

**Wednesday, September 18th, 10:50 - 12:20**

**Conference Hall**

**Session Title:** SS3 - Frontiers of Earthquake and Fault-Zone Dynamics  
 (Invited lectures)

**Chair:** Kuo-Fong Ma, Ya-Ju Hsu

<b>10:50 - 11:20</b> SS3-001 (Invited Lecture)	LEARNING ABOUT LARGE EARTHQUAKE RUPTURES USING FAULT ZONE DRILLING FROM TCDP TO JFAST Speaker: James Mori
<b>11:20 - 11:50</b> SS3-002 (Invited Lecture)	VARIABILITY AND TIME-DEPENDENCIES OF EARTHQUAKES PROPERTIES: LESSONS LEARNED FROM LARGE GROUND- MOTION DATASETS ANALYSIS Speaker: Fabrice Cotton
<b>11:50 - 12:20</b> SS3-003 (Invited Lecture)	SLIP BEHAVIOR OF THE SHALLOW SUBDUCTION INTERFACE ALONG THE JAPAN TRENCH Speaker: Ryota Hino

**Wednesday  
 Sep. 18  
 AM1**

**Wednesday, September 18th, 10:50 - 12:20**

**Room 101**

**Session Title:** F1 - Soil dynamic and ground response  
 F4 - Seismic design of foundations and geotechnical structures  
 F5 - Geotechnical engineering innovations

**Chair:** Cheng-Hsing Chen, Chi-Chin Tsai

<b>10:50 - 11:05</b> F1-011	DEPTH-DEPENDENT AMPLIFICATION BEHAVIOR OBSERVED FROM DOWNHOLE ARRAYS IN THE TAIPEI BASIN Speaker: Chi-Chin Tsai
<b>11:05 - 11:20</b> F1-012	NUMERICAL STUDY OF GROUND RESPONSE FOR SITES WITH INCLINED LAYERS Speaker: On-Lei Annie Kwok
<b>11:20 - 11:35</b> F1-014	SOIL DYNAMIC RESPONSE FOR SEISMIC MICROZONATION PURPOSES: RANCAGUA-MACHALÍ AND RENGÓ CITIES, CHILE Speaker: Laura Piñero-Feliciangeli
<b>11:35 - 11:50</b> F4-011	SEISMIC PERFORMANCE ASSESSMENT FOR GRAVITY WHARVES – A CASE STUDY OF 2018 HUALIEN EARTHQUAKE Speaker: Yung-Yen Ko
<b>11:50 - 12:05</b> F1-018	COMPARISON OF DEEPSOIL AND LS-DYNA METHODS IN SITE RESPONSE ANALYSIS FOR NUCLEAR POWER PLANT Speaker: Hsuan-Chih Yang
<b>12:05 - 12:20</b> F5-013	STUDY ON THE INFLUENCE OF DIFFERENCE OF PENETRATION DEVICE OF PIEZO DRIVE CONE ON INVESTIGATION RESULTS Speaker: Noriyuki Fujii

**Wednesday, September 18th, 10:50 - 12:20**

**Room 103**

**Session Title:** SE10 - Smart Monitoring technology for bridge

**Chair:** Tzu-Kang Lin, Yung-Bin Lin

<b>10:50 - 11:05</b> SE10-015	SOUR STABILITY EVALUATION OF BRIDGE PIER CONSIDERING FLUID-SOLID INTERACTION  Speaker: Tzu-Kang Lin
<b>11:05 - 11:20</b> SE10-011	TWO-YEAR MONITORING PROJECT ON A REPAIRED EARTHQUAKE DAMAGED BRIDGE USING OPTIC FIBER DIFFERENTIAL SETTLEMENT SENSORS  Speaker: Zheng-Kuan Lee
<b>11:20 - 11:35</b> SE10-012	EMPLOYMENT OF VIBRATION-BASED SCOUR DETECTION TECHNOLOGY IN A FIELD APPLICATION  Speaker: Xiao-Qin Liu
<b>11:35 - 11:50</b> SE10-013	A FIELD MONITORING SYSTEM FOR MAINTENANCE AND MANAGEMENT OF EXTRADOSED BRIDGES  Speaker: Chun-Chung Chen
<b>11:50 - 12:05</b> SE10-014	MONITORING BRIDGE SCOUR USING MACHINE LEARNING  Speaker: Yi-Hsiang Chen

**Wednesday, September 18th, 10:50 - 12:20**

**Room 201**

**Session Title:** D2 - Ground motion prediction equations and engineering applications of ground motion simulation

**Chair:** Mukatlal Sharma, Jyun-Yan Huang

<b>10:50 - 11:05</b> D2-014	EMPIRICAL RELATION OF CUMULATIVE ABSOLUTE VELOCITY FOR WESTERN HIMALAYA  Speaker: Mukatlal sharma
<b>11:05 - 11:20</b> D2-012	VERTICAL GROUND MOTION PREDICTION EQUATION FOR VERTICAL TO HORIZONTAL (V/H) RATIOS OF GROUND MOTION IN TAIWAN  Speaker: Van-BANG Phung
<b>11:20 - 11:35</b> D2-013	SITE-DEPENDENT UNIFORM HAZARD RESPONSE SPECTRA FOR A MAJOR RESERVOIR PROJECT IN TAIWAN  Speaker: Jia Cian Gao
<b>11:35 - 11:50</b> D2-012	RAPID SITE EFFECT EVALUATION FOR RECENT DISASTER EARTHQUAKES IN TAIWAN FROM DENSE MICROTREMOR H/V MEASUREMENTS  Speaker: Jyun-Yan Huang

Wednesday  
 Sep. 18  
 AM1

**Wednesday, September 18th, 10:50 - 12:20** **Room 202**

**Session Title:** G0 - Seismic design, evaluation and retrofit  
 G3 - Advances in earthquake engineering research

**Chair:** Jui-Liang Lin, Ching-Yi Tsai

<b>10:50 - 11:05</b> G0-020	A STUDY ON COMPARISON OF MODAL RESPONSE COMBINATIONS IN SEISMIC RESPONSE ANALYSIS Speaker: Jia-Sheng Chiou
<b>11:05 - 11:20</b> G0-014	SIMPLIFIED SEISMIC ANALYSIS OF BUILDINGS WITH SETBACKS Speaker: Jui-Liang Lin
<b>11:20 - 11:35</b> G0-021	RETROFITTING METHOD WITH COMPRESSION BRACE WITH SELF-JOINTING DEVICE FOR RC STRUCTURE Speaker: Ren-Jie Tsai
<b>11:35 - 11:50</b> G0-023	ANALYSIS MODEL OF LATERAL LOAD-DISPLACEMENT CURVE OF RC WALL WITH OPENINGS UNDER SHEAR FAILURE Speaker: Ren-Jie Tsai
<b>11:50 - 12:05</b> G3-012	FRACTURE ASSESSMENT OF ELECTRO-SLAG WELDING CONNECTION IN STEEL BEAM-TO-BOX COLUMN JOINTS Speaker: Ching-Yi Tsai

**Wednesday  
Sep. 18  
AM1**

**Wednesday, September 18th, 10:50 - 12:20** **Room 203**

**Session Title:** SE12 - Seismic performance design, evaluation and retrofit for non-structural components

**Chair:** Takuya Nagae, Dong-Hyeon Shin

<b>10:50 - 11:05</b> SE12-024	ASSESSMENT OF A CURTAIN WALL SYSTEM USED IN HIGH-RISE BUILDINGS AND DEVELOPMENT OF A MONITORING METHOD Speaker: Takuya Nagae
<b>11:05 - 11:20</b> SE12-021	ANALYSIS AND VERIFICATION OF SEISMIC REINFORCEMENT PERFORMANCE OF MASONRY WALLS USING PREFABRICATED STEEL BAND AND URES RETROFITTING METHOD Speaker: Han-Gil Kim
<b>11:20 - 11:35</b> SE12-022	SHAKE TABLE TEST FOR SEISMIC PERFORMANCE INVESTIGATION OF CLADDING SYSTEM INSTALLED AT THE STEEL FRAME Speaker: Jae-Han Park
<b>11:35 - 11:50</b> SE12-033	EVALUATION OF EQUIVALENT STATIC AND DYNAMIC ANALYSIS METHOD FOR SEISMIC DESIGN OF NON-STRUCTURAL ELEMENTS Speaker: Su-Chan Jun
<b>11:50 - 12:05</b> SE12-018	DYNAMIC BEHAVIOR OF ANCHORED NONSTRUCTURAL COMPONENT CONNECTED VIA YIELDING ELEMENTS Speaker: Tal Feinsein
<b>12:05 - 12:20</b> SE12-036	EXPERIMENTAL INVESTIGATION ON CYCLIC BEHAVIOR OF HYBRID SPRING SUPPORT APPLIED FOR ELECTRIC SWITCHBOARDS Speaker: Dong-Hyeon Shin

**Wednesday, September 18th, 10:50 - 12:20**

**Room 204**

**Session Title:** SE6 - Advanced Simulation, Artificial Intelligence, Data Science  
and Internet of Things for Earthquake Engineering  
H5 - Emergency management and planning

**Chair:** Maki Koyama, Yuan-Sen Yang

**Wednesday  
Sep. 18  
AM1**

<b>10:50 - 11:05</b> SE6-012	AN IMAGE ANALYSIS SOFTWARE FRAMEWORK FOR PROTOTYPING IMAGE BASED STRUCTURAL DEFORMATION MONITORING  Speaker: Yuan-Sen Yang
<b>11:05 - 11:20</b> SE6-013	A SOFTWARE FRAMEWORK FOR GPU BASED FINITE ELEMENT PARALLELIZATION ON OPENSEES FRAMEWORK  Speaker: Yuan-Sen Yang
<b>11:20 - 11:35</b> SE6-014	PARTICLE-BASED METHODS AND THEIR POTENTIALS FOR EARTHQUAKE ENGINEERING  Speaker: Wei-Tze Chang
<b>11:35 - 11:50</b> H5-012	RESCUE OPERATIONS AT COLLAPSED HOUSES BY POLICE RESCUE TEAMS IN THE KUMAMOTO EARTHQUAKES  Speaker: Maki Koyama
<b>11:50 - 12:05</b> H5-011	APPLICATION OF MONITORING INFORMATION IN SCIENCE PARKS TO EARTHQUAKE DISASTER MANAGEMENT  Speaker: Min-Cheng Teng