

10th International Conference on Urban Earthquake Engineering

March 1st-2nd, 2013

Looking Ahead

*While Marking a Decade of C-21 Earthquake Engineering
and Risk Mitigation Practices at CUEE, Tokyo*

Venue : Tokyo Institute of Technology, O-okayama Campus, Tokyo, Japan

Greetings!

It is a signal pleasure to extend an invitation to our 10th International Conference on Urban Earthquake Engineering (10CUEE) being held again this year, 2013, here in Tokyo on March 1st and 2nd. The conference has been convened each March since 2004, under two consecutive five-year Center-of-Excellence programs headquartered at the **Center for Urban Earthquake Engineering (CUEE)** at Tokyo Tech. As is widely known, our current *Global-COE program (August 2008-March 2013)* is entitled "International Urban Earthquake Engineering Center for Mitigating Seismic Mega Risk".

Over the past decade we have aimed not only to promote research to mitigate the seismic "mega"-risk confronting vast present-day metropolises in earthquake-prone regions throughout the world, but also to produce next-generation practitioners and researchers responsible for developing new strategies and practices for seismic risk reduction. We have sponsored the conference each year in the interest of fostering and stimulating intensive information dissemination and technology transfer, while looking to promote and extend an international network that with your help has been directed to the formation of younger researchers through a sustained and now, we believe, truly global collaborative effort.

The Conference this year features state-of-the-art technical presentations on diverse topics relevant to Urban Earthquake Engineering, followed by a significant choice of theme-based parallel sessions. Once again there will be a large number of papers related to lessons learned from the catastrophic damage and loss of life occasioned by the *2011 Great East Japan Earthquake and Tsunami* of just two years ago. Having commenced with 66 papers and only 15 overseas participants in March 2004, our Conference this year comprises more than 270 presentations, attracting some 450 participants with nearly 200 overseas guests. As in previous years, 10CUEE is slated this year to include *Special Educational Sessions and Best Presentation Awards for Young Researchers*. This year in 2013 about 130 papers are targeted for these Educational Sessions, which, I am convinced, have over the past ten years opened up a new career space for a number of younger researchers. To facilitate participation of this younger cohort, Travel Grants have been awarded once more in 2013 to some forty individuals for participation at 10CUEE.

As 2013 marks the final year of our second five-year program, 10CUEE will be the last conference held under the auspices of this particular Global-COE program. We look forward to continuing to host similar gatherings in future- but on this occasion we shall endeavor to summarize and set in perspective the legacy of our current five-year program, while looking with optimism toward possible ramifications of what has so far been accomplished. We remain confident that the March 2013 event will once again stimulate intensive information dissemination and technology transfer, as well as promote and uphold the now well-established and robust international network of our community. Our hope is that this conference will offer an excellent opportunity for all of us dedicated to Urban Earthquake Engineering to take stock of developments in our joint field.

Kohji Tokimatsu
Global-COE Program Leader and Director of CUEE Tokyo Tech



SESSION SCHEDULE TABLE

Friday, March 1st									
Main Hall(2F)	W932(3F)	W933(3F)	W934(3F)	W935(3F)	W936(3F)	W931(3F)	W331(3F)	W323(2F)	
Registration									
9	Opening Session	Beginning at 9:10 AM Yoshinao Mishima, President, Titech, Kohji Tokimatsu, Professor, Titech Guidance of Young Researchers Session / Troy Morgan(Exponent, Inc.)							
	K1 Keynote 1 K2 Keynote 2	Ronald Eguchi, President and CEO, ImageCat, Inc. Kyuichi Maruyama, Professor, Nagaoka University of Technology							
10	S1-H Young Researchers Session (Engineering Seismology)	S1-1 Young Researchers Session (Structural Engineering-Steel)	S1-2 Young Researchers Session (Geotechnical Engineering & Lifeline Systems)	S1-3 Young Researchers Session (Advanced Technologies)	S1-4 Young Researchers Session (Structural Engineering - Concrete)	S1-5 Young Researchers Session (Tsunami, Human Behavior, Socio-economic Issues)	S1-6 Young Researchers Session (Structural Engineering - Other, Bridge)	S1-7 Young Researchers Session (Response Record, Lessons Learnt - Earthquakes & Timber)	S1-8 Young Researchers Session (Information and Computing Technology, Earthquake Engineering Practice, Earthquake Loss Estimation & New Design Criteria and Methods)
11	Lunch								
12	Lunch								
13	S2-H Engineering Seismology	S2-1 Structural Engineering - Steel	S2-2 Young Researchers Session (Geotechnical Engineering & Lifeline Systems)	S2-3 Young Researchers Session (Advanced Technologies)	S2-4 Young Researchers Session (Structural Engineering - Concrete)	S2-5 Socio-economic Issues			
14	S3-H1 Engineering Seismology	S3-1 Structural Engineering - Steel	S3-2 Geotechnical Engineering	S3-3 Human Behavior	S3-4 Structural Engineering - Concrete	S3-5 Socio-economic Issues			
15	S3-H2 Engineering Seismology								
16									
17	Welcome Party (Tokyo Tech Front)								
18	Welcome Party (Tokyo Tech Front)								
19	Welcome Party (Tokyo Tech Front)								

REGISTRATION CATEGORIES:

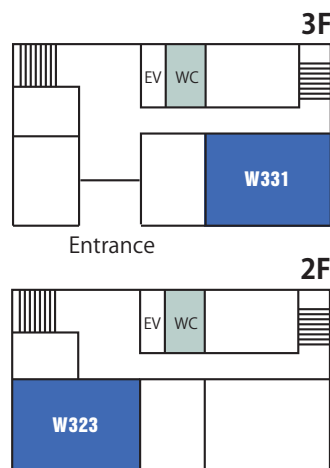
- Full Registration (Red Tag): Sessions, Proceedings, Lunches, Welcome Party, and Banquet
- Basic/ Student Registration (Yellow Tag): Sessions, Proceedings, Lunches, and Welcome Party
- Free Registration (Blue Tag): Sessions and Proceedings only

ADDITIONAL EVENT TICKETS:

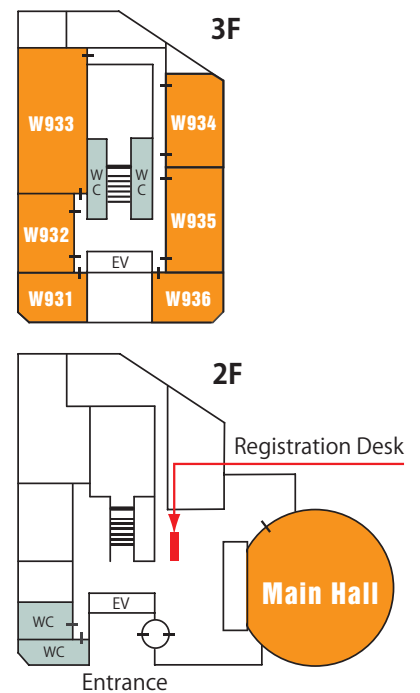
- Banquet (Red Seal)
- Welcome Party (Green Seal)

Allocated times for each speaker (including discussion) are:

- 20 min. for Keynote Lecture
- 20 min. for presentation in G-COE Resumé Session
- 15 min. for all other presentations in Parallel Sessions
- 12 min. for each presentation in Young Researchers Sessions




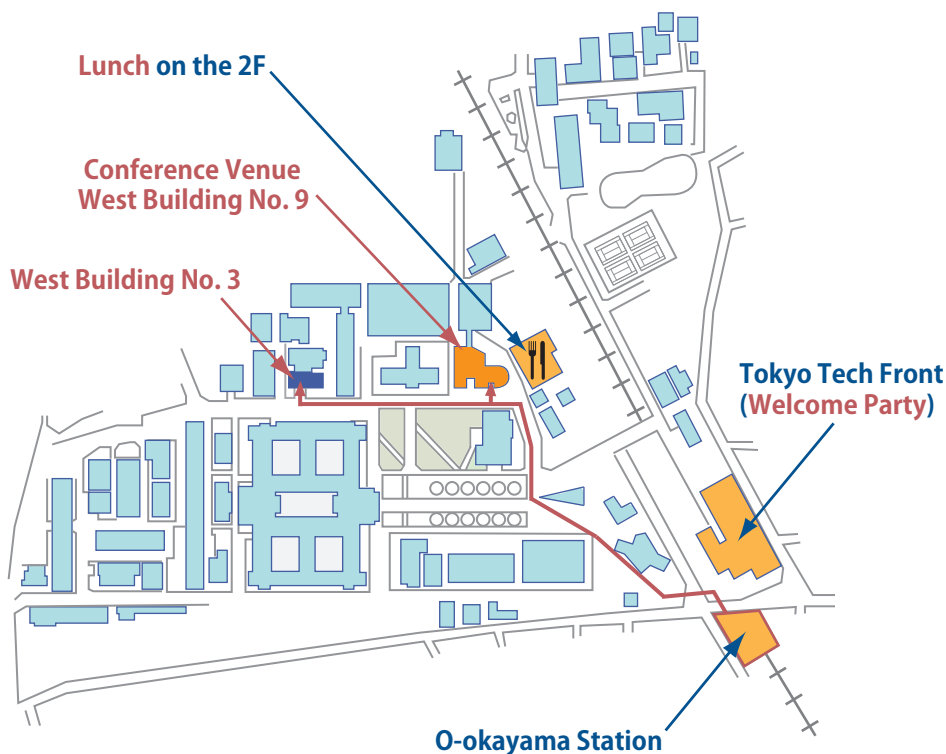
West Building No. 3



West Building No. 9

Saturday, March 2nd

	Main Hall(2F)	W932(3F)	W933(3F)	W934(3F)	W935(3F)	W936(3F)
9	S4-H Engineering Seismology	S4-1 Structural Engineering - Bridge	S4-2 Non-Structural Components and Contents	S4-3 New Design Criteria and Methods	S4-4 Structural Engineering - Concrete	S4-5 Tsunami
10						
11	S5-H Engineering Seismology	S5-1 Information and Computing Technology & Earthquake Loss Estimation	S5-2 Geotechnical Engineering & Lifeline Systems	S5-3 Advanced Technologies	S5-4 Structural Engineering - Concrete	S5-5 Tsunami
12						
13	 Lunch					
14	S6-H Engineering Seismology	S6-1 Structural Engineering - Timber	S6-2 Geotechnical Engineering	S6-3 Advanced Technologies	S6-4 Structural Engineering - Other	S6-5 Lessons Learnt - Earthquakes, Response Records & Earthquake Engineering Practice
15						
16	S7-H G-COE Resumé and Closing Session	Award Presentation Toru Takeuchi, Professor, Tokyo Institute of Technology Toshihiro Osaragi, Professor, Tokyo Institute of Technology Kazuhiko Kawashima, Professor, Tokyo Institute of Technology Junichiro Niwa, Professor, Tokyo Institute of Technology Saburoh Midorikawa, Professor, Tokyo Institute of Technology Stephen Mahin, Professor, University of California, Berkeley Kohji Tokimatsu, Professor, Tokyo Institute of Technology				
17	Group Photo					
18						
19	Banquet (Shinagawa Prince Hotel)					
20						



Conference Venue

Opening Session 9:10 - 9:40

(Cochairs : Saburoh Midorikawa and Junichiro Niwa) Main Hall

Opening Message / **Yoshinao Mishima** (President/Tokyo Institute of Technology)

Welcome Message / **Kohji Tokimatsu** (Tokyo Institute of Technology)

Guidance of Young Researchers Session / **Troy Morgan** (Exponent, Inc.)

Keynote Lectures 9:40 - 10:20 Main Hall

K1 Keynote Lecture 1 (Chair : Saburoh Midorikawa) 9:40 - 10:00

Exposure Data Development for the Global Earthquake Model: Inventory Data Capture Tools / **Ronald Eguchi** (ImageCat, Inc.)

K2 Keynote Lecture 2 (Chair : Junichiro Niwa) 10:00 - 10:20

Evaluation of Tsunami Force acted on Bridges by Great East Japan Earthquake / **Kyuichi Maruyama** (Nagaoka University of Technology)

Parallel Session 1

S1-H Young Researchers Session (Engineering Seismology) 10:30 - 12:30

(Cochairs: Twei-Tsyer Chen and Hitoshi Morikawa) Main Hall

Comparison of Several Common Transfer Functions for Site Effect Study in Taipei Basin / **Jyun-Yan Huang** (National Central University)

A Site-Specific Seismological Model within a Bayesian Updating Framework / **Alin Radu** (Cornell University)

Analysis and Study of Site Effect in Kaohsiung and Pingtung area in Taiwan / **Hsien-Jen Chiang** (National Central University)

Application of Waveform Inversion to Actual Seismic Refraction Data for Retrieving Shallow 2D S-wave Velocity Profile / **Amrouche Mohamed** (Tokyo Institute of Technology)

Reliability of Dispersion Measurement from Microtremors with Seismic Interferometry / **Kosuke Chimoto** (Tokyo Institute of Technology)

Study for Seismic Microzoning in Damascus City, Syria, from Strong Motion Simulation Considering Local Site Amplification / **Hussam Eldein Zaineh** (Tokyo Institute of Technology)

Improved Method of Data Analysis for the Gravity and Magnetic Exploration System / **Satoshi Tokue** (Tokyo Institute of Technology)

Estimation of Ground Structure Using Gravity Survey Method around Furukawa, Japan, where was severely damaged by 2011 Tohoku Earthquake / **Sakkrawit Sripunyaphikhup** (Tokyo Institute of Technology)

The Significance of the Ratio of Power Spectra between Two Sites in the Wavefield of Microtremor / **Xinrui Zhang** (Tokyo Institute of Technology)

S1-1 Young Researchers Session (Structural Engineering-Steel) 10:30 - 12:45

(Cochairs : Xiaodong Ji and Satoshi Yamada) W932

Damage Detection for Steel Structures Using the Hilbert-Huang Transform Approach / **Dung Chiou** (National Central University)

Member Damages of High-Rise Building Structures under Severe Earthquakes : Effect of Member Deterioration / **Yongtao Bai** (Kyushu University)

Study on Column Behavior in a Full-Scale Steel Building Subjected to Strong Ground Motions on Shaking Table / **Tran Nam** (Tokyo Institute of Technology)

Cyclic Loading Test on RHS Columns under Bi-Directional Horizontal Forces / **Takanori Ishida** (Tokyo Institute of Technology)

Test on Eccentric Beam-to-RHS Column Connections / **Norihito Miki** (Tokyo Institute of Technology)

Evaluation of the Composite Beam Stress Subjected to Bending and Axial Force / **Yoriyuki Matsuda** (Tokyo Institute of Technology)

Effects of Column Base Behavior on Seismic Performance of Multi-Story Steel Moment Resisting Frames / **Yao Cui** (Dalian University of Technology)

Evaluation of the Response Modification Coefficient Including Collapse Assessment of SCBFs / **Po-Chien Hsiao** (Kyoto University)

Seismic Test and Design of Buckling-Restrained Brace Connections Tenth International Conference on Urban Earthquake Engineering / **Pao-Chun Lin** (National Center for Research on Earthquake Engineering)

Cyclic Loading Tests of Single Angle Brace Focusing on Out-of-plane Stiffness of Gusset Plate / **Hayato Asada** (Kobe University)

Cyclic Loading Tests of Steel Slit-dampers with Various Shapes / **Yu Jiao** (Tokyo University of Science)

S1-2 Young Researchers Session (Geotechnical Engineering and Lifeline Systems) 10:30 - 12:30

(Co-chairs : Ross Boulanger and Jiro Takemura) W933

Evaluation of Collapse and Non-Collapse of Parallel Bridges Affected by Liquefaction and Lateral Spreading / **Benjamin Turner** (University of California, Los Angeles)

Numerical Evaluation of Failure Mechanisms of Pile Foundation in Liquefiable Soils / **Mohammad Reza Salami** (University of Bristol)

Liquefaction Induced Ground Deformation Observed at Gohno-ike Pond in Kamisu City during 2011 Great East Japan Earthquake / **Shigeru Kanemitsu** (Tokyo University of Science)

Effects of Drainage and Dewatering on Differential Settlement of Wooden Houses Founded on Liquefiable Soils / **Takahiko Hidekawa** (Kajima Technial Research Institute)

Numerical Modeling Issues in Predicting Post-Liquefaction Reconsolidation Strains and Settlements / **Katerina Ziotopoulou** (University of California, Davis)

Modeling of Earthquake Induced Uplift of Tunnels in Liquefiable Soil / **Siau Chen Chian** (Tokyo Institute of Technology)

Effects of Non-homogeneity on Liquefaction in Stratified Soil Deposits / **Manika Maharjan** (Tokyo Institute of Technology)

Centrifuge Model Study on the Effect of Shield Tunneling on Adjacent Pile Foundation / **Ittichai Boonsiri** (Tokyo Institute of Technology)

Stress Reduction Effect of Structure due to Basemat Uplift and Soil Yielding / **Takafumi Inoue** (The University of Tokushima)

Experimental Investigation of the Stresses in a Tank Shell Resulting from Uplift during Earthquakes / **Miguel Ormeno-Godoy** (University of Auckland)

S1-3 Young Researchers Session (Advanced Technologies) 10:30 - 12:30

(Co-chairs : Giuseppe Oliveto and Kazuhiko Kasai) W934

Identification of Mass Eccentricities from Seismic Response of Three Dimensional Buildings / **Roshanak Omrani** (University of California, Los Angeles)

The Behavior of RC Rocking Wall-Frame Buildings under Pulse-Like Ground Motions / **Hetti Arachchige Don Buddika** (Tokyo Institute of Technology)

Modal Identification of Output-only Structures under Ambient Vibration / **Xi Chen** (Tongji University)

Active Vibration Control Tests of Arch Structures Using Acceleration Feedback / **Ken'ichi Minowa** (Tokyo Institute of Technology)

Seismic Response and Performance of Fixed Base and Base Isolated Structures Considering Continued Functionality Damage State / **Sarun Chimamphant** (Tokyo Institute of Technology)

An Inerter Vibration Isolation System for the Control of Seismically Excited Structures / **Irina Lazar** (University of Bristol)

Seismic Pounding of Base-Isolated Buildings under Bidirectional Excitation / **Deepak Pant** (Tokyo Institute of Technology)

Real-time Hybrid Testing of a Smart Base Isolation System Employing a Magnetorheological Damper / **Pei-Ching Chen** (National Taiwan University)

Study on Implementation of Remote Building Damage Assessment System during Large Scale Earthquake Disaster / **Makoto**

Fujiu (The University of Tokyo)

A Preliminary Study on the Identification of Seismic Isolation Systems from Earthquake Records / **Anastasia Athanasiou** (University of Catania)

S1-4 Young Researchers Session (Structural Engineering-Concrete) 10:30 - 13:00

(Co-chairs : Kinag Hwee Tan and Tomohiro Miki) W935

Three-Dimensional Nonlinear Beam-Truss Model for Non-Planar Reinforced Concrete Walls / **Yuan Lu** (University of California, Berkeley)

Influence of Post-Tensioned Ropes on the Dynamic Response of Innovative Mortar-Free Interlocking Structures / **Majid Ali** (The University of Auckland)

Shear Behavior of Polypropylene Fiber Reinforced ECC Beams with Reduction of Shear Reinforcements / **Rui Zhang** (Tokyo Institute of Technology)

Shear Behavior of Steel and Synthetic Fiber Reinforced Concrete Beams / **Pitcha Jongvivatsakul** (Tokyo Institute of Technology)

Behavior of Prestressed Concrete Beams Having Ruptured Strands Strengthened in Flexure by Externally Bonded CFRP Sheets / **Thi Thu Dung Nguyen** (Tokyo Institute of Technology)

Evaluation of Shear Capacity of RC Beams using UFC Permanent Formwork with Different Shear Span to Effective Depth Ratio / **Puvanai Wirojjanapirom** (Tokyo Institute of Technology)

Bond Strength and Bond-Slip Behavior of Steel Reinforcement in High-Performance Fiber-Reinforced Cementitious Composites / **Matthew Bandelt** (Stanford University)

Large-Scale Testing and Analysis of Concrete-Encased Steel Coupling Beams Under Large Ductility Demands / **Christopher Motter** (University of California, Los Angeles)

Behavior of Reinforced Concrete Slab Systems Under Corner and Center Support Failure Scenarios / **Saurabh Prasad** (University of California, San Diego)

Seismic Performance and Modeling of Post-Tensioned, Precast Concrete Shear Walls / **Ahmet Can Tanyeri** (University of California, Berkeley)

Effect of Electro-Welded Wire Mesh on the Seismic Vulnerability of Thin RC Shear Walls in Lima, Peru / **Luis Quiroz Torres** (Chiba University)

Shaking Table Test of a Large-scale Self-centering Reinforced Concrete Frame / **Ye Cui** (Tongji University)

S1-5 Young Researchers Session (Tsunami, Human Behavior and Socio-Economic Issues) 10:30 - 13:00

(Co-chairs : Andrew Curtis and Hideki Kaji) W936

Feasibility of Evacuation at the Pakarang Cape in Thailand Based on Tsunami Inundation Model and Human Evacuation Simulation / **Erick Mas** (Tohoku University)

Tsunami Inundation Mapping Using Remote Sensing Analysis and Numerical Modeling in Lima, Peru / **Bruno Adriano Ortega** (Tohoku University)

A Study on Dynamic Response of Reinforced Building by Fluid-Structure Interaction Analysis / **Yasunori Mizushima** (Takenaka Corporation)

Potential and Vortex Residual Fields in the Ocean due to Tsunamigenic Earthquakes: a Fully Analytical Solution of the Axisymmetric Model Problem / **Gulnaz Nurislamova** (M.V.Lomonosov Moscow State University)

Dynamic and Static Approaches in Simulation of Horizontal Motions of Water that Accompany Tsunami Formation and Propagation / **Anastasia Moshenceva** (M.V.Lomonosov Moscow State University)

Tsunami Intensity and Its Relation to Source Parameters / **Anna Bolshakova** (M.V.Lomonosov Moscow State University)

Method to Measure Circulation Space Using an Autocad Application / **Xue Ma** (Tokyo Institute of Technology)

Behavior Analysis of Stranded Person Using Mobile GPS Data / **Masashi Shiina** (Tokyo Denki University)

Evacuation Behavior Model Considering Various Attributes of Residents and Transient Occupants / **Takuya Oki** (Tokyo Institute of Technology)

Evaluation of Car Evacuation Method against Tsunami Using Micro Simulation / **Kohei Onomura** (Tokyo Denki University)

Spatial Characteristics Transformation of Self-built and Donated Post Disaster Housing / **Rachma Syam** (Tokyo Institute of Technology)

Technology)

Seismic Vulnerability Evaluation of Non-Engineered Structures in Pakistan --A Statistical Approach Based on Cumulative Opinion of Professionals-- / **Zaheer Kazmi** (The University of Tokyo)

S1-6 Young Researchers Session (Structural Engineering-Other, Bridge) 10:30 - 13:00

(Co-chairs : Mitsuyasu Iwanami and Hsieh-Lung Hsu) W931

Static Loading Test of RC Shear Walls with Multi-Openings Failing in Flexural Mode / **Masato Sakurai** (The Japan Society for the Promotion of Science)

Residual Seismic Performance of Scaled Three-Story Steel Frames Tested on a Shaking Table Using the Substitute Damping Model / **Miguel Diaz Figueroa** (Yokohama National University)

Investigation of Dynamic Stability on Effect of Restoration for Aged Castle Masonry Wall / **Yasutaka Noma** (Hazama Corporation)

Seismic Behavior of Ottoman Empire Classical Period Stone Masonry Walls / **Cem Demir** (Akita Prefectural University)

Stress Strain Characteristics of Polypropylene band (PP-band) and Fiber Reinforced Polymer (FRP) Composite Retrofitted Masonry Wall Systems / **Muhammad Saleem** (The University of Tokyo)

An Experimental Study of Nonlinear Short-Period Structures with Uplift under Near-Fault Pulse Motions / **Yuanzhi Chen** (The University of Auckland)

Controlled Soft Story Mechanism as a Seismic Protection System / **Hossein Agha Beigi** (University of Toronto)

Two Directional Seismic Response Evaluation of Buildings Which Do Not Have Well-regulated Plane Shapes / **Yoshina Takahashi** (Tokyo Institute of Technology)

3-Dimensional FEM Analysis of Shield Tunnel and its Application on Rebound Estimation / **Yang Shen** (Tokyo Institute of Technology)

Analytical Investigation on the Effect of Number of Vehicles on the Seismic Response of a Horizontally Curved Bridge Model / **Hartanto Wibowo** (University of Nevada, Reno)

Investigation of the Resistance of Older Steel Bridge Bearings under Bidirectional Seismic Loading / **Xiaohu Fan** (University of Michigan)

Precast Concrete Bridge Columns Made with Unbonded Pre-Tensioning and Hybrid Fiber Reinforced Concrete for Improved Seismic Resistance / **Olafur Haraldsson** (University of Washington)

S1-7 Young Researchers Session (Response Records, Lessons Learnt-Great East Japan Earthquake, Lessons Learnt-Others and Timber) 10:30 - 13:00

(Co-chairs : Gregory Deierlein and Kazuhiko Kawashima) W331

Bridge and Adjacent Downhole Array Responses during Earthquakes at Eureka, California / **Ning Wang** (University of California, San Diego)

System Identification, Structural Health Monitoring and Damage Detection of a Steel Reinforced Concrete Structure of Urban Disaster Prevention Research Center in Tsukuba, Japan / **Goran Jekikj** (UKIM - IZIS)

Seismic Response of an RC Building Strengthened with Pin-supported Walls during the 2011 Tohoku Earthquake / **Zhe Qu** (Tokyo Institute of Technology)

Study on the Rocking Effect of an Eight-story SRC Building / **Ligang Li** (Nagoya University)

Damage of RC Building with Coupled Shear Walls Caused by the 2011 Great East Japan Earthquake / **Atsushi Nagaya** (Nagoya Institute of Technology)

Damage of Six-Story RC Building with Coupling Beams Having Aspect Ratios Larger than 2.0 / **Yuko Kato** (Nagoya Institute of Technology)

Performance of the Building of the Faculty of Engineering at Tohoku University during the Great East Japan Earthquake of 2011 / **Kazuki Suzuki** (Tohoku University)

Preparedness before Disaster in Tokyo Urban Area / **Nam-Yi Yun** (Waseda University)

Seismic Response of Non-Engineered Buildings in Nepal During September 18, 2011 Nepal-Sikkim Earthquake / **Kabir Shakya** (Tokyo Institute of Technology)

New Damage Avoidance Connection for Multi-Story Timber-Steel Hybrid Moment Frame Buildings / **Mamoon Jamil** (The

University of Auckland)

Basic Study on Torsional Behaviour of Two-Story Timber Houses with Eccentricity / **Kento Suzuki** (Tokyo Institute of Technology)

Experimental Study on Timber Framed Masonry Structures / **Andreea Dutu** (Tokyo Institute of Technology)

S1-8 Young Researchers Session (New Design Criteria and Methods, Earthquake Loss Estimation and Information and Computing Technology) 10:30 - 12:30

(Co-chairs : Gregory MacRae and Akira Wada) W323

Rocking Foundations with Different Shapes on Different Soils / **Manouchehr Hakhamaneshi** (University of California, Davis)

Estimation of the Maximum Response of Base Isolated Structures / **Parisara Thiravechyan** (Tokyo Institute of Technology)

Regional Predictions of Earthquake-Induced Landslides: A Study of the Niigata-ken Chuetsu Earthquake / **Yubing Wang** (The University of Texas at Austin)

Methodology for Life Cycle Cost Assessment of Self-Centering Concentrically Braced Frame Systems / **David Roke** (The University of Akron)

Fragility Curves for Reinforced Concrete Buildings to Earthquake-Induced Slope Displacements / **Stavroula Fotopoulou** (Aristotle University of Thessaloniki)

Development of Fragility Curves of Mid-Rise Reinforced Concrete Moment-Resisting Frame Structures in the Greater Metro Manila Area, Philippines / **Raniel Suiza** (University of the Philippines Diliman)

Earthquake Risk Analysis Method Applied to a Town in Hungary / **Orsolya Kegyes-Brassai** (Szechenyi Istvan University)

Development of a Rapid Condition Assessment Tool for Reinforced Concrete Moment Frame Building in the Philippines / **Liezl Raissa Tan** (University of the Philippines Diliman)

Development of Simulation System for Estimation of Urban Earthquake Disasters Considering Local Soil Properties Using High Performance Computing / (The University of Tokyo)

2-D Wave Analyses for Fluid-Saturated Porous Solids Using Convolution Quadrature Boundary Element Method / **Akira Furukawa** (Tokyo Institute of Technology)

Parallel Session 2

S2-H Young Researchers Session (Engineering Seismology) 13:30 - 14:30

(Co-chairs: Twei-Tsyer Chen and Hitoshi Morikawa) Main Hall

Using Stochastic Finite-Fault Method to Simulate Ground Motion from 2010 Jiashian, Taiwan, Earthquake / **Fu-Ming Wu** (National Central University)

Simulation of Stochastic Ground Motion with Site Correction Using Equivalent-Linear Method at Taipei Basin Downhole Arrays / **Saifuddin** (National Central University)

Long-Period Ground Motion Simulations in the Kanto Basin using Diverse Velocity Models for the Hypothetical Tokai Earthquake / **Yadab Dhakal** (Tokyo Institute of Technology)

Fundamental Research for Enhancement of Estimation on Earthquake Ground Motion-Development of a Method for Crustal Deformation Analysis Using High-Fidelity Three-Dimensional Crustal Structure Model- / **Ryoichiro Agata** (Earthquake Research Institute)

Stochastic Modeling of Bhuj (2001) Earthquake and Synthesis of Seismic Scenarios for the Surat Region, India / **T. Thaker** (Pandit Deendayal Petroleum University)

S2-1 Structural Engineering-Steel 14:00 - 15:20

(Co-chairs : Guoqiang Li and Tomohiko Kumagai) W932

Elastic Local Buckling Strength of Rectangular Hollow Section Column under Biaxial Bending Moment / **Kikuo Ikarashi** (Tokyo Institute of Technology)

Method of Small-scale Shaking Table Test overcoming the Scaling Effect / **Yuko Shimada** (Chiba University)

Numerical Analysis on Plastic Deformation Capacity of Steel Beam under Various Loading Histories / **Satoshi Yamada** (Tokyo Institute of Technology)

Effects of Core Plates Local Buckling for Cumulative Deformation Capacity of Buckling Restrained Braces / **Ryota Matsui** (Tokyo Institute of Technology)

Predictive Equations for Modeling Cyclic Buckling and Fracture of Steel Braces / **Dimitrios Lignos** (McGill University)

S2-2 **Young Researchers Session (Geotechnical Engineering) 13:30 - 15:30**

(Co-chairs : Jonathan Stewart and Akihiro Takahashi) W933

Evaluating One Dimensional Site Response Analysis using Borehole Arrays / **Georgios Zalachoris** (University of Texas at Austin)

Evaluation of Local Sites Effects in Lima City, Peru from Ground Motion Data / **Selene Quispe** (Tokyo Institute of Technology)

Centrifugal Modeling of Undercut Slopes Subjected to Pseudo-static Loading / **Mohammad Hossein Khosravi** (Tokyo Institute of Technology)

Pullout Resistance of Geocell Placed as Reinforcement in Gravelly Soil Backfill / **Xinye Han** (The University of Tokyo)

Centrifuge Model Tests on Failure Pattern of Cement Treated Ground / **Yuki Yoshida** (Tokyo Institute of Technology)

Experimental Investigation on Dewatering and Drainage Methods to Mitigate Liquefaction Damage to Existing Houses / **Kazushi Tohyama** (Tokyo Institute of Technology)

Basic Physical Model Test on Seismic Performance of Fill Induced by Suffusion / **Kazuki Horikoshi** (Tokyo Institute of Technology)

Criteria for Determining G_{max} in Laboratory Element Tests Using Disk Type Piezoelectric Transducers / **Muhammad Irfan** (The University of Tokyo)

Comparison between CPT and SDS Data for Soil Classification in Christchurch / **Seyed Yasin Mirjafari Miandeh** (University of Auckland)

Effects of Internal Erosion on Cyclic Resistance of Gap-Graded Cohesionless Soil / **Lin Ke** (Tokyo Institute of Technology)

S2-3 **Young Researchers Session (Advanced Technologies) 13:30 - 15:30**

(Co-chairs : Giuseppe Oliveto and Toru Takeuchi) W934

Experimental Study on U-Shaped Steel Dampers under 2D Random Loading Histories / **Diana Ene** (Tokyo Institute of Technology)

Influence of Unbonding Material on Low-cycle Fatigue Performance of Buckling-Restrained Braces / **Chun-Lin Wang** (Southeast University, Nanjing)

A New Restraining System for Buckling-Restrained Braces / **Quan Chen** (Southeast University, Nanjing)

Behaviour and Design of an All-Steel Self-Centering Buckling-Restrained Brace / **Peng Zeng** (Southeast University, Nanjing)

Development of Ring-Shaped Steel Plate Shear Walls that Resist Buckling for Improved Seismic Performance / **Matthew Eatherton** (Virginia Tech)

Seismic Response of Recentering Precast Composite Concrete-Dual-Shell-Steel Columns / **Gabriele Guerrini** (University of California, San Diego)

Seismic Response of a Rocking, Post-Tensioned HyFRC Bridge Column / **William Trono** (University of California, Berkeley)

Hybrid Testing of a Four-Span Curved Bridge / **Chia-Ming Chang** (University of Illinois)

S2-4 **Young Researchers Session (Structural Engineering-Concrete) 14:00 - 16:00**

(Co-chairs : John Wallace and Tomohiro Miki) W935

Experimental Investigation of Large Reinforced Concrete Special Moment Resisting Frame Beams / **Tea Visnjic** (University of California, Berkeley)

Nonlinear Response Assessment and Seismic Retrofit of Reinforced Concrete Buildings / **Jason Palacio** (University of the Philippines Diliman)

Experimental Evaluation of Out-of-Plane Wall-to-Beam Connections under Cyclic Loading / **David Naish** (California State University, Fullerton)

Seismic Vulnerability Assessment Method of Low-Rise RC Buildings with Masonry Infill Walls / **Hamood Alwashali** (Tohoku University)

Process of Collapse for RC Frame Including Shear Column / **Kazuto Matsukawa** (Tohoku University)

Experimental Study on Reinforced Concrete Frames with Buckling Restrained Braces / **Yusuke Maida** (Tokyo Institute of Technology)

Experimental Study on Influence of Bending Radius of Main Tensile Bars on Stress Transmission in Reinforced Concrete Knee Joints with Precast Detail / **Tuvshin Batjargal** (Tokyo Institute of Technology)

A Study on Structural Performance of CES Shear Walls with Eccentrically Arranged Wall Panel / **Suguru Suzuki** (Osaka University)

Nonlinear Finite Element Analysis of Reinforced Concrete Structure Considering Multiple Cracking Failure / **Fangtao Sun** (The University of Tokyo)

Assessment of Seismic Collapse Safety of Reinforced Concrete Frame Buildings Designed by Two Generations of Chinese Seismic Provisions / **Wenwen Luo** (Chongqing University)

S2-5 Socio-Economic Issues 14:00 - 15:10

(Co-chairs : Hideki Kaji and Yasuhide Okuyama) W936

On Development of Seismic Resistant Design for Structural Steel Building in Indonesia / **Muslinang Moestopo** (Institut Teknologi Bandung)

Telecommunication at the Time of Earthquake / **Takanobu Ito** (FUN, Inc)

Confirmation of Building Safety for Regional Contribution Activities of Companies in a Time of the Tokyo Inland Earthquake / **Hiroaki Maruya** (Tokyo Institute of Technology)

Building a Decision and an Operations Support System using the Agent-Based Simulation Model / **Kenichi Ishibashi** (Nagoya Sangyo University)

S3-H1 Engineering Seismology 14:40 - 15:50

(Co-chairs : Fabrice Cotton and Hiroyuki Miura) Main Hall

Estimation of Dynamic Behavior of Historical Church in Armenia using Microtremor Survey / **Hitoshi Morikawa** (Tokyo Institute of Technology)

Shallow Structure of Taipei Basin Using Receiver Function Technique / **Che-Min Lin** (National Center for Research on Earthquake Engineering)

Empirical Site Correction for Ground Motion Simulation / **Kuo-Liang Wen** (National Central University)

Use of Airborne Optical and Thermal Imagery for the Detection of Building Damage due to the 2012 Tsukuba Tornado / **Fumio Yamazaki** (Chiba University)

S3-H2 Engineering Seismology 16:00 - 17:30

(Co-chairs : Ronald Eguchi and Masashi Matsuoka) Main Hall

Aleatory and Epistemic Uncertainties of Ground-Motion Models. Results from Recent European Projects / **Fabrice Cotton** (Kyoto University and Grenoble University)

Estimation of Mega-Earthquakes Source Models for Strong Motion Prediction: Application for Central Andes / **Nelson Pulido** (Nat. Res. Inst. for Earth Science and Disaster Prevention)

Synthesis of Ground Motions of 1999 Taiwan MeiShan Earthquake by Empirical Green's Function Method / **Huei-Tsy Chen** (National Central University)

Finite Difference Simulation of Long-Period Ground Motion based on Various Source Models of the Anticipated Nankai Trough Megathrust Earthquake / **Takahiro Maeda** (NIED)

Fundamental Property of Cross Terms of Ground Transfer Function / **Hiroyuki Goto** (Kyoto University)

Parallel Session 3

S3-1 Structural Engineering-Steel 15:30 - 17:30

(Co-chairs : Dimitrios Lignos and Kikuo Ikarashi) W932

- Improvement in SSWS Design and Study on the Performance of Steel Frame-SSWS System / **Yiyi Chen** (Tongji University)
Experimental Study on Buckling-Restrained Steel Plate Shear Walls with Different Aspect Ratios / **Guoqiang Li** (Tongji University)
Static Test and Numerical Analysis of Composite Concrete Steel-Plate Shear Walls with Binding Bars / **Deyuan Zhou** (Tongji University)
Behavior of Steel Tube-Double Steel Plate-Concrete Composite Walls Subjected to Axial Force and Cyclic Loading / **Xiaodong Ji** (Tsinghua University)
Vibration Tests on Single Layer Lattice Domes Subjected to Horizontal Bi-directional Earthquake Motions / **Tomohiko Kumagai** (Tokyo Institute of Technology)

S3-2 Geotechnical Engineering 15:40 - 17:30

(Co-chairs : Scott Brandenberg and Takaji Kokusho) W933

- Simulation of Liquefaction-Induced Void Redistribution in a Centrifuge Test / **Ross Boulanger** (University of California, Davis)
Liquefaction Potential Evaluation: Energy-based Method versus Stress-based Method / **Takaji Kokusho** (Chuo University)
Number of Equivalent Cyclic Shear and Effective Duration for Soil Liquefaction in Tokyo Bay Area during the 2011 Great East Japan Earthquake / **Hiroshi Arai** (National Institute for Land and Infrastructure Management)
Effect of Grain Size Distributions on Liquefaction Resistance for a Large Number of Loading Cycles / **Jun Izawa** (Railway Technical Research Institute)
Comparison between Damage Distribution and Estimated Liquefaction Potential in Chiba City / **Toru Sekiguchi** (Chiba University)
Dynamic Behavior of a Structure on Desaturated Sand under Relatively Long Shaking / **Jiro Takemura** (Tokyo Institute of Technology)

S3-3 Human Behavior 16:20 - 17:30

(Co-chairs : Andrew Curtis and Toshihiro Osaragi) W934

- The Use of Geospatial Technologies and Local Area Spatial Analysis to Understand Sub-Neighborhood Scale Impediments to Recovery after a Catastrophic Disaster / **Andrew Curtis** (Kent State University)
On the Enhancements of Agents' Navigation Skills of a Multi Agent Systems Based Mass Evacuation Analysis / **Madgededara Wijerathne** (The University of Tokyo)
Foreigners' Experience and Behavior in the Great East Japan Disasters 2011 / **Md. Shah** (University of Tsukuba)
Patterns of Awareness of Crisis, Real Time Decision-Making and Action for Survival / **Haruyuki Fujii** (Tokyo Institute of Technology)

S3-4 Structural Engineering- Concrete 16:10 - 17:30

(Co-chairs : Carlos Zavala and Tetsuya Ohmura) W935

- Collapse Vulnerability Assessment of Existing Concrete Buildings / **Ken Elwood** (University of British Columbia)
Low Ductility Concrete Wall Test considering Perpendicular Wall Action / **Carlos Zavala** (Universidad Nacional de Ingenieria - UNI CISMID)
CFD Analysis of Wind Pressure on the Complex High-Rising Structure / **Qiong Xing** (Tongji University)
Dynamic Analysis of Existing Non-Conforming Concrete Gymnasia with Steel Roof / **Tetsuya Ohmura** (Tokyo City University)

S3-5 Socio-Economic Issues 15:20 - 17:30

(Co-chairs : Muslinang Moestopo and Hiroaki Maruya) W936

Disaster and Economic Structural Change: An Empirical Analysis using Input-Output Framework / **Yasuhide Okuyama** (University of Kitakyushu)

Verification of the National Reconstruction Agency as an Institutional Scheme for Reconstruction after Large-scale Disasters / **Hideki Kaji** (Tokyo Institute of Technology)

Effects of Electric Power Failure on the Level-of-service of the Railway Transport in Tokyo Metropolitan Area / **Ryosuke Fujita** (Tokyo Institute of Technology)

Analysis on Urban Land Use Control Systems in Tsunami Affected Areas by the 2011 Great East Japan Earthquake / **Shoichi Ando** (Inter'l Inst. of Seismology and Earthquake Engineering, BRI)

Evacuation Situation of Futaba District Residents following the Fukushima Nuclear Accident / **Keiichi Sato** (The University of Tokyo)

Development & Application of 'Ichi-Nichi-Mae Project' for Disaster Awareness; 'If We were Back the Day before the Disaster, How can We better Prepare?' / **Satoru Nishikawa** (Japan Water Agency)

Welcome Party (Chair : Jiro Takemura) Tokyo Tech Front 18:00 - 19:30

Saturday, March 2nd

Parallel Session 4

S4-H Engineering Seismology 9:00 - 10:50

(Co-chairs : Jonathan Stewart and Saburoh Midorikawa) Main Hall

Comparison of Ground Motion Attributes from 2011 Tohoku-Oki Mainshock and Two Subsequent Events / **Jonathan Stewart** (University of California, LA)

Site Response during Strong Shaking - Estimated from the 2011 Tohoku Earthquake / **Kenichi Tsuda** (Shimizu Corporation)

Preliminary Analysis of Attenuation Relationship for Response Spectra on Bedrock based on Strong Motion Records Including the 2011 Mw9.0 Tohoku Earthquake / **Hongjun Si** (Kozo Keikaku Engineering Inc.)

High Intensity Records Observed in the 2011 Tohoku Earthquake / **Saburoh Midorikawa** (Tokyo Institute of Technology)

Strong Motion Pulses Observed during the 2011 Tohoku Earthquake and Their Modeling / **Atsushi Nozu** (Port and Airport Research Institute)

Local Site Effects Observed in Shinagawa and Odawara, Japan, during the 2011 off the Pacific Coast of Tohoku Earthquake / **Seiji Tsuno** (Railway Technical Research Institute)

S4-1 Structural Engineering-Bridge 9:00 - 10:50

(Co-chairs : Kawin Saiprasertkit and Koji Kinoshita) W932

3-D Dynamic Analysis of Bridges in Ultimate States under Earthquakes / **Tzu-Ying Lee** (National Central University)

Fiber Model Analyses of Steel Bridge Circular Columns Considering Local Buckling / **Koji Kinoshita** (Gifu university and University of Nevada, Reno)

Development of an Anomalies Detection Method Based on Nonlinearity Expression / **Eiichi Sasaki** (Tokyo Institute of Technology)

Investigation of the Effects of Model Complexity on the Predicted Seismic Response of Bridge Pile Foundations / **Farzin Zareian** (University of California, Irvine)

S4-2 Non-Structural Components and Contents 9:00 - 10:50

(Co-chairs : Rajesh Dhakal and Yutaka Yokoyama) W933

Numerical Seismic Fragility of Fire Sprinkler Piping Systems with Threaded Joints / **Manos Maragakis** (University of Nevada, Reno)

Ceiling Systems Design and Installation Lessons from the Canterbury Earthquakes / **Rajesh Dhakal** (University of Canterbury)

The Behavior of Ceiling with Steel Furring during Earthquakes / **Shojiro Motoyui** (Tokyo Institute of Technology)

Seismic Capacity Improvement of Lightweight-Mortar Infilled Stud Wall Systems / **George Yao** (National Cheng Kung University)

Fundamental Study on Simple Evaluation Method for Seismic Resistance of Wall and Fixed Furniture / **Yutaka Yokoyama** (Tokyo Institute of Technology)

Behavior on Building Equipments under Seismic Excitations / **Kunio Mizutani** (Tokyo Polytechnic University)

S4-3 **New Design Criteria and Methods 9:00 - 10:50**

(Co-chairs : Gilberto Mosqueda and Kazuhiko Kawashima) W934

Influence of Ground Motion Spectral Shape and Duration on Seismic Collapse Risk / **Gregory Deierlein** (Stanford University)

Low Damage Construction - Some Systems Issues / **Gregory MacRae** (University of Canterbury)

Seismic Retrofitting Design Method of Existing RC Buildings with Buckling Restrained Braces / **Fatih Sutcu** (Tokyo Institute of Technology)

Determination of Ground Surface Deformation Type Based on Field Data / **Naser Amirhesari** (Yokohama National University)

Study on the Intensity Measure of Incremental Dynamic Analysis Considering High-Modes Effect for Tall Buildings / **Ying Zhou** (Tongji University)

Using Performance-based Design to Improve Lifecycle Costs of Different Structural Systems / **Stephen Mahin** (University of California, Berkeley)

S4-4 **Structural Engineering - Concrete 9:00 - 10:50**

(Co-chairs : Wanchai Yodsudjai and Junichiro Niwa) W935

FRP-Retrofitted T-Beam-Wide-Column Joints Under Cyclic Loading / **Kiang Hwee Tan** (National University of Singapore)

Seismic Performance of Reinforced Concrete Buildings Incorporating Soil-Structure Interaction / **Wanchai Yodsudjai** (Kasetsart University)

Residual Structural Capacity of RC Superstructure of Open-type Wharf Damaged by Earthquake Motion / **Mitsuyasu Iwanami** (Tokyo Institute of Technology)

Study on Bond Property of Corroded Reinforcing Bar Under Cyclic Loading / **Tomohiro Miki** (Kobe University)

Mechanical Behavior and Strengthening Methods of RC Beams Damaged by Corrosion in Anchorage Part of Rebars / **Koji Matsumoto** (Tokyo Institute of Technology)

S4-5 **Tsunami 9:00 - 10:50**

(Co-chairs : Mikhail Nosov and Tatsuo Ohmachi) W936

Evaluation of Building Damage Ratio in Asahi City, Chiba Prefecture after the 2011 off the Pacific Coast of Tohoku Earthquake and Tsunami / **Yoshihisa Maruyama** (Chiba University)

Building Damage Characteristics Based on Surveyed Data and Fragility Curves of the 2011 Great East Japan Tsunami / **Anawat Suppasri** (Tohoku University)

Evaluation of Tsunami Load Based on Damage Observations after Great East Japan Earthquake / **Akihiko Obata** (Akita Prefectural University)

Punching Failure of Kamaishi Breakwater Caisson Foundation during the 2011 Great East Japan Tsunami / **Jeremy Bricker** (Tohoku University)

Probing on the Mechanism of the 2011 Great East Japan Earthquake and Tsunami / **Jiagui Zhang** (Institute of Geomechanics, CAGS)

Parallel Session 5

S5-H Engineering Seismology 11:00 - 12:50

(Cochairs : Nakhorn Poovarodom and Hiroaki Yamanaka) Main Hall

Exploration of Site Characteristics by Microtremor Observations in the Central Area of Thailand / **Nakhorn Poovarodom** (Thammasat University)

Estimation of Deep Subsurface Structures for Prediction of Long-period Ground Motion Characteristics around the Tachikawa Fault / **Koichiro Saguchi** (Tokyo Institute of Technology)

Analysis of HVSR of Microtremor on Different Seismic Site Conditions / **Chun-Hsiang Kuo** (National Center for Research on Earthquake Engineering)

Surface-wave Phase Velocity Inversion using Markov Chain Monte Carlo Method for Estimation of Local Site Amplification / **Hiroaki Yamanaka** (Tokyo Institute of Technology)

An Evaluation of Subsurface Structure with Inclined Bedrock Using Microtremor Array Exploration / **Kentaro Motoki** (Kobori Research Complex Inc.)

Simulation of H/V Spectral Ratios of Microtremors with Directional Dependency / **Shinichi Matsushima** (Kyoto University)

S5-1 Information and Computing Technology and Earthquake Loss Estimation 11:00 - 12:50

(Cochairs : Jerome Hajjar and Shojiro Motoyui) W932

Damping Performance Analysis and Verification of Heavy-Loading Hydraulic Damper / **Tong Long** (National Taiwan University)

Transformation and Integration of Building Information Model Data for Vulnerability Assessment and Disaster Mitigation / **Chien-Cheng Chou** (National Central University)

Seismic Safety and United States Design Practice for Steel-Concrete Composite Frame Structures / **Jerome Hajjar** (Northeastern University)

Evaluation of Seismic Vulnerable Areas in Lima City by Using Satellite Information / **Miguel Estrada** (CISMID - National University of Engineering)

Development of Heuristic Seismic Vulnerability Curves of Key Building Types in the Philippines / **Eric Augustus Tingatinga** (University of the Philippines)

Transparent Global Earthquake Risk and Loss Estimation / **H. Kit Miyamoto** (Miyamoto International)

S5-2 Geotechnical Engineering and Lifeline Systems 11:00 - 12:50

(Cochairs : Ross Boulanger and Ryosuke Uzuoka) W933

Development of Soil Pressures under Lateral Loading / **Anne Lemnitzer** (University of California, Irvine)

Dynamic Centrifuge Model Test of Building with Embedded Footing on Semi-Rigidly Connected Pile Heads in Liquefiable Soil / **Sadayuki Ishizaki** (Taisei Corporation)

Use of Pre-Shaking for Soil-Pile System Identification in Centrifuge Shaking Table Tests / **Chung-Jung Lee** (National Central University)

A Case Study on Multiple Mechanism Model in Three Dimensional Soil-Structure Interaction Analyses / **Ryo Ueda** (Kobori Research Complex Inc.)

Relationships between Damage to Railway Structures and Seismic Intensity in the 2004 Niigata-ken Chuetsu Earthquake and the 2007 Niigata-ken Chuetsu-Oki Earthquake / **Shuichi Taya** (Tokyo Institute of Technology)

Long-Term Settlement of Holocene Clay Ground after the 2011 Great East Japan Earthquake / **Naohiro Nigorikawa** (Shimizu Corporation)

Estimation of Bearing Capacity and Pull-out Resistance of a Pile with or without a Wing Plate in Alternately Cyclic Loading based on Centrifugal Model Tests / **Hiroko Suzuki** (Tokyo Institute of Technology)

S5-3 Advanced Technologies 11:00 - 12:50

(Cochairs : Giuseppe Oliveto and Toru Takeuchi) W934

Cyclic Testing of Aluminum Alloy Core Buckling Restrained Braces (BRBs) / **Oguz Celik** (Istanbul Technical University)

Sensitivity Analyses of Variations on Seismic Response via Viscous Damper Placement in Planar Building Structures / **Baki Ozturk** (Nigde University)

Generalized Optimal Locations of Viscous Dampers in Two-Way Asymmetrical Buildings / **Jui-Liang Lin** (National Center for Research on Earthquake Engineering)

Use of Three Kinds of Dampers for a Steel Tall Building Shaken by 2011 East Japan Earthquake--China-Japan Cooperation Program (Part 1) / **Xilin Lu** (State Key Laboratory of Disaster Reduction in Civil Eng.)

Effective Retrofit Using Dampers for a Steel Tall Building Shaken by 2011 East Japan Earthquake -- China-Japan Cooperation Program (Part 2) / **Kazuhiko Kasai** (Tokyo Institute of Technology)

S5-4 Structural Engineering - Concrete 11:00 - 12:30

(Co-chairs : Ken Elwood and Susumu Kono) W935

Strategy for Seismic Upgrading of Public Schools / **Shyh-Jiann Hwang** (National Taiwan University)

Substructure Pseudo-Dynamic Tests of Reinforce Concrete Frames with Soft-First-Story / **Hideto Kanno** (Akita Prefectural University)

Earthquake-Resistant Design of Lightly-Reinforced and Low-Rise Concrete Walls / **Julian Carrillo** (Universidad Militar Nueva Granada, UMG)

Experimental Study on Cracking Strength of Confined Masonry Walls subjected to Shear Force / **Koshiro Nishimura** (Hokkaido University)

Calculation of Load-Capacity of RC Beams by Lattice Model Arranged by Experiment Results / **Ken Watanabe** (Railway Technical Research Institute)

S5-5 Tsunami 11:00 - 12:50

(Co-chairs : Jeremy Bricker and Anil C. Wijeyewickrema) W936

Development of Tsunami Structural Design Provisions for the USA / **Gary Chock** (Tsunami Loads and Effects Committee, ASCE)

Dynamic and Static Approaches in Description of Tsunami Generation / **Sergey Kolesov** (M.V.Lomonosov Moscow State University)

Physical basis for specification of numerical grid in tsunami simulation / **Mikhail Nosov** (Faculty of Physics, M.V.Lomonosov Moscow State University)

Simulation of Three Dimensional Tsunami Inundation into the Inside of a Building / **Shusaku Inoue** (Takenaka Corporation)

Development of a Failure Analysis Method of Structure due to Tsunami Impact / **Seizo Tanaka** (The University of Tokyo)

Overland Tsunami Flow through Complex Topography / **Patrick Lynett** (University of Southern California)

Parallel Session 6

S6-H Engineering Seismology 13:50 - 15:40

(Co-chairs : Kuo-Liang Wen and Shinichi Matsushima) Main Hall

Deaggregation of New National Seismic Hazard Maps for Indonesia / **Achmad Fauzi** (Universiti Malaysia Pahang)

Estimation of Urban Growth Using Time-Series Landsat Satellite Images in Lima, Peru / **Hiroyuki Miura** (Hiroshima University)

Web-based Quick Estimation System of Strong Ground Motion Maps Using Observation Records and Engineering Geomorphologic Classification Map / **Masashi Matsuoka** (Tokyo Institute of Technology)

A Basic Study on the Rapid Prediction of Seismic Ground Motions Using P-waves Observed in Deep Boreholes / **Hiroyuki Miyakoshi** (Railway Technical Research Institute)

Impact Analysis of the Great East Japan Earthquake by Running Spectrum Analysis of the Newspaper / **Muneyoshi Numada** (The University of Tokyo)

The Impact of the 2011 Tohoku Tsunami Disaster and Implications to Tsunami-resilient Community / **Shunichi Koshimura** (Tohoku University)

S6-1 Structural Engineering - Timber 13:50 - 15:40

(Co-chairs : John van de Lindt and Hiroshi Isoda) W932

Performance-Based Seismic Retrofit of Soft-Story Light-Frame Wood Buildings / **John van de Lindt** (Colorado State University)

Performance-Based Seismic Design for Wood Houses using Equivalent Linearization Method / **Hiroshi Isoda** (Shinshu University)

Collapsing Analysis of Shake Table Tests of Three Story Post-and-Beam Wood Houses / **Takafumi Nakagawa** (Building Research Institute)

Ultimate Earthquake Resistance of Torsionally Coupled Structure Having Ductile Timber Shear Walls / **Yoshihiro Yamazaki** (Tokyo Institute of Technology)

Seismic Response Analysis of Wooden Structure with Passive Control System Using Simplified Spring Model / **Kazuhiro Matsuda** (Tokyo Institute of Technology)

Flexural Performance of Japanese Traditional Mortise - Tenon Joint with Split Wedge / **Hiroyasu Sakata** (Tokyo Institute of Technology)

S6-2 Geotechnical Engineering 13:50 - 15:40

(Co-chairs : Jonathan Stewart and Nozomu Yoshida) W933

Applicability of Equivalent Linear Seismic Response Analysis under Large Earthquakes / **Nozomu Yoshida** (Tohoku Gakuin University)

Effect of Input Motion Characteristics on Seismic Deformation of a River Levee / **Ryosuke Uzuoka** (The University of Tokushima)

Measurements of Translational and Rotational Dynamic Stiffness for a Model Levee on Peat / **Scott Brandenburg** (University of California, Los Angeles)

Confining Effect of Bearing Plate and Helix on Sliding Resistance of Reinforced Slope using Steel Pipe Piles / **Akihiro Takahashi** (Tokyo Institute of Technology)

A Study on the Characteristics of the Ground Surface Deformation Induced by the Reverse Fault Slip / **Yu-Yi Chang** (National Central University)

Methodology for Combining Microtremor Measurements and Simplified Ground Response Analysis / **Atsushi Mikami** (The University of Tokushima)

Implicit Stress-Update Algorithm for the Constitutive Model to Describe Cyclic Behavior Based on Finite Deformation Theory / **Tomohide Takeyama** (Tokyo Institute of Technology)

S6-3 Advanced Technologies 13:50 - 15:40

(Co-chairs : Oguz Celik and Kazuhiko Kasai) W934

Blind Simulation of Full Scale Free Vibration Tests on a Three Story Base Isolated Building / **Giuseppe Oliveto** (University of Catania)

Pounding in Three Dimensional Base Isolated Buildings / **Gilberto Mosqueda** (University of California, San Diego)

Selection of Appropriate Viscous Damping Model for Nonlinear Time-History Analysis of Base-Isolated Reinforced Concrete Buildings / **Anil Wijeyewickrema** (Tokyo Institute of Technology)

Simulation and Sensitivity of the Critical Load Behavior of Elastomeric Seismic Isolation Bearings / **Gordon Warn** (Penn State University)

Design for Uniform Risk to Standardized Nuclear Power Plants Using Seismic Isolation / **Troy Morgan** (Exponent, Inc.)

S6-4 Structural Engineering-Other 13:30 - 15:40

(Co-chairs : H. Benjamin Mason and Koji Matsumoto) W935

Post-Earthquake Investigation and Seismic Evaluation of a Damaged RC Building in Van, Turkey / **Viorel Popa** (Technical University of Civil Engineering of Bucharest)

Performance of Sandwich Columns under Eccentric Cyclic Load / **Hsieh-Lung Hsu** (National Central University)

Urban Seismic Response Sensitivity of Adjacent Buildings / **H. Benjamin Mason** (Oregon State University)

Damage Assessment of Buildings. Case Study of an Educational Building / **Claudiu Dragomir** (National Institute for Research and Development URBAN-INCERC)

Damping Characteristics of Steel Plate Concrete Wall Based on the Cyclic Load Test / **Gihwan So** (JACE Korea Company)

Lateral Force Resistance Characteristics of Steel Plate Concrete Wall Based on the Push-over Test / **Woong Ki Park** (JACE Korea Company)

Effect of RC Tie-Columns on Confined Brick Panels Subjected to In-Plane Alternated Loading / **Abdelkrim Bourzam** (University of Sciences and Technology, Algeria)

Shear Design of Structural Walls / **John Wallace** (University of California, Los Angeles)

S6-5 Lessons Learnt-Great East Japan Earthquake, Response Records, Earthquake Engineering Practices and Others 13:50 - 15:40

(Co-chairs: Gregory Deierlein and H. Kit Miyamoto) W936

Practical Study of The Earthquake Disaster Prevention Childcare for Infants with the Simulated Experience / **Nobuyuki Yamada** (Fukuoka University of Education)

Building Monitoring Earthquake Response Network in Lima / **Patricia Gibu** (Universidad Nacional de Ingenieria - UNI CISMID)

Observed and Predicted Performance of Reinforced Concrete Buildings in the Canterbury Earthquake Sequence / **Dan Bech** (Holmes Culley)

Global Experience: Seismic Risk Reduction and Disaster Reconstruction Programs / **H. Kit Miyamoto** (Miyamoto International)

S7-H G-COE Resumé and Closing Session 15:50 - 17:40

(Co-chairs : Kohji Tokimatsu and Ross Boulanger) Main Hall

Award Presentation / **Kohji Tokimatsu** (Tokyo Institute of Technology)

G-COE Resumé

Retrofit of Damaged Structures According to Response Control Concept / **Toru Takeuchi** (Tokyo Institute of Technology)

Predicting Spatiotemporal Distribution of People for Risk Assessment and Disaster Management / **Toshihiro Osaragi** (Tokyo Institute of Technology)

Ground-Motion-Induced Damage of Bridges during the 2011 Great East Japan Earthquake / **Kazuhiko Kawashima** (Tokyo Institute of Technology)

G-COE Education / **Junichiro Niwa** (Tokyo Institute of Technology)

G-COE Research / **Saburoh Midorikawa** (Tokyo Institute of Technology)

Closing Message / **Stephen Mahin** (University of California, Berkeley)

Kohji Tokimatsu (Tokyo Institute of Technology)

Group Photo 17:40 - 17:50

Banquet (Chair : Toru Takeuchi) Shinagawa Prince Hotel 18:40 - 20:40

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Chen	Pei-Ching	S1-3	08-294	Gibu	Patricia	S6-5	19-388	Kawashima	Kazuhiko	S4-3	Cochair
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Organized by

Global COE Program "International Urban Earthquake Engineering Center
for Mitigating Seismic Mega Risk"
Center for Urban Earthquake Engineering (CUEE), Tokyo Institute of Technology
E-mail: office@cuee.titech.ac.jp
URL: <http://www.cuee.titech.ac.jp/>



SESSION SCHEDULE TABLE

Friday, March 1st									
Main Hall(2F)	W932(3F)	W933(3F)	W934(3F)	W935(3F)	W936(3F)	W931(3F)	W331(3F)	W323(2F)	
Registration									
9	Opening Session	Beginning at 9:10 AM Yoshinao Mishima, President, Titech, Kohji Tokimatsu, Professor, Titech Guidance of Young Researchers Session / Troy Morgan(Exponent, Inc.)							
	K1 Keynote 1 K2 Keynote 2	Ronald Eguchi, President and CEO, ImageCat, Inc. Kyuichi Maruyama, Professor, Nagaoka University of Technology							
10	S1-H Young Researchers Session (Engineering Seismology)	S1-1 Young Researchers Session (Structural Engineering-Steel)	S1-2 Young Researchers Session (Geotechnical Engineering & Lifeline Systems)	S1-3 Young Researchers Session (Advanced Technologies)	S1-4 Young Researchers Session (Structural Engineering - Concrete)	S1-5 Young Researchers Session (Tsunami, Human Behavior, Socio-economic Issues)	S1-6 Young Researchers Session (Structural Engineering - Other, Bridge)	S1-7 Young Researchers Session (Response Record, Lessons Learnt - Earthquakes & Timber)	S1-8 Young Researchers Session (Information and Computing Technology, Earthquake Engineering Practice, Earthquake Loss Estimation & New Design Criteria and Methods)
11	Lunch								
12	Lunch								
13	S2-H Engineering Seismology	S2-1 Structural Engineering - Steel	S2-2 Young Researchers Session (Geotechnical Engineering & Lifeline Systems)	S2-3 Young Researchers Session (Advanced Technologies)	S2-4 Young Researchers Session (Structural Engineering - Concrete)	S2-5 Socio-economic Issues			
14	S3-H1 Engineering Seismology	S3-1 Structural Engineering - Steel	S3-2 Geotechnical Engineering	S3-3 Human Behavior	S3-4 Structural Engineering - Concrete	S3-5 Socio-economic Issues			
15	S3-H2 Engineering Seismology								
16									
17	Welcome Party (Tokyo Tech Front)								
18	Welcome Party (Tokyo Tech Front)								
19	Welcome Party (Tokyo Tech Front)								

REGISTRATION CATEGORIES:

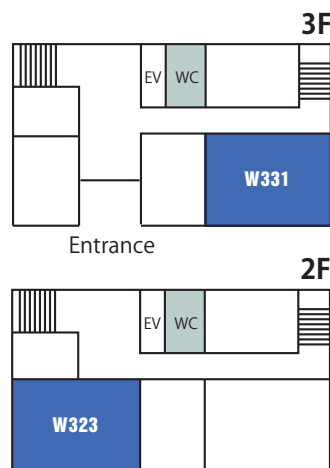
- Full Registration (Red Tag): Sessions, Proceedings, Lunches, Welcome Party, and Banquet
- Basic/ Student Registration (Yellow Tag): Sessions, Proceedings, Lunches, and Welcome Party
- Free Registration (Blue Tag): Sessions and Proceedings only

ADDITIONAL EVENT TICKETS:

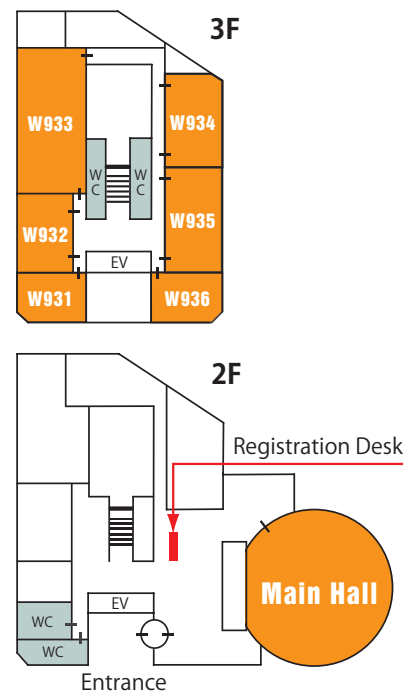
- Banquet (Red Seal)
- Welcome Party (Green Seal)

Allocated times for each speaker (including discussion) are:

- 20 min. for Keynote Lecture
- 20 min. for presentation in G-COE Resumé Session
- 15 min. for all other presentations in Parallel Sessions
- 12 min. for each presentation in Young Researchers Sessions



West Building No. 3



West Building No. 9

Opening Session 9:10 - 9:40

(Cochairs : Saburoh Midorikawa and Junichiro Niwa) Main Hall

Opening Message / **Yoshinao Mishima** (President/Tokyo Institute of Technology)

Welcome Message / **Kohji Tokimatsu** (Tokyo Institute of Technology)

Guidance of Young Researchers Session / **Troy Morgan** (Exponent, Inc.)

Keynote Lectures 9:40 - 10:20 Main Hall

K1 Keynote Lecture 1 (Chair : Saburoh Midorikawa) 9:40 - 10:00

Exposure Data Development for the Global Earthquake Model: Inventory Data Capture Tools / **Ronald Eguchi** (ImageCat, Inc.)

K2 Keynote Lecture 2 (Chair : Junichiro Niwa) 10:00 - 10:20

Evaluation of Tsunami Force acted on Bridges by Great East Japan Earthquake / **Kyuichi Maruyama** (Nagaoka University of Technology)

Parallel Session 1

S1-H Young Researchers Session (Engineering Seismology) 10:30 - 12:30

(Cochairs: Twei-Tsyer Chen and Hitoshi Morikawa) Main Hall

Comparison of Several Common Transfer Functions for Site Effect Study in Taipei Basin / **Jyun-Yan Huang** (National Central University)

A Site-Specific Seismological Model within a Bayesian Updating Framework / **Alin Radu** (Cornell University)

Analysis and Study of Site Effect in Kaohsiung and Pingtung area in Taiwan / **Hsien-Jen Chiang** (National Central University)

Application of Waveform Inversion to Actual Seismic Refraction Data for Retrieving Shallow 2D S-wave Velocity Profile / **Amrouche Mohamed** (Tokyo Institute of Technology)

Reliability of Dispersion Measurement from Microtremors with Seismic Interferometry / **Kosuke Chimoto** (Tokyo Institute of Technology)

Study for Seismic Microzoning in Damascus City, Syria, from Strong Motion Simulation Considering Local Site Amplification / **Hussam Eldein Zaineh** (Tokyo Institute of Technology)

Improved Method of Data Analysis for the Gravity and Magnetic Exploration System / **Satoshi Tokue** (Tokyo Institute of Technology)

Estimation of Ground Structure Using Gravity Survey Method around Furukawa, Japan, where was severely damaged by 2011 Tohoku Earthquake / **Sakkrawit Sripunyaphikhup** (Tokyo Institute of Technology)

The Significance of the Ratio of Power Spectra between Two Sites in the Wavefield of Microtremor / **Xinrui Zhang** (Tokyo Institute of Technology)

S1-1 Young Researchers Session (Structural Engineering-Steel) 10:30 - 12:45

(Cochairs : Xiaodong Ji and Satoshi Yamada) W932

Damage Detection for Steel Structures Using the Hilbert-Huang Transform Approach / **Dung Chiou** (National Central University)

Member Damages of High-Rise Building Structures under Severe Earthquakes : Effect of Member Deterioration / **Yongtao Bai** (Kyushu University)

Study on Column Behavior in a Full-Scale Steel Building Subjected to Strong Ground Motions on Shaking Table / **Tran Nam** (Tokyo Institute of Technology)

Cyclic Loading Test on RHS Columns under Bi-Directional Horizontal Forces / **Takanori Ishida** (Tokyo Institute of Technology)

Test on Eccentric Beam-to-RHS Column Connections / **Norihito Miki** (Tokyo Institute of Technology)