



FIFTH WORLD CONGRESS ON RISK

DEVELOPMENT AND RESILIENCE

SETAC Africa 9th Biennial Conference

2019 Conference Program



In partnership with



Cape Town International Convention Centre

Cape Town, South Africa

May 6-8, 2019





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Fifth World Congress on Risk
Cape Town, South Africa | May 6-8, 2019



Fifth World Congress on Risk: Development and Resilience

SETAC Africa 9th Biennial Conference

2019 Conference Program · May 6-8, 2019

In partnership with

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Find the listing of abstracts online at:
birenheide.com/sra/world19/program/sessionlist.php3

About the Conference

The World Congress on Risk in partnership with the SETAC Africa Biennial Conference is organised by the Society for Risk Analysis (SRA) and SETAC to grow innovation and knowledge across risk analysis and management communities, researchers, practitioners, policymakers and related stakeholders. The event seeks to stimulate ideas and solutions for regional and global risk challenges. Objectives are to stimulate dialogue and learning on risk issues of worldwide interest; share insights to analytic methods, decision processes and policy making; disseminate advances in risk assessment, management, and communication; connect organisations and individuals; and facilitate educational opportunities and transfer science-informed practices to user communities.

Meeting Theme – Organisations, companies, academia and individuals will gather with a theme of *“Development and Resilience”* across a variety of topics

- Emerging technologies and innovation
- Environment, ecology, climate
- Agriculture, food and water supply
- Human health and safety
- Law, policy and governance
- Business processes and standards
- Population and workforce behaviors
- Disaster preparedness and resilience
- Energy, transportation, logistics
- Poverty in rural and urban areas
- Infrastructure systems
- Economics, finance and fraud-related issues in enterprise and government
- Ethnic and socio-economic risks

Meeting Highlights – All sessions take place at the Cape Town Convention Centre. Please join us for an Opening Reception Sunday evening, May 5, from 6:00 PM to 7:30 PM at the Southern Sun Cullinan Hotel (1 Cullinan St, Cape Town City Centre, Cape Town, 8001) by the hotel pool.

A buffet lunch will be available each day for attendees in the East Ballroom.

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Greg Kiker, University of Florida, USA

Tshilidzi Marwala, University of Johannesburg, South Africa

Charlie Menzie, SETAC, USA

Myriam Merad, French National Centre for Scientific Research, France

Jose Palma Oliveira, University of Lisbon, Portugal

Christopher Palm, Institute of Risk Management, South Africa

Joost Santos, George Washington University, USA

Jo Anne Shatkin, Vireo Advisors, LLC, USA

Kanshukan Rajaratnam, University of Cape Town, South Africa

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Tshifhiwa Nevuwari, Eskom

Vusi Skosana, Technology Innovation Agency

Nhlanhla Ngidi, SALGA – South African Local Government Association

Dalila Antunes, Factor Social

General Information

Registration Hours

Southern Sun Cullinan Hotel

Sunday, May 5 5:30 PM – 7:00 PM

Ballroom Gallery

Monday, May 6 7:00 AM – 5:30 PM

Tuesday, May 7 7:30 AM – 5:00 PM

Wednesday, May 8 7:30 AM – 4:00 PM

Oral Presenter Reminder

Presenters can drop off their presentations at the registration desk (Ballroom Gallery) during registration hours at least 1/2 day before their presentation.

WiFi is free for everyone at the Centre. No login needed.

SRA Worldwide Headquarters

950 Herndon Parkway, Suite 450
Herndon, Virginia 20170 USA
+1.703.790.1745; FAX +1.703.790.2672
www.sra.org, sra@burkinc.com

SETAC North America

229 S. Baylen Street, 2nd Floor
Pensacola, FL 32502 USA
+1.850.469.1500; FAX +1.888.296.4136
www.setac.org, setac@setac.org

Social Events

Sunday, 5 May

6:00 PM – 7:30 PM

Opening Reception

Southern Sun Cullinan Hotel

1 Cullinan St, Cape Town City Centre, Cape Town, 8001

www.tsogosun.com/the-cullinan

Join fellow attendees by the hotel pool for a time to socialize and renew old acquaintances. Light hors d'oeuvres and a cash bar will be available.

Monday, 6 May

6:30 PM – 7:30 PM

Reception for SRA Africa Regional Organization

Room: Ballroom Foyer

By Invitation Only

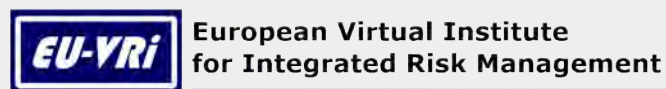
Tuesday, 7 May

5:30 PM – 6:30 PM

SETAC Student Event

Meeting Room 2.61-2.63

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- Join and/or host webinars and receive access to our library of past webinars
- Access the membership directory to connect and network with other risk analysts
- Attend SRA meetings at reduced rates
- Opportunities to receive awards and recognition from peers

Visit www.sra.org to sign up!



Workshops

Sunday, May 5
8:00 AM—6:00 PM

An Introduction to Ecological and Human Health Risk Assessment

Cost: \$25

Meeting Room 2.61-2.63

Back by popular demand, SETAC Africa will be holding a training course on environmental risk assessment at their biennial meeting. This year, we will feature a full-day course on Sunday, 5 May, that will address human health and ecological risk assessment, providing foundational information for attendees who want to learn about basic approaches and information sources consistent with the OneHealth concept. The course is also useful as a refresher for practicing risk assessors. Students, professors, practitioners and policy makers are encouraged to attend.

This joint SETAC and SRA course will feature a lecture series from risk assessors with expertise in human health and ecological risk assessment. We will also offer additional hands-on training over the next few evenings for those that are interested in working through fun case studies.

Six experts in ecological and human health risk assessment will cover the important aspects of how to conceptualize problems involving exposures to people and the environment, how to estimate exposures, how to measure or

predict relationships between exposure and effects, and how to quantify risks. Leading experts include Lorraine Maltby, Gertie Arts, Larry Kapustka, Silke Bollmohr, Patricia Fai and Charlie Menzie from SETAC and Amy Rosenstein from SRA. Other experts will join to share in discussions about risk communication and decision-making. You are requested to bring a flash drive to receive downloads of the most important instructional materials. Certificates of attendance will be provided.

Tuesday, May 7
1:30 PM—5:00 PM

Women Capacity Development for Equitable Societies and Sustainable African Development

Cost: \$25, grants available

Meeting Room 2.61-2.63

Women in Africa face unique challenges, which affect their career development and diversity in science. SETAC is trying to address these challenges by creating an opportunity for exchange in a safe and welcoming environment during SAFWE and by providing grants to women who work as scientists in Africa to attend the joint conference in Cape Town. If you'd like to make a difference, please consider donating to support this event and provide educational opportunities for women. Every little bit helps and can make a difference in someone's life and career.



Mark your calendar!

Dates for upcoming events:

2019 SRA Europe

24-26 June

Potsdam, Germany

2019 SRA-E Iberian Chapter

5-6 September

Coimbra, Portugal

2019 SRA Annual Meeting

8-12 December

Arlington, Virginia USA

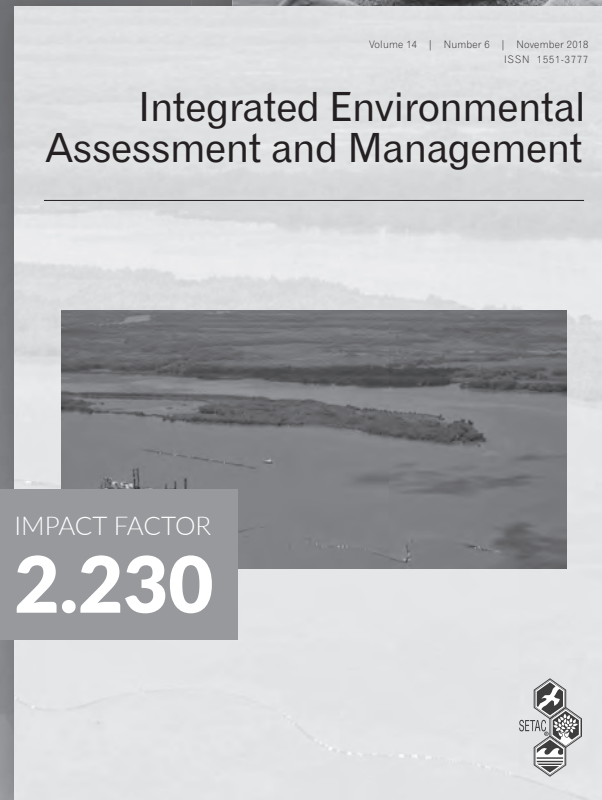
*For additional SRA and SRA-sponsored events
see <https://www.sra.org/events>*



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Plenary Sessions

All plenary sessions are held in Cape Town International Convention Centre, West Ballroom

8:30 AM – 10:00 AM

Monday Plenary International Perspectives on Risk and Resilience

Moderator: Igor Linkov

Speakers:

- Nancy Beck; Principal Deputy Assistant Administrator, Office of Chemical Safety and Pollution Prevention, US EPA
- Lorraine Maltby; Professor, Department of Animal and Plant Sciences, Sheffield University
- Phil Mjwara; Director, International Cooperation and Resources Department of Science and Technology (South Africa)

5:30 PM – 6:30 PM

Monday Plenary SETAC Plenary / Introduction in Auditorium

8:30 AM – 10:00 AM

Tuesday Plenary One Health

Moderator: Charlie Menzie

Speakers:

- Dr Sohel Saikat; Programme Officer, Quality Systems and Resilience Technical Lead: DFID Tackling Deadly Diseases in Africa Programme (TDDAP) and KOICA Quality and Resilience in Ethiopia and Liberia Project UHC and Health Systems Cluster World Health Organization
- Niladri Basu; Associate Professor, Department of Natural Resource Sciences and the School of Human Nutrition, McGill University
- Zingisa Motloba; South African Bureau of Standards

8:30 AM – 10:00 AM

Wednesday Plenary Resilience and Industry

Moderator: Aleksandar Jovanovic

Speakers:

- Titus Mathe; Eskom
- Katherine McComas; Cornell University
- Myriam Merad; French National Centre for Scientific Research, France

10:30 AM – 3:00 PM

Wednesday Plenary

SETAC Session: Risk-Based Weight-of-Evidence Approach for Chemical Management

Chairs:

- Charles Menzie, SETAC
- Victor Wepener, North-West University

Topics:

- Weight-of-Evidence and Risk Management for Chemicals Outside of Africa
- Risk Policy and Science Considerations for Management of Chemicals within Africa
- Panel Discussion for Africa Experience
- Workgroup Discussion of Scientists and Policy Makers From Within Africa and From Other Global Regions

Speakers:

- Lovelace Sarpong; Chemicals Control and Management Center of the Environmental Protection Agency of Ghana
- Gerhard Cilliers; Directorate Resource Quality Information Services, Department Water and Sanitation, South Africa

- Sebastian Jooste; Directorate Resource Quality Information Services, Department Water and Sanitation, South Africa
- Melissa Lintnaar-Strauss; Department of Water Affairs, South Africa
- Ikechukwu Onwurah; University of Nigeria, Nigeria
- Olawale Otitoju; Federal University Wukari, Nigeria
- Gertie Arts; Wageningen University and Research Center, The Netherlands
- Igor Linkov; U.S. Army Engineer Research and Development Center, United States
- Ross Smith; Hydrobiology, Australia
- Abdel Kadry; U.S. EPA, United States
- Bryan Brooks; Baylor University, United States

3:30 PM – 4:30 PM

Wednesday Closing Session / SETAC Africa Assembly

Risk Analysis

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Risk Analysis is ranked among the top 10 journals in the ISI Journal Citation Reports under the social sciences, mathematical methods category, and provides a focal point for new developments in the field of risk analysis.



WILEY

Exhibition – East Ballroom

Monday, 6 May 9:00 AM - 4:00 PM

Tuesday, 7 May 9:00 AM - 4:00 PM

Wednesday, 8 May . . . 9:00 AM - 12:00 PM

North-West University (NWU)

Private Bag X1290
Potchefstroom, North-West 2520 South Africa
018 299 4900
www.nwu.ac.za

The NWU's Unit for Environmental Sciences and Management is one of the largest collaborative research entities in SA. We focus on developing practical ways to implement research in order to safeguard nature while promoting the social and economic development of South African people and the rest of the world.

SETAC

229 South Baylen Street, 2nd Floor
Pensacola, FL 32502 USA
850-469-1500
www.setac.org

The Society of Environmental Toxicology and Chemistry is a not-for-profit, global professional organization comprised of some 6,000 members and institutions dedicated to the study, analysis and solution of environmental problems, the management and regulation of natural resources, research and development, and environmental education. Since 1979, the society has provided a forum where scientists, managers and other professionals exchange information and ideas.

Exhibitors

Steinbeis Advanced Risk Technologies GmbH

Fangelsbachstr. 14
Stuttgart, 70178 Germany
+49 711 1839-5
ww.steinbeis.de

Steinbeis provides a unique platform for company startups, projects, people and organizations, for leveraging the know-how derived from research, development, consulting, and training projects and transferring this knowledge into application – with a clear focus on entrepreneurial practice. Over 2,000 business enterprises have already been founded on the back of the Steinbeis platform. A network spanning of more than 6,000 experts in approximately 1,100 business enterprises work on projects with more than 10,000 clients/year. Steinbeis offers technology and management competence across a large spectrum of fields and areas: IT, management, new technologies.... The topics related to risk and resilience concern virtually all the areas, most of these tackled within the Steinbeis Advanced Risk Technologies (R-Tech Group) and EU-VRi (The European Virtual Institute for integrated Risk Management).

University of Virginia

PO Box 400736
Charlottesville, VA 22904 USA

The University of Virginia (UVA) is a public research university in Charlottesville, Virginia, USA. It was founded in 1819 by US Declaration of Independence author and former US President Thomas Jefferson. UVA is a global comprehensive research university, the flagship university of the Commonwealth of Virginia, the leading public university in the USA, and a UNESCO World Heritage Site. UVA offers 121 majors across its eight undergraduate and three professional schools.

Breaks

Monday – Wednesday

10:00 AM – 10:30 AM; 3:00 PM – 3:30 PM

Featuring morning and afternoon refreshments.
Be sure to stop by and visit with the exhibitors while enjoying your refreshments.

VK Innovations

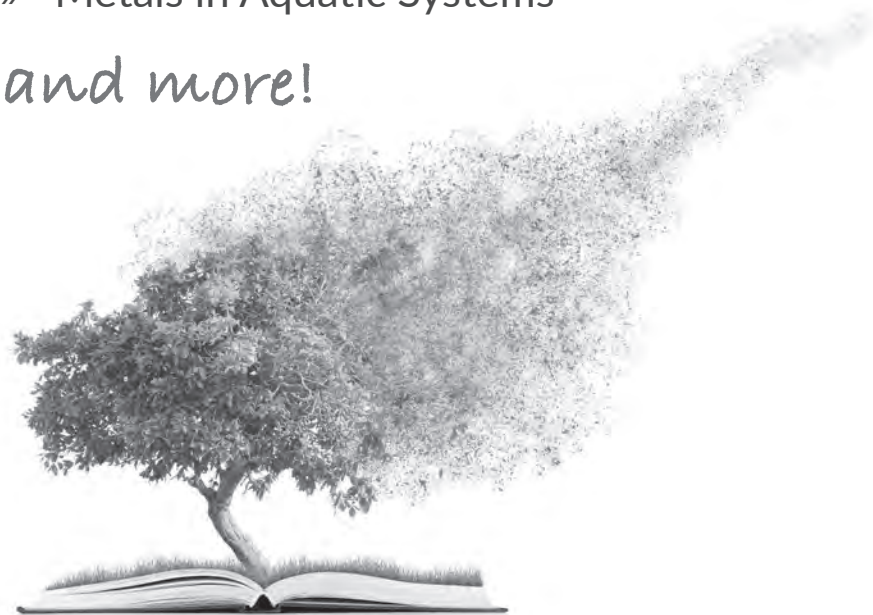
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We work with more than 70 woman and children from the townships of Cape Town, Gauteng and Durban. Our organization provides training skills to do beaded work, crafts and sewing. The kids get trained to do cultural singing and dancing performances for conferences to help them earn money to buy stationery and sanitary wear for the young girls. The program also helps these kids academically by not only teaching them how to dance or sing but also educate and guide them to focus on obtaining good grades at school and good behavior. Today, we have 5 co-ops in Cape Town, 1 in Durban and 1 in Gauteng– each with 5 members working in a professional and safe environment, close to their families, saving on the time and money they would usually spend commuting. Our organization has managed to raise more than R1m for these women and kids since it started and managed to help out more than 70 families through medication, school fees, and basic necessity needs.

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- » Environmental Risk Assessment of Chemicals
- » Plastics Pollution: A Breakdown
- » Weight of Evidence in Environmental Risk Assessment of Chemicals

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Poster Viewing

Monday and Tuesday, 9:00 AM – 4:00 PM · Wednesday, 9:00 AM – 12:00 PM · East Ballroom

Presenter's name is asterisked (*) if other than first author.

P.1 Smoking Status and Health-Related Quality of Life in Adults – Evidence from South India

Katpattl S
Kerala State Health University

P.2 Domestic Cooking Fuel as a Risk Factor for Lung Cancer in Women – A Case Control Study

Valiyagath AS
Rajiv Gandhi State Health University

P.3 Hepatitis B and C Viral Co-infections Among HIV-1 Infected Individuals in South Kerala, India

Siddiqe S
Fatima University

P.4 Microbial Air Quality and Surface Contamination in Hospital Ambulance Services – An Exploration

Siddiqe S
Fatima Hospital

P.5 A Prospective Study on Quality of Life Among Persons with Lung Cancer, Before and After the Chemotherapy Treatment – Evidence from South India

Loolu KP
Kerala State University

P.6 Knowledge and Awareness of Lung Cancer Risk Factors, Signs, Symptoms and Safe Practices Among Nursing Staff in a Medical Hospital

Aslin A
Eids, Kerala

P.7 Saving Lives by Reducing Patient Risk: New Approach for Medical Competence Development

Gertner M
USP - Universidade de São Paulo - FSP - Faculdade de Saúde Pública

P.10 Risk Assessment of Cadmium in Salmon Among Adolescents Using Taiwan Food Consumption Database and Taiwan Traditional Snacks Consumption Database

Ho WC, Chiu SY, Chu YR, Chang PH, Huang HY
China Medical University

P.11 Health-Related Quality of Life Questionnaires in Lung Cancer Patients Attending a Tertiary Care Hospital

Narayanan A
Saveetha University

P.14 Which is the First? Comparison of Evaluation Functions for Setting Risk Management

Maeda Y
Shizuoka University

P.16 Optimization of Testing Intervals Considering Human Errors

Alzbutas R
Lithuanian Energy Institute

P.17 Role of Safeguard in International Development: Asian Case

Murayama TM
Tokyo Institute of Technology

P.24 Probabilistic Analysis of Deflection of Bridges using Newmark Method and Traditional Method

Putcha CP, Gunneswara Rao TDG
California State University, Fullerton

P.25 Livestock Farming in the Era of Climate Change: Farmers' Perception and Adaption Strategies to Mitigate the Drought in the Region of Southern Angola

Vinevala JC
Glasgow Caledonian University

P.26 The Notion Need to Consider for Consensus Building in National Environmental Policy

Yoshida E
The University of Tokyo

P.31 Chemical Risks in the Workplace: A Survey Study on Risk Information and Safety Behaviour

Schenk L, Wester M
Karolinska Institutet, Lund University

P.36 Generational Metamorphosis? Competing Risk Perceptions of Child Sexual Exploitation

Weston SK, Mythen GG
Keele University

P.39 Household Evacuation Model for Floods: The Case of Northern Chile

Cisternas PC, Huerta DA, Bronfman A, Bronfman NC, Repetto PB
Pontifical Catholic University of Chile and CIGIDEN

P.40 Minimizing Risk by Improving Response to Technological Disasters: The case of Oiled Fauna in the South of Brazil

Stringari D, Koproski L, Pinheiro EG, Mangini PR, Grando ES, Duda LJ
Disaster Research Center of the Paraná State

P.41 Knowledge of Scientific Production on Risks and Disasters Between the Institutions of Redesastre (PR, Brazil)

Cova G, Noli M, Schimure N, Pinheiro E, Fernandes CA, Stringari D
University Center for Studies and Research on Disasters (CEPED/PR)

P.42 Behaviour of Silver Nanoparticles in Laboratory-Derived Wastewater Treatment Plant: A Microcosm Based on OECD 303-A Principals

Walters CR
Council for Scientific and Industrial Research (CSIR)

P.43 Scorecard Brazil: The Search for the Resilience of Campo Largo, Paraná

Pinheiro EG, Ferentz LMS, Stringari D*
University Center for Studies and Research on Disasters

P.46 Ecotoxicological Effects of Treated and Untreated Wastewater on the Lifecycle of Helix pomatia

Semas MP, Ogbeide O, Otomo PV
University of the Free State

P.47 Non-military Intelligence Gathering in Managing Social Unrest and Related Disaster Risk: An African Perspective

Tandlich R, Singh K, Srinivas S*
Rhodes University

P.48 Aspects of Biology and Sex Distribution of Liza Falcipinnis in Ogun lagoon

Olufolajimi EF
University of Nigeria and Ivy Tech Community College

P.49 Benthic Macroinvertebrate Community Distribution and Water Quality Analysis of Benthic Communities in Oyo, Nigeria
Otufolajimi AF
University of Nigeria Ivy Tech Community College

P.52 An Assessment of Effects of Pollutants From Coal Mining Activities on Freshwater Bodies: A Case Study of a Coal Mining Region in Matabeleland North, Zimbabwe
Change JB, Siwela AH, Basopo N
National University of Science and Technology

P.53 Determining the Effects of Biochar Amendment on the Toxicity of Sewage Sludge on the earthworm *Eisenia fetida* (Oligochaeta)
Dlamini NP, Otomo PV
University of the Free State

P.54 Ecotoxicological Effects of OECD Soil Spiked with Treated and Untreated Wastewater on the Life-Cycle of *Helix pomatia* (Gastropoda)
Semase MP, Ogbeide O, Otomo PV
University of the Free State

P.55 Risk Mapping to Floods: A Methodological Proposal for Curitiba (PR)
Acordes FA, Fonseca MN, De Lima RE, Miguez LAL, Stringari D*
University Centre for Studies and Research on Disaster

P.56 The Municipal Directors Plans as a Result of the Intersection Between a Brazilian Urban Policy and a National Policy of Civil Defense and Protection
Pinheiro EG, Simiano LF, Ferentz LMS, Fonseca MN, Stringari D*
University Centre for Studies and Research on Disaster

P.58 In Ovum Exposure to Atrazine Causes Thyroid Disruption in Juvenile South American Crocodilian, *Caiman latirostris*
Galoppo GH, Tavalieri YE, Truter JC, Luque EH, Van Wyk JH, Muñoz-de-Toro MM
Laboratorio de Ecofisiopatología. Instituto de Salud y Ambiente del Litoral (ISAL). Facultad de Bioquímica y Ciencias Biológicas, Universidad Nacional del Litoral. Department of Genetics, Stellenbosch University. Department of Botany and Zoology, Stellenbosch University

P.59 Adsorption of Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS) from Water Using Leaf Biomass (*Vitis vinifera*) in a Fixed-Bed Column Study
Fagbayigbo BO, Opeolu BO, Fatoki OS
Cape Peninsula University of Technology, South Africa

P.60 Effects of Mining Activities in Matabeleland South Region in Zimbabwe on Aquatic Life
*Kutywayo N, Mnkandla S, Basopo N**
National University of Science and Technology

P.61 Biomarker Responses in Transplanted Freshwater Clams as Indicators of Metal Exposure in a Platinum Mining Region
Labuschagne M, Zimmermann S, Sures B, Smit NJ, Wepener V
North-West University and University of Duisburg-Essen

P.62 Evaluation of Biomass Burning Contribution to Mercury Emissions at Cape Point, South Africa
Somerset VS, Martin L, Walters CR
Cape Peninsula University of Technology

P.63 Advanced Oxidation Treatment and Characterisation of Nevirapine in Effluent from a Wastewater Treatment Plant
Olabode GS, Somerset VS
Cape Peninsula University of Technology

P.64 Optimisation of Solid Phase Extraction Parameters for the Isolation and Characterisation of Benzodiazepines in Wastewater Samples
Nzube SS, Somerset VS
Cape Peninsula University of Technology

P.65 Improved Liquid Extraction and Determination of Selected Organophosphorous Pesticides in Freshwater and Sediment Samples
Luzi-Thafeni L, Somerset VS
Cape Peninsula University of Technology

P.67 Validation of the Application of a Polar Organic Chemical Integrative Sampler (POCIS) in Unsteady State Conditions
Kazushi N, Yoshinori Y, Arisa B, Satoshi N
Research Institute of Environment, Agriculture and Fisheries, Osaka Prefecture

P.69 Assessment of Water Hyacinth Superoxide Dismutase & Glutathione S-transferase Enzyme Activity, as Indicators of Ibuprofen Uptake from Water
Mnkandla SM, Kanjanga A, Basopo N
National University of Science and Technology

P.71 Corticosterone Responses to Night Light Spectra Exposure as Stress Indicator in Male Wistar Rats, *Rattus norvegicus*
Dedeke GA, Kehinde FO, Olude MO, Aladesida AA, Oloyade FA
Federal University of Agriculture Abeokuta

P.72 Determining the Acute Toxicity and Sub Lethal Effects of Different Shaped Gold Nanomaterials on *Daphnia magna*
Mbangatha A, Botha TL, Wepener V
North-West University

P.73 Aquatic Toxicity Assessment of Lead Iodide for Estimating Perovskite Solar Cell Toxicity
*Kwak Ji, Cui R, Kim SW, Nam SH, Lee J, Kim L, Bajagain R, Jeong SW, An YJ**
Konkuk University, Kunsan National University

P.74 Ecotoxicological Effect of Aflatoxin in the Soil Ecosystem Under Different Temperature and Moisture Conditions
Fouche TC, Maboeta MS, Claassens S
University of South Africa and North-West University

P.75 Status, Source Identification and Human Health Risk Assessment of Heavy Metals in Water Sources around Bitumen Field in Ondo State, Nigeria
*Adesanya OO, Ogunlaja OO**
Redeemer's University, Lead City University

P.77 Metabolic Responses of *Caenorhabditis Elegans* Following Exposure to Nanogold
Bosch S, Botha TL, Wepener V
North-West University

P.78 Laboratory-based Pt Exposure Affects Swimming Behaviour and Performance in *Oreochromis mossambicus*
Brand S, Botha TL, Jiri Z, Wepener V
Water Research Group, Unit for Environmental Sciences and Management, North-West University

P.80 Preliminary Results of Liver Histology of the Red-strain *Oreochromis mossambicus* as a Biomarker of Exposure after a Chronic Exposure to Antiretroviral Drug, Efavirenz
Pitso K, Barnhoorn IEJ, Wagenaar GM
University of Johannesburg and University of Venda

P.81 Therapeutic Role of Leaf Pulp of *Carpobrotus Edulis* on Chromium VI Induced Toxicity in Wistar Rats
Kayode AAA, Kayode OT, Obaseki IA, Hlangothi B
University of Ibadan

P.82 Hazard Identification, Exposure Assessment and Risk Characterisation of Dust Emissions from South African Gold Mine Tailings Sites
Andraos C, Gulumian M
University of the Witwatersrand and National Institute for Occupational Health

P.83 Presence of Heavy Metals in Edible Clay Sold in Owerri South Eastern Nigeria

Ezeji CC, Ezeji EU

Federal University of Technology Owerri

P.84 Method Development for the Determination of Veterinary Pharmaceuticals in Solid Matrices

Obimakinde SO, Fatoki OS, Opeolu BO

Cape Peninsula University of Technology

P.85 Molecular and Microbial Responses in the Zebrafish Gastrointestinal System Following Exposure to the Suspected Obesogen Diethylhexyl Phthalate

Buerger AB, Dillon DT, Martyniuk CJ, Bisesi Jr JH

University of Florida and Center for Environmental and Human Toxicology

P.88 Application of Predictive Toxicology in Modelling the Impact of Consuming Lead-contaminated Vegetables and Water on Cognitive Function of School Children

*Onwurah CN, Dike IC, Uzodinma U, Onwurah IN**

University of Nigeria, Nsukka

P.89 From Waste to Resource: Remediation of Polluted Freshwater Ecosystem with Landfill Effluent Using Amorphous Silicon Dioxide

Tsubane K, Sturve J, Persson M

University of Gothenburg

P.91 Bioaccumulation and Chlorophyll Content of Al, Cu and Zn in *Ceratophyllum demersum* L. after Experimental Exposure to a Metal Cocktail "Pollution Event"

Arnolds JL, Snyman RG, Odendaal JP

Cape Peninsula University of Technology

P.92 Heavy Metal Accumulation in the Tissue of Doves and Cattle Egrets from Three Locations in Lagos State

Omojayowo IA

University of Lagos

P.94 Copper and Zinc in Water, Sediment and Gastropods in the Harbours of the City of Cape Town, South Africa

Fru W, Odendaal JP, Snyman RG

Cape Peninsula University of Technology

P.95 Metallic Elements and Some Selected Physiochemical Parameters in Sediments in Five Different Rivers in the South-South Ondo State, Nigeria

Ediagbonya TF, Balogun OT

Ondo State University of Science and Technology

P.96 Effect of Highway Particulate Matter on Selected Grass Species Around Omotosho Forest Reserve, Ondo State, Nigeria

Ediagbonya TF, Ogunjobi AJ, Osomo TS

Ondo State University of Science and Technology

P.97 Concentrations and Relative Compositions of Metallic Elements Differ Between Predatory Squid and Filter-Feeding Sardine from the Indian and South Atlantic oceans

Uren RC, van der Lingen CD, Kylin H, Bouwman H

North-West University

P.98 Initial Assessment of Metallic Elements in Zooplankton from the Mozambique Channel

van Aswegen JD, Kylin H, Mwevura H, Mohamed-Tohir I, Ada A, Bouwman H

Linköping University, State University of Zanzibar, National Fisheries Department Comoros, Eduardo Mondlane University

P.99 Geospatial and Historical Water Quality Data Can Be Used To Prioritize Impacts of land Users

Potgieter HJ, Bezuidenhout CC, Bezuidenhout JJ

Unit for Environmental Sciences and Management

P.102 Heavy Metal Concentration and Availability in Soil at the Vicinity of Abandoned Gold Mine, Francistown, Botswana

Opaletswe KA, Hengari M, Manyiwa T, Ultra V

Botswana International University of Science and Technology

P.104 Investigating the Toxicity of Insecticide Treated Mosquito Nets to Early Life Stages of Fathead Minnows (*Pimephales promelas*)

Bisesi JH, Welsh R, Larsen DA

University of Florida

P.107 Investigating Secondary Effects of Antiretrovirals on Microbial Ecosystems in Aquatic Environments

Bothma L, Bezuidenhout CC, Adeleke R

Unit for Environmental Science and Management, North-West University

P.108 The Effects of Land-use on Raw Downstream Water Used for Drinking Water Production

Osman-Latib A, Bezuidenhout CC

North-West University, National Research Foundation

P.109 Plastics in Birds Nests and on Beaches of Coral Reef Islands in the Western Indian Ocean

Dalcos D, Verster C, Choong Kwet Yive NS,*

Minnaar K, Bouwman H

North-West University, Potchefstroom

P.110 Antioxidant Enzymes and Lipid Peroxidation as Biomarkers of Hydrocarbon-Induced Stress in Earthworms

Osuji CA, Ubani CS, Anosike CA, Onwurah INE

University of Nigeria, Nsukka

P.111 Genotoxicity Assessment of Imidacloprid on Root Meristem of *Allium Cepa*

Waleola TO

University of Lagos, Akoka

P.112 Application of Green Synthesized Copper Nanoparticles as Potentially More Efficient Antifungal Agents

*Owusu R, Wiafe-Kwagyan M, Dankyi E**

University of Ghana

P.114 Benzo[a]pyrene Effects on Expression Pattern of CYP1 Family Genes in Mudskipper (*Periophthalmus waltoni*)

*Ghasemi A, Asadi N**

Khorramshahr University of Marine Science and Technology

P.115 Integrated Risk and Impact Assessment of Backwater Tourism in India Towards Sustainable Development

Afsal A, Shaji James P

Kerala Agricultural University

P.116 Redesastre: A Contribution of Paran in Management and Disaster Risk Reduction in Brazil

Stringari D, Pinheiro EG, Simiano LF, Cova G,

Fonseca MN

Disaster Research Center of the Paran State

P.117 The Adoption of the Building Resilient Cities Campaign in the State of Paran, Brazil

Ferentz LMS, Pinheiro EG, Stringari D

University Center for Studies and Research on Disasters

P.119 A Decision-support Tool to Increase Urban Resilience to Flood Risk: From a Theoretical Concept to Operational Urban Managers Re-Appropriation a France-Quebec Comparative Approach

Heinzlef C, Hmond Y, Benot R, Serre S

University of Avignon

P.120 From Waste to Resource: Silver Nanoparticles as Emerging Contaminants in Urban Wastewaters

Walters C

Council for Scientific and Industrial Research (CSIR)

P.121 SHIVA: An Electronic Risk Management System

Melo VAZC

University of So Paulo

Technical Program

Presenter's name is asterisked (*) if other than first author.

10:30 AM – 12:10 PM

M2-A

Cybersecurity Risk Analysis

Meeting Room 1.41

Chair: Thierry Wandji

10:30 AM

M2-A.1

The Science of Cyber Resilience: Characteristics and Initial System Taxonomy

Henshel DS, Levitt K, Templeton S, Cains MG, Alexeev A, Blakely B, McDaniel P, Wehner G, Rowell J, Weismen M
Indiana University

10:50 AM

M2-A.4

Resiliency of Smart Infrastructure Under Cyberattack in Internet of Things

Ghorbani R, Branigan J
University of Hawaii at Manoa

11:10 AM

M2-A.5

Integrating Stakeholder Mapping and Risk Scenarios to Improve Resilience of Cyber-Physical-Social Networks

Almutairi A, Lambert JH
University of Virginia

11:30 AM

M2-A.6

A Strategy for Managing Apathetic Users During Requirements Definition

Aziken GO, Egbokhare FA, Ariavie GO
Federal University

11:50 AM

M2-A.7

Robust and Resilient Software Security Certification and Accreditation

Wandji T
Navair Air Systems Command

10:30 AM – 11:50 AM

M2-B

Energy

Meeting Room 1.42

Chair: Margaret MacDonell

10:30 AM

M2-B.1

Assessing Resilience in the Energy Supply Sector

Auerkari P, Jovanovic A, Pohja R, Tuurna S, Molarius R, Koivisto R, Hapuli H*
VTT Technical Research Centre of Finland

10:50 AM

M2-B.2

Investment Risk Mitigation and Resilience in Energy Systems Infrastructure

Shittu E, DeLuque I
George Washington University

11:10 AM

M2-B.3

A Network-based Organizational Model for Improving California's Transportation Fuel Sector Resilience to Sea Level Rise and Coastal Flooding

Lindbergh S, Radke J, Roberts K
University of California at Berkeley

11:30 AM

M2-B.8

Design and Testing of Cloud-based Distributed Automated Fraud Detection for Gasoline Resellers

Beteto AL, Melo V, Lin J, Polmateer TL, Dias EM, Lambert JH*
University of São Paulo, University of Virginia

10:30 AM – 12:10 PM

M2-C

Risk Communication

Meeting Room 1.43

Chair: Christopher Cummings

10:30 AM

M2-C.2

Risk Communication of Climate Change in Portugal

Rocha CL, Santos IA, Vasconcelos LT, Cruces AC, Fernandes PC, Charmier MA
Universidade Lusófona de Humanidades e Tecnologias

10:50 AM

M2-C.3

Science Communication: Thinking Globally and Acting Locally

Paulik LB
Maul Foster & Alongi, Inc.

11:10 AM

M2-C.4

Frontiers of Risk Communication: Grand Challenges for Communication of Emerging Bioscience Issues

Cummings CL
Nanyang Technological University

11:30 AM

M2-C.5

Change the Game for Environmental Research – Activities to Support Science and Risk Communication

Seiler TB
RWTH Aachen University, Institute for Environmental Research, Ecosystem Analysis unit

11:50 AM

M2-C.6

Emerging Contaminants and Related Risk Communication Aspects

Leopold A
Calidris Environment BV

Technical Program

Presenter's name is asterisked (*) if other than first author.

10:30 AM – 11:30 AM

M2-D

Governance and Decision Making

Meeting Room 1.44

Chair: Dalila Antunes

10:30 AM

Science-Informed Decision Making: Holistic Frameworks to Support Societal Values

Apitz SE

SEA Environmental Decisions Ltd

M2-D.3

10:50 AM

When Climate Change is not Psychologically Distant – factors Influencing the Acceptance of Sustainable Farming Practices in Vietnam

Connor M, de Guia AH, van Nguyen H, Sander BO, Gummert M
International Rice Research Institute

M2-D.5

11:10 AM

Assessment of Chemical Risk to Ecosystem Services: A Proof of Concept Study

Maltby L, van den Brink P, Faber J
The University of Sheffield

M2-D.6

10:30 AM – 11:50 AM

M2-E

Pollution and Environmental Health

Meeting Room 1.61

Chair: Clark Ehlers

10:30 AM

Application of Formal Causal Analysis to Diagnosing Environmental and Health Conditions

Menzie CA

SETAC - Exponent

M2-E.1

10:50 AM

Risk Assessment Former Outdoor Firing Range Decommissioning: A Comparison Between Switzerland, United States of America and French Technical and Legal Regulation

David JF

Compagnie Nationale des Experts de Justice en Environnement

M2-E.2

11:10 AM

The New Zealand System to Assessing the Benefits and Risks of Releasing Exotic Organisms to Manage Invasive Species

Ehlers C

Environmental Protection Authority

M2-E.3

11:30 AM

Contaminated Sites, Ecosystem Services and Citizen Science Opportunities

MacDonell MM, Mishra SK, Zvolanek E, Hildebrand RD

Argonne National Laboratory

M2-E.4

10:30 AM – 11:50 PM

M2-F

Chemicals

Meeting Room 1.62

Chair: Kan Shao

10:30 AM

Fluoride a Double Edged Sword - Fluoride Exposure and its Effect on the Intelligence of School Children in Tamil Nadu, India

Francis DL

Dr MGR Medical University, Chennai, Tamil Nadu, India

M2-F.3

10:50 AM

Estimating Inorganic Arsenic Exposure from Rice Consumption in Chinese Populations

Shao K, Xu J, Li H, Zhou Z

Indiana University Bloomington

M2-F.4

11:10 AM

Heavy Metal Accumulation of Plants from the Vicinity of Copper - Nickel Mines in Selebi-Phikwe, Botswana

Manyiwa T, Gabankitse G, Rantong G, Ultra VU

Botswana International University of Science & Tec

M2-F.5

11:30 AM

Bisphenol-A Levels and its Association with Reproductive Hormones and Oxidative Stress Biomarkers in Men

Ugwu PI, Charles-Davies MA, Ugochi O, Okoli SU

University of Ibadan

M2-F.6

Monday

10:30 AM – 11:50 AM

M2-G

Fate, Effects, and Risks of Agrochemicals I

Meeting Room 1.63

Chair: Afolarin Ogungbemi

10:30 AM **M2-G.1**

Evidence of Impacts from DDT on Large Aquatic Bird Eggs from KwaZulu-Natal, South Africa

Bouwman H, Yohannes YB, Nakayama SMM, Motohira M, Ishizuka M, Humphries MS, van der Schyff V, du Preez M, Dinkelman A, Ikenaka Y
North-West University, Potchefstroom*

10:50 AM **M2-G.2**

[Anti-]androgenic Activity of Water Containing Agricultural Chemicals: Glyphosate, 2,4-D, and Cry Proteins

*Horn S, Pieters R, Bohn T
North-West University*

11:10 AM **M2-G.3**

Effects of Pyrethroid Insecticide Exposure on Male Reproductive Hormones, Histology and Sperm quality in Adult Rats

*Nwadike CN, Okereke S, Ikaraoha IC, Nwanjo HU, Okoroiwu LI
Imo State University Owerri, Abia State University Ururu*

11:30 AM **M2-G.4**

The Use of Behavioural Screening in Pollution Control: Locomotion Response as a Sensitive Endpoint in Fish and Invertebrates

*Ogungbemi AO, Leuthold D, Teixido E, Van Gestel CA, Scholz S, Küster E
Uni-Landau, UFZ Leipzig*

1:30 PM – 2:50 PM

M3-A

Infrastructure Resilience Design

Meeting Room 1.41

Chair: Bödvar Tomasson

1:30 PM

Holistic Security Design Using Risk Analysis Methods

*Tómasson B
University of Iceland*

1:50 PM

Risk-Based Design and Office Chairs for Lecturers at the University of Benin

*Idada RO, Ariavie GO, Adams V
Federal University*

2:10 PM

A Sociotechnical Perspective on Safety Incidents in High-risk Industries

*Goede JF, Hofstede GJ
North-West University, Wageningen University and Research*

2:30 PM

Guideline for Resilience Assessment of Smart Critical Infrastructures

*Øien K, Bodsberg L, Jovanovic A
SINTEF*

M3-A.3

M3-A.5

M3-A.6

M3-A.7

1:30 PM – 2:10 PM

M3-B

Nanomaterial Safety

Meeting Room 1.42

Chair: Emma Anyika

1:30 PM

Nanomedicine and Nanotoxicology: Convergence of the Mechanisms Involved

*Gulumian M, Andraos C
National Institute for Occupational Health*

1:50 PM

Risk Governance for Emerging Technologies

*Trump B, Linkov I
US Army Corps of Engineers*

M3-B.4

M3-B.5

Monday

1:30 PM – 3:10 PM

M3-C

Public Health - Water Infrastructure

Meeting Room 1.43

Chair: Kerry Hamilton

1:30 PM

Probabilistic Study of Chemical Contaminant in Pipe Network System

*Mishra PK, Putcha CS**

California State University, Fullerton

M3-C.1

1:50 PM

Risks Associated with Sewage Sludge Disposal: Case Study from Kerala, India

*Reghu I, Varghese GK**

National Institute of Technology Calicut

M3-C.2

2:10 PM

Water Infrastructure, Childhood Blood Lead Levels, and Delinquency Risk: Characterizing the Effects of Exclusion from Municipal Water Services in Wake County (North Carolina, USA)

Clonch A, Fisher M, MacDonald-Gibson J, Macdonald J, Cooke P

UNC Chapel Hill Gillings School of Global Public Health

M3-C.3

2:30 PM

Microbiological Quality of Green Stormwater Infrastructure and Potential Risks

Hamilton KA, Ahmed W, Ishii S, Haas CN

Arizona State University

M3-C.4

2:50 PM

Assessing Community Health and Resilience in Extreme Events

Reible DD, MacDonell M, Rifai H, Rodriguez L

Texas Tech University

M3-C.6

1:30 PM – 2:50 PM

M3-D

Social Risk Communication

Meeting Room 1.44

Chair: Kevin Quigley

1:30 PM

Forum Theatre as a Novel Form of Risk Communication for Indigenous Youth Suicide Prevention

Jardine CG, Friedel T, Crowshoe L, Henderson R

University of the Fraser Valley, Mount Royal University, University of Calgary

M3-D.2

1:50 PM

Environmental Risk Narratives in Historical Perspective: From Early Warnings to 'Risk Society' Blame

Burgess A

University of Kent

M3-D.3

2:10 PM

Risk Communication and Knowledge Fragmentation in Disaster Arenas

Santos IA, Vasconcelos LT, Rocha CP

MARE.NOVA-Universidade Nova de Lisboa

M3-D.4

2:30 PM

National Media Coverage of three Mass Evacuations in Canada: Amplifying or Attenuating Feelings of Trustworthiness

Quigley KF, Millot M, Burns C

MacEachen Institute for Public Policy and Governance, Dalhousie University

M3-D.6

1:30 PM – 2:30 PM

M3-E

Organizational Risk Reduction

Meeting Room 1.61

Chair: Myriam Merad

1:30 PM

Novel Risks: Organizational Resilience through Resistance

Maguire S, Hardy C

McGill University

M3-E.3

1:50 PM

Preventing Major Accidents and Disasters: How to Get Out of Organizational Dualism "Culture-Structure"

Merad M

Centre National de la Recherche Scientifique (CNRS)

M3-E.4

2:10 PM

Senior Management Accountability for Risk Events: Risk Culture Lessons from South African 'State Capture' Scandals

Zaaiman H, Goede JF

North-West University

M3-E.5

1:30 PM – 3:10 PM

M3-F

Transportation

Meeting Room 1.62

Chair: Darren Shannon

1:30 PM

Quantifying Resilience of R&D Plans for Electric Vehicles in Energy Microgrids

*Alsultan M, Lambert JH**

University of Virginia

1:50 PM

Maximizing the safety Benefits of Autonomous Vehicle Technologies

Good DH, Miao Y, Krutilla K

Indiana University

2:10 PM

The Influence of Crash Velocity on the Severity of Road Traffic Accidents – A Multivariate Mediation Analysis

Shannon D

University of Limerick

2:30 PM

Anticipating Transitions in Personal and Societal Transportation Systems

Wells EM

Carnegie Mellon University

2:50 PM

Intelligent Transportation Systems (ITS) and the Need for Resilience

Ganin AA, Mersky AC, Kitsak M, Keisler JM, Linkov I

University of Virginia, U.S. Army Engineer Research and Development Center, Northeastern University, University of Massachusetts Boston

M3-F.2

M3-F.3

M3-F.4

M3-F.5

M3-F.6

1:30 PM – 3:10 PM

M3-G

Fate, Effects, and Risks of Agrochemicals II

Meeting Room 1.63

Chair: Nico Wolmarans

1:30 PM

Acute Effects of Binary Mixtures of Glyphosate, Paraquat and 2, 4 D-Amine on Sorghum saccharatum

Nkwatoh TN, Fai ABP, Tchamba NM

University of Dschang Cameroon

1:50 PM

Organochlorine Pesticides in Blood of Wild and Captive African Leopards, Panthera pardus pardus (Linnaeus, 1758)

van As M, Wolmarans N, Wepener V, Smit NJ

North-West University, University of the Free State

2:10 PM

Combined Effects of Predator Presence and Pesticides on Macro-Invertebrate Communities in a Microcosm Setting

Wolmarans NJ, Kok A, Bervoets L, Meire P, Taylor JC, Smit NJ,

Wepener V

North-West University, University of Antwerp

2:30 PM

Pesticides and Non-target Animals: Farmers' Environmental Risks Perception and Toxicological Evaluations of Paraquat and Glyphosate on Nile Tilapia

Sogbanmu TO, Aribisala OA

University of Lagos

2:50 PM

Assessment of Antioxidant Status and Renal Function Profile of HIV Seropositive Treatment Naïve Patients

Ezekwesiri CO, Nwanjo HU, Nwosu DC

Imo State University, Department of Clinical Chemistry, Federal

Medical Centre (FMC) Owerri, Nigeria

M3-G.1

M3-G.2

M3-G.3

M3-G.4

M3-G.5

3:30 PM – 5:10 PM

M4-A

Risk Management Frameworks: Chemicals

Meeting Room 1.41

Chair: Kennedy Holt

3:30 PM

Adsorption of Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS) from Water Using Leaf Biomass (*Vitis vinifera*) in A Fixed-Bed Column Study

Fagbayigbo BO, Opeolu BO, Fatoki OS

Cape Peninsula University of Technology, South Africa

3:50 PM

Life-of-Mine Environmental Risk Drivers for Minerals Extraction – a Developing Country Perspective

Smith R, Orr M

Hydrobiology

4:10 PM

Risk Assessment and Sustainability Assessment Combined for Mining Activities in the ITERAMS Project

Ciroth A, Burhan S, Di Noi C

GreenDelta

4:30 PM

Private Well Treatment Systems: A Systematic Review of Available Studies to Identify Which Systems and Contaminants are Best Studied, Removal Efficiency, and Current Data Gaps

Holt KM

University of North Carolina at Chapel Hill

4:50 PM

Excess Lifetime Cancer Risk and Radiation Pollution Hazard Indices in Rocks and Soil of Some Selected Mining Sites in Nasarawa State, Nigeria

Aborisade A, Gbadebo A, Adediji O, Okeyode I, Ajayi O

Department of Environmental Management and Toxicology,

Federal University of Agriculture

M4-A.1

M4-A.2

M4-A.4

M4-A.5

M4-A.6

Monday

3:30 PM – 4:50 PM

M4-B

Perspectives of Ecotoxicology

Meeting Room 1.42

Chair: Salah Soliman

3:30 PM

Toxicology Across the Taxonomic Spectrum

Fai PB, Grant A, Reid B, Demefack JM, Yamssi C, Ngameni TN

University of Bamenda

3:50 PM

Environmental Toxicity and Bio-nematicide from Waste of Black Soap Local Processing Industry in South Western Nigeria

Olatunji GA, Fabiyi OA

University of Ilorin

4:10 PM

Plasmid Profile of Bactria Isolated from Painted Concrete Walls From Parts of Imo and Rivers State, Nigeria

Chiegboka NA, Emeka-Nwabunnia IE, Nwaneri CB

Federal University of Technology, Owerri, Imo State

4:30 PM

Disinfection Characteristics of Pathogenic Bacteria on Ozonation Over the Effluent of the Quarantine Station

Kim JH, Kim CG

Incheon, INHA University

3:30 PM – 5:10 PM

M4-C

Risk and Resilience

Meeting Room 1.43

Chair: Hiba Baroud

3:30 PM

The Science and Practice of Resilience

Linkov I

US Army Corps of Engineers

3:50 PM

Stability of a Giant Connected Component in a Complex Network

Kitsak MK, Ganin AG, Eisenberg DE, Krapivsky PK, Krioukov DK,

Alderson DA, Linkov IL

Northeastern University

4:10 PM

Are Developing Countries More or Less Resilient to Disasters?

Baroud H

Vanderbilt University

4:30 PM

Can Resilience Strategies Effectively Mitigate Business Interruption (BI) Losses?

Santos JR

George Washington University

4:50 PM

The New ISO 31050: Emerging Risks & Resilience

Jovanovic AS, O'Brien S

EU-VRI / Steinbeis Advanced Risk Technologies

3:30 PM – 4:50 PM

M4-D

Social Risk Perception and Reduction

Meeting Room 1.44

Chair: Alison Cullen

M4-C.1

3:30 PM

Secondary Risk Theory: Empirical Foundations for a new Theory of Risk Perceptions

Cummings CL, Kong WY, Rosenthal SB

Nanyang Technological University

M4-C.2

3:50 PM

Variability in Cross Domain Risk Perception among Smallholder Farmers in Mali by Gender and other Demographic and Attitudinal Characteristics

Cullen AC, Anderson CL, Biscaye P, Reynolds TW

University of Washington

M4-C.4

4:10 PM

Do Ambiguity Attitudes Vary with the Lottery Type and Outcome Domain?

Riddell MC

University of Nevada, Las Vegas

M4-C.5

4:30 PM

Psychosocial Risk Reduction by Engineers and Technicians in a Manufacturing Company

Berglund R, Backström T, Bellgran M

Mälardalens Högskola

M4-C.6

M4-D.1

M4-D.2

M4-D.3

M4-D.4

Monday

3:30 PM – 4:30 PM

M4-E

Symposium: Aligning Resilience Assessment Approaches Worldwide

Meeting Room 1.61

Chair: Aleksandar Jovanovic

3:30 PM

Resilience Assessment of Infrastructure Systems Considering Interdependency and Complexity

Wang M, Liu K

Beijing Normal University

3:50 PM

Summary of the SmartResilience Project Results

Jovanovic AS, Øien K, Choudhary A, Tetlak K, Reis A, Caillard B

EU-VRi European Institute for Integrated Risk Management

4:10 PM

Stress-testing Resilience of Critical Infrastructures

*Jovanovic A, Szekely Z**

EU-VRi, Germany and BZN, Hungary

M4-E.1

M4-E.2

M4-E.3

3:30 PM – 4:50 PM

M4-F

Risk Management and Frameworks: Africa Part 1

Meeting Room 1.62

Chair: Reuben Dlamini

3:30 PM

Sustainable Land Management and Agro-climatic Risk Mitigation: Lessons from Smallholder Crop Farmers in Southeast Nigeria

Okereke CO

Ebonyi State University

3:50 PM

Between Climate Change and Conflicts: The Farmer-Herder Crisis and Risk of Governance in the North Central Nigeria

Mbah PO

University of Nigeria

4:10 PM

Resource Intensity Trends of the South African Ferrochrome Industry

Dlamini RM, von Blottnitz H

University of Cape Town

4:30 PM

A Science-based System to Facilitate Change

*Stewart JM, Butte G, Blomerus K**

JM Stewart Consulting and Decision Partners: Cognitive Science Systems LP

M4-F.1

M4-F.3

M4-F.5

M4-F.6

3:30 PM – 4:10 PM

M4-G

Plastics in our Environment

Meeting Room 1.63

Chair: Carina Verster

3:30 PM

A first Insight into South Africa's Freshwater Microplastic Load

Verster C, Bouwman H

North-West University

3:50 PM

Plastics and the Human Environment: A Case Study of Plastics Waste Disposal in the University of Nigeria, Nsukka Community

Nduka OC, Ezenwa MO, Okolo CO, Mbaeyi-Nwaoha IE

University of Nigeria, Nsukka, Nnamdi Azikiwe University, Awka

M4-G.5

M4-G.7

Monday

3:30 PM – 4:50 PM

M4-H

**Managing Exposure and Risks through
Novel Waste Treatment Strategies I**

Meeting Room 1.64

Chair: Mariette Smart

3:30 PM

Determination of Heavy Metal Concentration in Treated and Untreated Wastewater from Two Treatment Plants in Maluti-a-Phofung Municipality

Moloi MS, Ogbeide O, Voua Otomo P

*Ecotoxicology Research Laboratory, Afromontane Research Unit,
University of the Free State*

3:50 PM

Antibiotics in Freshwater, Marine Water and Wastewater Systems

Moodley B, Thavarayan L, Gumbi B, Agunbiade F, Matongo S

University of KwaZulu-Natal

4:10 PM

Assessing Options for Reusing Sulfidic Coal Waste

Stander H, Harrison STL, Broadhurst JL

University of Cape Town

4:30 PM

Considering the Risks Associated with Waste Valorisation:
Methods, Challenges and Solutions

Smart M, Zulu N, Harrison STL

University of Cape Town

3:30 PM – 4:10 PM

M4-I

Fate and Effects of Oil in the Environment

Meeting Room 2.61-2.63

Chair: TBD

3:30 PM

Genotoxicity Assessment of the Water Soluble Fraction of Crude Oil Using *Allium cepa* Chromosomal Assay

Ogbeide GE, Olorunfemi DI, Eriyamremu GE

Federal University

3:50 PM

Assessment of the Genotoxic Effect of Spent Engine Oil Treated Soil on a Tropical Legume Plant; *Glycine max*

Udebuani AC, Onyemereneche SI, Abara PN

Federal University Of Technology Owerri Imo State

M4-I.3

M4-I.4

10:30 AM – 11:50 AM

T2-A
Regulation and Policy
 Meeting Room 1.41
 Chair: Kanshu Rajaratnam

10:30 AM **T2-A.3**
 An Analytical Framework to Review Judicial Decisions based on the Precautionary Principle with a Case-study Application
 Gonçalves V
 Dinâmia-Cet/Iscte-lul

10:50 AM **T2-A.5**
 From Safety Regulation Compliance to Resilience-assessment-as-a-service: Would the European Resilience Assessment Agency be a Solution?
 Jovanovic AS, Caillard B
 EU-VRi / Steinbeis Advanced Risk Technologies

11:10 AM **T2-A.6**
 Retrospective Risk Assessment as Part of Environmental Forensic Investigations
 Siddik Muhammed A, George Varghese K, Babu Alappat J
 TKM College of Engineering, National Institute of Technology Calicut and Indian Institute of Technology Delhi

11:30 AM **T2-A.7**
 Legislation as a Business Risk: Case of India's Nuclear Liability Act 2010
 Mulavana Parameswaran RM
 Indian Institute of Management Ahmedabad

10:30 AM – 11:50 AM

T2-B
Resilience Methods
 Meeting Room 1.42
 Chair: Lev Virine

10:30 AM
 Analysis of Risk Resilient Project Portfolios
 Virine L
 Intaver Institute Inc.

10:50 AM **T2-B.3**
 Community-Based Resilience Building as a Way of Balancing Risk and Sustaining Development
 Huang TL
 National Cheng Kung University

11:10 AM **T2-B.4**
 The Worldwide Education of the Next Generation of Safety Professionals: How Can Technology and Innovation Contribute to a Resilient Africa?
 Hardy K
 Embry-Riddle Aeronautical University

11:30 AM **T2-B.5**
 Resilience Modelling for Improved Nuclear Safety
 Patelli E, Ferson S, George-Williams H
 University of Liverpool

10:30 AM – 12:10 PM

T2-C
Risk Management and Frameworks: Africa, Part 2
 Meeting Room 1.43
 Chair: Lawrence Kapustka

10:30 AM **T2-C.1**
 Regulatory Policies and Environmental Compromise In Developing Nation: The Way Forward
 Olawale O
 Federal University Wukari

10:50 AM **T2-C.2**
 Collaboration to Advance Environmental Management Goals of Africans
 Kapustka L
 LK Consultancy

11:10 AM **T2-C.4**
 Minimizing the Effect of Microbial Activities from Dustbins in the Home Environment
 Egbokhare I, Egbokhare O, Ariavie GO
 Ovanent University

11:30 AM **T2-C.5**
 Performing Social Risk Assessment in Mozambique – Managing Local Communities' Engagement Challenges
 Antunes D
 People & Environment (Mz); Factor Social (Pt)

11:50 PM **T2-C.6**
 Application of Ecological Risk Assessment in South Africa: A Management Tool to Embrace or to Avoid?
 Wepener V
 North-West University - School of Biological Sciences

10:30 AM – 11:30 AM

T2-D

**Symposium: Risk, Safety, and
Standardization in Emerging Nations**

Meeting Room 1.44

Chair: Wang Tong

10:30 AM

Method for Quantitative Safety Risk Assessment in Urban Regions

Dai BQ, Xie YS, Wang T

Beijing Municipal Institute of Labor Protection

10:50 AM

Risk Analysis and Control in City Gas Supply System

Lyu LH, Bai YQ, Zhang XF, Bai G

Beijing Municipal Institute of Labor Protection

11:10 AM

Characteristics and Risk Control of Confined Space Accidents in China: Transferability of Results to Africa

Liu Y, Yang CL, Qin Y

Beijing Municipal Institute of Labour Protection

T2-D.1

10:30 AM

Risk Based Inspection Implementation Efficiency

Mkhabela SM, Wannenburg JW

University of Pretoria

10:50 PM

Development of a CFD based Tool to facilitate Risk Based Inspection (RBI) of Air-flue Gas Circuits in coal Fired Power Plants

Van Der Merwe JCM, Jestin LJ, Brunel Diankouika JB

ESKOM, Power Plant Engineering Institute

T2-D.2

T2-D.3

11:10 AM

The Development of an Optimal Outage Execution Strategy by Applying a Risk Based Inspection Methodology

Narain Singh SNS, Ulassi AU

Eskom Holdings SOC Ltd

11:30 AM

Influence of Prior Creep Damage on Fracture Localisation in X20CrMoV12-1 Cross-welds Mechanical Tests

Rasiawan TR, Knutsen RDK

University of Cape Town

11:50 AM

Optimizing Inspection Policies for Coal Fired Boiler Tubes Subject to Corrosion

Wannenburg JW, Lelo AL, Heyns PSH*

University of Pretoria

10:30 AM – 12:10 PM

T2-E

Risk Education

Meeting Room 1.61

Chair: TBD

T2-E.1

T2-E.2

T2-E.3

T2-E.4

T2-E.5

10:30 AM – 11:30 AM

T2-F

**Symposium: Risk in the Water Domain: Perceptions,
Communication and Commodification**

Meeting Room 1.62

Chair: Michael Siegrist

10:30 AM

Understanding Perceptions of Risk as a Prerequisite to effective Risk Communication

Etale A, Siegrist M

University of the Witwatersrand, ETH Zurich

10:50 AM

When Governments Retreat, the Private Sector Steps Up: On the Risks Associated with the Commodification of Water

Cohen A, Arvai J

University of Michigan

11:10 AM

Communicating about the Risks of Potable Recycled Water: What Works?

Fielding KS, Dolnicar S, Roiko A

University of Queensland

T2-F.1

T2-F.2

T2-F.4

10:30 AM – 11:50 PM

T2-G

Exposure and Risk to Air Contaminants at Local, Regional, and Global Scales

Meeting Room 1.63

Chair: Jawahar Sainulabdin

10:30 AM

T2-G.1

Monitoring Environmental Exposure to outdoor Air Pollution Levels Within Informal Settlements in the Western Cape, South Africa

Madonsela BS, Baatjies R, Dalvie MA
Cape Peninsula University of Technology

10:50 AM

T2-G.2

Behavioural and Biochemical Changes in Wistar Albino Rats Exposed to Different Brands of Vulcanizer Solutions

Otitoju O, Ayantse M*, Yakubu OJ
Federal University Wukari Taraba State

11:10 AM

T2-G.4

Air Pollution from an Industrial Cluster - A Qualitative Health Risk Analysis

Sainulabdin JS, Varghese GK
National Institute of Technology Calicut

11:30 AM

T2-G.5

Contaminants in African's Mountain Tops; An Understudied Scenario

Ogbeide O, Chukwuka AV, Otomo PV
University of the Free State, Afromountane Research Unit

10:30 AM – 12:30 PM

T2-H

Life-Cycle Analysis, Sustainability, and Technology Futures for Africa

Meeting Room 1.64

Chair: Angel Avadi

10:30 AM

T2-H.1

Challenges to Agricultural LCA in Africa

Avadi A
CIRAD - French Agricultural Research Centre for International Development

10:50 AM

T2-H.2

Road and Rail Freight LCI Data for South Africa

Burke MA, Althaus H-J, Russo V, Valsasina L, Safaei A, Von Blottnitz H, Notten P
The Green House, INFRAS, University of Cape Town, Ecoinvent Association

11:10 AM

T2-H.3

Precious and Scarce Metals LCIs in South Africa

Russo V, Charikinya E, Goga T, Harding KG, Safaei A, von Blottnitz H, Broadhurst JL
University of Cape Town, University of Witwatersrand, Ecoinvent Association

11:30 AM

T2-H.4

Resource Intensity Trends of the South African Ferrochrome Industry

Dlamini RM, von Blottnitz H
University of Cape Town

11:50 AM

T2-H.5

Potential Challenges of Cassava Cultivation in South Africa

Itoba Tombo EF, Ntwampe SKO, Nchu F, Mudumbi JB
Peninsula University of Technology, Bioresource Engineering Research Group (BioERG)

12:10 PM

T2-H.6

Power Density Prediction from Waste Palm Kernel Shell Fuel in a Direct Carbon Fuel Cell: An Empirical Model

Jafri N
Taylor's University

10:30 AM – 12:10 PM

T2-I

Exposure and Risks of Metals in Soils and Sediments I

Meeting Room 2.61-2.63

Chair: TBD

10:30 AM

T2-I.1

Metal Accumulation in Riverine Macro-Invertebrates from a Platinum Mining Region

Erasmus JH, Wepener V, Zimmermann S, Sures B, Malherbe W, Smit NJ
North-West University, Universität Duisburg-Essen

10:50 AM

T2-I.2

Assessment of Trace Metal Pollution in Richards Bay Harbour: Implications for Future Port Development

Izegaege JI, Vivie L, Mzimela HMM
University of Zululand

11:10 AM

T2-I.3

Metals in Sediments as Indicators of Metal Pollution in an Acid Mine Drainage Impacted Subtropical River

Zviregei Jiri ZJ, Richard Greenfield RG, Johan J van Vuren JJV
Bindura University of Science Education,

11:30 AM

T2-I.4

Risk Assessment of Heavy Metals in Vegetables Grown around Quarry Sites in Okigwe, Southeastern Nigeria

Abara P, Udebuani CA, Okeke IH
Federal University of Technology

11:50 AM

T2-I.5

Toxicological Evaluation of the Effect of Lead-Mining Activities in Agalegu Environment; Health Implication for Children in the Community

Dike IC, Obiweluozo PE, Uzodinma U, Onwurah CN, Obodouzu JC
University of Nigeria, Nsukka, Enugu State

1:30 PM – 3:10 PM

T3-A

Risk Frameworks: Ecosystem and Environment

Meeting Room 1.41

Chair: Nil Basu

1:30 PM

Alternative Frameworks for Evaluating Deep Sea Mining Projects
Krutilla K, Good D, Arin T, Toman M
Indiana University, World Bank

T3-A.1

1:50 PM

One Health Approach Towards Addressing Pollution at the Pole – Integrating Evidence Across Inuit, Wildlife, and Ecosystems
Basu N
McGill University

T3-A.2

2:10 PM

A Multi-criteria Model of shipping Impacts on the Arctic Environment
Pelot RP, Schmitz P, Dawson J, Joyce J
Dalhousie University, The University of Ottawa

T3-A.4

2:30 PM

Evaluation of Multiple Stressors Effecting Socio-ecological Endpoints of Water Resources in Africa Using Regional Scale Ecological Risk Assessments
O'Brien G, Wepener V, Dickens C
University of Mpumalanga

T3-A.5

2:50 PM

PAHs in Fish-Human Health Risk Assessment Models for Dietary Intake
Tongo I, Rosenstein AB
University of Benin, Lexington Environmental Risk Group, LLC

T3-A.6

1:30 PM – 3:10 PM

T3-B

Public Health - Epidemiological Risk and Exposure

Meeting Room 1.42

Chair: Linda Schenk

1:30 PM

The Dutch Dual System of Occupational Exposure Limits: Scoping the Issues Encountered by Professionals
Schenk L, Palmen NGM
Karolinska Institutet

T3-B.2

1:50 PM

Radiation Risk and Quality Assurance in Breast Cancer Imaging- A Case Study of Pakistan
Khan KJ, Begum N
University of Vienna

T3-B.3

2:10 PM

Potential Human Health Risk of Combined Exposure to Multiple Antibiotic Residues via Drinking Water and Vegetables in Terms of Toxicological Effects and Resistance Development
Hanna N, Tamhankar AJ, Stålsby Lundborg C
Karolinska Institutet

T3-B.4

2:30 PM

Using Risk Analysis to Estimate the Economic Burden of Foodborne Disease in Sub-Saharan Africa: The Case of Ethiopia
Scharff RL, Havelaar AH, Ketema M, Kowalczyk BB, Weir MH
The Ohio State University, University of Florida, Haramaya University

T3-B.5

2:50 PM

Excess Lifetime Cancer Risk and Radiation Pollution Hazard Indices in Rocks and Soil of Some Selected Mining Sites In Nasarawa State, Nigeria
Aborisade MA, Gbadebo AM, Adedeji OH, Okeyode IC, Ajayi OA
Federal University of Agriculture, Abeokuta

T3-B.6

1:30 PM – 2:10 PM

T3-C

Regulation and Legislation

Meeting Room 1.43

Chair: Dalila Antunes

1:30 PM

Natural Risks Insurance for Enhancing Resilience Towards Sustainable Development: The Algerian Experience
Benouar D
University of Sciences & Technologies Houari Boumediene (USTHB)

T3-C.2

1:50 PM

Safety Behaviours and Performance: Current Practices and Future Opportunities
Antunes D, Carrasqueira M, Jacinto C, Santos J, Dias J, Agostinho F
Factor Social (Pt)

T3-C.6

Tuesday

1:30 PM – 2:30 PM

T3-D

Water

Meeting Room 1.44

Chair: Charles Menzie

1:30 PM

Low-impact Methods for Sustainable Remediation of Contaminated Wetlands and Sediments

Menzie CA

SETAC - Sediment Solutions - Exponent

1:50 PM

Harmful Algal Blooms: Understanding Public Health and Environmental Risks in the Face of Change

Brooks B

Baylor University

2:10 PM

Thermophysical Effects of Heat and Mass Transfer in Magnetohydrodynamics Viscoelastic Fluid Flow in Inclined Porous Media

Amoo S, Daniel MI

Federal University Wukari Taraba State

1:30 PM – 3:30 PM

T3-E

Symposium: Food Safety

Meeting Room 1.61

Chair: Tsu-Mu Kao

T3-D.2

1:30 PM

Risk Analysis of Taiwan Food Imported from Japan after the Fukushima Nuclear Accident

Kao TM

Institute of Nuclear Energy Research

T3-D.3

1:50 PM

Frying French Fries Can Cause Exposure to Acrylamide Through Inhalation Pathway

Hsu HT, Chen MJ, Tseng TP, Cheng LH, Huang LJ, Yeh TS

China Medical University

T3-D.7

2:10 PM

Role of Quantitative Health Risk Assessment from Food Monitoring Information in the Food Safety Network in Taiwan

Chuang YC

National Taiwan University

2:30 PM

Application of Food Description to the Food Classification System – A Risk Assessment Case Study on Acrylamide

Ho WC, Chiu SY, Chuang YC, Hsu HT, Chiang SY

China Medical University

2:50 PM

Probabilistic Risk Assessment of Cumulative Dietary Exposure to Triazole and Organophosphorus Pesticides in Taiwan

Chiang SY, Chang BS, Chuang YC, Ho WC, Wu KY

China Medical University

3:10 PM

Probabilistic Risk Assessment of Heavy Metals in Chinese Herbal Medicines Consumed in Taiwan

Lin PH, Lo CY, Chuang YC, Chang BS, Chiang SY

China Medical University and National Taiwan University

T3-E.1

1:30 PM

The Contribution of Bisphenol-A to Pituitary-Gonadal Hormones Disruption and Oxidative Stress in Occupationally Exposed Male Plastic Industry Workers

Ugwu PI, Charles-Davies MA, Obilor U, Bolajoko EB, Orimadegun BE, Aremu OO, Okoli SU

University of Ibadan

T3-E.2

1:50 PM

Noxious Effect of Exposure to Air Freshener on the Hematological, Hemostatic and Male Reproductive Function

Odinga T, Eze EM, Memoh P

Rivers State University

T3-E.3

2:10 PM

Growth and Heavy Metal Accumulation of Colophospermum mopane as Influenced by Compost, Fly Ash and Mycorrhizal Inoculation

Manyiwa T, Ultra VU

Botswana International University of Science & Tec

T3-E.4

2:30 PM

EcoToxChip: A Toxicogenomics Tool for Chemical Prioritization and Environmental Management

Basu N, Hecker M, Crump D, Head J, Xia J, Hickey G, Maguire S

McGill University

T3-E.5

2:50 PM

Particulate Matter Trapper For Internal Combustion Engines: An Imperative

Alutu NC, Sheidu SO

Nnamdi Azikiwe University Awka, Anambra State

T3-E.6

1:30 PM – 3:10 PM

T3-F

Public Health - Chemicals

Meeting Room 1.62

Chair: Tamuno-Boma Odinga

T3-F.1

T3-F.5

T3-F.8

T3-F.9

T3-F.7

1:30 PM – 3:10 PM

T3-G

Exposure and Risk Posed by E-Waste

Meeting Room 1.63

Chair: Matt Dodd

1:30 PM

T3-G.1

Extended Producer Responsibility Policy and Electronic Waste Management in Ghana

Asibey MO, Lykke AM, King RS

Kwame Nkrumah University of Science and Technology and Aarhus University

1:50 PM

T3-G.2

Estimating the Human Health Risk Associated with Metal Exposure at an E-Waste Recycling Site in Kumasi, Ghana

Dodd M, Otoo Amposah L, Darko G

Royal Roads University

2:10 PM

T3-G.3

High Abundance of Resistance Genes in Selected Electronic Waste [E-waste] Dumpsites Presents a Potential Novel Reservoir of Metal Tolerant and Antibiotic Resistant Bacteria

Ikhimiukor OO, Adeleke RA, Mueller JA, Adelowo OO

University of Ibadan, Agricultural Research Council - Institute for Soil, Water and Climate (ARC-ISCW), and Helmholtz Centre for Environmental Research - UFZ

2:30 PM

T3-G.4

Spectroscopic Determination of Rare Earth Element Concentrations in Environmental Samples Originating from Electronic Waste Disposal

Makombe M, Somerset VS

Department of Chemistry, Cape Peninsula University of Technology

2:50 PM

T3-G.5

Recovering Metals from E-waste is a Risky Business

Mudge SM, Pfaffhuber KA, Bouman EA, Uggerud H, Thorne RJ, Fobil J

Norwegian Institute for Air Research (NILU)

1:30 PM – 3:10 PM

T3-H

Assessing and Addressing Water Quality and Quantity Needs I

Meeting Room 1.64

Chair: Pieter Hugo

1:30 PM

T3-H.1

Copper and Zinc in Water, Sediment and Gastropods in the Harbours of the Cape Town Metropole, South Africa

Fru W, Odendaal JP, Snyman R

Cape Peninsula University of Technology

1:50 PM

T3-H.2

Developing a Water Accounting and Assessment Protocol for Water Management of Mining and Minerals Processing

Hugo PDW, Broadhurst JL

University of Cape Town

2:10 PM

T3-H.3

Coagulation-Flocculating Removal Potentials of Microalgae Using Environmental Friendly Plants, Polymeric and Inorganic Coagulants

Ikele CF, Ogbonna CN

University of Nigeria

2:30 PM

T3-H.4

The Water Quality of the Niger River Basin, Drained by a Major Abattoir in Southern Nigeria

Ikpesu T, Ariyo AB

Federal University Otuoke

2:50 PM

T3-H.5

Indigenous Response to Transboundary Smelter Contamination

Fraser WJ

Lodestone Environmental Consulting

3:30 PM – 4:50 PM

T4-A

Public Health - Epidemiological Management

Meeting Room 1.41

Chair: Alison Cullen

3:30 PM

T4-A.1

The Administrative Value of Poliovirus Surveillance Information

*Scott RP, Chabot-Couture G, Cullen AC**

Colorado State University, Intellectual Ventures, University of Washington

3:50 PM

T4-A.2

Risk-Based Approach for Blood Safety Decisions in Taiwan

*Matanhire TB, Lin SW**

National Taiwan University of Science and Technology

4:10 PM

T4-A.3

Wastewater Epidemiology as a Rapid Tool for Understanding Community Drug Use Patterns

Pagsuyoin SA, Bello D, Luo J, Zhang J

University of Massachusetts Lowell

4:30 PM

T4-A.5

Citizen Science Approach as a Way to Improve Malaria Risk Perception

Asingizwe D, Poortvliet PM, Koenraad CJM, Van Vliet AJH,

Murindahabi MM, Ingabire C, Mutesa L, Leeuwis C

University of Rwanda, Wageningen University and Research

Tuesday

3:30 PM – 4:50 PM

T4-B
Risk Management Theory
Meeting Room 1.42
Chair: James Bone

3:30 PM
 Redesigning Risk Management for the Digital Economy
Bone J
Columbia University

3:50 PM
 Turning Enterprise Risk Management Theory into Practice in the jewellery Industry -- The Case with Soo Kee Group
Acharyya M, Ying T
Glasgow Caledonian University

4:10 PM
 Developing a Risk and Capability Assessments Methodology for the Baltic Sea Region
Karlsson B, Tomasson B
University of Iceland

4:30 PM
 Brazilian Drug Traceability System
Melo VAZC, Rodrigues AG, Beteto AL, Dias EM
University of São Paulo

T4-B.3

T4-B.4

T4-B.6

T4-B.7

3:30 PM – 4:30 PM

T4-C
Travel and Tourism
Meeting Room 1.43
Chair: Nick Gray

3:30 PM
 Distributed Decision Making with Poor Data
*Ferson S, Birch R, Mannis A, Patelli E, De Angelis M, Gray N**
University of Liverpool

3:50 PM
 An Investigation on the Boosters of the Tourism Sector on Economic Development
Omulindi EO
Co-operative University of Kenya

4:10 PM
 Examining the Effects of Health Risk on Tourism Industry in Mombasa County, Kenya
Otieno A
Co-operative University of Kenya

T4-C.1

T4-C.2

T4-C.3

3:30 PM – 4:30 PM

T4-D
Risk and Resilience in Human Systems
Meeting Room 1.44
Chair: TBD

3:30 PM
 Servicing Everyday Risk in Urban East Africa: Solid Waste Resilience in Dar es Salaam's Informal Settlements
Wernstedt K, Kihila J
Ardhi University, Dar es Salaam, Tanzania, Virginia Tech

3:50 PM
 The Impact of Risk Governance Institutions on Local Adaptive Capabilities: The Case of Adaptation in Nigeria Local Communities
*Doe JB, Oramah CP**
Centre For Risk Management and Societal Safety, University of Stavanger

4:10 PM
 Risk Communication and Governance in a Post-Truth Environment
Renn O
Institute for Advanced Sustainability Studies (IASSS)

T4-D.4

T4-D.5

T4-D.6

3:30 PM – 4:30 PM

T4-F

Symposium: The National Knowledge and Research Center for Emergency Readiness

Meeting Room 1.62

Chair: Deborah Shmueli

3:30 PM

Concept and Research Gap Assessment - National Knowledge and Research Center for Emergency Readiness

Shmueli DF

University of Haifa

3:50 PM

City Resilience to Droughts and Earthquakes: Some Israeli Insights

Feitelson E

Hebrew University

4:10 PM

The Role of Urban Planning in Escaping from Tsunami

Plaut P

Technion

T4-F.1

T4-F.2

T4-F.3

3:30 PM – 4:30 PM

T4-G

Exposure and Risks to Drinking Water

Meeting Room 1.63

Chair: Gbadebo Adeyinka

3:30 PM

Assessment of the Seasonal variability and Quality Index of Groundwater from Industrial areas of Southeastern, Nigeria

Ekere NR, Akudu A, Ihedioha JN, Ibeto CN

University of Nigeria, Nsukka

3:50 PM

Safety of Drinking Water in Nsukka, Southeast Nigeria: An Assessment of Bacteriological Quality, Antibiotic Resistance and Human Health Risks

Chigor CB, Bako AS, Ozochi CA, Igbinosa IH, Titilawo Y, Ugwu KO,

*Adukwu E, Chigor VN**

University of Nigeria, University of Benin, Alex Ekwueme Federal

University, University of the West of England

4:10 PM

Contamination in Our Packaged Water: Scoping Study of Ilara-Mokin Water

Osuolale O

Private University

T4-G.2

T4-G.3

T4-G.4

3:30 PM – 4:30 PM

T4-H

Managing Exposure and Risks Through Novel Waste Treatment Strategies II

Meeting Room 1.64

Chair: Kudakwashe Engels Chingono

3:30 PM

Tetracycline Sorption by a Tailor - Made Adsorbent in Aqueous System

Adelagun ROA

Federal University Wukari

3:50 PM

Beta-FeOOH/Polyamide Nanocomposite for the Remediation of 4-chlorophenol from Wastewater

Akharamo MO, Fatoki OS, Opeolu BO, Olorunfemi DI

Cape Peninsula University of Technology, University of Benin

4:10 PM

Application of a particulate Waste to Mitigate Pollution in Transboundary Rivers

Chingono KE, Bere E, Yalala B, Sanganyado E

National University of Science and Technology

T4-H.1

T4-H.2

T4-H.3

10:30 AM – 3:00 PM

Wednesday Plenary

SETAC Session: Risk-Based Weight-of-Evidence Approach for Chemical Management

West Ballroom

Chairs: Charles Menzie, Victor Wepener

This session continues a global program to examine how risk-based approaches can be applied to guide the management of chemicals. The session will include presentations by experts on applying risk assessment approaches in Europe, North America, and Asia-Pacific. The session will then involve presentations and discussions among invited guests from Ghana, South Africa, and Nigeria. Finally, a short workshop will be convened to discuss possible ways in which risk-based approaches might benefit chemical management in Africa countries. The meeting is open to participants from the SRA World Congress and SETAC Africa meeting to listen, learn, and share their views. The outcome will be compiled into a peer-review paper.

Introduction and Statement of Purpose

*Victor Wepener, Charlie Menzie
North-West University, SETAC*

Overview of Weight-of-Evidence and Use for Chemicals Assessment and Management

Charlie Menzie; SETAC

Importance of Considering Multiple Lines of Evidence – A Practical Example

Bryan Brooks; Baylor University

Weight-of-Evidence and Risk Management for Chemicals Outside of Africa

- Weight-of-evidence initiatives in the Asia-Pacific region
Ross Smith; Hydrobiology
- Weight-of-evidence initiatives and perspectives in Europe
Gertie Arts; Wageningen University and Research Center
- Weight-of-evidence initiatives and perspectives in the United States
Abdel Kadry; U.S. EPA

Risk Policy and Science Considerations for Management of Chemicals within Africa

- Overview for South Africa with regard to water program
Melissa Lintnaar-Strauss; Department of Water Affairs
- Overview for Ghana
Lovelace Sarpong; Chemicals Control and Management Center of the Environmental Protection Agency of Ghana
- Overview for Nigeria
*Ikechukwi Onwurah, Otitoju Olawale;
University of Nigeria, Federal University Wukari*
- Overview of technical and management challenges in South Africa
*Gerhard Cilliers, Sebastian Jooste;
Department Water and Sanitation*

Panel Discussion for Africa Experience

- All Africa country representatives (and audience participants)
Victor Wepener, SETAC

Workgroup Discussion of Scientists and Policy Makers from within Africa and from Other Global Regions

*Charlie Menzie, Victor Wepener, Beatrice Opeolu, Bart Bosveld;
SETAC, North-West University, Cape Peninsula University of Technology*

10:30 AM – 11:30 AM

W2-A

Flood

Meeting Room 1.41

Chair: TBD

10:30 AM

W2-A.1

Algerian Public Infrastructure Investment to Reducing Flood Disaster Risk in the District of Bab El Oued in Algiers (Algeria)
*Benouar D
University of Science and Technology Houari Boumediene*

10:50 AM

W2-A.4

Flash Flood Nowcasting Using Weather Radar Rainfall Ensemble
*Bacelar L, Caseri A, Tomasella J, de Angelis CF
National Institute for Space Reseach (INPE), National Centre for Monitoring and Early Warnings of Natural Disasters*

11:10 AM

W2-A.6

Thinking Urban Flood Resilience Through Observatory Design
*Heinzlef C, Becue V, Serre S
University of Avignon*

Wednesday

10:30 AM – 11:30 AM

W2-B

Risk Modeling

Meeting Room 1.42

Chair: TBD

10:30 AM – 11:30 AM

W2-C

Urban Resilience Planning

Meeting Room 1.43

Chair: Ayedh Almutairi

10:30 AM – 11:30 AM

W2-D

**Symposium: Advancing Risk and Resilience Practice
Through Risk Analysis Education and Certification**

Meeting Room 1.44

Chair: Tailin Huang

<p>10:30 AM</p> <p>Public Sector Programme Risk Management Challenges: An Exploratory Study <i>Mulambya E, Zaaiman H, Erasmus CM</i> <i>North-West University, Republic of South Africa</i></p>	<p>W2-B.1</p>	<p>10:30 AM</p> <p>Stories of the Storm: How Sense-making of Household Crisis Preparedness is Framed by an Urban Norm <i>Kvarnlöf L, Wall E*</i> <i>Mid Sweden University</i></p>	<p>W2-C.3</p>	<p>10:30 AM</p> <p>Significance of Risk Assessor Certification <i>Wu C, Chiang SY, Wu KY*</i> <i>National Taiwan University</i></p>	<p>W2-D.1</p>
<p>10:50 AM</p> <p>Integrated Risk Quantification with Markov Chain Monte-Carlo Techniques: Application to Financial Engineering Risk Measurements in the Banking Industry <i>deGraft Johnson EOA, Amponsah SK, Barnes B, Mensah L</i> <i>Kwame Nkrumah University of Science and Technology, University of Ghana</i></p>	<p>W2-B.3</p>	<p>10:50 AM</p> <p>Considering the Role of Resilience in Countering Terrorism: Progressive Fashion or the (Risk) Emperor's New Clothes? <i>Mythen G, Weston S</i> <i>University of Liverpool</i></p>	<p>W2-C.4</p>	<p>10:50 AM</p> <p>The Experiences in Developing Risk Analysis Education Program in Taiwan <i>Ho WC, Huang TL, Liu YK, Lin SW, Yu HL*</i> <i>National Taiwan University</i></p>	<p>W2-D.2</p>
<p>11:10 AM</p> <p>Disruption Theory of Enterprise Schedules for Risk Comparisons <i>Thorisson H, Lambert JH</i> <i>University of Virginia</i></p>	<p>W2-B.6</p>	<p>11:10 AM</p> <p>Rapid Detection of Escherichia coli in Treated Effluent from the Phuthaditjhaba and Harrismith Wastewater Treatment Plants (WWTPs)'s Effluent <i>Mosolloane PM, Bredenhand E, Otomo PV</i> <i>University of the Free State and the Afromontane Research Unit</i></p>	<p>W2-C.5</p>	<p>11:10 AM</p> <p>Introduction of the Risk Analysis Handbook Edited by SRA-Japan <i>Ono K, Maeda Y</i> <i>National Institute of Advanced Industrial Science and Technology</i></p>	<p>W2-D.3</p>

Wednesday

10:30 AM – 12:10 PM

W2-E

Symposium: Risk Analysis in an Interconnected World

Meeting Room 1.61

Chairs: Jin Hong and Andrew Robinson

10:30 AM

A System Designed to Detect and Predict Emerging Food Safety Risks

Jin H, Crossley S, Webb T

Food Standards Australia New Zealand

W2-E.1

10:50 AM

Does Size Matter? (To Biosecurity Risk at the Border)

Robinson AP, Arthur A

The University of Melbourne

W2-E.2

11:10 AM

An Organizational Perspective on Constructing Novel Risks: The Case of bisphenol A

*Hardy C, Maguire S**

McGill University

W2-E.3

11:30 AM

Risk Assessment on Dietary Exposure to Rare Earth Elements in Chinese Population

Yan S, Lei Z, Zhaoping L*

China National Center for Food Safety Risk Assessment

W2-E.4

11:50 AM

Applying a Strategic Risk-based Approach to Allocating Resources to Biosecurity Management in New Zealand

Reed C, Hathaway S, Newfield M, Ormsby M, Taylor E, Robinson A

Ministry for Primary Industries

W2-E.6

10:30 AM – 11:50 AM

W2-F

Symposium: Risk Assessment and Health

Meeting Room 1.62

Chair: Emma Anyika

10:30 AM

Major Environmental and Health Challenges in East Africa and the potential Role of SRA Africa in Improving Risk Based Decision Capabilities

Anyika E

The Co-operative University of Kenya Mombasa Campus

W2-F.1

10:50 AM

Roles of Nonprofit Organizations in Promoting Toxicology and Risk Assessment Training in Africa

Gadagbui B

Toxicology Excellence for Risk Assessment (TERA)

W2-F.2

11:10 AM

Probabilistic Quantitative Risk Assessment: Modelling with Genome Copies and Fecal Indicator Ratio Conversion for Estimating Exposure Dose

deGraft Johnson EOA

Nkrumah University of Science and Technology

W2-F.3

11:30

Assessing Public Health Policy Formulation on Sustainable Economic Development

Mohamed H

W2-F.4

10:30 AM – 12:10 PM

W2-G

Exposure and Risks of Metals in Soils and Food II

Meeting Room 1.63

Chair: Florence Awino

10:30 AM

Variation of Metal Concentrations in Crops Grown on an Urban Waste Dumpsite: Effect of Growth Period

Awino FB, Maher WB, Lynch JA

University of Canberra

W2-G.1

10:50 AM

Heavy Metal Concentration And Availability In Soils At The Vicinity Of Cu-Ni Mine In Selebi-Phikwe, Botswana

July KP, Opaletswe AK, Manyiwa T, Ultra V

Botswana International University of Science & Technology

W2-G.2

11:10 AM

An Integrated Approach for Assessing Soil Contaminants in a Coal Mining Area Using Land Snails (*Achatina fulica*) as Bioindicators

Ndebele D, Basopo N, Siwela AH

National University of Science and Technology

W2-G.4

11:30 AM

Health Risk Assessment of Heavy Metals in Canned Meat Products

Otitoju GTO, Otitoju O, Makilolo OM

Federal University Wukari Taraba State

W2-G.5

11:50 AM

Heavy Metals in Four Fish Species in Epe Lagoon, Lagos, Nigeria

Olaifa FE, Osofisan KF

University of Ibadan

W2-G.6

Wednesday

10:30 AM – 11:30 AM

W2-H

Assessing and Addressing Water Quality and Quantity Needs II

Meeting Room 1.64

Chair: TBD

10:30 AM

Endocrine Disrupting Effects of Public Swimming Pool Water

Pieters R, Horn S, Joubert S, Sepato TT, Gerber E

North-West University

W2-H.1

10:50 AM

Development of a Reliable and Non-invasive Diagnostic Tool to Detect *Aphanomyces* Invadans, the Causative Agent of Epizootic Ulcerative Syndrome (EUS) of Fishes, From Environmental Samples

Greeff-Laubscher MR, Christison KW, Smit NJ

North-West University, Department of Agriculture, Forestry and Fisheries (DAFF)

W2-H.5

11:10 AM

Aquatic Risk Assessment for Freshwater Ecosystems and Humans: Effects of Global Warming, Eutrophication and Chemical Exposure

Arts G

Wageningen Environmental Research

W2-H.6

10:30 AM – 12:30 PM

W2-I

Ecotoxicology and Chemistry: Field and Laboratory Approaches I

Meeting Room 2.61-2.63

Chair: Susana Cristobal

10:30 AM

Toxicity Assessments of a Range Of Nanomaterials using Danio rerio (zebrafish) for a Multi-endpoint Approach

Botha TL, Wepener V

Unit for Environmental Sciences and Management, Water Research Group, North-West University

W2-I.1

10:50 AM

Effect of Cadmium/Tellurium Quantum Dots and Citrate capped Nanogold on *Staphylococcus aureus* and *Escherichia coli* using xCELLigence RTCA SP

Coetzee I, Botha TL, Claassens S, Wepener V

North-West University

W2-I.2

11:10 AM

Assessing the Hematological and Serum Biochemistry Profile of African Catfish (*Clarias gariepinus*) Raised in Water Impacted by Domestic and Industrial Effluent along Ona River, Ibadan, Nigeria

Iji OT, Osuolale O, Fateye BF

Federal College of Animal Health & Production Technology, Elizade University Ilara-Mokin Ondo State, Grand Valley State University

W2-I.3

11:30 AM

Systems Level Analysis of Short-term 17 α -ethynylestradiol Exposure in Wild Sentinel Fish

*Renaud L, Richards D, Falcinelli S, Agarwal N, Hazard E, Carnevali O, Hyde J, Hardiman G**

Medical University of South Carolina, Clemson University, San Diego State University, Università Politecnica della Marche, NOAA Fisheries, Queens University Belfast

W2-I.4

11:50 AM

Deciphering Mechanism of Actions of Chemical Compounds or Pollutant Mixtures by Bioactive Thermal Proteome Profiling (bTPP)

*Carrasco del Amor A, Fresnedo O, Cristobal S**

Linköping University, University of the Basque Country

W2-I.6

12:10 PM

Biomonitoring, Physico-chemical, and Biomarker Evaluations of Abattoir Effluent Discharges into the Ogun River from Kara Market, Ogun State, Nigeria, using *Clarias gariepinus*

Olaniran EI, Sogbanmu TO

University of Lagos

W2-I.7

1:30 PM – 2:50 AM

W3-F

Health Risk Mitigates for Tourism and Economic Developments

Meeting Room 1.64

Chair: Shital Thekdi

1:30 PM

Assessing Mitigates to Environmental Health Hazards in Mombasa County

Mumu A

W3-F.1

1:50 PM

Determination of Health Risks at Mombasa County

Shileche EA

The Co-operative University of Kenya Mombasa Campus

W3-F.2

2:10 PM

Voluntary Participation In Determining Health Risk Mitigates

Chepkonga M

The Co-operative University of Kenya

W3-FH.3

2:30 PM

Business Concessions For Voluntary Fundraising on Health Risk Mitigation

Obware FO

The Co-operative University of Kenya

W3-F.4

Wednesday

1:30 PM – 2:30 PM

W3-G

Health, Nutrition, and Biochemistry as it Influences Exposures and Responses II

Meeting Room 1.63

Chair: Richard-Haris Boyi

1:30 PM

Comparative Studies on the Kinetic Properties of Lipases Purified from *Aspergillus nidulans* and *Aspergillus niger* LC 269109

Mida HM, Boyi RN, Otitoju O, Sabinus EO, Chilaka FC*

Federal University Wukari

1:50 PM

Indices of Ready-To-Eat Breakfast Product (RTE) for Diabetics from Sorghum, African Yam Bean and Unripe Plantain Flour Blends using a Bioassay

Onuh FA, Ani JC, Mbaeyi-Nwaoha IE

University of Nigeria, Nsukka

2:10 PM

Utilization of Fruit and Vegetable Waste as a Natural Resources of Bioactive Compounds

Uchegbu NN, Uzodimma EO

University of Nigeria, Nsukka

W3-G.1

W3-G.2

W3-G.3

1:30 PM – 2:50 PM

W3-H

Ecological Insights for Assessments

Meeting Room 1.64

Chair: Susana Cristobal

1:30 PM

Species Diversity and Distribution of Ants (Hymenoptera:Formicidae) in Ketu Fruit Market and Lekki Urban Forest and Animal Sanctuary Initiative(LUFASI) Nature Park

Ahme WU

University of Lagos

1:50 PM

Chlorophyll as A Biomarker for Evaluating the Impact of Hydrocarbons on Soil Ecosystem and Hence Soil Productivity

Osuji CA, Ubani CS, Anosike CA, Onwurah INE

Biochemistry Department University of Nigeria, Nsukka

2:10 PM

Towards the Next Generation of Chemical and Environmental Assessment

*Lizano-Fallas V, Cristobal S**

Linköping University

2:30 PM

Evaluating the Effect of Cement Dust on Photosynthetic Pigments: Implications for Plant productivity

*Farinmade AE, Ogunyebi AL, Omoyajowo KO**

University of Lagos, Akoka

W3-H.1

W3-H.2

W3-H.4

W3-H.5

1:30 PM – 2:50 PM

W3-I

Ecotoxicology and Chemistry: Field and Laboratory Approaches II

Meeting Room 2.61-2.63

Chair: Ifeoluwa Grace Idowu

1:30 PM

The Effects of Different Concentrations of Heavy Metals on the Biomass Yield and Specific Growth Rate of *Rhizobium* sp

Udensi JU, Ngumah C, Mgbemena IC, Ejiogu CC, Ebe T, Ozioma G

Federal University of Technology Owerri

1:50 PM

Persistent Organic Pollutants in Leatherback- and Loggerhead Sea Turtle Eggs from KwaZulu-Natal

Van der Schyff V, du Preez M, Nel R, Ikenaka Y, Yohannes YB,

Bouwman H

North-West University

2:10 PM

A Simple Method for Occurrence and Risk Assessment of Personal Care Products, Pharmaceuticals and Stimulant in Mgeni and Msunduzi Rivers, KwaZulu-Natal, South Africa

Gumbi BP

University of KwaZulu-Natal

2:30 PM

Environmental Risks Assessment and Toxicological Evaluations of Printing Press Effluent using the African Sharp-tooth Catfish (*Clarias gariepinus*)

*Sogbanmu TO, Ifeanyichukwu DP, Jimoh RO**

University of Lagos and Ecotoxicology and Conservation Unit

W3-I.1

W3-I.2

W3-I.4

W3-I.5

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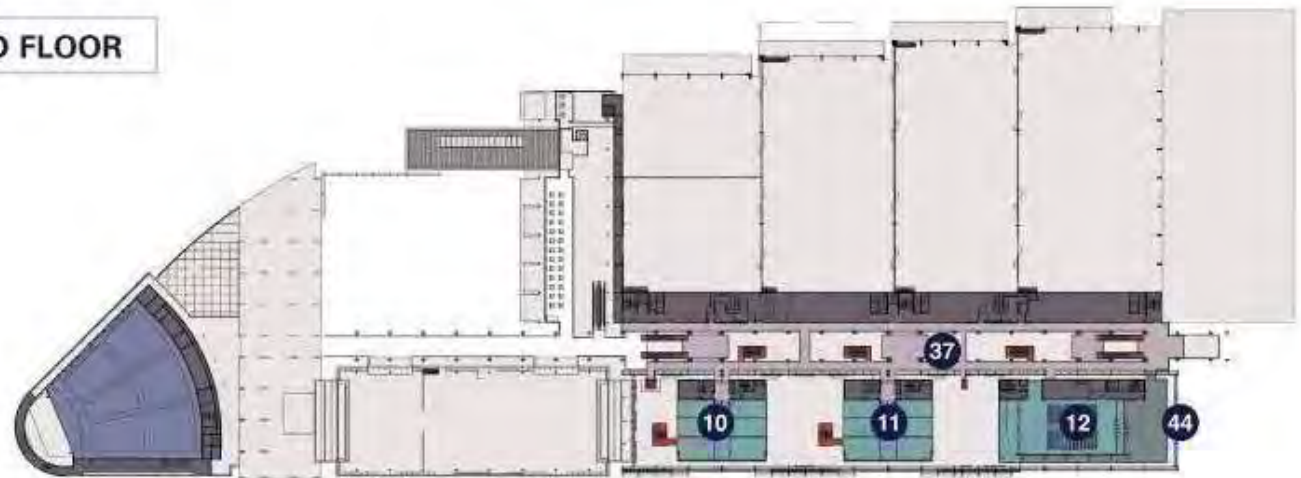
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- 1 — Auditorium I
- 2 — The Ballroom (West & East)
- 3 — The Boardroom 1.30
- 4 — Room 1.40
- 5 — Room 1.50
- 6 — Room 1.60
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SECOND FLOOR

- 10 11 — Meeting Rooms
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- 37 — The Gallery
- 44 — Roof Terrace





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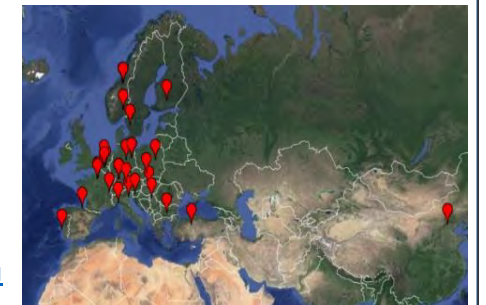
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