

**Society for Risk Analysis**

# **World Congress on Risk 2015**

**“Risk Analysis for Sustainable Innovation”**



## **FINAL PROGRAM**

***Matrix @ Biopolis, 30 Biopolis Street, Singapore  
19-23 July 2015***

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\*\*Find the listing of abstracts online at: <http://birenheide.com/sra/world15/admin/dumpbookall.php3>

## Registration Hours

### *Chijmes Hall*

Sunday, 19 July..... 6:00-7:30 pm / 18:00-19:30

### *Biopolis, Level 2 Foyer*

Monday, 20 July..... 8:00 am-4:00 pm / 08:00-16:00

Tuesday, 21 July..... 8:30 am-4:00 pm / 08:30-16:00

Wednesday, 22 July..... 8:30 am-1:00 pm / 08:30-13:00

# World Congress on Risk 2015: Risk Analysis for Sustainable Innovation

## Background

The theme of the World Congress on Risk 2015 is: "Risk Analysis for Sustainable Innovation." By selecting this theme, SRA focuses on risks of importance to global development. The conference will address risk management from the global to the community scale. These topics will engage risk analysts in the fields of health, environment, agriculture, engineering, economics, decision-making, psychology, social & political sciences, communication, law & policy, and other disciplines.

In this arena of "Risk Analysis for Sustainable Innovation," the specific objectives of the 2015 World Congress on Risk are to:

1. Stimulate dialogue, learning and progress on risk issues of worldwide interest.
2. Share insights about analytic methods and decision processes used in different regions of the world and on different risk issues.
3. Demonstrate and disseminate recent advances in risk assessment, management, and communication.
4. Build bridges between organizations and individuals across the world to spread good risk management practices.

## Secretariat

Society for Risk Analysis,  
1313 Dolley Madison Blvd., Suite 402; McLean, VA 22101  
web: [www.SRA.org](http://www.SRA.org); email: [SRA@BurkInc.com](mailto:SRA@BurkInc.com)

## World Congress 2015 Chairs

International Committee Co-Chairs  
*Ortwin Renn, University of Stuttgart*  
*Jukka Takala, Workplace Safety Health Institute Singapore*  
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*Igor Linkov, US Army Engineer Research and Development Center, Vicksburg*  
Chair Local Organising Committee  
*Michael Riediker, SAFENANO, IOM Singapore*

## Recognition

We recognize and express thanks for the generous support of our participating organizations and financial sponsors, including:

### Organizational Sponsors

SRA-Australia/New Zealand	INFORMS
SRA-Europe	Nanyang Technological University
SRA-Japan	Risk and Insurance Management
SRA-Korea	Association of Singapore (RIMAS)
SRA-Latin America	Society of Environmental Toxicology
SRA-Russia	and Chemistry
SRA-Taiwan	University of New South Wales
American Society of Civil Engineers	Workplace Safety and Health Institute
George Washington University	in Singapore

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# World Congress on Risk 2015: Risk Analysis for Sustainable Innovation

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*Kuen-Yuh Wu (National Taiwan University)*

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*Shirley S. Ho (Nanyang Technological University, Singapore)*

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*Wolfgang Kroger (Singapore-ETH Centre, Singapore, ETH Risk Center, Switzerland)*

*Kuan-Chun Lee (Procter & Gamble, Singapore)*

*Charles Thomas Salmon (Nanyang Technological University, Singapore)*

*Roland Teo (Eastern Health Alliance, Singapore)*

*Sharin de Silva (Woodside Energy Ltd., Australia)*

# **SRA 2015**

## **Join us for the Society for Risk Analysis Annual Conference**

### **Empires of Risk Analysis: Science, Policy, and Innovation**

**Sunday, 6 December - Thursday, 10 December 2015**

**Crystal Gateway Marriott  
1700 Jefferson Davis Highway  
Arlington, Virginia 22202 USA**

# MONDAY PLENARY SESSIONS

All Plenary Sessions will be held in the Auditorium

## Monday 20 July 2015, 8:30 - 9:45 AM (08:30-09:45)

### “Risk and Resilience in an Ever-Changing World”

Chair: Igor Linkov, *US Army Engineer Research and Development Center, Vicksburg*

Welcome: James H. Lambert, *University of Virginia, President-Elect SRA International*

Thomas Bostick, *Lieutenant General, US Army Corps of Engineers*

Wolfgang Kroger, *Professor, ETH Zurich, Switzerland*

Discussant: James H. Lambert, *University of Virginia*

## Monday 20 July 2015, 11:45 AM - 12:45 PM (11:45-12:45)

### Opening Plenary Session “Risk and Innovation in a Time of Rapid Transformations”

Chair: Jukka Takala, *Workplace Safety Health Institute Singapore*

Ortwin Renn, *Professor, University of Stuttgart, Germany*

Hawazi Daipi, *Senior Parliamentary Secretary of Singapore*

**M2 - Monday Morning**  
10:15 - 11:45 am (10:15-11:45)

**10:15 - 11:45 am**  
**Room: Aspiration**

**M2-A Risk and Resilience Innovation in the US Army Corps of Engineers**

*Co-Chairs: James H. Lambert, Ada Benavides*

**M2-A.1 Geohazards and Loss**

*Krenitsky N, Augenstein J, Franklin AC, Tan F; Yale Medical School, Vassar College, Yale-NUS College*

**M2-A.2 Water Resources Engineering and Resilience**  
*Stockton S; US Army Corps of Engineers*

**M2-A.3 Resilience in IRGC's Recommendations for Risk Governance**

*Florin M-V; International Risk Governance Council*

**10:15 - 11:45 am**  
**Room: Breakthrough**

**M2-B Human Health Risk Assessment: International Perspectives**

*Chair: Akihiro Tokai*

**M2-B.1 Strategies to Evaluate Occupational Exposures to Nanomaterials and Optimise Protection Measures along Nanotechnology Value Chains**

*Riediker M; SAFENANO, IOM Singapore*

**M2-B.2 Proof-of-Concept Weight of Evidence Framework to Characterise the Hazard of Skin Sensitising Chemicals**

*Leonte D, Rorije E, Traas T, Ezendam J, Muller A; Australian Department of Health, RIVM*

**M2-B.3 Development of Occupational Exposure Assessment Tool Assisting Voluntary Risk Management of Industrial Sectors**

*Yamaguchi H, Ito A, Tokai A; Osaka University*

**10:15 - 11:45 am**  
**Room: Creation**

**M2-C The Global Diffusion of Regulatory Impact Assessment**

*Chair: Jonathan Wiener*

**M2-C.1 Impact Assessment: Diffusion, Regulatory Learning, and Regulatory Foresight**

*Wiener J; Duke University*

**M2-C.2 Integrated Impact Assessment**

*Ribeiro D; Duke University, Ministerio Publico, Rio, Brazil*

**M2-C.3 Institutional Mechanisms for Investigating Crises and Regulation Reassessment: The Commission of Inquiry and the Safety Board**

*Balleisen EJ, Bennear L, Cheang D\*, Free J, Hayes M, Pechar E, Preston AC; Duke University*

**M2-C.4 Enacting Risk Governance in China after the 2003 SARS Crisis**

*Lim WK; Lee Kuan Yew Centre for Innovative Cities, Singapore University of Technology and Design*

**M2-C.5 Foresight Tools for Responding to Cascading Effects in a Crisis**

*Sellke P; Dialogik and University of Stuttgart, Germany*

**M4 - Monday Afternoon**  
2:00 - 3:30 pm (14:00 - 15:30)

**2:00 - 3:30 pm**  
*Room: Aspiration*

**M4-A A Systems Approach to Disaster Risk and Resilience Management for Coastal Infrastructure**

*Chair: Thomas Seager*

**M4-A.1 A Systems Approach to Disaster Risk and Resilience Management for Coastal Infrastructure**  
*Bostick T*

**M4-A.2 Loss and Damage Estimation in Adapting to Climate Change and Extreme Weather in Developing Countries**  
*Abkowitz M; Vanderbilt University*

**M4-A.3 Operational Resilience and Critical Functionality in Networked Systems: Concepts, Design and Analysis**  
*Kitsak M, Ganin AA, Massaro E, Linkov I; Northeastern University, US Army Corps of Engineers*

**M4-A.4 Interdependent Critical Infrastructure Systems and Networks: Water, Electric Power, and Roads**  
*Eisenberg DA, Park J, Bartos MD, Chester MV, Seager TP; Arizona State University, Hongik University, South Korea*

**2:00 - 3:30 pm**  
*Room: Breakthrough*

**M4-B Symposium: Communicating Risks About Climate Change: Securing Environmental Sustainability**

*Chair: Shirley Ho*

**M4-B.1 Environmental Journalists and their Social Roles: Implications on Practice**  
*Tandoc Jr, EC; Nanyang Technological University*

**M4-B.2 Factors Predicting Public Willingness to take Actions against Climate Change in Taiwan**  
*Shih T-J; National Chengchi University*

**M4-B.3 Examining Predictors of Public Green Buying and Environmental Civic Engagement in Singapore**  
*Ho S; Nanyang Technological University*

**M4-B.4 Serious Games of Climate Change and the Persuasive Effects: Factors Behind Gamers' Perception of Role Taking**  
*Chen Y-S; National Chiao-Tung University, Taiwan*

**2:00 - 3:30 pm**  
*Room: Creation*

**M4-C National and Global Risk Governance**

*Chair: Myriam Merad*

**M4-C.1 National Risk Assessment: Practice and Implications for Sustainable Development**  
*Stepanyan M, Mennen M; Risk Society, National Institute of Public Health and Environment, Centre for Environmental Safety, The Netherlands*

**M4-C.2 Challenges of Anticipation and Management of Risks in Global Governance**  
*Klinke A; University of Newfoundland, Canada*

**M4-C.3 New Evaluation Model for Decision-Making Process of Municipal Governments for Disaster Management**  
*Kato T, Aso H, Shoudai S, Nakamura A, Taninobu M; The University of Kitakyushu, Infogram Inc., Crisis Management Department, City of Kitakyushu, Fire and Disaster Management Bureau, City of Kitakyushu*

**M4-C.4 An Analytical Framework to Assess the "Quality of Decision" in Terms of Major Risks Regulation**  
*Merad M, Dechy N, Dehouck L, Lassagne M; INERIS, IRSN, ENS Rennes, ENSAM Paris*



**M4 - Monday Afternoon**  
2:00 - 3:30 pm (14:00 - 15:30)

**2:00 - 3:30 pm**  
**Room: Discovery**

**M4-D Symposium: Technology Related  
Emerging Risks: Can Risk Governance  
Follow the Pace of Technology Innovation?**

*Chair: Aleksandar Jovanovic*

**M4-D.1 Cognitive Factors and Perception of Emerging Risks**

*Jovanovic AS, Schenieder R; Steinbeis Advanced Risk Technologies, SwissRe*

**M4-D.2 Risk Management for Energy Storage Technologies: The Case of Li-ion Batteries**

*Salvi O, Caillard B, Amandine L, Goncalves P, Bodet JM, Roessner J; EU-VRI*

**M4-D.3 Dynamic Risk Analysis: From updating techniques to Integrated Operations**

*Paltrinieri N; SINTEF*

**M4-D.4 Risk Governance and Emerging Technologies: Learning from Case-Study Integration**

*Scheer D; University of Stuttgart, Germany*

**M4-D.5 Technology and Human Behavior Related Challenges of Autonomous Cars**

*Heinke A; BOSCH*

**M4-D.6 Post-iNTeg-Risk Initiatives and Developments-The European Common House of Industrial Safety**

*Jovanovic A.; Steinbeis Advanced Risk Technologies, Germany*

**2:00 - 3:30 pm**  
**Room: Exploration**

**M4-E Symposium: Pharmaceutical Risk  
Assessment: Pieces of the 'PiE'**

*Chair: Frederic Leusch*

**M4-E.1 Environmental Risk Assessment of Pharmaceuticals and Management Challenges in Korea**

*Choi K*

**M4-E.2 Spatially Explicit Prioritisation of Human Pharmaceuticals in Europe**

*Oldenkamp R*

**M4-E.3 Medicating the Environment: Pharmaceuticals in Waste, Surface and Drinking Water - an Australian Perspective**

*Leusch F; Griffith University*

**M4-E.4 Information Gaps in the Measurement of Atrazine Exposure in Pregnant Women and Risk of Adverse Birth Outcomes**

*Parvezs S, Winchester P; Indiana University, St. Francis Hospital*

**M4-E.5 Environmental Risk Assessment of Chemicals in New Regulated Environments**

*Duchemin M; Consultant*

**2:00 - 3:30 pm**  
**Room: Auditorium**

**M4-F Symposium: Towards Regional  
Standards in Disaster Statistics for  
Effective Risk Communication**

*Chair: Puji Pujiono*

**M4-F.1 Disaster Statistics Practices in Asia Pacific Countries**

*Kim HR; Statistical Research Institute, Korea*

**M4-F.2 The Relevance of Disaster Related Statistics to the Goals and Targets of the Post-2015 Framework for Disaster Risk Reduction**

*Ono Y; Tohoku University, Japan*

**M4-F.3 Regional Disaster Statistical Standards to Enhance Disaster Risk Analysis at Country Level Policy and Programming**

*Sharma R; United Nations Development Programme (UNDP)*

**M4-F.4 Applicability of a Basic Range of Disaster Related Statistics: Developing Country Perspectives**

*Wibowo A; National Disaster Management Agency, Indonesia*

**M4 - Monday Afternoon**  
4:00 - 5:30 pm (16:00 - 17:30)

**4:00 - 5:30 pm**  
**Room: Aspiration**

**M5-A Symposium: Resilience of  
Infrastructure Systems - A Compound of  
Engineered, Operational and  
User Systems**

*Chair: Hans Heinimann*

**M5-A.1 Extreme Events in Complex Systems: Dragon-  
Kings and their Control**

*Didier S; ETH Zurich*

**M5-A.2 Sociotechnical Resilience: Emergence of a  
New Concept**

*Sulfikar A; Nanyang Technological University*

**M5-A.3 Engineered Systems and Emergency Organi-  
zations – Challenges to Achieving Safety, Robustness,  
and Resilience**

*Vinh D; Paul Scherer Institute*

**M5-A.4 Evaluation of Seismic Resilience of an Inte-  
grated Critical Infrastructure Network System**

*Sun L, Didier M, Sansavini G, Stojadinovic B; Swiss Federal  
Institute of Technology (ETH) Zurich, Switzerland*

**4:00 - 5:30 pm**  
**Room: Breakthrough**

**M5-B Symposium: An Integrative Approach  
to the Framing and Design of  
Sustainability Projects**

*Chair: Timothy Downs*

**M5-B.1 Introducing an Integrative Approach to Fram-  
ing and Designing Sustainability Projects: Water, Envi-  
ronment and Health in Mexico and Massachusetts**

*Downs TJ; Clark University*

**M5-B.2 University-Driven Stakeholder Platforms for  
Sustainability Innovation**

*Yarime M; University of Tokyo*

**M5-B.3 The German Energy Transition: Lessons from  
the Helmholtz Alliance**

**ENERGY-TRANS**

*Schweizer PJ; University of Stuttgart*

**M5-B.4 Climate Change Governance in Malaysia: In-  
sights from the Phronetics Approach**

*Mohamad Z, Kamar E; University of Malaya*

**4:00 - 5:30 pm**  
**Room: Creation**

**M5-C Symposium: Managing Trans-  
Boundary Risk in the Asia-Pacific Region**

*Chair: Tom Beer*

**M5-C.1 Managing Trans-Boundary Disease in a World  
of Freer Trade**

*Cogger N; Massey University*

**M5-C.2 Asia-Pacific Agricultural Trade and Regional  
Food Security**

*Seno-Alday S; University of Sydney, Australia*

**M5-C.3 Innovations in Stakeholder Engagement in  
Environmental Governance: Examples from China and  
Australia**

*Wong C; James Cook University, Australia*

**M5-C.4 Climate and Food Security: Transboundary  
Issues**

*Beer T; Safe System Solutions Pty Ltd*

**M4 - Monday Afternoon**  
4:00 - 5:30 pm (16:00 - 17:30)

**4:00 - 5:30 pm**  
**Room: Discovery**

**M5-D Risks Emerging from Agriculture,  
Mining and Trade**

*Chair: Carlos Perez Blanco*

**M5-D.1 Water Charging and Water Saving In Agriculture. Insights from a Revealed Preference Model in Northern Italy**

*Pérez-Blanco CD, Mysiak J; FEEM*

**M5-D.2 Regulating Uncertain Risks of GMOs in the EU: Implications for China**

*Wen X; Southwest University of Political Science and Law, University of Copenhagen*

**M5-D.3 A Target-Oriented Robust Optimization Approach to Inoperability Input-Output Analysis**

*Yu KDS, Sy CL, Aviso KB, Promentilla MAB, Tan RR, Santos JR; De La Salle University, The George Washington University*

**M5-D.4 The Role of Experience in Perception and Risk Analysis**

*Ribeiro R*

**4:00 - 5:30 pm**  
**Room: Exploration**

**M5-E Symposium: Environmental Health  
Risk Assessment (EHRA)**

*Co-Chairs: Brian Priestly, Peter Di Marco*

**M5-E.1 Disciplines in EHRA; the Role of ACTRA**  
*Di Marco PD*

**M5-E.2 Australian Guidance on EHRA, including Guidance on Stakeholder Engagement**

*Priestly BG; Monash University, Australia*

**M5-E.3 Human Health Risk Assessment for Soil and Groundwater Contamination – A Sustainable Management Tool? Australian Perspectives in Uncertainty and Practicality**

*Blount A*

**M5-E.4 EHRA in Relation to Air Pollution**

*Drew R*

**MPP - Monday Poster Platform  
Health and Environmental Risks**

*Room: 3rd Floor Foyer*

*4:00 - 5:30 pm (16:00 - 17:30)*

*Chair: Michael Riediker*

**MPP.1 Methods to Estimate the Burden of Occupational Disease**

*Hutchings SJ, Rushton L; Imperial College London*

**MPP.2 How Much Risk of Gastroenteritis can be Reduced by Setting Best-Before Date for Eating Raw Eggs?**

*Watanabe T, Ono K; Yamagata University, RISS, AIST*

**MPP.3 Pursuit of Food Security through Mobility in Context of Environmental Changes: A Case of Mongolia**

*Sumiya B; Seoul National University*

**MPP.4 Uncertainty, Differential Toxicity, PM2.5 and the Life Saving Benefits of 8 EPA Rules**

*Good D, Krutilla K, Taylor B; Indiana University*

**MPP.5 Occupational Ill-Health in the Singaporean Construction Sector: Cancer and Non-Malignant Respiratory Diseases**

*Courtice MN, Rushton L, van Tongeren M, Hutchings S, Cherrie JW; IOM Singapore, Imperial College London*

**MPP.6 Understanding the Role of Risk Perception in Vaccine Acceptance: Implications for Risk Communication**

*Quinn SC, Freimuth V, Hilyard K, Musa D; University of Maryland School of Public Health, University of Georgia, University of Pittsburgh*

**MPP.7 Developing the Probabilistic Pesticide Residue Model Toward Export Promotion of Japanese Tea**

*Shiga Y, Yamaguchi H, Tokai A; Osaka University*

**MPP.8 The Humanitarian Village, a Response to Small-Medium Sized Disaster**

*Rahmayati Y; Centre for Design Innovation, Swinburne University of Technology, Australia*

**MPP.9 Adapting to Vulnerabilities in Transportation Infrastructure: Lessons for Risk Governance from the Big Lift**

*Quiqley K; Dalhousie University*

**Poster Session, 4th Floor Foyer**  
**Monday through Wednesday**  
**8:00 am - 5:00 pm (8:00 - 17:00)**

**P.1 Geophysical Risk (Incorporating Climate and Climate Change Risks and the Risks of Extreme Events)**

*Switzer A, McAdoo B, Beer T, McBride J; Earth Observatory Singapore, Nyanyang Technical University, Yale-NUS College, Safe System Solutions Pty Ltd, Centre for Climate Research, Singapore*

**P.2 Development of a Risk Based Index for Ranking Landfills and its Application in Kerala, India**

*Paremmal A, George AS, Raveendran G, Varghese GK; NIT Calicut*

**P.3 A Morphological Effective Systemic Epigraph (MESE) for Syndemic Pathology and System Design**

*Convertino MC, Liu YL; University of Minnesota*

**P.4 On the Dynamic Measurement of Capital Adequacy and Leverage for Basel III**

*Gan V, Azhar Abdul KM; Universiti Putra Malaysia*

**P.5 Human Actors' Roles in Holistic Cyber Security Risk Assessment**

*Cains M, Henshel D, Alexeev A; Rajivan P, Indiana University*

**P.6 A Game-Theoretic Model for Risk Sharing Between Public and Private Sectors against Catastrophic Risks**

*Wang C, Zhang Y; Tsinghua University*

**P.7 A Study on Risk Communication: Case of Avian Influenza in Korea**

*Yi JC; Seoul National University*

**P.8 Projecting Low-Dose Associated Radiation Risks by a Semi-Parametric Dose Response Model**

*Furukawa K; Radiation Effects Research Foundation*

**P.9 Nicotine as an Indicator of Tobacco Exposure and its Effect on Oral Health**

*Katpattil SS; Yenepoya University*

**P.10 Palatal Rugae - A Tool in Forensic Identification**

*Katpattil SS; Yenepoya University*

**P.11 Knowledge and Attitude Regarding Hepatitis B Virus Infection and Vaccine among Hospital Patients**

*Katpattil SS; Yenepoya University*

**P.12 Aspartate Aminotransferase as a Biomarker in Periodontal Disease**

*Katpattil SS; Yenepoya University*

**P.13 Weather, Climate and Food Security: A Geophysical Perspective**

*Beer T; Safe System Solutions Pty Ltd*

**P.14 Environmental Risk Assessment for Hazards to Receptors Populations**

*Subramaniam KK, Mohd Rafee Baharuddin MRB, Mukherjee TK; CORE DDH UiTM Shah & UiTM Puncak Alam, University Putra Malaysia, Open University of Malaysia*

**P.15 Density Estimation for Non - Diversifiable Risk using Kernels with White Noise in Decision Making**

*Anyika E; Mount Kenya University*

**P.16 How Information Fragments Influence GMF Risk Evaluation: Evidence from China**

*She S, Wang Z; Guilin University of Technology*

**P.17 Risk Assessment of Fish Farms**

*Mert B, Ercan P; Candidate Ege University*

**P.18 The Wave Theory of Catastrophes and the Development of Risk Theory**

*Svetlana B; Head of Department of Risk Analysis*

**P.19 The Emergence of Maritime Piracy in the Modern Age**

*Trump J; Me*

**P.20 Local Knowledge and Disaster Preparedness: A Case Study on Local Level and CBDRM in China**

*Liu B; Beijing Normal University*

**P.21 Risk Factors for HIV Transmission and Correlation of Periodontal Status with CD4 Cell Count of Patients**

*Katpattil SS; Yenepoya University*

**P.22 Knowledge and Attitude towards HIV Vaccine Trial Concepts among Youth of Mangalore City**

*Sha A; Mother Hospital*

**P.23 Socio-Economic Impact on Oral Health-Related Quality of Life of Parkinson's Disease Patients**

*Sha A; Mother Hospital*

**P.24 Probabilistic Risk Assessment to Human Health in an Area Contaminated by Organochlorine Compounds**

*Toledo MC, Nardocci AC; University of São Paulo*

**P.25 Development of Environmental Resilience Assessment Method for Applying to Urban Water Metabolism in Japan**

*Nakakubo T, Tada Y, Tokai A, Yamaguchi H; Osaka University*

**P.26 Comparison of Serum and Urinary Fluoride Levels among Paniya Tribal Workers in Wayanad, India**

*Shanavas P, Mohammed A; Palliyal House*

**P.27 Predicting the Risk of Ecosystem Collapse with Ecosystem Viability Analysis**

*Bland LM; The University of Melbourne*

**P.28 Pollution and Labor Supply in a Contest Environment: Evidence from Outdoor Tennis Tournaments in Beijing**

*Li T, Liu H, Lu J, Salvo A; National University of Singapore*

**P.29 Efficient Food Standards for Radioactive Caesium Based on Cost-Benefit Analysis of the Regulation**

*Oka T; Fukui Pref University*

**P.30 Landslides in Teziutlán, Mexico: Perceptions, Vulnerability and Strategies for Risk Communication**

*Landeros K; National University of Mexico*

- P.31 A Generic Child Injury Data Framework for Kids Product Designers**  
Zhang K, Nishida Y, Mikami Y; *National Institute of Advanced Industrial Science and Technology, Nagaoka University of Technology*
- P.32 Assessing Social Risk from Geophysical Hazards in the Pacific Ring of Fire Countries**  
Bronfman NC, Cisternas PC; *Universidad Andres Bello*
- P.33 Assessment of Risk Control Implementations to Ensure Sustainability of Microbial Risk Management System**  
Teo W, Goh C; *Singapore General Hospital*
- P.34 Product Cohort Database and Its Application to Post-Recall Management**  
Mikami Y, Zhang K; *Nagaoka University of Technology/RISTEX, National Institute of Advanced Industrial Science and Technology*
- P.35 Interviews with Survivors of Falls from Heights**  
Krishnamurthy N, Tan BK, Tan SH, Heng P; *Safety Consultant, Singapore, WSH Institute, Singapore, Manpower Planning and Policy Division, Ministry of Manpower, Singapore*
- P.36 Economic Development and Risk Perception Transition**  
Bronfman NC, Cifuentes LA, Jimenez RB, Zacharias C; *Andres Bello University, Chile, Pontificia Universidad Católica de Chile*
- P.37 Seasonal, Spatial and Temporal Variations in Lead Contamination of Surface Soil Samples of Raipur, India**  
Karnavisdar A, *Technology Bhavan, New Delhi*
- P.38 Fate of ESBL- E. Coli from Human and Animal Sources in Surface Water and Human Exposure by Swimming**  
Blaak H, Schijven J, Schets C, De Roda Husman AM; *National Institute for Public Health and the Environment, Bilthoven, the Netherlands, Utrecht University*
- P.39 Patterns of Risk Perception Concerning Natural Hazards and Influence on Behaviour in Crisis Situations**  
Wellmann A; *ZIRIUS University of Stuttgart, Germany*
- P.40 Establishment of System for Risk Assessment and Management of the Consumer Products in Korea**  
Lee S, Lee J, Lee S, Kim J, Lee B; *Ministry of Environment, Korea, Korea Environmental Industry & Technology Institute*
- P.41 Health Risk Assessment for the Automotive Spray on Consumer Products in Korea**  
Lee J, Lee E, Kim J, Lee S, Yang J; *Korea Environmental Industry & Technology Institute, The Institute for Environmental Research, Yonsei University, Korea*
- P.42 Enhancing Reliability Using Radiation Hardening: Approach, and Reliability Impacts**  
Aboutaleb H Monsuez B; *ENSTA Paristech*
- P.43 Risk of Hand Foot Mouth Disease in Relation to Health Safety Practices of Child Care Centres, Malacca**  
Mohd Said N, Karuppannan S, Ali A; *Malacca Municipality, UiTM Puncak Alam*
- P.44 Risk Assessment of Bakeries**  
Ercan P, Mert B; *Ege University*
- P.45 The Relevance of Teaching Simulations and High Performance Computing in Schools**  
Hilpert J, Berlich R, Lürßen P, Zwölfer A, Barwind J; *Stuttgart Research Center for Interdisciplinary Risk and Innovation Studies (ZIRIUS), Gemfony Scientific UG, Bismarck-Gymnasium Karlsruhe, Schelztor Gymnasium Esslingen*
- P.46 Health Assessment of Fine Particles (PM2.5) and Statin Use on Stroke among Elder Hypertension Patients**  
Ho WC, Wu TT, Pan ZC, Chen PC, Sung FC; *China Medical University, National Taiwan University*
- P.47 Knowledge Attitude and Practice towards Infection Control Measures amongst Healthcare Workers**  
Kaipattil A; *PSM Dental College*
- P.48 Patient and Hospital Risk Considerations for Hospital Bathrooms and Toilets Door Lockset Design**  
Kam WK; *Singapore General Hospital*
- P.49 Exploring the Multidimensionality of Local Residents' Perceived Benefit around Nuclear Power Station**  
Kim S; *Ajou University*
- P.50 The Acceptance of Nuclear Power Station at the Local Level after Fukushima Nuclear Accident**  
Kim S; *Ajou University*
- P.51 Who Is Vulnerable to Societal Risk! Analyzing Structural Determinant for Perceived Risk**  
Kim S; *Seowon University*
- P.52 The Determinants of the Life Insurance Demand of SME Owners**  
Koyama K; *Hoseiuniv Graduate School of Policy Design*
- P.53 Knowledge and Attitude towards Vaccine Trial Concepts and the Functional Status of HIV Patients**  
Loolu KP; *Al Iqra Hospital*
- P.54 Knowledge, Attitude and Practices Regarding Biomedical Waste Management among Healthcare Personnel**  
Kumar A, *PS Haji Dental College*
- P.55 Benzoic Acid: Risk and Safety Assessment for Cosmetic Products**  
Kim MK, Lim SK, Kim DH, Park CK, Lee B-M; *Sungkyunkwan University*
- P.56 Evaluating the Industrial Emission and its Location to Provide an Efficient Risk Reduction**  
Li P-C, Ma H-W; *National Taiwan University*
- P.57 Projecting Future Heat-Related Mortality under Global Climate Change**  
Li Y, Kusi J; *East Tennessee State University*
- P.58 Assessing the Risk of Exposure to Organophosphate Pesticides Residues for Food Safety in Taiwan**  
Ling M-P, Lien K-W, Ni S-P, Huang H-Y; *China Medical University, Taiwan*
- P.59 Characterizing Risk on Perfluorinated Compounds in Sembilang River, Malaysia**  
Md Som NN, Hussain H, Karuppannan S, Yatim SR; *University Technology Mara*
- P.60 Sub-Cultures of Risk: Who is the Expert?**  
Carter D; *University of Canberra*

**P.61 Spatio-Temporal Risk Analysis Model for Pandemic Influenza with Person-Trip Survey Data**

*Yoshida M, Maruyama T, Kakimoto R; Kumamoto University*

**P.62 Indonesia Ratified the ASEAN Agreement on Transboundary Haze Pollution (AATHP): Consequences and Implications**

*Sambodo M; ISEAS, LIPI*

**P.63 A Novel Lightweight Protective PAPR Respirator Enhances Asbestos Worker Comfort, Compliance and Productivity**

*Birrell AM, Virr A, Snow J, Johnson D; PAFtec Australia*

**P.64 Office Risk Assessment**

*Uslu S, Mert B, Ercan P; Dokuz Eylul University, Turkey, Ege University, Turkey*

**P.65 Better Integration of the Societal Dimension in Security Industry Activity by Applying Tools Designed for Assessing and Monitoring Social Acceptance of New Technologies**

*Auerkari P*

**P.66 Expertocracy, Common Sense and Kaleidoscope – the “Right” Approach to Governance of Innovation and Technology Related Risks?**

*Paltrinieri N*

**P.67 Probabilistic Risk Assessment by Using Bayesian Statistics-Markov Chain Monte Carlo Simulation**

*Wu KY*

**P.68 Nuclear Risk Governance in South Korea: Unprepared and Unreliable**

*Yun S-J*

**P.69 Quantitative Risk Analysis Framework of Ecological Systems for Climate Change Adaptation Plans**

*Lee S; Korea Environment Institute*

**P.70 Workplace Safety Practices: Proliferation and Controversy**

*Ball L; King's College London*

**P.71 A Comparative Analysis of Trade Secrets Protection using Non-Competes**

*Takizawa K; Waseda University*

**P.72 Communicating Risk Information about Cyber-Security through Visualizations and Emotional State**

*Cheng H, Burns C, Review M; University of Strathclyde*

# **TUESDAY PLENARY SESSION**

All Plenary Sessions will be held in the Auditorium

**Tuesday 21 July 2015, 9:00 - 10:30 AM (09:00-10:30)**

**“Risk Assessment and Innovation: Dealing with Emerging Threats”**

Chair: Ortwin Renn, *University of Stuttgart*

Aleksander Jovanovic, *Steinbeis Research and Development, and University of Stuttgart, Germany*

Athena Ronquillo-Ballesteros, *Director, Sustainable Finance Center, World Resources Institute*



**T2 - Tuesday Morning**  
11:00 am - 12:30 pm (11:00 - 12:30)

**11:00 am - 12:30 pm**  
**Room: Aspiration**

**T2-A Risks in the  
Cyber Domain**  
*Chair: Zach Collier*

**T2-A.1 Risk and Resilience in Cyber-Physical Systems**  
*Collier ZA, Linkov I; US Army Engineer Research and Development Center*

**T2-A.2 Cyber-Physical Risk Analysis with Object-Process Methodology: Three-Mile Island Accident Revisited**  
*Yaniv M, Dov D; Technion - Israel Institute of Technology*

**T2-A.3 Risk Parameters in Holistic Cyber Security Risk Assessment**  
*Henshel D, Cains M, Alexeev A, Rajivan P; Indiana University*

**11:00 am - 12:30 pm**  
**Room: Breakthrough**

**T2-B Food Safety  
Assessment**  
*Chair: Kuen-Yuh Wu*

**T2-B.2 Establishment of Food Intake Databank for Taiwan**  
*Chang HY*

**T2-B.3 Benchmark Dose Calculation for Ordered Categorical Responses with Multiple Endpoints**  
*Chen CC*

**T2-B.4 Probabilistic Assessment of Health Risk on Ochratoxin A with Bayesian Statistics Markov Chain Monte Carlo Simulation**  
*Chiang SY*

**T2-B.5 Probabilistic Risk Assessment by Using Bayesian Statistics-Markov Chain Monte Carlo Simulation**  
*Wu KY*

**11:00 am - 12:30 pm**  
**Room: Creation**

**T2-C Ensuring the  
Long-Term Sustainability  
of Emerging  
Nanotechnologies**  
*Chair: Danail Hristozov*

**T2-C.1 SUN Project: An Integrated Approach Towards Sustainable Nanoinnovation**  
*Marcomini A, Hristozov DR\**

**T2-C.2 Defining and Measuring Sustainable Nanotechnology**  
*Linkov I; US Army Corps of Engineers*

**T2-C.3 Assessing the Human Hazard of Nanomaterials at Different Life Cycle Stages**  
*Stone V*

**T2-C.4 The Efficacy of Nanomaterial Risk Assessment and Risk Management Systems for Financial Risk Transfer to the Insurance Sector**  
*Murphy F*

**11:00 am - 12:30 pm**  
**Room: Discovery**

**T2-D Interdisciplinary and  
International Perspectives  
of Fine Particulate Matter  
Air Pollution**  
*Chair: Chris Frey*

**T2-D.1 Overview of PM2.5: From Source to Outcome**  
*Frey HC; North Carolina State University*

**T2-D.2 Options for Managing PM2.5 Emissions**  
*Balasubramanian B*

**T2-D.3 Air Quality and Climate Effects of PM2.5**  
*Fatima Andrade M*

**T2-D.4 Insights to Support Policy Options**  
*Salvo AE*

**T3 - Tuesday Afternoon**  
1:30 - 3:00 pm (13:30 - 15:00)

**1:30 - 3:00 pm**  
**Room: Aspiration**

**T3-A Modeling Risks to  
Infrastructure Systems**

*Chair: Kathleen Aviso*

**T3-A.1 Decision Support for Dynamic Systems—Risk  
Assessment in Public Transportation Systems**

*Brauner F, Pickl S, Mudimu OA, Lechleuthner A; Cologne  
University of Applied Sciences (CUAS), Bundeswehr Univer-  
sity Munich*

**T3-A.2 Managing Networked Risks: A Complexity Per-  
spective on Risk Management in Networked Systems**

*Van der Steen M, Stepanyan M; Netherlands School of Pub-  
lic Administration, Risk Society*

**T3-A.3 Optimization of a FAHP-Based Inoperability  
Input-Output Model for Infrastructure Systems**

*Aviso KB, Promentilla MAB, Yu KDS, Santos JR, Tan RR;  
De La Salle University, The George Washington University*

**1:30 - 3:00 pm**  
**Room: Breakthrough**

**T3-B Symposium: Ecological Risk  
Assessment in Tropical Asia-Pacific  
and Other Regions of the  
Pacific Basin, Part I**

*Chair: Jenny Stauber*

**T3-B.1 What's Unique about Ecological Risk Assess-  
ment in Tropical Asia-Pacific?**

*Stauber J; CSIRO*

**T3-B.2 The Use of the Bayes Net Relative Risk Model  
as a Central Part of an Adaptive Management Program**

*Landis WG, Ayre KK, Harris MJ, Herring C, Stinson J; West-  
ern Washington University*

**T3-B.3 Risk Assessment Approaches used for Tropi-  
cal Wetlands in Northern Australia**

*van Dam R, Bartolo R, Bayliss P, Finlayson M; Environmen-  
tal Research Institute of the Supervising Scientist, Australia,  
CSIRO Oceans & Atmosphere Flagship Program, Australia,  
Charles Sturt University, Australia*

**T3-B.4 Ecological Risk Assessment in Tropical Asia-  
Pacific and other Regions of the Pacific Basin**

*Pollino C; CSIRO Land and Water*

**1:30 - 3:00 pm**  
**Room: Creation**

**T3-C Symposium: East Asia Risk Governance**

*Co-Chairs: Shu-Fen Kao, Kuei-Tien Chou*

**T3-C.1 Cosmopolitan Approach of Transboundary  
Risk Governance in East Asia**

*Chou KT; National Taiwan University*

**T3-C.2 Beyond the Catastrophic Energy System:  
Metamorphosis from Passive Energy Consumers to Ac-  
tive Energy Producers**

*Yun SJ*

**T3-C.3 Searching for Participatory Risk Governance:  
A Case Study of the First Citizens' Jury on the Pandemic  
Influenza in South Korea**

*Lee YH*

**T3-C.4 Critical Analysis of the Risk Governance Para-  
digm: Farmers' Experience of Radiation Contamination  
in Fukushima**

*Yamaguchi T; National Institute of Health Sciences*

**T3-C.5 Scientific Uncertainty, Risk Perceptions and  
Democratization of Expertise: Envisioning Participatory  
Risk Governance of EMF in Taiwan**

*Kao SF*

**T3 - Tuesday Afternoon**  
1:30 - 3:00 pm (13:30 - 15:00)

**1:30 - 3:00 pm**  
**Room: Discovery**

**T3-D Nanotechnology Risk**

*Chair: Vicki Stone*

**T3-D.1 Consumer Perceptions of Nanotechnology Products**

*Poortvliet PM, Feindt PH; Wageningen University*

**T3-D.2 Exploring Appropriate Regulations for Nanofood in Malaysia**

*Awang MN; Islamic Science University of Malaysia*

**T3-D.3 A Tiered Framework for Nano-EHS Assessment**

*Collier ZA, Kennedy AJ, Steevens JA; US Army Engineer Research & Development Center*

**T3-D.4 Toxicity of Surface Chemically Modified Ag Nanoparticles and Implications for Risk Assessment**

*Pang C, Zhu C, Hristozov D, Chen C, Zhao B; Chinese Academy of Sciences, University Ca' Foscari Venice, Italy, National Center for Nanoscience and Technology of China*

**1:30 - 3:00 pm**  
**Room: Exploration**

**T3-E Symposium: The Ebola Epidemic and Aftermath**

*Chair: Raina MacIntyre*

**T3-E.1 Ebola and Risk to Health Care Workers - An Unfolding Story and Lesson in Risk Analysis**

*MacIntyre R*

**T3-E.2 Ebola and Epidemic Diseases in China - Approach to Risk Mitigation and Control**

*Quanyi W*

**T3-E.3 Responding to Ebola in West Africa - Approaches to Health Systems Gaps, Screening, Quarantine and Health Worker Shortages**

*Caldwell S*

**T3-E.4 Resilience of Networked Systems Under Epidemic Spreading**

*Kitsak M, Gallos LK, Havlin S, Stanley H, Makse HA; Northeastern University, Rutgers University, Bar Ilan University, Boston University, CCNY*

**1:30 - 3:00 pm**  
**Room: Auditorium**

**T3-F Global Climate Change: Implications for Policymaking and Insurance in Developed and Developing Countries**

*Chair: Ortwin Renn*

**T3-F.1 A Regional Climate Change Risk Management Approach involving Societal Norms**

*Schanze J; University of Dresden, Germany*

**T3-F.2 Resilience of Flood Risk Management Strategies: Operationalisation and Findings from the City of Accra**

*Atanga R; University of Accra, Ghana, and Dresden, Germany*

**T3-F.3 Natural Hazards and Risk Communication**

*Schetula V; Dialogik GmbH, University of Stuttgart, Germany*

**T3-F.4 The Challenge of Hail Hazard and Risk Assessment in a Changing Climate**

*Mohr S; Karlsruhe Institute of Technology, Germany*

**T3 - Tuesday Afternoon**  
3:30 - 5:00 pm (15:30 - 17:00)

**3:30 - 5:00 pm**  
**Room: Aspiration**

**T4-A Risk Analysis in the  
Petroleum Industry**

*Chair: Dolruedee Kramnaimuang King*

**T4-A.1 Challenges around Risk and Regulatory Dis-  
course in Sustaining an Energy Pipeline Industry in  
Australia**

*Kramnaimuang King D; Australian National University*

**T4-A.2 Risk-Based Sustainable Biorefinery Location  
Design**

*Yun B; Rutgers University*

**T4-A.3 An Integrated Risk Analysis Model for Petro-  
leum Crude Oil Transportation by Rail**

*Liu X; Rutgers, The State University of New Jersey*

**T4-A.4 Analysis of Risk Perception on Hydrogen Fu-  
eling Stations in Japan Based on Preliminary Survey**

*Ono K, Tsunemi K; RISS, AIST*

**3:30 - 5:00 pm**  
**Room: Breakthrough**

**T4-B Symposium: Ecological Risk  
Assessment in Tropical Asia-Pacific and  
Other Regions  
of the Pacific Basin, Part II**

*Chair: Jenny Stauber*

**T4-B.1 Aerial Spraying of Herbicides on the Colombia  
Ecuador Border: Recognizing the Uncertainties in As-  
sessing Risks**

*Menzie CA; Exponent*

**T4-B.2 Comparison of Tropical and Temperate Spe-  
cies' Sensitivity to Nickel**

*Wang Z, Garman ER, Schlekot CE, Leung KMY; The Uni-  
versity of Hong Kong*

**T4-B.3 Ecological Impacts of the Antimicrobial Tri-  
closan on Freshwater Communities in Tropical Micro-  
cosms**

*Khatikam J*

**T4-B.4 Integrated Risk Assessment of Heavy Metals  
and Organochlorine Insecticides in Segara Anakan La-  
goon under Indonesian Tropical Monsoon  
Climates**

*Noegrohati S*

**3:30 - 5:00 pm**  
**Room: Creation**

**T4-C Symposium: Seeking an Integrated  
Approach for Risk Governance in  
Asian Countries**

*Chair: Makiko Matsuo*

**T4-C.1 Clarifying Concepts for “Integrated Risk Gov-  
ernance”**

*Kishimoto A; The University of Tokyo*

**T4-C.2 Nuclear-Related Risk Governance Deficit after  
Fukushima**

*Matsuo M; University of Tokyo*

**T4-C.3 Towards the Reduction of Climate Change  
Risks – Perspectives from Environmental Economics**

*Thampapillai DJ; National University of Singapore*

**T4-C.4 National Risk Assessment Exercises and Net-  
worked Government in Singapore**

*Kuang H-Y*

**T4-C.5 An Attempt for Integrated Risk Mapping and  
Governance Challenge in Japan**

*Hideaki S*

**T3 - Tuesday Afternoon**  
3:30 - 5:00 pm (15:30 - 17:00)

**3:30 - 5:00 pm**  
**Room: Discovery**

**T4-D Symposium: Risk Governance of Nuclear Power Plant Accidents and of Natural Disasters**

*Chair: Jun Sekizawa*

**T4-D.1 Establishment of Scheme for Emergency Planning and Community Right-to-Know**  
*Sekizawa J*

**T4-D.2 Current Situation and Issues on Decontamination of Radioactive Substances and Rehabilitation from Nuclear Disaster in Fukushima**  
*Murayama T*

**T4-D.3 Risk Governance of Natural Disasters, and Nuclear Power Plants based on Preparedness**  
*Chang P*

**T4-D.4 Nuclear Risk Governance in South Korea: Unprepared and Unreliable**  
*Yun S-J*

**T4-D.5 Consumers Judgment Criteria on Radionuclide Contamination in Foods after Fukushima Nuclear Accident**  
*Hosono H*

**3:30 - 5:00 pm**  
**Room: Exploration**

**T4-E Information Technology in Occupational Safety**

*Co-Chairs: Hans-Juergen Bischoff, Jukka Takala*

**T4-E.1 Keynote: Digitalization and Modularization in Production Systems – Challenges for OHS**  
*Radandt S; ISSA-Section Machine and System Safety, Mannheim, Germany*

**T4-E.2 Leveraging on Technology to Further Workplace Safety and Health Enforcement Capability in Singapore**  
*Mohd I; Ministry of Manpower, Singapore*

**T4-E.3 Workplace Safety and Health Risk Management (RM) in Singapore**  
*Chow V; Ministry of Manpower, Singapore*

**T4-E.4 Bridge between Safety and Security**  
*Winzer P, Schlüter N; University of Wuppertal*

**Discussants: Jukka Takala and Ortwin Renn**

**3:30 - 5:00 pm**  
**Room: Auditorium**

**T4-F Symposium: Innovations in the Development, Use, and Analysis of Scenarios for Assessing Climate Risks**

*Chair: Vanessa Schweizer*

**T4-F.1 Anticipating Energy Transition Surprises: Near-Optimal Energy Scenarios under Parametric Uncertainty**  
*Trutnevyte E; ETH Zurich*

**T4-F.2 Uncovering Instabilities in Socio-Economic Pathways through a Dynamic Analytical Approach**  
*Guivarch C, Schweizer V\*, Rozenberg J; Centre International de Recherche sur l'Environnement et le Développement (CIRED), France, University of Waterloo, Canada, World Bank, Washington DC*

**T4-F.3 Using Scenarios for Projecting Armed Civil Conflict**  
*Gilmore E; University of Maryland*

**T4-F.4 Internally Consistent Nesting of Multi-Level, Qualitative Socioeconomic Scenarios**  
*Kerniawan J*

**TPP - Tuesday Poster Platform  
Risk Perception and Communication**

*Room: 3rd Floor Foyer*

*4:00 - 5:30 pm (16:00 - 17:30)*

*Chair: James H. Lambert*

**TPP.1 “Evoking Image” Factor for Public Risk Perception of Radioactive Substances in Food**

*Niiyama Y, Kito Y; Kyoto University*

**TPP.2 Bioethics Importance for the Posed Intensive Agriculture Risks**

*Arriaga AE; Biotechnology Institute /UNAM*

**TPP.3 Public Perception on Heat-Related Health Risk in Beijing, China**

*Li T, Ban J; China CDC*

**TPP.4 Understanding Individual Risk Perception on Haze and Relative Behavior Change in Nanjing, China**

*Ban J, Li T; China CDC*

**TPP.5 Understanding Flood and Climate Change Risk Perceptions in Coastal and Delta Communities in Vietnam**

*Ngo CC, Poortvliet MP, Feindt PH; Asian Management and Development Institute, Wageningen University*

**TPP.6 Risk and Solutions of Climate Change in West Africa: Analysis of Framing Trends in Media**

*Tsai J, Corman S; Arizona State University*

**TPP.7 Risk: From Solid to Liquid**

*Carter D; University of Canberra*

**TPP.8 Integrated Technology Readiness and Risks Assessment: A New Tool for Innovation Managers**

*Auerkari P*

**TPP.9 Incorporating Social Determinants into Risk Assessments to Enhance Children’s Environmental Health**

*Beasley A, Fann N, Merse C, Brown M; US EPA Office of Children’s Health Protection, Washington, DC, US EPA*

**TPP.10 Early Warnings for Extreme Risks: When are they Feasible? When are they Useful?**

*Paltrinieri N*

**TPP.11 Social Amplification of Risk and Media Literacy**

*Aoyagi M; National Institute for Environmental Studies*

**TPP.12 Risk Perception and Communication on Automated Driving System**

*Shibata K, Nakajima T; Chiba Institute of Technology*

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# 2015 SRA World Congress

## Singapore

# **WEDNESDAY PLENARY SESSION**

All Plenary Sessions will be held in the Auditorium

**Wednesday 22 July 2015, 9:00 - 10:30 AM (09:00-10:30), Auditorium**

## **“Integrating Social and Physical Science to Address Risks”**

Chair: Robin Cantor, *Berkeley Research Group, Washington, DC*

Jose Palma Oliveira, *Professor, University of Lisbon, Portugal*

John Vandenberg, *National Program Director, Human Health Risk Assessment, US EPA*

Jukka Takala, *Workplace Safety & Health Institute, Singapore*



**W2 Wednesday Morning**  
11:00 am - 12:30 pm (11:00 - 12:30)

**11:00 am - 12:30 pm**  
**Room: Aspiration**

**W2-A Can Risk Governance Follow the Pace of Technology Innovation? Cognitive Factors and Perception of Emerging Risk**

*Chair: Aleksandar Jovanovic*

**W2-A.1 Education and Certification for Enhanced Risk Governance**

*Weis U, Jovanovic S; Steinbeis University*

**W2-A.2 Improving Safety and Resilience of Underground Storage Infrastructure**

*Aurkari P, Sipilä S, Satu T; VTT, Helsinki*

**W2-A.3 Using Selected iNTeg-Risk Results (RiskRadar, Methods Mart, Notion Clustering)**

*Dobes P, Dlabka J, Rehacek J, Budisova B; VSB*

**W2-A.4 Early Warnings for Extreme Risks: When are they Feasible? When are they Useful?**

*Goble R; Clark University*

**11:00 am - 12:30 pm**  
**Room: Breakthrough**

**W2-B Microbial Risk in a Changing World**

*Chair: Charles Haas*

**W2-B.1 Dynamics of Risk Analysis Approaches in Animal Source Food Sold in Informal Sector in Africa**

*Bonfoh B*

**W2-B.2 QMRACatch – A User-Friendly Computational Tool for Microbial Quality Simulations of Fresh Water Including Risk Assessment**

*Schivjen J*

**W2-B.3 QMRA of Legionella and Mycobacterium Avium in Roof-Harvested Rainwater in Australia and the USA**

*Hamilton KA, Toze S, Ahmed W, Haas CN; Drexel University, Commonwealth Scientific and Industrial Research Organization (CSIRO)*

**W2-B.4 Understanding the Challenge of Antibiotic Resistant Risks**

*Mitchell J; Michigan State University*

**11:00 am - 12:30 pm**  
**Room: Creation**

**W2-C Synthetic Biology: Assessing Risks, Prioritizing Sustainable Governance, and Engaging Stakeholders**

*Chair: Christopher Cummings*

**W2-C.1 Multidimensional Risk Profiling: A Scenario-Based Evaluation of Synthetic Biology Applications from a Multidisciplinary Expert Delphi Study**

*Cummings C*

**W2-C.2 A Delphi Study: Risk Data and Governance Needs for Environmental Applications of Synthetic Biology**

*Kuzma J; North Carolina State University*

**W2-C.3 Publics on the Outside: Entry Points for Discourse on SynBio**

*Berube D; PCOST*

**W2-C.4 Synthetic Biology and Governance – A Decision Analytic Model to Predict Government Regulatory Action**

*Trump B*

**11:00 am - 12:30 pm**  
**Room: Discovery**

**W2-D Ebola: Risk and Response Challenges for Managing Public Health Disasters**

*Co-Chairs: Sally Kane, Raina MacIntyre*

**W2-D.1 Challenges for Ebola Risk Management and Multi-Scale Decision-Making: Addressing Uncertainty in Outbreak and Spread**

*Kane S; University of New South Wales*

**W2-D.2 Risk, Vulnerability and Ethics During the West African Ebola Epidemic**

*MacIntyre R*

**W2-D.3 Liquid Epidemiology: Recent Innovations in Spatial Science and Virtual Geographic Environments for Pandemic Risk Management**

*Robertson H*

**W2-D.4 A First-Hand View of Cultural and Social Considerations for Local and National Risk Management of Ebola by Public Health Officials in Sierra Leone and Liberia**

*Caldwell S*

**W2-D.5 The Chinese Response in West African Ebola Epidemic**

*Wang Q*

**W3 Wednesday Afternoon**  
1:30 - 3:00 pm (13:30 - 15:00)

**1:30 - 3:00 pm**  
**Room: Aspiration**

**W3-A Symposium: Detecting and Responding to New and Emerging Risks**

*Chair: Christine Reed*

**W3-A.1 United by Common Purpose: Bridging Australia and New Zealand's Biosecurity Research Investments**

*Robinson A; CEBRA, The University of Melbourne*

**W3-A.2 Integrating Geospatial Information in Economic Sector Prioritization under Extreme-Event Conditions**  
*Resurreccion JZ, Paringit EC, Santos JR; University of the Philippines, The George Washington University*

**W3-A.3 The International Biosecurity Intelligence System**

*Burgman M, Robinson A; CEBRA, University of Melbourne*

**W3-A.4 Turning Intelligence into Effective Management of Risks: New Zealand's Emerging Risks System for Biosecurity**

*Reed C; Ministry for Primary Industries*

**1:30 - 3:00 pm**  
**Room: Breakthrough**

**W3-B Symposium: Governing Sustainable Energy Demand - An International Perspective**

*Chair: Pia-Johanna Schweizer*

**W3-B.1 Risk Allocation and Scale Up of Distributed Energy Resources**

*Kulatilaka N*

**W3-B.2 Climate Change and Energy Policy in Japan - Possibilities for Policy Integration**

*Kubo-Shimamura H*

**W3-B.3 Risk Governance of Induced Seismicity by Deep Geothermal Energy**

*Trutnevyte E, Broccardo M, Danciu L, Esposito S, Mignan A, Stauffacher M, Stojadinovic B, Wiemer S; ETH Zurich*

**W3-B.4 Employees' Perception on Risk and Risk Management: Evidence from Danish Offshore Wind Industry**

*Dewan A; University of Southern Denmark*

**1:30 - 3:00 pm**  
**Room: Creation**

**W3-C Symposium: Integrated Governance and Management for LPHC Events: Lessons from the Great East Japan Earthquake**

*Chair: Kami Seo*

**W3-C.1 Implementation Science as a part of Integrated Disaster Risk Governance and Management: Issue and Challenges in Japan and Asia**

*Okada N*

**W3-C.2 Mass Relocations Due to Disasters**

*Bier V; University of Wisconsin*

**W3-C.3 Comparative Study on Sino-Japanese Post-Disaster Reconstruction Process Based on Planning Perspective**

*Zhai G; Nanjing University*

**W3-C.4 Scenario Analysis of Japanese Society after the 2011 Disasters**

*Maeda Y*

**W3-C.5 Lessons for Improving Integrated LPHC Risk Governance and Management: Key Questions for Discussion**

*Goble R; Clark University*

**W3 Wednesday Afternoon**  
1:30 - 3:00 pm (13:30 - 15:00)

**1:30 - 3:00 pm**  
**Room: Discovery**

**W3-D Business and  
Financial Risk Analysis**

*Chair: Ajita Atreya*

**W3-D.1 Endogenous Risk and Business Cycle  
Regimes**

*Gan Vincent BY; Putra Business School*

**W3-D.2 Good Enterprise Risk Management Practices**

*Agarwal R, Ansell J; University of Edinburgh*

**W3-D.3 A Decision Analytical Methodology for Mea-  
suring the Sustainability of Automotive Value Chains**

*Stoycheva S, Stocchetti A; University Ca' Foscari Venice*

**W3-D.4 Risk Analysis for Research and Sustainable  
Development of Project Portfolios**

*Virine L; Intaver Institute Inc.*

**1:30 - 3:00 pm**  
**Room: Exploration**

**W3-E Mortality Risk-  
Models and Methods**

*Chair: Ben Greenfield*

**W3-E.1 Modeling the Environmental Surface Contribu-  
tion to Hospital-Associated Infection Transmission**

*Greenfield BK, Jones RM, Nicas M, McKone TE; University  
of California-Berkeley, University of Illinois at Chicago*

**W3-E.2 Learning from the Past, the 18th Century Tai-  
wan Tsunami and the 19th Century Tacloban Typhoon**

*Switzer AD, Soria L\*; Earth Observatory of Singapore*

**W3-E.3 Eliciting Prospect Theory with a Focus on  
Loss of Life**

*Taheri E, Wang C; Tsinghua University*

**W3-E.4 Framework of Advanced Risk Assessment of  
Chemical Substances Used for Energy Carrier of Hydro-  
gen**

*Tsunemi K, Yoshida K, Ono K, Wada Y; National Institute of  
Advanced Industrial Science and Technology (AIST)*

**W3 Wednesday Afternoon**  
3:30 - 5:00 pm (15:30 - 17:00)

**3:30 - 5:00 pm**  
**Room: Aspiration**

**W4-A Transportation Risks**  
*Chair: Tom Beer*

**W4-A.1 Acceptance and Insurability of Autonomous Automobiles - A Path Leading to a Non-Accident Future?**

*Holz A; Karlsruhe Institute of Technology, Germany*

**W4-A.2 Making Roundabouts a Safe System Solution for Motorcyclists**

*Beer K, Aninipoc E, Andrea D, Beer T; Safe System Solutions Pty Ltd, VicRoads*

**W4-A.3 Risk Assessment of Adjacent Track Accidents on Shared-Use Rail Corridors**

*Lin CY, Saat MR; University of Illinois at Urbana-Champaign*

**W4-A.4 Analysis of the Social Effects of Security Measures on Customers' Security Perception**

*Brauner F, Fiedrich F, Lechleuthner A; Cologne University of Applied Sciences (CUAS), University of Wuppertal*

**3:30 - 5:00 pm**  
**Room: Breakthrough**

**W4-B Risk Perception Related to Nuclear Radiation**  
*Chair: Yoshitoku Yoshida*

**W4-B.1 Risk Communication on Radiation Exposure to Human Body Held after Great East Japan Earthquake Disasters**

*Yoshida Y; Nagoya University*

**W4-B.2 Structural Models of Risk Perception of Radioactive Substances: Effects of Information Provision**

*Kito Y, Niiyama Y; Kyoto University*

**W4-B.3 Chinese Public Perception of Nuclear Power: A Case of Guangdong Jiangmen Anti-Nuclear Activism**

*Kim NY; Seoul National University*

**W4-B.4 Nuclear Accident Consequence Index and its Application on Evaluation of a Reactor Design Safety Criterion**

*Silva K, Okamoto K; Thailand Institute of Nuclear Technology, University of Tokyo*

**3:30 - 5:00 pm**  
**Room: Creation**

**W4-C Symposium: Emerging Infectious Disease: An Integrated Approach to Assessing the Risks**  
*Chair: Victoria Brookes*

**W4-C.1 The Risk Inside: Efficient Resource Allocation to Support Sustainable Rabies Control Programmes**

*Del Rio Vilas VJ*

**W4-C.2 A Tool for Assessing the Risk of Rabies to Support Surveillance**

*Hernandez-Jover M; Charles Sturt University*

**W4-C.3 MCDA for Disease Prioritisation: Comparison of Methods to Assess Decision-Makers Perceptions of Risk**

*Brookes VJ*

**W4-C.4 A Novel Simulation Model for Investigating the Control of Epidemic Rabies**

*Ward MP*

**W3 Wednesday Afternoon**  
3:30 - 5:00 pm (15:30 - 17:00)

**3:30 - 5:00 pm**  
**Room: Discovery**

**W4-D Issues in Health Risk  
Assessment and Management**

*Chair: Shao Kan*

**W4-D.1 Study Integration in Dose-Response Assessment: Challenges and Opportunities**

*Shao K; Indiana University Bloomington*

**W4-D.2 Occupational Cancer in Europe: What are the Priorities for Action?**

*Cherrie JW, Rushton L, Gorman-Ng M, Hutchings S, van Tongeren M; Courtice M IOM, Imperial College London*

**W4-D.3 Risk Analysis of GMOs in the EU: Bringing the Gap between Science and Socio-Economic Considerations**

*Anyshchenko A; University of Copenhagen*

**W4-D.4 Ensuring the Quality of Occupational Safety Risk Assessment**

*Pinto A; Safe@Work*

**W4-D.5 Why Risk Communication Often Escapes from Risk Management Practices? Cases Drawn from Risk Communication Practices on Health Effects by Radiation**

*Nishizawa M; Litera Japan Co, Japan*

**3:30 - 5:00 pm**  
**Room: Exploration**

**W4-E Industrial Risk Analysis and Safety**

*Chair: Nicolas Dechy*

**W4-E.1 Management of Unexpected Situations During Maintenance Activities: Controlling Risks Despite Uncertainty**

*Dechy N, Thellier S, Rousseau J-M, Pansier J, Jeffroy F; IRSN*

**W4-E.2 Risk-Based Indices as a Tool for Assessing the Sustainability of Industrial Installations**

*Bubbico R, Mazzarotta B; "Sapienza" University of Rome, Italy*

**W4-E.3 Innovative Risk Modeling of Petroleum Crude Oil Transportation Releases**

*Aguilar Serrano J, Saat MR; University of Illinois at Urbana-Champaign*

**W4-E.4 Resilience in Times of Uncertainty**

*Wellmann A, Hackenbruch J, Maleska V, Schulwitz M; Stuttgart University, Karlsruhe Institute of Technology, TU Dresden, ILS –Research Institute for Regional and Urban Development gGmbH*

**3:30 - 5:00 pm**  
**Room: Auditorium**

**W4-F Methods for Risk  
Assessment**

*Chair: N. Krishnamurthy*

**W4-F.1 Quantifying Risk and Resilience in Construction**

*Lohse R; KEA Klimaschutz, Germany*

**W4-F.1 Sustainable Risk-Based Approaches for Regulatory Periodic Inspections**

*Veeramany A, Mangalam S, Larez J, Lency A, Dwight R; Technical Standards and Safety Authority*

**W4-F.2 The SAFER Diamond: A Schematic for Risk Management**

*Krishnamurthy N; Safety Consultant*

**W4-F.3 Quantitative Risk Analysis Framework of Ecological Systems for Climate Change Adaptation Plans**

*Lee S; Korea Environment Institute*

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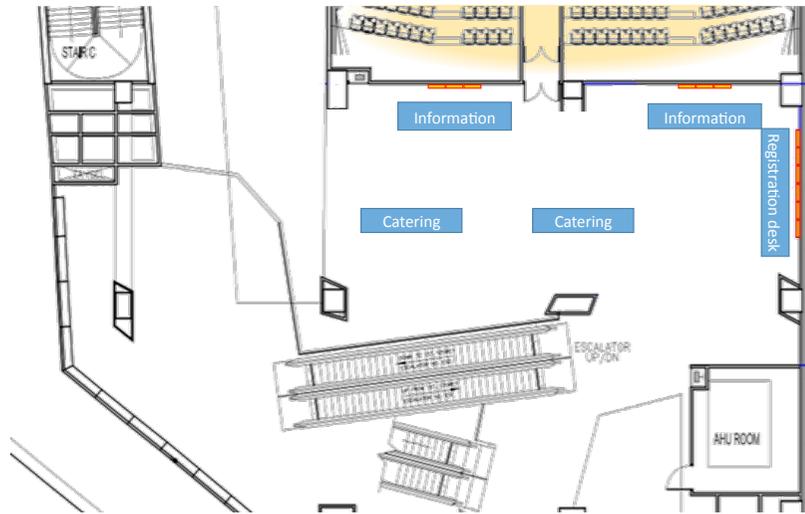
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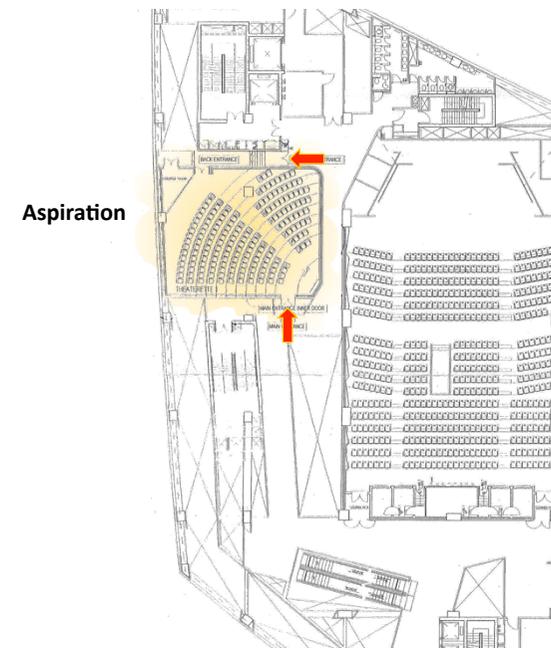


## Notes

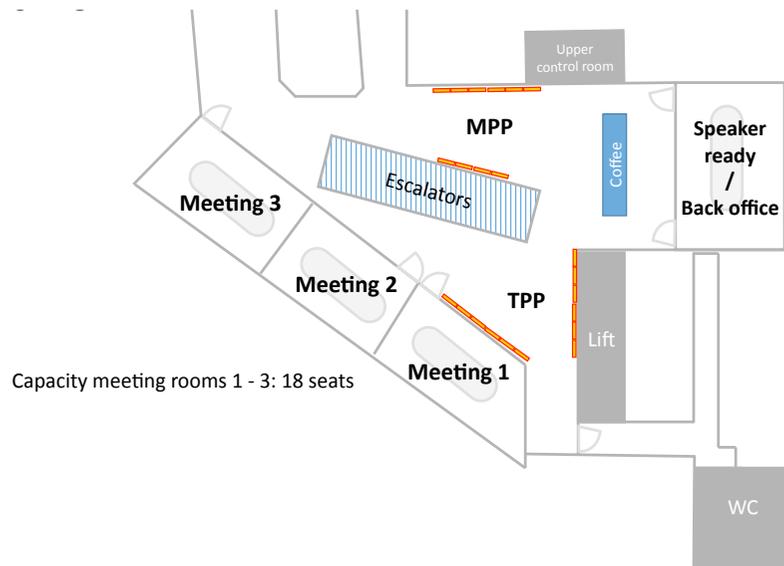
## Level 2: Reception, Auditorium



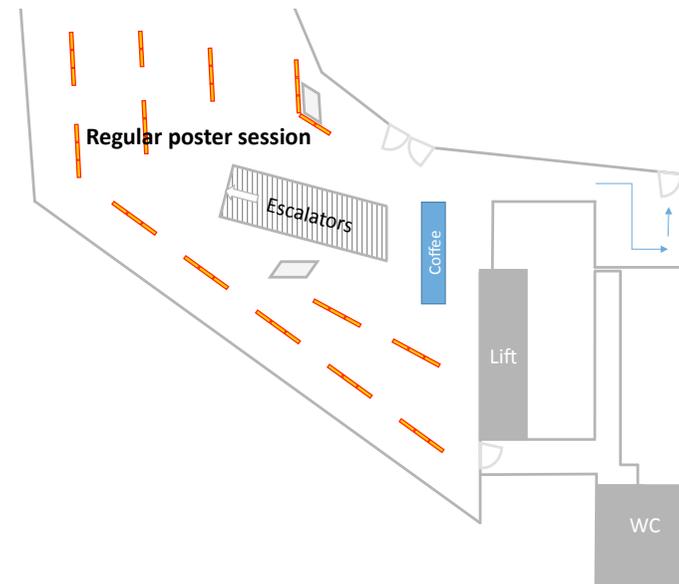
## Level 2M



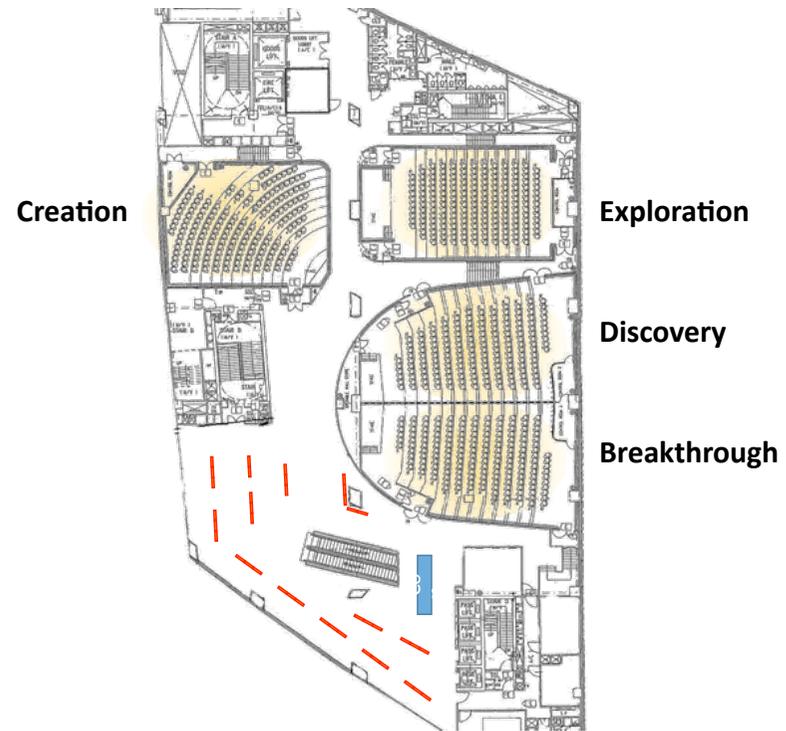
## Level 3: Poster Platform Sessions and Meeting Rooms



## Level 4: Poster Area



# Level 4: Theatrettes



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