth Guikema

3:00 pm

Causally Explainable Decision Recommendations for More Trustworthy Risk Management

Tony Cox

2:00 PM – 3:30 PM

T37

Symposium: Resilience modeling of energy systems

Part II

Chair: njacks@sandia.gov, hiba.baroud@vanderbilt.edu

2:00 pm

Resilience Modeling of Energy Systems - Part II

Amanda Wachtel, Robert Jeffers, Chengwei Zhai, Saeid Charani Shandiz

2:20 pm

Power Recovery Estimation Using Synthetically Generated Distribution Networks

Chengwei Zhai, Jaskanwal Chhabra, Mohit Rikhy, Youngsuk Kim, Seth Guikema, Shabaz Patel

2:40 pm

Using the Resilient Node Cluster Analysis Tool (ReNCAT) to Optimally Site Microgrids for Critical Services within Communities

Amanda Wachtel

3:00 pm

A multi-layered energy resilience framework and metrics for energy master planning of communities: A university campus case study

Saeid Charani Shandiz, Behzad Rismanchi, Greg Foliente, Lu Aye

2:00 PM – 3:30 PM

T38

Symposium: Economics and Infectious Disease: Lessons from Modeling Foodborne Illness Disease Outcomes and Costs

Chair: sandra.hoffmann@usda.gov

5:00 pm

2020 Estimates of the Societal Cost of Foodborne Illnesses in the U.S.

Sandra Hoffmann, Elaine Scallan Walter, Alice White, Jae-Wan Ahn, Satvinder Dhaliwal, R. Brett McQueen

2:15 pm

Using Electronic Medical Records to Estimate the Economic Burden of Foodborne Illness

Robert Scharff

2:30 pm

Projecting the economic and health impacts of climate change on Vibrio infections in the U.S.

Megan Sheahan, Caitlin Gould, James Neumann, Patrick Kinney, Sandra Hoffmann, Charles Fant, Xinyue Wang, Michael Kolian

2:45 pm

Foodborne Illness Outbreak Reporting to National Surveillance—the Effect of Funding and Participation in Foodborne Disease Programs

Elaine Scallan Walter, Alice White, Madurha Vachon, Hannah Kisselburgh, Hillary Booth, Craig Hedberg

3:00 pm

Toxoplasmosis: the impact of research reporting practices on the ability to model chronic outcomes of infectious disease

Kristen Pogreba-Brown, Erika Austhof, Kenzie Schaefer, Kylie Boyd, Sandra Hoffmann

2:40 PM – 3:30 PM

T39

Pesticides, Plastics, and Petroleum: Ecological and Environmental Risk Assessments

Chair: joana.sipe@duke.edu

2:00 pm

Cumulative risk assessment of organophosphates and carbamates among fruit and vegetables among Taiwan adult population

Ha Nguyen, Kuen-Yuh Wu

2:15 pm

Quantifying the breakdown of plastic products into microplastics using new abrasion method and assessing their risk

Joana Sipe, Mark Wiesner, William Berger, Nathan Bossa, Keana Scott, Melissa Chernick, David Hinton, Christine Ogilvie-Hendren, Alan Kennedy, Treye Thomas

2:30 pm

Tracking the environmental transport of plastics to inform exposure assessments

Tanden Hovey, Sneha Nachimuthu, Mark Mesisklis, Margaret MacDonell

2:45 pm

Stochastic Model for Quantitative Ecological Risk Assessment of Oil Spills Near Fernando de Noronha Archipelago

Paulo Siqueira, Marcio Moura, Heitor Duarte

3:00 pm

Visualization and characterization of ecological stressors related to human ecosystem resilience due to anthropogenic climate change-induced flooding in the Laurentian Great Lakes watershed.

Jeffrey Ashby, Diane Henshel, Vivianna Brown

4:00 PM – 5:30 PM

T40

Symposium: Validating adaptive behavior models of adversaries for risk assessment (VABMARA)

Chair: gackerman@albany.edu

4:00 pm

Operational Implications: Modeling, Validation and Red Teaming

Jun Zhuang, Gary Ackerman, Kyle Hunt

4:15 pm

Game Theory & Counterterrorism: Aligning Theoretical Insights with Operational Consideration

Kyle Hunt, Jun Zhuang, Gary Ackerman, Brandon Behlendorf

4:30 pm

Targeting Adaptation and the 'Stickiness' of Initial Selection: a Simulation Approach

Brandon Behlendorf, Michael Logan, Gary Ackerman

4:45 pm

Validating a new validation approach: Comparing risk models, human simulation and ground truth in adversary tactical choice

Gary Ackerman, Anna Wetzel

5:00 pm

Extension of Red Teaming Into Strategic Risk Analysis

Douglas Clifford, Brandon Behlendorf, Hayley Peterson, Jenna LaTourette

4:00 PM – 5:30 PM

T41

Symposium: On "Doing the Right Thing": Barriers and Bridges to Personal Protective Behaviors During the COVID-19 Pandemic.

Chair: lutzke@usc.edu

4:00 pm

I Think, Therefore I Act: The Influence of Critical Thinking Ability on Trust and Compliance During the COVID-19 Pandemic

Alex Segre Cohen, Lauren Lutzke, Caitlin Drummond Otten, Joe Arvai

4:15 pm

Reactions of older Swiss adults to the COVID-19 pandemic: a longitudinal survey

Angela Bearth, Michael Siegrist

4:30 pm

Perceiving political polarization within the context of COVID-19 is associated with individuals' pandemic responses and attitudes in the U.S.

Lauren Lutzke, Alex Segrè Cohen, Caitlin Drummond Otten, Joe Árvai

4:45 pm

Perceived analogies of COVID-19 and how they relate to self-reported protective behaviors: A national survey in the United States

Wandi Bruine de Bruin, Katherine Carman, Andrew Parker

5:00 pm

Social Norms, Individual Critical Thinking Skills, and Uptake of COVID-19 Preventative Behaviors

Caitlin Drummond Otten, Alex Cohen, Lauren Lutzke, Joseph Árvai

4:00 PM – 5:30 PM

T42

Emergent Technologies and Risk Analysis Techniques

Chair: anca.rusu@epfl.ch

4:00 pm
Producing micro- and nanoplastics for health risk assessments and environmental fate simulations

Phillip Potter

4:15 pm
'The right test for the right patient': Distributional risk and institutional policy implications in clinical genomics

Yuwan Malakar, Justine Lacey

4:30 pm
Role of Uncertainty Information and Domain Knowledge in Use of Artificial Intelligence Recommendations

Harishankar Subramanian, Casey Canfield, Daniel Shank

4:45 pm
Artificial intelligence and the visions of the future: a study on the European Union's discourse

Anca Rusu, Myriam Merad

5:00 pm
Understanding the role of technology-application associations in shaping attitudes toward artificial intelligence

Shiyu Yang, Luye Bao, Nicole Krause, Mikhaila Calice, Dietram Scheufele, Michael Xenos, Dominique Brossard, Todd Newman

4:00 PM – 5:30 PM

T43

Decision Analysis in a Global Perspective- from Covid to the Precautionary Principle

Chair: sguikema@umich.edu

4:00 pm
A Framework Comparison for Community Level Risk Assessments

Zaira Pagan-Cajigas, Seth Guikema, Roger Flage

4:20 pm
Simulating COVID-19 risks associated with returning to in-person college classes

Seth Guikema, Tessa Swanson

4:40 pm
What lessons can be learned from the management of the Covid-19 pandemic?

Baptistine Gourdon, Myriam Merad

5:00 pm
Trade-offs and the Precautionary Principle: A Lexicographic Utility Approach

Daniel Steel, Paul Bartha

4:00 PM – 5:00 PM

T44

Lightning Session: Climate, Weather, and Natural Resources

Chair: TBD

4:00 pm
Who's got the bill?: Understanding factors of bill delinquency and nonpayment among water utility customers

Olivia August

4:05 pm
A dynamic building inventory for hurricane risk management modeling

Caroline Williams, Rachel Davidson, Linda Nozick, Joseph Trainor, Jamie Kruse, Meghan Millea

4:10 pm
Risk appraisal and personal experience as motivators of wildfire-associated migration intentions in California

Nina Berlin Rubin, Gabrielle Wong-Parodi, Gabrielle Wong-Parodi

4:15 pm
The inevitability of loss: Values and risk perceptions in adapting forests to climate change

Kieran Findlater, Robert Kozak, Shannon Hagerman

4:20 pm
Methodological Considerations and Best Practices for Social Media Data Collection and Use For Tropical Storms

Emina Herovic, Emily Walpole, Katherine Johnson

4:25 pm
Storm Selection to Inform Probabilistic Assessment of Compound Coastal Storm Hazards

Ziyue Liu, Michelle Bensi, Meredith Carr, Norberto Nadal-Caraballo, Victor Gonzalez, Madison Campbell

4:30 pm
Effects of hardening and resource availability on post-earthquake infrastructure system restoration

Andrew Deelstra, David Bristow

4:35 pm
Resilience and supra-resilience: A new paradigm for risk analysis of interdependent bio-socio-technological infrastructures

Sviatoslav Timashev

4:00 PM – 5:30 PM

T45

Risk Analysis Topics

Chair: farrow@umbc.edu

4:00 pm

Evaluating Technological Alternatives to Border Management: An Integrated Decision Analysis and Benefit-Cost Approach

Scott Farrow

4:20 pm

Addressing model uncertainty for the persistence of pathogens and indicator organisms in surface water matrices

Kara Dean, Jade Mitchell

4:40 pm

Simulations to Assess the Post-COVID-19 Strategic Biological Weapons Risk Landscape

Douglas Clifford, Gary Ackerman, Brandon Behlendorf, Jenna LaTourette, Michael Mieses, Hayley Peterson, Anna Wetzel

5:00 pm

Campaign Analysis: Piercing Through Complexity

Ghaidaa Hetou

4:00 PM – 5:30 PM

T46

Assessing, Managing and Communicating Contaminant Risks

Chair: stuler@wpi.edu

4:00 pm

Exposure Concerns and Health: Revisiting the Paradigm

Susan Santos, Omowumni Osinubi, Kelly McCarron, Michelle Robertson

4:15 pm

Uncovering ways of reasoning of relevance for the evaluation of chemicals of emerging concern

Georgia Green, Jerry Achar, Annegaike Leopold

4:30 pm

A comparison of stakeholder perspectives on a consent-based process for locating nuclear waste facilities in the United States

Seth Tuler, Thomas Webler

4:45 pm

Self-Selection in Studies of Individual Risk Perception, Exposure and Management

Vasikan Vijayashanthar, Mitchell Small, Jeanne VanBriessen

5:00 pm

Evolving Science and Practice of Risk Assessment

Katherine von Stackelberg, Pamela Williams

10:00 AM – 11:50 AM

W47

Symposium: Successes and failures in COVID-19 Vaccine Risk Communication

Chair: Michelle.Driedger@umanitoba.ca

10:00 am

Curating Audio-Visual Datasets: Methodological Design and Challenges for Visual Risk Communication Analysis

Bethany Berard, S. Michelle Driedger, Cindy Jardine, Jordan Tustin, Gabriela Capurro

10:20 am

The spokesperson matters: Comparing how spokespeople present and support COVID-19 public health decisions

Gabriela Capurro, Michelle Driedger, Cynthia Jardine, Jordan Tustin

10:40 am

Evaluating Web-based COVID-19 Vaccine Communication in Canada and the United States

Rachel Ringgold, S. Michelle Driedger, Cindy Jardine, Jordan Tustin

11:00 am

How NOT to do Vaccine Risk Communication

Cindy Jardine, S. Michelle Driedger

11:20 am

Making a decision in a communication vacuum: public perspectives on changing COVID-19 vaccine communication

S. Michelle Driedger, Cindy Jardine, Jordan Tustin, Gabriela Capurro

10:00 AM – 11:30 AM

W48

Roundtable: “Revisiting Risks in Space: Critical and controversial Issues in Space Exploration and Astrobiology

Chair: mrace@seti.org

10:00 am

Risks of Mars Sample Return Missions: Considering Biohazards, Planetary Protection and Risk Management Options

Jonathan Wiener

10:00 AM – 11:30 AM

W49

Roundtable: A Question of Policy: When is a PBPK Model “Good Enough” for Chemical Risk Assessment?

Chair: kapraun.dustin@epa.gov

10:00 am

A Question of Policy: When is a PBPK Model “Good Enough” for Chemical Risk Assessment?

Dustin Kapraun

10:00 AM – 11:50 AM

W50

Managing Resilience in Communities

Chair: marja.k.ylonen@uis.no

10:00 am

A Hierarchical Network-of-Networks Framework for Resilient Design and Operation of Multiscale Rail Infrastructure

Jack Watson, Samrat Chatterjee, Auroop Ganguly, Auroop Ganguly

10:20 am

Institutional strength-in-depth – new aspects to the study of safety and security management in customs and border control context

Marja Ylonen

10:40 am

COVID-19 as a Natural Experiment Testing the Precautionary Principle

Richard Belzer

11:00 am

How do the territorial actors perceive the risk of flooding? The case of Nemours (France)

Tom Zugatsi, Myriam Merad, Gilles Arnaud-Fassetta

11:20 am

Evaluating the performance of commonly used community resilience indicators

Donghwan Gu, Maria Dillard, Jarrod Loerzel, Michael Gerst, Michael Gerst, Emily Walpole

10:00 AM – 11:50 AM

W51

Symposium: Resources for Risk Assessments

Chair: fhearl@alum.mit.edu

10:00 am

Review of the Australian Workplace Exposure Standards

Nathan Aust

10:20 am

Inhalation and ingestion risk assessment for unpaved road PM10 among adults and children in rural Pennsylvania

Robin Wilson, Maximilian Adams, Audrey Stallworth, Katherine Marak, Eric Chase, Miriam Freedman, William Burgos, Nathaniel Warner, Thomas Armstrong

10:40 am

Utilizing Automated Data Collection and Analysis to Identify Emerging Chemicals of Concern

Kelsey Hendrixson, Andrew Rak, Patricia Underwood

11:00 am

Literature Queries for Health, Environmental and Human Exposure Sciences

Amina Wilkins, Christopher Norman, Rebecca Elmore, Lena Schmidt, Brian Howard, Marcy Card, Danielle Moore, Ryan Jones, Hillary Hollinger, Elaine Cohen Hubal, Kristina Thayer

11:20 am

Development of chemical hazard and risk assessment tools for small business

Thomas Tenkate, Desre Kramer, Daniel Drolet, Peter Strahlendorf, Olgha-Sana Candeloro, Cheryl Peters, Linn Holness

10:00 AM – 11:30 AM

W52

Perceptions and Risks of Advanced Materials and Technologies

Chair: *Christie_Sayes@baylor.edu*

10:00 am

Stakeholder Perceptions of Nanotechnology in Food and Agriculture and Adherence to Responsible Innovation

Khara Grieger, Christopher Cummings, Ashton Merck, Jennifer Kuzma

10:20 am

Wastewater containing nanoparticles as a new source of irrigation water for growing edible vegetables: Does it pose health risks?

Shraddha shahane, Arun Kumar

10:40 am

Plastic is not just plastic – early warning signs applied to the most produced types

Steffen Hansen, Freja Paulsen, Maria Nielsen, Wonne Shashoua, Kristian Syberg

11:00 am

Nanoparticle surface properties are critical factors in biological response to exposure

Thelma Ameh, Matthew Gibb, Evan Braswell, Christie Sayes

10:00 AM – 11:30 AM

W53

Roundtable: Organizational Risk Research its past and future in risk analysis

Chair: *kenneth.a.petterson@gmail.com*

10:00 am

Organizational Risk Research - its past and future in risk analysis

Kenneth Gould

10:00 AM – 11:50 AM

W54

Symposium: Machine learning and AI towards advancing community and infrastructure risk and resilience

Chair: *sayantim@buffalo.edu*

10:00 am

Using Mobile Phone Data to Evaluate Access to Essential Services Surrounding Disruptive Events

Tessa Swanson, Seth Guikema

10:20 am

Assessing community resilience: a human mobility perspective

Zhiyuan Wei, Sayanti Mukherjee

10:40 am

Statistical Network Analysis for Learning Infrastructure Interdependencies

Hiba Baroud

11:00 am

Using Artificial Neural Networks to Predict Damage and Resilience from Extreme Wind events

Hussam Mahmoud, Stephanie Pilkington

11:20 am

Incorporating learning into direct policy search to identify more adaptive strategies for flood risk management

Jingya Wang, David Johnson

10:00 AM – 11:30 AM

W56

Symposium: Economics of Supply Chain and Disaster Risk Management

Chair: *cpinto@odu.edu*

10:00 am

The Impact of COVID-19 on the U.S. Economy: The Role of Avoidance Behavior and Resilience

Adam Rose, Terrie Walmsley, Richard John, Jakub Hlavka, Dan Wei, Katie Byrd

10:15 am

Medical device shortages in the U.S.

Aliya Sassi, Trinidad Beleche, Emily Galloway, Maria Kuecken, Katherine Toran

10:30 am

Insurability Of Ransomware Attacks: A Supply & Functional Chain Risks Perspective

C. Ariel Pinto

10:45 am

Economic Risk for Physical System Disruptions: A Case of Transportation Systems

Unal Tatar, Joost Santos, Shital Thekdi

11:00 am

Blockchain and Supply Chain Resiliency

Farinaz Sabz Ali Pour, Adrian Gheorghe

2:00 PM – 3:30 PM

W55

Roundtable: "Modernizing" Executive Order 12866: Risk Assessment

Chair: *tcoxdenver@aol.com*

2:00 pm

"Modernizing" Executive Order 12866: Risk Assessment Roundtable

Tony Cox

2:00 PM – 3:45 PM

W57

Symposium: Exploring the Complexity of Extreme Weather Events: Risk Perceptions, Communication, State Capacity, and Societal Response During the February 2021 Cold Weather Event

Chair: *asfox@ou.edu*

3:00 pm

Severe weather events, risk perceptions, and concern about infrastructure systems

Kuhika Gupta, Hank Jenkins-Smith, Joseph Ripberger, Carol Silva, Andrew Fox, Charles Spurlock

2:45 pm

Broadcast Media Risk Communication Leading up to the Deep Freeze in Texas and Oklahoma

Joseph Ripberger, Kim Klockow McClain, Sean Ernst, Kodi Berry

2:00 pm

A Meteorological Evaluation of the February 2021 North American Cold Wave

Jason Furtado, Oliver Millin, Jeffrey Basara

2:15 pm

Effects of February 2021 Polar Vortex on Interdependent Electric Power, Natural Gas, Water, and Transportation Infrastructure

Muralee Muraleetharan, Paul Moses, Scott Harvey, Guangyang Hou, Gerald Miller, Rifat Bulut

2:30 pm

The Legal and Regulatory Framework of the February 2021 Plains Ice Storm

Warigia Bowman

3:15 pm

Grid resilience as a common pool resource: willingness to pay for electricity infrastructure in Oklahoma

Andrew Fox, Kuhika Gupta, Joseph Ripberger, Hank Jenkins-Smith, Caorl Silva, Dayton Lambert

2:00 PM – 3:30 PM

W58

Innovative Approaches and Models for Understanding Climate Change Risk Perception and Communication

Chair: wandibdb@us.edu

2:00 pm

On the differential predictors of climate change concerns and severe weather concerns: Evidence from the World Risk Poll

Wandi Bruine de Bruin, Andrew Dugan

2:20 pm

Public perception of the climate change issues: A time series analysis

Midori Aoyagi

2:40 pm

Social Amplification of Risk: Elaborating on the Four Attributes of Information in case studies of off-shore wind energy development in the United States

Thomas Webler, Bonnie Ram

3:00 pm

A Relational Model of Risk Communication

Raul Lejano

2:00 PM – 3:30 PM

W59

COVID-19 Vaccine Risk Communication across the United States and Europe

Chair: TBD

2:00 pm

Longitudinal data on factors in Americans' intention to get the COVID-19 vaccine

Branden Johnson

2:15 pm

Male and female experiences of COVID-19: Gendering social amplification and attenuation of risk during the pandemic

Kristin Scharffscher, Sanjana Arora

2:30 pm

Twitter Analysis of Vaccination in a Post COVID-19 Era

Thierry Warin, Nathalie de Marcellis-Warin, Nathalie de Marcellis-Warin

2:45 pm

Recommended approaches for COVID-19 vaccination messaging

Laura Crosswell, Ran Duan, Christian Bombara

3:00 pm

Risk Communication and COVID-19 in Europe: Lessons for Future Public Health Crises

George Warren, Ragnar Lofstedt

2:00 PM – 3:30 PM

W60

Roundtable: Justice, Equity and Risk Discussion: How to identify, coordinate and incorporate justice and equity into our risk-related research and work.

Chair: Wilkins.Amina@epa.gov, jacmgibs@iu.edu

2:00 pm

SRA Equity, Justice and Risk Roundtable Discussion: How to identify, coordinate and incorporate justice and equity into our risk-related research and work.

Amina Wilkins

2:00 PM – 3:30 PM

W61

New Methods and Models for Exposure Assessment

Chair: TBD

2:00 pm

Probabilistic Modelling Using a Reference Population for Refined Dietary Exposures

Mark Breen, Clare Thorp

2:15 pm

Modeling Micturation: an Empirical Approach

Ted Simon

2:30 pm

Exploring the effect of spatial averaging of contamination on estimated dose in indirect contact exposure models

Amanda Wilson, Rachael Jones, Rachael Jones

2:45 pm

Case Study - Using data modelling to address sparse or incomplete datasets: The RIFM Exposure Model

John O'Brien

3:00 pm

Allocating Exposure and Risk Through Data-Driven Decisions: Rethinking Relative Source Contribution Factors for Drinking Water

Christopher Greene, Helen Goeden, Patrick Levallois

2:00 PM – 3:30 PM

W62

Role of perception in high impact events: effects on decision-making

Chair: *dchall@ucalgary.ca*

2:00 pm

Impact of perceptions of highly pathogenic avian influenza (HPAI) on water-related biosecurity behaviour in rural Vietnam.

David Hall, Mairéad Whelan, Quynh Le

2:20 pm

Quality of life in post-disaster temporary housing

Lucia Savadori, Alessia Patacca, Elena Pezzi, Giuseppe Scurci, Alessandro Galvagni, Daniela Di Bucci, Fabio Del Missier

2:40 pm

Does pandemic change the SMEs' perception on business income insurance? Evidence from emerging European Economy

Monika Wieczorek-Kosmala, Grzegorz Strupczewski

3:00 pm

Understanding perception of farmers to drought in New Zealand

Mui Nguyen, Ilan Noy

2:00 PM – 3:30 PM

W63

Roundtable: Reconciling Science, Innovation and Precaution through the Engagement of Stakeholders

Chair: *pia-johanna.schweizer@iass-potsdam.de*

2:00 pm

Reconciling Science, Innovation and Precaution through the Engagement of Stakeholders

Pia-Johanna Schweizer

2:00 PM – 3:30 PM

W64

Symposium: Risk Assessment

Chair: *vmbier@gmail.com*

2:00 pm

Addressing Causal Reasoning for Quantitative Risk Assessment of Engineering Systems: A Bayesian Network Approach

Andres Ruiz-Tagle, Enrique Lopez-Droguett, Katrina Groth

2:15 pm

Perspectives on Risk Analysis Modeling

Vicki Bier

2:30 pm

Multi-Model Joint Probability Method for Estimating Compound Flood Risk

David Johnson, Nathan Geldner

2:45 pm

Multi-mechanism flood hazard assessment in coastal areas

Somayeh Mohammadi, Michelle Bensi, Shih-Chieh Kao, Scott Deneale, Joseph Kanne, Elena Yegorova, Meredith Carr

3:00 pm

Are available approaches for managing fire risks in road tunnels enough? Introducing a new risk assessment framework as a response to the existing challenges.

Panagiotis Ntzeremes

2:00 PM – 3:30 PM

W66

Symposium: Decision-First Modeling Approaches for Emerging Risks

Chair: *zcollier@radford.edu*

2:00 pm

Decision-First Modeling: Interdisciplinary Approaches for Complex Problems

Zachary Collier

2:15 pm

Decision-First Modeling: Approaches for Emerging Risks

Elisabeth Gilmore, Kara Morgan, Zachary Collier

2:30 pm

Decision-First Modeling: Guidelines for Best Practices

Elisabeth Gilmore, Kara Morgan, Zachary Collier

2:45 pm

Applications and challenges for predictive modeling of human mobility and conflict risks

Ketra Schmitt, Elisabeth Gilmore, Elisabeth Gilmore

3:00 pm

Incorporating systems modeling to explore policies on opioids

Sara Eggers, Calvin Bannister, Blair Nesmith, Emily Ewing, Lukas Glos, Reza Kazemi, Tse Yang Lim, Tse Yang Lim

4:00 PM – 5:30 PM

W65

Roundtable: "Modernizing" Executive Order 12866: Regulatory Impact Analysis

Chair: *tcoxdenver@aol.com*

4:00 pm

"Modernizing" Executive Order 12866: Regulatory Impact Analysis Roundtable

Tony Cox

4:00 PM – 5:30 PM

W67

Symposium: Economics of Cybersecurity Risk

Chair: *utatar@albany.edu*

4:00 pm

Cost of a Cyber Incident: Systematic Review and Cross-Validation

Olga Livingston, Tony Cheesebrough, Grace James

4:15 pm

Cyber Assets At Risk: Monetary Impact Of PII Mega Data Breaches

C. Ariel Pinto, Omer Poyraz

4:30 pm

Too Interconnected to Fail

Jonathan Welburn, Aaron Strong

4:45 pm

Demystifying the variations in non-intrusive cyber risk scores: a comparative analysis on vendors

Kevin Matthe Caramancion, Irem Tatar, Omar Keskin, Unal Tatar

5:00 pm

Cyber Vulnerability Prioritization: A Cost-Benefit Analysis Through Attack and Impact Graph Integration

Omer Keskin, Unal Tatar

4:00 PM – 5:30 PM

W68

Symposium: Managing and Reducing the Risk of Wildfire through Response and Fuel Treatment

Chair: alison@uw.edu

4:00 pm

Trust, Felt Trust, and Wildland Fire Incident Management Team Performance

Claire Rapp, Robyn Wilson

4:15 pm

A Game Theory Model of Public-Private Partnerships in Prescribed Fires

Esther Jose, Jun Zhuang

4:30 pm

Assessing the role of short-term weather forecasts in fire manager tactical decision-making

Robyn Wilson, Claire Rapp, Eric Toman, William Jolly

4:45 pm

The role of international resource sharing arrangements in wildfire risk management in the face of climate change

Sunniva Bloem, Alison Cullen

5:00 pm

Managing Future Fire Risk - an NSF Growing Convergence Research Project

Alison Cullen, John Abatzoglou, Sunniva Bloem, Melissa Bukovsky, Alex Dolk, Lee Kessenich, Seth McGinnis, Linda Mearns, Susan Prichard

4:00 PM – 5:30 PM

W69

Roundtable: How Technology Can Put Equity in Environmental Protection

Chair: jashatkin@gmail.com

4:00 pm

How Technology Can Put Equity in Environmental Protection

Jo Anne Shatkin

4:00 PM – 5:10 PM

W70

Operations, Infrastructure and Decision Analysis

Chair: TBD

4:00 pm

A Systematic Assessment of DER Capacity to Optimize and Scale any Profitable Microgrid Infrastructure

Prasenjit Bhadra

4:20 pm

Enterprise risk and resilience analysis of evolving allocations of freight logistics across maritime, rail, aviation, pipeline, and highways

Timothy Eddy, Thomas Polmateer, James Lambert

4:40 pm

Volume Delay Function (VDF)

Collyn Clark, DeAndre Johnson, Rayshaun Wheeler, Cody Pennetti, Joi Williams, Thomas Polmateer, James Lambert, Mark Manasco

4:00 PM – 5:30 PM

W71

Understanding Individual and Community Vulnerability During the Pandemic

Chair: TBD

4:00 pm

Understanding American public support for COVID-19 risk mitigation: The role of political orientation, socio-demographic characteristics, personal concern, and experience

Wanyun Shao, Feng Hao

4:20 pm

A Scientific Review of Recent Studies on the Practices of Public Communication and its Integration with Disaster Risk Management

Lois Agyepong, Xin Liang

4:40 pm

Investigating posttraumatic stress disorder (PTSD) among US physicians during COVID-19: a data-centric approach based on survey data

Zhiyuan Wei, Sayanti Mukherjee, Lance Rintamaki, Janet L. Shucard, Lindsey E. Carlasare, Christine A. Sinsky

5:00 pm

Identifying Potentially Vulnerable Communities to Pandemics and Public Health Emergencies Using Social Vulnerability, Health Metrics, and COVID Status

Kaveh Faraji Najarkolaie, Michelle Bensi, Ryan Dadmun, Courtney Romolt

4:00 PM – 5:30 PM

W72

Risk and Covid: Some Further Lessons in Risk

Chair: kakerlof@gmu.edu

4:00 pm

Personality traits and mental health outcomes during the COVID-19 pandemic

Eugen Avram, Iuliana Armas, Claudia Iacob, Daniela Ionescu

4:20 pm

Zoom Fatigue 2.0

David Berube, Ekaterina Bogomoletc

4:40 pm

Government Trust and Motivational Factors on COVID-19 Health Preventive Behaviors in Young Adults

Pamela Cisternas, Nicolás Bronfman, Nicolás Bronfman, Paula Repetto, Paula Repetto, Javiera Castañeda

5:00 pm

Risk perception and relative deprivation in relationship to student interest in social and environmental political participation during COVID-19

Karen Akerlof, Colin Nackerman, Joseph Ivancic

4:00 PM – 5:30 PM

W73

Lightning Session: COVID Topics

Chair: TBD

4:00 pm

Covid-19 Pandemic a Precursor to Contaminants of Emerging Concerns (CEC) : a risk assessment study

Shreya Mathew, Akash Sondhi, Arun Kumar

4:05 pm

Making sense of possible exposures of covid-19 treating drugs

Samridhi Rana, Arun Kumar

4:10 pm

Adaptive capacity and the role of institutions for frontline communities during compounding crises

Stephanie Fischer, Francisca Santana, Gabrielle Wong-Parodi

4:15 pm

Evaluation of Risk to COVID-19 Infection - A Geoinformatics Based Approach

Gowhar Meraj, Shruti Kanga, Sudhanshu, Majid Farooq, Majid Farooq, M. S. Nathawat, Suraj Singh

4:20 pm

Heterogeneity of SMEs' COVID-19 risk perceptions

Monika Wieczorek-Kosmala, Joanna Błach, Anna Doś

4:24 pm

Risk perceptions and communication about COVID-19 vaccines among American Indians

Rachel Ellenwood, Amanda Boyd

4:30 pm

At-home self-testing kits for SARS-CoV-2: A randomized trial assessing how consumers interpret and act on hypothetical test results

Tamar Krishnamurti, Barry Dewitt, Baruch Fischhoff, Steven Woloshin

4:35 pm

Social norms and social support shape wildfire smoke and COVID-19 adaptation decision-making

Francisca Santana, Natalie Herbert, Gabrielle Wong-Parodi

4:40 pm

Covid-19 and the Intersectionality of Risk: Pandemic Ethics and Triage of Care

Lorraine Sheremeta, Cheryl Mack

4:45 pm

Exploration of COVID-19 variants and population vulnerabilities to inform predictive models

Anika Wilen, Andrew La Valle, Margaret MacDonell

4:50 pm

Examining factors that influence COVID-19 vaccine rollout strategies and successes

Andrew La Valle, Anika Wilen, Margaret MacDonell

4:00 PM – 5:30 PM

W74

Resilience and Decision Analysis: What is Next?

Chair: ortwin.renn@iass-potsdam.de

4:00 pm

Systemic Risk: New challenge for risk analysis and scientific inquiry

Ortwin Renn

4:20 pm

Exploring quantitative methods for reaching consensus on public policy

Niles Guo, Alex Davis, Meagan Mauter

4:40 pm

Beyond business analytics and risk assessment in corporate strategy: How good products

Elie Geisler

5:00 pm

About evolution and revolution in risk, resilience, safety and reliability community: A diachronic contribution

Myriam Merad

10:00 AM – 11:30 AM

TH75

Roundtable: Communication and Collaboration in the Time of COVID: Lessons Learned

Chair: bernst79@msu.edu

10:00 am

Communication and Collaboration in the Time of COVID: Lessons Learned

Alison Bernstein

10:00 AM – 11:30 AM

TH76

Hurricane Risk Communication: New Research Findings and Policy Implications (Part 1)

Chair: abostrom@uw.edu

10:00 am

Symposium on Hurricane Risk Communication: New Research Findings and Policy Implications #1

Ann Bostrom, Olga Wilhelmi, Robert Soden, Joe Ripberger

10:15 am

Minding the Gap: Improving NWS tropical cyclone risk communication by evaluating NWS partners' decision timelines and information needs

Ann Bostrom, Rebecca Morss, Nicholas Hadjimichael, Jamie Vickery, Julie Demuth, Heather Lazrus, Emily Laidlaw

10:30 am

Human-Centered Design for Hurricane Risk Communication: Case Study from the US National Hurricane Center

Robert Soden, Scott Miles, Amanda Leiva, Steph Bannister

10:45 am

People's Understanding of and Responses to Visual Messages of Storm Surge Risks through Sense of Place Constructs.

Olga Wilhelmi, Rebecca Morss, Julie Demuth, Brent Chamberlain

11:00 am

Numeracy and Hurricane Risk Communication

Joseph Ripberger, Jinan Allan, Kuhika Gupta

10:00 AM – 11:30 AM

TH77

PBPK Modeling and Dose-Response (Dose-Response Specialty Group)

Chair: schlosser.paul@epa.gov

10:00 am

A model template approach for rapid evaluation and application of physiologically based pharmacokinetic models for use in human health risk assessments

Amanda Bernstein, Bidya Prasad, Dustin Kapraun, Paul Schlosser

10:20 am

Cross-Generational Accumulation of Persistent Compounds

Paul Schlosser, Dustin Kapraun, Todd Zurlinden, Marc-André Verner, Marc-André Verner

10:40 am

Development of a Rat and Human PBPK/PD Model for Dimethoate

Richard Reiss, Anne Loccisano, Paul Whatling, Myoungwoo Kim, Appavu Chandrasekaran

11:00 am

Evaluation of alternative dose metrics for cancer risk assessment: a case study with chloroprene

Harvey Clewell, Melvin Andersen, Jerry Campbell, Robinan Gentry

10:00 AM – 11:00 AM

TH78

Lightning Session: Risk Analysis of Advanced Materials and Technologies

Chair: TBD

10:00 am

The role of post-2020 SAICM in the regulation of global emerging risks: case pharmaceutical pollution

Mirella Miettinen, Sabaa Khan

10:05 am

Risk estimation of nano-sized particles: Assumptions used and identified future data needs

Arun Kumar, Tanushree Parsai, Ananya Das

10:10 am

Issues in estimating implications of nanotechnology use in agriculture sector

Shraddha Shahane, Samridhi Rana, Tanushree Parsai, Seetha N, Arun Kumar

10:15 am

Understanding occurrence of nanoparticles in Indian and Japanese waters

Radhika Sharma, Luc Phung, Toru Watanabe, Arvind Nema, Arun Kumar

10:20 am

Exploring the link between processing methods and environmental degradation for bioplastics

Philip Onffroy, Hari Sridhari, Griffin Stewart, Kevin Zong, Margaret MacDonell

10:25 am

Combining polymer and chemical data to facilitate design of new bioplastics for recyclability and upcyclability

Hari Sridhari, Griffin Stewart, Philip Onffroy, Kevin Zong, Margaret MacDonell

10:00 AM – 11:30 AM

TH79

Innovative tools and approaches to effectively assist decision-makers

Chair: rw@protectheritage.com

10:00 am

Interpreting averages

Yakov Ben-Haim

10:15 am

Applying the SRA's RAQT to planning a benefit-cost-risk-based evaluation

Robert Waller, Melissa King, Melissa King, Rebecca Kaczkowski, Catharine Hawks, Evan Cooney

10:30 am

Managing the Risk of 2014 Like Floods in Kashmir, Himalaya using integrated Geospatial Approaches

Muzamil Rather, Gowhar Meraj, Majid Farooq, Surya Tiwari, Hesham El-Askary, Suraj Singh, Shruti Kanga

10:45 am

Just-in-time research to support US global decisionmaking during the pandemic

Holly Jarman, Scott Greer, Andrew Jin, Andrew Jin, Elizabeth King, Elisa Maffioli, Sienna Mark, Sienna Mark, Neil Mehta, Kasia Klasa, Kasia Klasa, Rebecca Wai, Noah Williams, Emma Willoughby

11:00 am

Data Science Tools for Aggregation and Analysis of Safety Incident Data

Benjamin Roberts, Anthony Barrett

10:00 AM – 11:30 AM

TH80

Roundtable: Risk professionals and crises: What contributions and what questions?

Chair: myriam.merad@lamsade.dauphine.fr

10:00 am

Risk professionals and crises: What contributions and what questions?

Myriam Merad

10:00 AM – 11:30 AM

TH81

Symposium: Risk Management

Chair: kunyang@udel.edu

10:00 am

A novel approach for evaluation of hurricane evacuation plans: A Hurricane Florence case study

Kun Yang, Rachel Davidson, Brian Blanton, Brian Colle, Randall Kolar, Linda Nozick, Tricia Wachtendorf, Nicholas Leonardo, Humberto Vergara, Kendra Dresback

10:15 am

Comparing Economically Rational Home Elevations to Post-Disaster Reconstruction Decisions and Flood Insurance Standards

Erin Groll, Nathan Geldner, David Johnson

10:30 am

Characterization of the Equity-Efficiency Tradeoff in Targeted Residential Coastal Protection Projects.

Nathan Geldner, James Doss-Gollin, Klaus Keller, David Johnson

10:45 am

Scale-Free Comparisons of System Resilience by the Degree of Order Disruption

James Lambert, Negin Moghadasi

11:00 am

Risk science, communication and policy for underground infrastructures and their connectivity

Rae Zimmerman, Debra Laefer, Al Leidner, Al Leidner, Wendy Dorf, Peter Gmelch

10:00 AM – 11:30 AM

TH82

Economics and Benefits Analysis Specialty Group Session

Chair: rwilliav123@gmail.com

10:00 am

Valuation of Regulatory Benefits as if People Matter: Looking beyond Self-Interest

Adam Finkel, Branden Johnson

10:15 am

Expanding Regulatory Options for Novel Solutions

Richard Williams

10:30 am

A Game Theory Model of Public-Private Partnerships in Prescribed Fires

Esther Jose, Jun Zhuang

10:45 am

A simple method for estimating the cost of resilient solar+storage systems for various critical loads

Patrick Murphy

11:00 am

Measuring the effect of federal pre-disaster flood mitigation grant on the level of participation in the community rating system

Eugene Frimpong, Allison Reilly, Deb Niemeier

10:00 AM – 11:30 AM

TH83

Justice, Equity, Risk and Vulnerability, Part I

Chair: *vnwashin@umich.edu, Wilkins.Amina@epa.gov*

10:00 am

Fair strategies to tackle unfair risks? Justice considerations in flood risk management
Mathilde de Goër de Herve

10:20 am

Mapping the linkages of Climate Change Impacts with Risk and Vulnerability for Planning Adaptation in Himalayas – A Case of Jammu and Kashmir, India
Majid Farooq, Gowhar Meraj, Gowhar Meraj, Suraj Singh, Shruti Kanga

10:40 am

Gendered Norms, Perceptions and Adaptations to Climate Change Risk in Africa
Sudha Kannan, Douglas Bessette

11:00 am

A Fairness-based Optimization Model for Improved Transportation Resilience in Communities under Tsunami Hazard
Rasha Jnad, Tarun Adluri, Mastoor Abushaega, Andres Gonzalez

10:00 AM – 11:30 AM

TH84

Hazard Identification and Classification, Part I

Chair: *adlewis@umd.edu*

10:00 am

Build an elderly injury ontology for extracting risk information from Japan's product injury database
Xiaodong Feng, Qianqian Dang, Kun Zhang, Yoshiki Mikami

10:20 am

Machine learning ensemble models for real-time drowsiness detection in safety-critical operations using EEG signal channels
Plínio Ramos, Caio Maior, Márcio Moura, Isis Lins

10:40 am

Using NLP to support hazard identification and analysis in oil refineries
July Macedo, Diego Aichele, Márcio Moura, Isis Lins

11:00 am

Classifying Risk Model Performance Metrics
Austin Lewis, Katrina Groth

10:00 AM – 11:30 AM

TH85

Decision Science and Defense Risk Analysis: Part I

Chair: *samrat.chatterjee@pnnl.gov*

10:00 am

Reinforcement Learning for Risk-Based Robust Cyber-Physical System Control
Samrat Chatterjee, Arnab Bhattacharya, Yan Du

10:15 am

Development of a Facility Nuclear Security Risk Framework
Jason Harris, Shraddha Rane

10:30 am

Development Cycle Modeling: Process Risk and Decision Quality
Samuel Denard

10:45 am

Development of methodologies for the evaluation of the resilience of coastal island territories in response to risks
Jeremy Jessin, Damien Serre, Damien Serre, Nathalie Long

11:00 am

Escalation Risk and Cyberwarfare
Julian Williams, Carly Beckerman

2:00 PM – 3:30 PM

TH86

Regulation, Risk and Public Policy

Chair: *nathalie.demarcellis-warin@polymtl.ca*

2:00 pm

Regulatory Approaches to Synthetic Biology at the Interface of Science and Policy
Artem Anyshchenko

2:15 pm

A protection motivation approach against misinformation: varying threat and coping content for audiences of different abilities to seek information online
Shirley Ho, Tong Jee Goh, Mengxue Ou, Joshua Chan

2:30 pm

Does it matter which errors scientists pay attention to? – a case study of values in science in a wastewater treatment controversy
Marco Vazquez, Elina Eronen, Amanda Giang, Gunilla Öberg

2:45 pm

Public Framing as the Reflection of Democratization of Science: Analyzing the Dispute of importing pork containing the feed additive Ractopamine
Yi-Chen Wu, Hao-Hsuan Hung, Kuen-Yuh Wu

3:00 pm

Risk Perception, Social Media and Social Trust of AI
Nathalie de Marcellis-Warin, Thierry Warin, Thierry Warin, Thierry Warin

2:00 PM – 3:30 PM

TH87

Symposium: Hurricane Risk Communication: New Research Findings and Policy Implications (Part 2)

Chair: jdemuth@ucar.edu

2:00 pm

Symposium on Hurricane Risk Communication: New Research Findings and Policy Implications #2

Julie Demuth, Natalie Herbert, Robert Prestley, Gina Eosco

2:15 pm

Engagement with risk information posted by authoritative sources on Twitter during two evolving hurricane threats in 2017

Robert Prestley, Rebecca Morss, Julie Demuth, Melissa Bica, Alyssa Cannistraci

2:30 pm

Information seeking, uncertainty, and efficacy in the face of an evolving hurricane threat

Natalie Herbert, Gabrielle Wong-Parodi, Andrea Schumacher, Julie Demuth, Rebecca Morss

2:45 pm

Longitudinal analysis of public risk perceptions for Hurricanes Laura and Marco

Julie Demuth, Rebecca Morss, Gabrielle Wong-Parodi, Andrea Schumacher, Josh Alland, Natalie Herbert

3:00 pm

Collaboration, Teams, Strategy, and Time: What It Takes to Bridge Hurricane Social Science Research into Practice

Gina Eosco, Michele Olson, Castle Williams, Jessica Schauer, Robbie Berg, Jennifer Sprague-Hilderbrand

2:00 PM – 3:30 PM

TH88

Symposium: Learning from the COVID-19 pandemic to prepare for future crises: From theoretical approaches to evidence-based crisis management and communication

Chair: rgaspar@ucp.pt

2:00 pm

From crisis resolution towards crisis ResiliScience: A Social Sensing framework for crisis management and crisis communication

Rui Gaspar, Samuel Domingos, Duarte Brito, Gisela Leiras, Jessica Filipe, Beatriz Raposo, Miguel Arriaga

2:20 pm

Monitoring of demands and resources associated to the COVID-19 pandemic in Portugal: Implications for improved crisis management

Samuel Domingos, Rui Gaspar, Jéssica Filipe, Duarte Brito, Gisela Leiras, Beatriz Raposo, Miguel Arriaga, Miguel Arriaga

2:40 pm

Analysis of COVID-19 crisis communication in 15 countries

Dalila Antunes, José Palma-Oliveira

3:00 pm

Why Did Risk Communication Fail for the COVID-19 Pandemic

José Palma-Oliveira, Benjamin Trump, Igor Linkov

2:00 PM – 3:30 PM

TH89

**Roundtable
Work, Public, Environmental, Social, and Corporate Governance (ESG)**

Chair: boelterinc@gmail.com

2:00 pm

Work, Public, ESG - Health, Risk, Ethics were on Full Display, but what was Central Focus

Fred Boelter

2:00 PM – 3:00 PM

TH90

Lightning Session: Applied Risk Management

Chair: TBD

2:00 pm

Quantifying the Health Effects of Floods

Emily Wells, Sebastian Rowan, Elissa Yeates, Brenna Murray, Mary Margaret Mitchell

2:05 pm

Predicting hurricane evacuation behavior for practical purposes

Prosper Anyidoho, Tarun Rambha, Rachel Davidson, Linda Nozick

2:10 pm

Testing improvements to avalanche terrain exposure communication in daily hazard forecasts

Katie Fisher, Pascal Haegeli

2:15 pm

A strategy to improve expert technology forecasts

Tamara Savage, Alex Davis, Baruch Fischhoff, Granger Morgan

2:20 pm

How does information collection in mobile apps affect public risk perception? Evidence from a survey experiment in China

She Jingnan, Qin Chuanshen

2:25 pm

Impact of usership on bacterial contamination on community latrines surfaces in Kathmandu, Nepal

Alexis Mraz, Shannon McGinnis, Shannon McGinnis, Dianna Marini, Prakash Amayata, Heather Murphy, Heather Murphy

2:30 pm

Assessing the predictive value of building-level SARS-CoV-2 wastewater surveillance in identifying active cases of COVID-19

Ryan Julien, Nishita D'Souza, Sam Carbonell, Joan Rose, Jade Mitchell

2:00 PM – 3:30 PM

TH91

Symposium: Psychosocial and Built Environment Factors Influencing COVID-19 Experiences and Risk Perceptions

Chair: finucane@rand.org

2:00 pm

Do social isolation and neighborhood walkability influence relationships between COVID-19 experiences and wellbeing in predominantly Black, urban areas?

Melissa Finucane, Robin Beckman, Madhumita Ghosh-Dastidar, Tamara Dubowitz, Rebecca Collins, Wendy Troxel

2:20 pm

A Longitudinal Study of Psychological Distress in the United States Before and During the COVID-19 pandemic

Joshua Breslau, Melissa Finucane, Alicia Locker, Matthew Baird, Elizabeth Roth, Rebecca Collins

2:40 pm

Evolution of COVID-19 Risk Perception and Mental Models

Andrew Parker, Keller Scholl, Katherine Carman, Melissa Finucane

3:00 pm

The Impacts of COVID-19 on Financial Well-being

Katherine Carman, Phil Armour, Kathleen Mullen, Melissa Finucane

2:00 PM – 3:30 PM

TH93

Justice, Equity, Risk and Vulnerability, Part II

Chair: tgw@umich.edu, Wilkins.Amina@epa.gov

2:00 pm

Identifying Community and Household Vulnerability to Storm Impacts and Climate Stressors for Developing Adaptation Guidance

Diane Henshel, Jeffrey Ashby, Vivianna Brown, Gina Depper Coral

2:20 pm

On equity in simulation modeling

Tim Williams

2:40 pm

Regulating poverty: a critical discourse study of media reporting on “energy elite”

Minglei Zhang

3:00 pm

Updates to the Risk Assessment Process for Emerging Chemicals to Address Climate Change, Environmental Justice, and Supply Chain Vulnerabilities

Andrew Rak, Michael Bruckner, Patricia Underwood, Margaret Graham

2:00 PM – 3:30 PM

TH94

Hazard Identification and Classification, Part II

Chair: TBD

2:00 pm

Using Location Data for Hurricane Evacuation Departure Time Estimates

Valerie Washington, Seth Guikema, Joi-Lynn Mondisa, Aditi Misra

2:20 pm

The Future is Uncertain – and so is the Present: Quantifying Uncertainty in Precipitation Frequency under Current and Changing Climate

Azin Al Kajbaf, Michelle Bensi, Kaye Brubaker

2:40 pm

Evaluating Food Source Attribution Of Listeria Monocytogenes Using Machine Learning Approaches

Collins Tanui, Edmund Benefo, Shraddha Karanth, Abani Pradhan

3:00 pm

Bayesian Modelling to Support Improved Food Safety

Laura Schultz, Clare Thorp

2:00 PM – 3:30 PM

TH95

Decision Science and Defense Risk Analysis: Part II

Chair: TBD

2:00 pm

Quantitative Microbial Risk Assessment to Support Management of Ultraviolet Wastewater Disinfection

Jacopo Foschi, Manuela Antonelli, Andrea Turolla, Jade Mitchell

2:20 pm

Quantitative model for horizontal gene transfer of ESBL E. coli and subsequent risk in recreational waters containing wastewater effluent

Ashley Heida, Julia Gambino, Kaylee Sanderson, Mary Schoen, Michael Jahne, Jay Garland, Lucia Ramirez, Allison Lopatkin, Kerry Hamilton

2:40 pm

A two-stage robust optimization approach for enhanced community resilience under tornado hazard

Mehdi Ansari, Juan Borrero, Andres Gonzalez

3:00 pm

Multi-objective Optimization for Enhanced Transportation Resilience

Osamah Moshebah, Himadri Gupta, Andres Gonzalez

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