

SESSION 03- [SATREPS-MARTEST] The Project for Establishment of a Research and Education Complex for Developing Disaster-resilient Societies

Conveners

Yoshiyuki Kaneda, Kagawa University, Japan
Aitaro Kato, University of Tokyo Earthquake Research Institute, Japan
Bülent Akbaş, Gebze Technical University, Türkiye
Selçuk Toprak, Gebze Technical University, Türkiye
Ceren Özer Sözdinler, Gebze Technical University, Türkiye
Ahmet Anıl Dindar, Gebze Technical University, Türkiye

"The Project for Establishment of a Research and Education Complex for Developing

Disaster-resilient Societies – MARTEST" is a collaborative technology and science exchange initiative jointly led by Kagawa University (Japan) and Gebze Technical University (Türkiye). The project brings together numerous partner organizations from both Japan and Türkiye and is supported by JICA (Japan International Cooperation Agency), JST (Japan Science and Technology Agency) and Presidency of the Republic of Türkiye, Directorate of Strategy and Budget Development in the frame of SATREPS (**Science And Technology REsearch Partnership for Sustainable development**). The main purpose of the SATREPSMARTEST project is to build a foundation for building cities that are earthquake- and tsunami-resistant, and social implementation of research results for improving disaster information literacy. The project started in 2023 and is expected to complete by 2028.

This session is dedicated to the research outcomes of the working groups' activities in the SATREPS-MARTEST project as listed below:

- WG-1: Dissemination of Earthquake Engineering Technology and Construction of Educational Environment
- Conducting shake table experiments
- Investigating the seismic screening and strengthening techniques to be applied to buildings in Türkiye
- Developing a system of earthquake engineering education and training.
- Investigating the vulnerability of cities in Türkiye

- WG-2: Inclusive and Evidence-based Decision Support Platform for Disaster Risk Reduction
- Development of Earthquake scenarios and tsunami wave source database in the Sea of Marmara
- Preparation of Tsunami inundation database in Yalova city
- Conducting evacuation simulations and human damage databases
- Development of mobile apps for secure tsunami evacuation and tsunami preparedness activities using AR/VR technology
- Development of a decision-support platform to ensure a disaster-resilient community.
- WG-3: Earthquake activity along the North Anatolian fault based on seismic and geodetic observations
- Seismic monitoring by DAS in the Sea of Marmara
- Improving the fault geometry of the North Anatolian Fault system in the eastern part of the Marmara Sea
- Development of slip-deficit rates along the North Anatolian Fault system
- WG-4: Urban Disaster Risk Mitigation and Disaster Literacy Development
- Urban Risk Mitigation Research
- Preparation of Business Continuity Plans and District Continuity Plans against disasters
- Development of Disaster Literacy Program with training tools and programs of disaster education using e-learning
- Preparation of Pre-Disaster Recovery Planning/Urban planning
- Building/Lifelines/Other Structures Damage Estimations in Yalova city

The proposed session offers an opportunity for project researchers to present their studies to the ESC attendees.



Key themes of the session are: disaster-resilience, tsunami hazard and risk assessment, tsunami evacuation modeling, disaster preparation using AR/VR technology, seismic monitoring by DAS, GNSS observations and InSAR data processing, fault geometry and slipdeficit rates along NAF, urban risk mitigation, business and district continuity planning (BCP and DCP), seismic damage estimation, decision-support platform for disasters, disaster awareness education and training.

