

[Special Discussion Session]

Future Directions of Earthquake Engineering: Emerging Vulnerability

Date and Time: 2–4 pm in JST on Tuesday, 28 September 2021
(5–7 am in UTC on Tuesday, 28 September 2021)

What are the lessons we learned about “engineering assumptions” after experiences such as the New Zealand earthquakes that caused widespread soil liquefaction and the Great East Japan Earthquake that caused massive casualties and damage by tsunami and a nuclear disaster? We were reminded that earthquakes never fail to expose weak points that are overlooked or left behind. What are the weak points that remain unrecognized? Is the rapid transition to a super-smart society creating new weak points? Considering the roles and responsibilities we are entrusted with, we should think proactively how to implement research to advance our societies.

This special session aims to trigger a community-wide debate about our future. What is new in Earthquake Engineering? In what interest should we invest our international effort? What are the challenges for the next generation? Speakers consisting of young researchers, senior keynote speakers, and distinguished coordinators will facilitate constructive discussions to derive resolutions. **All WCEE participants, especially young and energetic researchers, are welcome to participate and give comments using *Online Bulletin Board (OLBB)*.**

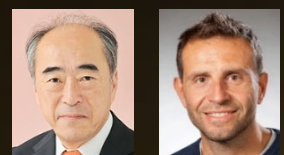
Coordinators

- Masayuki Kohiyama (Professor, Keio Univ.)
- Taichiro Okazaki (Professor, Hokkaido Univ.)



Keynote Speakers

- Tsuyoshi Takada (Japan Atomic Energy Agency, Professor Emeritus, the Univ. of Tokyo)
- Alessandro Palermo (Professor, Univ. of Canterbury)



Panelists

- Gian Paolo Cimellaro (Director of the Disaster Resilience Simulation Laboratory, Professor, Politecnico di Torino)
- Shuichi Fujikura (Associate Professor, Utsunomiya Univ.)
- Ramesh Guragain (Deputy Executive Director, National Society for Earthquake Technology-Nepal)
- Masashi Inoue (Eight-Japan Engineering Consultants Inc.)
- Noriko Takiyama (Associate Professor, Tokyo Metropolitan Univ.)



This session is supported by the Obayashi Foundation and the Kajima Foundation.

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Theme: *Emerging Vulnerability*

Data and Time: Tuesday, 28 September 2021, 14:00 – 16:00

Style: Hybrid session; pre-recorded presentations will be broadcasted. We'll gather comments during presentations using *Online Bulletin Board (OLBB)*. Discussions and summary will be held live. The resolutions will be reported in the closing ceremony.

14:00 – 14:05 **Introduction**

Masayuki Kohiyama (Professor, Department of System Design Engineering, Keio Univ., Japan) and Taichiro Okazaki (Professor, Faculty of Engineering, Hokkaido Univ., Japan)

14:05 – 14:20 **Keynote Presentation 1 Performance-based Consideration for Mega Cities**

Tsuyoshi Takada (Director of Office for Promotion of Risk informed Applications, Japan Atomic Energy Agency; Professor Emeritus of the Univ. of Tokyo, Japan)

14:20 – 14:35 **Keynote Presentation 2 Seismic Bridge Vulnerabilities, Resilience & Multi-Hazards.**

Is This Mission Impossible?

Alessandro Palermo (Professor, Department of Civil and Natural Resources Engineering, University of Canterbury, Christchurch, New Zealand)

14:35 – 14:45 **Discussion**

14:45 – 14:55 **Panelist Presentation 1 A Bright Picture of How Disaster Resilience May Advance and Be Applied 30 Years in the Future**

Gian Paolo Cimellaro (Professor, Director of the Disaster Resilience Simulation Laboratory, Politecnico di Torino, Italy)

14:55 – 15:05 **Panelist Presentation 2 Society and Earthquake Engineering in the Next 30 Years**

Masashi Inoue (Eight-Japan Engineering Consultants Inc., Japan)

15:05 – 15:15 **Panelist Presentation 3 How Technology, in Particular AI/IT, Can Change Infrastructure Design and Maintenance 30 Years in the Future**

Shuichi Fujikura (Associate Professor, Department of Civil Engineering and Regional Design, Utsunomiya Univ., Japan)

15:15 – 15:25 **Discussion**

15:25 – 15:35 **Panelist Presentation 4 Cultural Values Overweighing Scientific Indices**

Noriko Takiyama (Associate Professor, Department of Architecture and Building Engineering, Graduate School of Faculty of Urban Environmental Sciences, Tokyo Metropolitan Univ., Japan)

15:35 – 15:45 **Panelist Presentation 5 Risk Communication with Stakeholders: Transforming Risk2Resilience**

Ramesh Guragain (Deputy Executive Director, National Society for Earthquake Technology-Nepal, Nepal)

15:45 – 15:55 **Discussion**

15:55 – 16:00 **Summary and Resolutions**