Summary:

A Special Session by the COSMOS Ground-Motion Simulation working group (COSMOS Sim WG) entitled "Ground-Motion Simulation, Validation, and Dissemination for Engineering Applications" was held on 8 November 2023 as part of the 7ICEES/18WCSI joint conferences in Antalya, Turkiye, November 6-10, 2023. The program and select photos from the session are presented below. Ten talks were given by an international community and included state-of-the-art findings on various ground-motion simulation techniques, sensitivity of ground-motion simulations to input parameters, use of simulated datasets for engineering applications, and machine learning tools.

In addition to the program below, Professor Muneo Hori was a keynote speaker at the conference. He presented on Integrated Earthquake Simulation Enhanced with High Performance Computing.

An important action item that was identified during this session was to create global benchmarks for validating various methods for simulating past earthquakes using engineering response parameters. Moreover, the sessions reiterated the need for the COSMOS Sim WG to standardize dissemination of the simulated ground-motion datasets for engineering use.

We thank all of the speakers and participants of the session.

Aysegul Askan, Brad Aagaard, and Sanaz Rezaeian

| **PART 1** | | |
|---|---|---|
| **Paper ID** | **Title** | **Authors** |
| 13780 | DEVELOPING INTERNATIONAL STANDARDS AND GUIDLINES FOR CURATING, DISSEMINATING, AND VALIDATING SIMULATED EARTHQUAKE GROUND-MOTION DATA | BRAD AAGAARD, **AYSEGUL ASKAN**, SANAZ REZAEIAN, SEAN AHDI, ALAN YONG |
| 13900 | BB-SPEEDset: A VALIDATED DATASET OF SIMULATED EARTHQUAKE GROUND MOTIONS FOR ENGINEERING AIMS | **CHIARA SMERZINI**, ROBERTO PAOLUCCI, MANUELA VANINI |
| 14032 | PHYSICS-BASED GROUND MOTION PARAMETER MAPS: NUMERICAL SIMULATIONS AND DATA ASSIMILATION | **LEONARDO RAMIREZ-GUZMAN** |
| 13422 | STOCHASTIC GROUND MOTION SIMULATION FOR THE 9TH JULY 1998 FAIAL EARTHQUAKE USING SOURCE-BASED AND SITE-BASED STOCHASTIC METHODS | SAYED MOHAMMAD SAJAD HUSSAINI, **SHAGHAYEGH KARIMZADEH**, PAULO B LOURENÇO |
| 14033 | STOCHASTIC MODELING AND SIMULATION OF NEAR-FAULT EARTHQUAKE GROUND MOTIONS | **MAYSSA DABAGHI** |

| **PART 2** | | |
|---|---|---|
| **Paper ID** | **Title** | **Authors** |
| 14404 | VARIABILITY OF STRONG VELOCITY PULSES ASSOCIATED WITH DIRECTIVITY EFFECTS IN RECENT MODERATE AND LARGE MAGNITUDE EARTHQUAKES IN TURKEY | **ELİF TÜRKER**, MING HSUAN YEN, MARCO PILZ, FABRICE COTTON |

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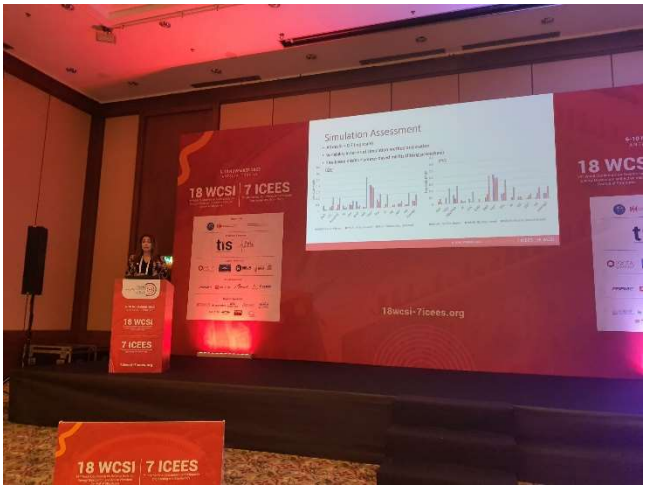
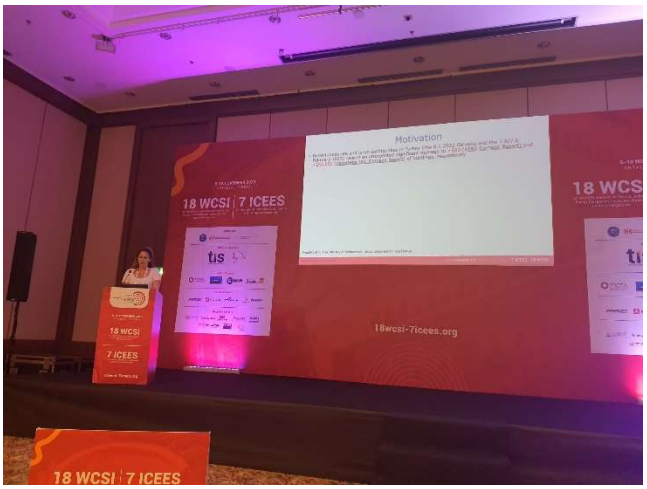
|---|---|---|
| 14465 | A REVIEW OF PREVIOUS GROUND MOTION SIMULATION AND VALIDATION STUDIES IN TURKEY AND A RECENT SIMULATED GROUND MOTION DATASET | ABDULLAH ALTINDAL AND **AYSEGUL ASKAN** |
| 14199 | EFFECTIVENESS OF SYNTHETIC GROUND-MOTIONS FOR UNREINFORCED MASONRY STRUCTURES: APPLICATION TO A CASE STUDY IN CENTRAL ITALY | **MATTEO SALVALAGGIO**, SHAGHAYEGH KARIMZADEH, PAULO B. LOURENÇO |
| 13877 | EFFECTS OF SURFACE TOPOGRAPHY ON SEISMIC RESPONSE OF RC SHEAR WALL BUILDINGS | YAVUZ DENİZ, **ZEYNEP TUNA DEĞER**, WENYANG ZHANG, ERTUGRUL TACIROGLU |
| 13904 | MACHINE LEARNING FOR DAMAGE CLASSIFICATION, RISK MITIGATION AND POST EARTHQUAKE MANAGEMENT | **FEDERICA DI MICHELE**, OURANIA GİANNOPOULOU, ENRICO STAGNINI, DONATO PERA, BRUNO RUBINO, ROBERTO ALOISIO, AYSEGUL ASKAN, PIERANGELO MARCATI |

Session Flyer:

Selected Photos from the Session:




Simulation Assessment
18 WCSI | 7 ICEES
18wcsi-7icees.org


Motivation
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