

16th U.S.-Japan-N.Z. Workshop
on the Improvement of Structural Engineering and Resiliency
Todaiji Temple Cultural Center in Nara, Japan
June 27-29, 2016

WORKSHOP PROGRAM

SUNDAY, JUNE 26, 2016

Location: Banquet Room, HITEN in Hotel Nikko Nara

6:00 pm – 9:00 pm: **Registration & Welcome Ice Breaker**

MONDAY, JUNE 27, 2016

Location: Small Hall at B1 in Todai-ji Cultural Center

8:30 am – 9:00 am: **Registration, Coffee/Tea**

9:00 am – 9:30 am: **Opening Remarks;** Kawamura (Japan); Miyamoto, Heintz (US)
Elwood (NZ)

Session I: Resiliency Based Engineering
Chairpersons: Kawamura (Japan); Heintz (US)

9:30 am – 10:30 am: **Presentations** (5 presentations @ 10 minutes; 2 additional QA minutes per presenter)

PI-1 *Engineers: The Forgotten Stakeholder in the Resilience Conversation;* J. Heintz* (US)

PI-2 *On the Resiliency of Power Grids after Earthquakes;* J. Eiding* (US)

PI-3 *Modal Decomposition and Behavior of Free Vibration Response with Grounding and Uplifting;* T. Masuno* (Jp)

PI-4 *Improving Resiliency by Designing for Community Needs;* V. Cedillos* (US)

PI-5 *Balance and Harmony;* D. Mar* (US)

10:30 am – 10:40 am: **Break**

10:40 am – 11:20 am: **Presentations** (3 presentations @ 10 minutes; 2 additional QA minutes per presenter)

PI-6 *Resilience and Earthquake Engineering;* P. Yanev* (US)

PI-7 *Performance versus Compliance;* R. Jury* (NZ)

PI-8 *Current Direction for Improving Structural Engineering and Resiliency in New Zealand;* M. Stannard* (NZ)

*Presenting author

11:20 am – 11:40 pm: **Discussions; Development of Technical and Policy Recommendations**

11:40 pm – 1:50 pm: **Lunch** (Location: Todaiji Cultural Center & Open Air Gardens)

Session II: Post-Earthquake Repair and Residual Capacity
Chairpersons: Celebi (US); Elwood (NZ)

1:50 pm – 2:50 pm: **Presentations** (5 presentations @ 10 minutes; 2 additional QA minutes per presenter)

P2-1 Rapid Fatigue Damage Assessment for Earthquake Losses: Stochastic Model and an Example from Christchurch, NZ; G. Rodgers (NZ)*

P2-2 Assessing the Seismic Residual Fatigue Life of Reinforced Concrete Frame Buildings: A Proposed Framework; A. Cuevas Ramirez (NZ)*

P2-3 Residual Seismic Capacity Evaluation and Damage Classification for Reinforced Concrete Buildings; M. Maeda (Jp)*

P2-4 Post-Earthquake Residual Capacity of Damaged Reinforced Concrete Buildings; K. Elwood (NZ)*

P2-5 Determination of the Post-Earthquake Capacity of an Eccentrically Braced Frame Seismic Resisting System; C. Clifton (NZ) and G. Ferguson (NZ), to be presented by K. Elwood (NZ)*

2:50 pm – 3:00 pm: **Break**

3:00 pm – 3:50 pm: **Presentations** (4 presentations @ 10 minutes; 2 additional QA minutes per presenter)

P2-6 Significance of Beating Effects Observed in Earthquake Responses of Two Tall Buildings; M. Çelebi (US)*

P2-7 Earthquake Performance of a Three Story Actual Sub-Standard Building; M. Comert (US)*

P2-8 Residual capacity of RC frame with walls based on full-scale loading test; T. Mukai (Jp)*

P2-9 Insight from Intensive Assessment Analyses – The Benefit to Targeted Performance Enhancement for a Christchurch Ductile RC Moment-Frame Building; D. Pettinga (NZ)*

3:50 pm – 4:10 pm: **Discussions; Development of Technical and Policy Recommendations**

4:10 pm – 4:20 pm: **Closure** (Announcements, Kawamura)

6:30 pm – 9:30 pm: **Dinner Party** (Banquet Room, TENKU in Hotel Nikko Nara)

*Presenting author

TUESDAY, JUNE 28, 2016

Location: Small Hall at B1 in Todaiji Cultural Center

8:20 am – 8:30 am: **Opening Remarks** Kawamura (Japan)

Session III: Innovative Structural Design for Large Earthquakes *Chairpersons: Regos (NZ); Nishimura (Japan)*

8:30 am – 9:30 am: **Presentations** (5 presentations @ 10 minutes; 2 additional QA minutes per presenter)

P3-1 Seismic upgrading of existing high-rise buildings utilizing newly developed tuned mass damper, oil damper and steel damper; N. Haneda (Jp)*

P3-2 Structural Design of Tall Damped Building with Irregularly-Shaped Plane and Elevation for Large Earthquake; Y. Okuno (Jp)*

P3-3 Testing and Application of Low Damage Technologies for Bridges in New Zealand; S. White (NZ)*

P3-4 Structural design of high seismic performance twin tower by employing different structural system for each tower; S. Yoshida (Jp)*

P3-5 Study on Dynamic Behavior of Wooden Horizontal Hybrid Structure Involving Stiff Cores; Y. Yamazaki (Jp)*

9:30 am – 9:40 am: **Break**

9:40 am – 10:40 am: **Presentations** (5 presentations @ 10 minutes; 2 additional QA minutes per presenter)

P3-6 Effect of Column Modeling Parameters on Collapse Behavior of RC Building; A. Matamoros (US)*

P3-7 An Experimental Study on the Buckling Stability of Laminated Rubber Bearings under Large Lateral Deformation; I. Nishimura (Jp)*

P3-8 Cyclic Tests of Cylindrical Concrete Containment Structures and Their 3-D Finite Element Predictions; T. Hsu (US)*

P3-9 Behavior of Precast Structural Walls Post-Tensioned by Unbonded Tendons in Shaking Table Tests on Actual-Size 4-Story Prestressed Concrete Building; L. Bedrinana (Jp)*

P3-10 Behavior of structural walls of 1/3-scale 6-story reinforced concrete building in shaking table tests; M. Nishiyama (Jp)*

10:40 am – 11:00 am: **Discussions; Development of Technical and Policy Recommendations**

*Presenting author

11:00 am – 12:50 pm: **Lunch** (Location: Todaiji Cultural Center & Open Air Gardens)

Session VI: Engineering and Technology in Developing Countries
Chairpersons: Jury (NZ); Okoshi (Japan)

11:30 am – 12:10 pm: **Presentations** (3 presentations @ 10 minutes; 2 additional QA minutes per presenter)

P6-1 Can Big Data Approaches Help Earthquake Engineering in Underdeveloped Countries?; I. H. Cho (US)*

P6-2 Reconstruction Assistance to Damaged Building in Nepal Earthquake 2015; T. Okoshi (Jp)*

P6-3 Preparing Earthquake Disaster in Emerging Nations: The USAID “PREPARE” Program in Costa Rica and Colombia; K. Miyamoto (US)*

12:10 pm – 12:30 pm: **Discussions; Development of Technical and Policy Recommendations**

Session IV: Risk Identification and Reduction
Chairpersons: Kennedy (US); Haneda (Japan)

12:50 pm – 2:05 pm: **Presentations** (6 presentations @ 10 minutes; 2 additional QA minutes per presenter)

P4-1 Design of Structures for Target Risk Using Nonlinear Analysis; M. Dolsek (US)*

P4-2 Structural Morphogenesis for Tunnel-Shaped Frame Structure; D. Wada (Jp)*

P4-3 Evaluation and Performance of Taiwan Housing and Schools in the Tainan/Meinong Earthquake; J. Mugford (US)*

P4-4 The Role of Nonlinear Damping Measurement in Identifying Damage, Tracking Ageing and Design Prediction; T. Winant and A. Jeary* (US)*

P4-5 The Anatomy of Regulatory Reform for Buildings: The Role of Equity; A. Brower (NZ)*

P4-6 Laboratory Tsunami Loading Experiments on Buildings, and Comparison to U.S. and Japanese Standards; A. Kennedy (US)*

2:05 pm – 2:25 pm: **Discussions; Development of Technical and Policy Recommendations**

2:25 pm – 2:40 pm: **Break**

*Presenting author

Session V: Earthquake Response and Recovery
Chairpersons: Yanev (US); Shinozaki (Japan)

2:40 pm – 4:05 pm: **Presentations** (7 presentations @ 10 minutes; 2 additional QA minutes per presenter)

P5-1 Kumamoto; M. Takayama (Jp)*

P5-2 Kumamoto; K. Morita (Jp)*

P5-3 Kumamoto; Y. Yanev (US)*

P5-4 Nepal; K. Miyamoto (US)*

P5-5 Nepal; R. Dhskal (NZ)*

P5-6 Ecuador; K. Miyamoto (US)*

P5-7 Christchurch; N. Regos (NZ)*

4:05 pm – 4:25 pm: **Discussions; Development of Technical and Policy Recommendations**

4:25 pm – 4:30 pm: **Closure** (Announcements)

6:30 pm – 9:30 pm: **Dinner Party** (Location: Downtown Nara)

*Presenting author

WEDNESDAY, JUNE 29, 2016

Location: Small Hall at B1 in Todaiji Cultural Center

8:40 am – 8:50 am: **Opening Remarks** Heintz (US)

Session VII: Resiliency of Non-Structural Elements *Chairpersons: Mar (US); Mori (Japan)*

8:50 am – 9:50 am: **Presentations** (5 presentations @ 10 minutes; 2 additional QA minutes per presenter)

- P7-1 JSCA'S Efforts on the Safety of Non-Structural Elements; T. Teramoto* (Jp)*
- P7-2 JSCA's Recommendation "Design and Detail of Non-structural Elements for Structural, Building and Building-Equipment Engineers"; A. Osada* (Jp)*
- P7-3 Preliminary Guidelines for Enhanced Non-structural System Design to Achieve Functionality-Level Seismic Performance of Buildings; S. Soroushian* (US)*
- P7-4 Experimental Evaluation of the Influence of Seismic Clips on Grid Joints in a Suspended Ceiling System; R. Dhakal* (NZ)*
- P7-5 The Next Frontier – Improving the Seismic Resilience of Nonstructural Components; H. Ferner* (NZ)*

9:50 am – 10:10 am: **Discussions; Development of Technical and Policy Recommendations**

10:10 am – 10:30 am: **Break**

Closing Session *Chairpersons: Miyamoto, Heintz (US); Kawamura (Japan); Elwood (NZ)*

10:30 am – 11:30 pm: **Workshop Summary & Wrap-Up**

12:00 pm: **Leave for Hotel**

Lunch by own

Historical Tour: Wooden Traditional Structure **Horyu-ji Temple**

14:00 pm – 17:20 pm: **Tour by Bus**

*Presenting author