



15TH

MULTI-HAZARDS SYMPOSIUM 2019

BUILDING RESILIENCE THROUGH DISASTER
RISK REDUCTION, RESPONSE, RECOVERY &
RECONSTRUCTION IN THE 2030 AGENDA

TECNOLÓGICO DE MONTERREY

OCTOBER 29-31, MEXICO CITY



WELCOME BY OUR RECTOR



Welcome to the 15th Multihazard Symposium 2019 "Building resilience through disaster risk reduction, response, recovery and reconstruction in the 2030 agenda". This year Tecnológico de Monterrey has the honor to host the Annual Symposium, second time in America, in collaboration with Association of Pacific Rim Universities.

This symposium will give us the opportunity to reinforce our great mission of doing further research to contribute to disaster risk reduction in disaster-prone countries of the Pacific Rim. I trust that the agenda we will have during the symposium days will help us to define extraordinary ways to foster the resilience and overall well-being of the Asia-Pacific region.

We are fully aware that today's society requires citizens who have humanitarian and resilience capacities, but that are also able to gather and build new knowledge under a global vision. This is our opportunity to share our experiences and expertise in mitigating the danger in countries most vulnerable to disaster risks, to strengthen our communities and build a more resilient Asia Pacific.

My best wishes for a very productive Symposium. Please enjoy our capital and enjoy Mexico.

¡Bienvenidos!

David Garza
Rector, Tecnológico de Monterrey



40% of the world's natural disaster events and 90% of the world's earthquakes occur in the Asia Pacific. In a region of inevitable disasters, improving the coordination and sharing of knowledge across borders is essential to deliver effective disaster reduction and recovery measures.

As one of the most disaster-prone regions in the world, frequent natural hazards – from tsunamis to floods to volcanic eruptions – threaten the lives and livelihoods of millions of people around the Pacific Rim and result in catastrophic destruction and damage.

The losses and impacts that characterize disasters have much to do with the exposure and vulnerability of people and places as they do with the severity of the hazard event. While natural hazards cannot be eliminated, by sharing best practice, knowledge, and research, we can better understand risks and minimize the threat to human life.

Over the past decade, the Multi-Hazards Hub hosted by Tohoku University in Sendai, Japan has worked to harness the collective capabilities of APRU universities for cutting-edge research on the shared threat of natural hazards facing the region.

APRU collaborates with its members and partners to understand how academics, policy leaders, government, and communities can work together to facilitate disaster risk reduction and recovery. Whether it is enhancing the reach of the Sendai Framework or sharing expertise to mitigate the danger in countries most vulnerable to disaster risks, together we can build a more resilient Asia Pacific.



OUR VALUES



INNOVACIÓN
INNOVATION



INTEGRIDAD
INTEGRITY



COLABORACIÓN
COLLABORATION



**CIUDADANÍA
GLOBAL**
GLOBAL CITIZENSHIP



**EMPATÍA E
INCLUSIÓN**
EMPATHY & INCLUSION

The principles in which our Vision, our educational philosophy, our identity and all of our Campus and academic entities unity, are based in the Tecnológico de Monterrey founders' ideals. Also, they are an ethical reference for the group of norms and reglaments that determine, in a direct way, institutional and academic decisions and their behavior.



More information on:

<https://apru.org/our-work/pacific-rim-challenges/multi-hazards/>

15TH MULTI-HAZARDS SYMPOSIUM 2019 PROGRAM

Hour	Monday October 28th	Tuesday October 29th	Wednesday October 30th	Thursday October 31st
09:00	Hotel Check-in & Registration for International Participants (LOBBY HOTEL FIESTA INN PERIFERICO SUR)	Registration for Participants located in Mexico City (INMEGEN)	Keynote Lecture "Advances & potentials of science & technology in implementation of Sendai Framework & beyond" by Dr. Rajib Shaw	OPTIONAL Scientific Center Visit to National Seismological Service (Limited capacity)
09:15				
09:30			Coffee Break	
09:45		Opening Ceremony		
10:00				
10:15		Presentation by Tecnológico de Monterrey's Rector	Speech by UNDRR Representative Mami Mizutori & APRU Multi-Hazards Core Group Panel	Stop at Venue Hotel
10:30		Group Picture	Coffee Break	
10:45		Keynote Lecture "The challenges of seismic engineering in Latin America" by Dr. Kit H. Miyamoto	Keynote Lecture "Humanitarian Imperative: Effective Response and Resilience" by IFRC RD. Walter Cotte	
11:00		Coffee Break		
11:15		Keynote Lecture "Comparative Study of Post-disaster Recovery Curves for Past Catastrophic Disasters in the World" by Dr. Osamu Murao	Lunch	OPTIONAL Teotihuacan Pyramids Tour
12:15				
12:30		Lunch	Panel 5	
12:45			Panel 6	
13:00				
13:15			Coffee Break	
13:30		Panel 1	Panel 7	
13:45		Panel 2	Panel 8	
14:00		Resilience Program Presentation		
14:15		Coffee Break		
14:30			Coffee Break	
14:45		Panel 3	Panel 9	
15:00		Panel 4	Panel 10	
15:15				
15:30				
15:45				
16:00				
16:15				
16:30				
16:45				
17:00				
17:15				
17:30			Break	
17:45				
18:00			Closing Remarks	
18:15				
18:30		Welcome dinner for Panellists		
18:45				
19:00				
19:15				
19:30				
19:45				
19:55		Healing by Sharing, Behind "When I Grow Up, I Want to Be Mexican #FUERZAMEXICO" Presentation	Free Afternoon	
20:00				
20:15				
20:30				

NOTES:

1. A more updated version of the Program is printed on the back of your gaffette.
2. Please note that the Welcome Dinner, Scientific Fieldtrip and Teotihuacan Pyramids Tour, as they are not open events, required prior RSVP.

KEYNOTE SPEAKERS



MS. MAMI MIZUTORI

Special Representative of the United Nations Secretary-General (SRSG) for Disaster Risk Reduction, and head of the United Nations Office for Disaster Risk Reduction

The role of the UN Office for Disaster Risk Reduction is to support countries and stakeholders in the implementation of the Sendai Framework for Disaster Risk Reduction (2015-2030). The Special Representative ensures the strategic and operational coherence between disaster risk reduction, climate change and sustainable development agendas as well as the linkage with the UN Secretary-General's prevention agenda and with humanitarian action.



DR. KIT MIYAMOTO

CEO, Miyamoto International & President, Miyamoto Relief

Expert to World Bank projects, including a seismic risk mitigation project in Istanbul, Manila, Mongolia, Indonesia and Myanmar. His team conducted damage assessments after the 2010 Haiti earthquake. He is currently involved with earthquake reconstruction in Nepal, Mexico and Indonesia while his team conducts critical disaster preparedness policy work for USAID in Latin America and for the World Bank in Bangladesh.

Lecture: "The challenges of seismic engineering in Latin America"



DR. OSAMU MURAO

Chairperson, APRU Multi-Hazard Program Core Group

He is also a professor at the International Research Institute of Disaster Science (IRIDeS) at Tohoku University, and founder of the International Strategy for Disaster Mitigation Laboratory (ISDM). His research focus on post-disaster recovery process & urban design, and the relationship between physical environment and disaster; he has investigated the post-disaster recovery process for damaged areas in Taiwan, Turkey, Sri Lanka, Thailand, Indonesia, Peru, Philippines, U.S.A. and Japan, among others.

Lecture: "Comparative Study of Post-disaster Recovery Curves for Past Catastrophic Disasters in the World"



DR. RAJIB SHAW

Professor, Graduate School of Media & Governance, Keio University

Shaw is also Chair of the United Nations Science Technology Advisory Group (STAG) for Disaster Risk Reduction, Co-chair of the Asia Science Technology Academic Advisory Group (ASTAAG), Coordinating Lead Author for Asia chapter of IPCC's 6th Assessment Report, Senior Fellow of Institute of Global Environmental Strategies (IGES) Japan, and the Chairperson of SEEDS Asia and CWS Japan.

Lecture: "Advances & potentials of science & technology in implementation of Sendai Framework & beyond"



MR. WALTER COTTE WITINGAN

Regional Director for the Americas International Federation of Red Cross and Red Crescent Societies (IFRC).

Mr. Cotte has more than 40 years of humanitarian and development experience. He has served as a consultant with the United Nations Disaster Assessment and Coordination system & the International Search and Rescue Advisory Group, was a member of the Colombian Government's National Disaster Board and of the board of the Colombian National Fire Association.

Lecture: "Humanitarian Imperative: Effective Response and Resilience"



B HALL PANEL AGENDA

TUESDAY, OCTOBER 29TH

1. ARCHITECTURE AND URBAN DESIGN FOR DISASTER RISK REDUCTION

MODERATOR: JOSE MANUEL PAEZ

Shabir Ahmad Kabirzad
Evaluating Resilient Capitals in Kabul City.

Fernando Aragón-Durand
Building urban resilience to climate change: the case of Mexico City megalopolis.

Layla Jorquera
Planning Parameters.

Ivan Paredes Tamayo
Fire Prevention Technology to Minimize Loss of Life During and After a Major Catastrophe.

Jorge López
Hydrometeorological risk prevention integral model in Veracruz city.

Siau Chen Chian
Seismic Resilience of Cities: What Academics, Industry and Authorities can do.

RESILIENCE PROGRAM PRESENTATION by Dr. Osamu Murao

"Architecture and Urban Design for Disaster Risk Reduction and Resilience in APRU Multi-hazards Program."

14:00 to 15:45

15:30 to 15:45

3. SCIENCE AND TECHNOLOGY

MODERATOR: SAJJAD KESHTKAR

Hirohisa Kojima
Current and Future of Space Debris Problem: How Dangerous and How Can We Solve?

Diana Urquiza, Surriel García & Miguel Hernández
Acoustic Measurements Methodology for Paging Systems Evaluation in Educational Facilities.

Mario Alvaro Ruiz Velazquez
Multi Hazard Early Warning Systems in Mexico.

Alejandro Ramos & Sarah Cosetino
The 2017 Mexico earthquake audio rescue response and its aftermath: the evolution of social action.

Yuanjin Zhang
Wiener path integral based non-linear oscillator response uncertainty determination subject to non-stationary earthquake hazard.

Rocío Castillo-Aja & Ma. Teresa Ramírez-Herrera
Improving Tsunami and Earthquake Chronologies for the Mexican Pacific Coast.

16:00 to 17:30

ROOM 4 PANEL AGENDA

TUESDAY, OCTOBER 29TH

2. EDUCATION AND RESILIENCE

MODERATOR: TAKAKO IZUMI

Yixuan Chen
Community Disaster Risk Reduction during Urbanization of Sichuan ,China.

Carol Mutch
How well are principals and teachers prepared for their role in disaster response and recovery?

Gerardo Castañeda Garza
House of cards: A diagnosis of needs and a proposal of an instructional design for home insurance & natural disasters education in Mexico City.

Boris Graizbord, Omar López & Anel Demetrio
Introducing a digital strategy in risk reduction efforts.

Zakaria Almshergqi
Strategies for disaster risk reduction in the education sector.

Hector Becerril & Rocío López
University's role for achieving risk-informed sustainable development: challenges and opportunities in the pacific south region of Mexico.

14:00 to 15:30

4. CEMEX-TEC CENTER FOR SUSTAINABLE COMMUNITIES

MODERATOR: PATRICIA TORRES

Araceli Ortega Díaz
Natural Disasters and Poverty: An Improved Analytical Framework.

Anna Fernanda Guillén de la Fuente
CEMEX TEC Center for Sustainable Communities, Social Processes.

Mariana Zamudio Guajardo
CEMEX TEC Center for Sustainable Communities, Social Innovation.

Luis Villarreal Ugarte y Carmen Armenta Menchaca
Participatory design and construction, a new way forward for the community of Villahermosa, Chiapas.

Nancy Contreras-Rios
Addressing migrant vulnerability & social disaster: Central American & Mexican Migration to the United States-Mexico Border.

Karina Denisse Cantú López
CEMEX-TEC Center for Sustainable Communities: Ambient studies as a starting point for change.

16:00 to 17:30

WEDNESDAY, OCTOBER 30TH

5. AN EMIC GAZE: INDIGENOUS PERSPECTIVES ON DISASTER RISK REDUCTION

MODERATOR: ANA LUCIA HILL

Dr. Christine Kenney (Te Āti Awa, Ngāi Toarangatira, Ngāi Tahu) - Indigenous communities and DRR

Mrs. Lucy Kaier (Ngāi Tahu) - Preparedness

Mrs. Winifred Geddes (Ngāti Awa, Ngāi Tai) - Response

Dr. Suzanne Phibbs (Ngāi Tahu) - Recovery

13:00 to 14:15

7. HEALTH AND POVERTY

MODERATOR: TAKAKO IZUMI

Ariel Abeldaño
Post-traumatic Stress Symptoms in people exposed to the 2017 earthquakes in Mexico.

Junko Otani
Effect of natural disasters on perinatal health.

Christopher Boyer
Stress Testing the Capacity of Health Systems to Manage Climate Change-Related Shocks and Stresses.

Gloria Perez Salazar
Natural Disasters and Poverty: a Systems Thinking Approach.

Ai Tashiro
OW green infrastructure affects human health and wellbeing in the post-disaster recovery?

14:30 to 16:00

9. EARTH SCIENCES AND CLIMATE CHANGE

MODERATOR: JOSE MANUEL PAEZ

Rolando Talampas
Rising Tide Can Also Sink Some Boats: Some Dangers Facing Asian Coastal Regions.

Ricardo Gabriel Suarez & Fabián Carranza
Integrated Management Strategies Analysis for Operational Risk Reduction in Pipelines Systems.

Ma. Teresa Ramírez-Herrera
Geologic record of Tsunami and Great Earthquakes in Mexico: Implications for Hazard Assessment and Prevention Planning.

Hugo Romero
The increasing number and extension of heat islands, heat waves, hotspots and air pollution in Latin American cities.

Krzysztof Gaidzik & Ma. Teresa Ramírez-Herrera
Geomorphic indices and relative tectonic uplift in the Guerrero sector of the Mexican forearc.

Moisés Contreras & Leonardo Ramírez-Guzman
Seismic Intensity Maps for Mexico City and some applications for emergency response.

16:15 to 17:45

WEDNESDAY, OCTOBER 30TH

6. SOCIAL INNOVATION PROJECTS FOR RESILIENCE DEVELOPMENT IN INDIGENOUS COMMUNITIES

MODERATOR: PATRICIA TORRES

Juan Pablo Rodríguez

David Ortega

José Agustín López

Francisco Ayala

13:00 to 14:15

8. PUBLIC POLICIES FOR RISK REDUCTION

MODERATOR: ANA LUCIA HILL

Alfredo Mahar Lagmay
Anticipatory planning in CCA-DRR.

Pia Navarrete Pimiento
Incorporation of the volcanic hazard in emergency plans: evolution, scope and challenges in Chile.

Rafael Van Dyck & Fernando Aragon
Development and Risk.

Giovanni Hernandez
Resilience of Complex Infrastructure Systems under conditions of deep uncertainty: Mexico's fuel transportation & storage infrastructure.

Juan Carlos Torres Sánchez
Disaster Risk Management System of Colombia & Resilience.

Kristoffer Berse
Science-policy interface for Disaster Risk Reduction: the case of Indonesia and The Philippines.

14:30 to 16:00

10. RESPONSE, MEDIA AND HUMANISTIC OUTLOOK

MODERATOR: JULIO RUBIO

Roland Tolentino
Representations of Post-Disaster Response and Recovery: Disasters in Philippine Cinema.

Mireya Pacheco
Literature review of humanitarian logistics research. Trends and challenges in preparedness area.

Gavin White
Community resilience or disaster risk reduction? The experience of the Red Cross Movement in managing conflicting expectations.

Xin Gao
Impacts of Dark Tourism Following Sichuan Earthquake in China.

Armin Gomez-Barrios
Storytelling and restoration of cultural heritage.

David Ortiz Haro (ON-LINE)
The importance of integral studies of collective and collaborative citizen behaviors for facing catastrophes.

16:15 to 17:45

BEING PART OF TECNOLÓGICO DE MONTERREY MEANS



4,222 ENTERPRISES
INCUBATED IN OUR
ENTREPRENEURSHIP HUB



2,469 LEARNING COMMUNITY
CENTERS RECEIVING OUR
SUPPORT

93,168 ALUMNI THROUGHOUT
OUR 26 CAMPUS NATIONWIDE



9,916 PROFESSORS
COMMITTED WITH OUR NEW ON
CHALLENGE-LEARNING-BASED
EDUCATIONAL MODEL, TEC21



40+ RESEARCH GROUPS
WITH STRATEGIC
APPROACH TO SOLVE
SOCIAL PROBLEMS



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