

**17th U.S.-Japan-New Zealand Workshop
on the Improvement of Structural Engineering and Resilience**

Rydges Lakeland Resort
Queenstown, New Zealand
November 12-14, 2018

WORKSHOP PROGRAM

SUNDAY, NOVEMBER 11, 2018

Location: Reds Bar, Rydges Lakeland Hotel

5:00 pm – 8:00 pm: **Registration & Welcome Ice Breaker** (Welcome drink and appetizers included)

MONDAY, NOVEMBER 12, 2018

Location: Von Room, Rydges Lakeland Hotel

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

8:30 am – 8:45 am: **Opening Remarks;** Elwood (NZ), Kawamura (Japan), Cedillos (US)

Session I: Innovative Structural Design for Large or Multiple Earthquakes
Chairpersons: Miyamoto (US), Pettinga (NZ)

8:45 am – 10:00 am: **Presentations** (6 presentations @ 10 minutes; 2 additional QA minutes per presenter)

P1-1 Control Effect of Large Tuned Mass Damper Applied to Existing High-Rise Building for Seismic Retrofit; A. Haneda (Jp)*

P1-2 Proposed Low Damage Design Guidance – A NZ Approach; P. Campbell (NZ)*

P1-3 Partially Isolated Structure Dynamics Under Random Excitation; I. Nishimura (Jp)*

P1-4 Recent Progress in North American Research on Seismic Resilient Wood Buildings; A. Iqbal (US)*

P1-5 12 Projects over 12 Years: Reflections from Implementing Low Damage Designs; A. Cattanach (NZ)*

P1-6 Realization of Ultra High-Rise Mixed-Use Building in Which RC Columns and CFT Columns are Connected with Rigid Joints; N. Ozawa (Jp)*

10:00 am – 10:20 am: **Break**

10:20 am – 11:35 am: **Presentations** (6 presentations @ 10 minutes; 2 additional QA minutes per presenter)

*Presenting author(s)

- P1-7 *Structural Design of Unprecedented Large RM (Reinforced –Masonry) Structure in Japan; T. Shitanishi* (Jp)*
- P1-8 *Rocking Walls with Lead Extrusion Dampers Protect Formerly Homeless Seniors from Earthquake Risks; D. Mar*, G. Rodgers* (US, NZ)*
- P1-9 *Vibration Control of RC High-Rise Building with Soft-Story; T. Tani* (Jp)*
- P1-10 *Improving Post-Tensioned Rocking Bridge Columns for Large and Multiple Earthquake Events; R. Liu* (NZ)*
- P1-11 *Seismic Isolation Standard for Continued Functionality; V. Zayas* (US)*
- P1-12 *Development and Application of System to Reduce the Excessive Tensile Forces Arising in Laminated Rubber Bearing; M. Uekusa* (Jp)*

11:35 pm – 12:00 pm: **Discussions: Development of Technical and Policy Recommendations**

12:00 pm – 1:00 pm: **Lunch** (Location: Wakatipu Room)

Session II: Risk Identification and Reduction
Chairpersons: Ferner (NZ), Haneda (Jp)

1:00 pm – 2:25 pm: **Presentations** (7 presentations @ 10 minutes; 2 additional QA minutes per presenter)

- P2-1 *Lateral Instability of Ductile Structural Walls; State-of-the-Art; R. Dhakal* (NZ)*
- P2-2 *Advantages of Using the Simplified Lateral Mechanism Analysis (SLaMA) Technique in the Assessment of New Zealand 1960s Reinforced Concrete Frame Buildings; J. Keen* (NZ)*
- P2-3 *Progress Report of Seismic Evaluation and Retrofit of Old Buildings Located Along the Specific Emergency Transportation Roads in Tokyo; A. Osada* (Jp)*
- P2-4 *NZ Loadings Standard (NZS1170.5) 2016 and 2018 Modifications to Structural Clauses for Increased Seismic Resilience; R. Jury* (NZ)*
- P2-5 *Design Implications for Earthquake Duration on Concrete Bridge Columns; D. Sanders* (US)*
- P2-6 *Development of Planning and Design Guidance for Tsunami Vertical Evacuation Structures in New Zealand; J. Tipler* (NZ)*
- P2-7 *Experimental Study on Damage Reduction Seismic Retrofit Technique for RC Frame Using Ultra High Strength Fiber Concrete; T. Mukai* (Jp)*

2:25 pm – 2:45 pm: **Break**

2:45 pm – 3:45 pm: **Presentations** (5 presentations @ 10 minutes; 2 additional QA minutes per presenter)

- P2-8 *Study on How to Consider Pile Foundation Performance when Setting Seismic Performance of Building; T. Umeno* (Jp)*

P2-9 *Shear Capacity for Full-Scale Precast Concrete Pile*; H. Watanabe* (Jp)

P2-10 *Towards a New Delivery Approach to Improve the Performance of Non-Structural Elements in New Zealand*; J. Stanway* (NZ)

P2-11 *Development of Seismic Performance Objectives for Nonstructural Components*; A. Hortacsu* (US)

P2-12 *Nonstructural Earthquake Damage and Design Guide as Countermeasures in Japan*; H. Ito* (Jp)

3:45 pm – 4:15 pm: **Discussions: Development of Technical and Policy Recommendations**

4:15 pm – 4:25 pm: **Closure and Announcements**

5:30 pm – 5:45 pm: Meet in Hotel Lobby (15-minute walk to Skyline Gondola)

6:00 pm – 9:00 pm: **Skyline Gondola** (includes gondola and buffet dinner; no-host bar; other activities are optional and available for purchase)

TUESDAY, NOVEMBER 13, 2018

Location: Von Room, Rydges Lakeland Hotel

8:30 am – 8:45 am: **Opening Remarks**

Session III: Resilience- and Performance-Based Engineering: Progress and Developments Chairpersons: Nishimura (Jp), Mar (US)

8:45 am – 10:10 am: **Presentations** (7 presentations @ 10 minutes; 2 additional QA minutes per presenter)

P3-1 *Stronger Mega Cities for the Next Major Earthquake*; A. Wada* (Jp)

P3-2 *Resilience: Challenges and Opportunities*; M. Comerio* (US)

P3-3 *A Seismic Building Rating System – the New Zealand Experience*; H. Ferner* (NZ)

P3-4 *Applying Resilient Rating Systems for Predicting Continued Operability of Hospitals After Earthquakes*; M. Boston* (NZ)

P3-5 *Research and Development on Safety of Buildings Against Natural Disasters and Urban Fires at the Building Research Institute*; M. Midorikawa* (Jp)

P3-6 *Resiliency Evaluation of Reinforced Concrete Buildings*; S. Kono* (Jp)

10:10 am – 10:30 am: **Break**

10:30 am – 11:30 am: **Presentations** (5 presentations @ 10 minutes; 2 additional QA minutes per presenter)

*Presenting author(s)

- P3-7 *Key Implementation Challenges and Crosscutting Research Themes for Developing Immediate Occupancy Performance Objectives*; S. Sattar* (US)
- P3-8 *The Serviceability of Resilient Seismic Design in New Zealand*; D. Pettinga* (NZ)
- P3-9 *Evolution of Resilience-Based Design of Infrastructure*; P. Brabhakaran* (NZ)
- P3-10 *Earthquake Disaster Prevention and Required Performance of Railway Facilities in Japan*; A. Hayashi* (Jp)
- P3-11 *Modeling Community Resilience: Update on the Center for Risk-Based Community Resilience Planning and the Computational Environment IN-CORE*; J. van de Lindt* (US)

11:30 am – 12:00 pm: **Discussions: Development of Technical and Policy Recommendations**

12:00 pm – 1:00 pm: **Lunch** (Location: Wakatipu Room)

Session IV: Earthquake Response, Recovery, Repair, and Reconstruction Chairpersons: Brunsdon (NZ), Çelebi (US)

1:00 pm – 2:00 pm: **Presentations** (5 presentations @ 10 minutes; 2 additional QA minutes per presenter)

- P4-1 *Lessons on Attaining Resilience Based on the Christchurch Rebuild Structural Form Drivers Study*; G. MacRae* (NZ)
- P4-2 *Connecting Physical Damage to Social and Economic Impacts*; S. French* (US)
- P4-3 *Research on Seismic Evaluation and Retrofit of Condominium in Japan*; T. Nakano* (Jp)
- P4-4 *Effectiveness of Repair via Epoxy Injection of Earthquake Damaged Reinforced Concrete Beam Elements*; K. Elwood*, M. Sarrafzadeh* (NZ)
- P4-5 *Quantify Earthquake Disaster and Affect Disaster Response Policy to Improve Citywide Resiliency*; S. Kast*, K. Miyamoto* (US)

2:00 pm – 2:20 pm: **Discussions: Development of Technical and Policy Recommendations**

2:20 pm – 2:30 pm: **Closure and Announcements**

3:30 pm – 3:45 pm: Meet in Hotel Lobby (5-minute walk); TSS Earnslaw departs right at 4:00 pm

4:00 pm: Depart Queenstown on **TSS Earnslaw**

4:45 pm: Arrive Walter Peak for BBQ dinner (alcohol for purchase)

6:15 pm: Guests invited to attend farm demonstration

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6:45 pm: Depart Walter Peak on TSS Earnslaw
7:30 pm: Arrive Queenstown

WEDNESDAY, NOVEMBER 14, 2018

Location: Von Room, Rydges Lakeland Hotel

8:45 am – 9:00 am: **Opening Remarks**

Session V: Lessons Learned from Recent and Past Events
Chairpersons: Shinozaki (Jp); Campbell (NZ)

9:00 am – 10:25 am: **Presentations** (7 presentations @ 10 minutes; 2 additional QA minutes per presenter)

P5-1 Observed Response of Seismically Isolated Buildings During the 2016 Kumamoto Earthquake; M. Takayama (Jp)*

P5-2 Statistical Analysis of Building Damage in Japan Based on the 2016 Kumamoto Earthquake; F. Yamazaki (Jp)*

P5-3 Building Management in Emergencies: An Update on New Zealand Arrangements; D. Brunson, M. Stannard* (NZ)*

P5-4 Zoning Verification in Mexico City Using Strong Motions of the M7.1 Puebla-Morelos Earthquake of September 19, 2017; M. Çelebi (US)*

P5-5 Structural Performance Factors and Building Damage Following the 19 September 2017 Puebla, Mexico Earthquake; E. Jampole (US)*

P5-6 On the Diversity of Design Criteria in Seismic Design; Y. Shinozaki (Jp)*

P5-7 Legal Rumbles in California High-Rises: Emerging Liability Patterns when Field Performance Falls Short of Design Predictions; M. White (US)*

10:25 am – 10:45 am: **Discussions: Development of Technical and Policy Recommendations**

10:45 am – 11:00 am: **Break**

Closing Session

Chairpersons: Kawamura (Japan), Cedillos (US), Elwood (NZ)

11:00 am – 12:00 pm: **Workshop Summary & Wrap-Up**

Lunch on own

*Presenting author(s)