

**15<sup>th</sup> U.S.-Japan Workshop on  
Improvement of Structural Engineering and Resiliency**

Fairmont Orchid Hotel, 1 North Kaniku Drive  
Kohala Coast, Hawaii (Big Island)  
December 3-5, 2014

**PRELIMINARY PROGRAM**

**TUESDAY, DECEMBER 2, 2014**

Location: Luana Lounge, Fairmont Orchid Hotel

7:00 pm – 8:00 pm:     **Welcome Ice Breaker**   *No host bar*

**WEDNESDAY, DECEMBER 3, 2014**

Location: Kilohana Room

8:00 am – 8:45 am:     **Registration, Coffee/Tea**

8:45 am – 9:00 am:     **Welcome and Opening Remarks**, C. Rojahn (U.S.), M. Kawamura  
(Japan), K. Miyamoto (U.S.-Japan)

**Session I: Resiliency-Based Design: Progress and Developments**  
*Chairpersons: Mitsuru Kawamura (Japan); Kit Miyamoto (U.S.)*

9:00 am – 10:30 am:   **Brief presentations by topic speakers** (6 presentations @ 15 minutes)

*Thoughts and Ideas on the Improvement of Structural Engineering and Resilience for Natural Hazards; P. Yanev\**

*Development of Resilient Reinforced Concrete Building Structure; S. Tajiri\**

*Resilience of Steel Moment-Frame Buildings with Reserve Lateral Strength; J.P. Judd\**

*Structural Design of the Seismic Response Controlled Buildings with Robustness; S. Nishimoto\**

*Utilizing Damping Devices to Improve Resiliency of Structures; A. Klembczyk\**

*Progress on Resilience-Based Seismic Design Supported by Advanced Prediction of Building Damage, Repair Cost, and Building Closure Time; C. Haselton\**

10:30 am – 10:45 am:   **Break**

10:45 am – 11:15 am:   **Panel/Group Discussions**

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\*Presenting author

11:15 am – 11:30 am: **Development of Technical and Policy Recommendations and Conclusions**

11:30 am – 12:30 pm: **Lunch** (Location: Kilohana Garden)

**Session II: Performance Based-Design and Response Evaluation of Structures**

*Chairpersons: Jon Heintz (U.S.); Shinya Nishimoto (Japan)*

12:30 pm – 2:00 pm: **Brief presentations by topic speakers** (6 presentations @ 15 minutes)

*A New Framework for Quantifying Ground Motion Intensity to Estimate Collapse Vulnerability of Buildings; K. Buyco\**

*Seismic Response Control of the Building Having Large Space with Dampers; T. Haijima\**

*Performance Target Choices by Owners Under ASCE 7-10 and ASCE 41-13: Improving Seismic Resiliency and Reducing Seismic Risk in the Legal Arena; M. White\**

*Resilient Seismic Upgrade of Bay Division Pipeline No. 3 at the Hayward Fault; C. Kwon\**

*Response Reduction Effect of Soil-Structure-Interaction Evaluated by System Identification of Strong Motion Records Observed in 2011 East Japan Earthquake; H. Okano\**

*Seismic Design of Japanese Nuclear Power Plants and Their Actual Response in the July 2007 Chuetsu-oki Earthquake; A. Wada\**

2:00 pm – 2:15 pm: **Break**

2:15 pm – 2:45 pm: **Panel/Group Discussions**

2:45 pm – 3:00 pm: **Development of Technical and Policy Recommendations and Conclusions**

3:00 pm – 3:05 pm: **Closure** (Day 1 Closing, Announcements)

5:00 pm – 8:00 pm: **Social & Dinner Event** (Location: Coconut Grove)

**THURSDAY, DECEMBER 4, 2014**

Location: Kilohana Room

8:00 am – 8:10 am: **Coffee/Tea**

8:10 am – 8:15 am: **Opening Remarks**, C. Rojahn (U.S.), M. Kawamura (Japan)

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**Session III: Risk Identification & Reduction: Methods & Validation**  
**Chairpersons: Takayuki Teramoto (Japan); Curt Haselton (U.S.)**

8:15 am – 9:30 am: **Brief presentations by topic speakers** (5 presentations @ 15 minutes)

*A Risk Communication Game-Changer: The U.S. Resiliency Council (USRC) Building Rating System; J. Heintz\**

*The ATC-78 Methodology for Evaluation and Mitigation of Nonductile Concrete Buildings; A. Liel\**

*Performance of Buildings and Nonstructural Components in the South Napa Earthquake; J. Gillengerten\**

*Modified Displacement-Based Design for Reinforced Masonry Shear Wall Structures; F. Ahmadi\**

*Presentation on Similar Efforts in Japan; M. Kawamura\**

9:30 am – 10:00 am: **Panel/Group Discussions**

10:00 am – 10:15 am: **Development of Technical and Policy Recommendations and Conclusions**

10:15 am – 10:30 am: **Break**

**Session IV: Multi-Hazard Design, Analysis and Research:  
Buildings & Critical Infrastructure**  
**Chairpersons: Abbie Liel (U.S.); Hajime Okano (Japan)**

10:30 am – 11:30 am: **Brief presentations by topic speakers** (4 presentations @ 15 minutes)

*Multi-Hazard and Resilience Research at Rensselaer; F. Lombardo\**

*Resiliency of Power Systems in the United States for Earthquakes and Windstorms and Firestorms; J. Eidingen\**

*Performance of Base Isolated Structure for Tsunami Loading; M. Takayama\**

*Reliability Analysis of Structures Designed in Accordance with ASCE 7, when Subjected to Tsunami and Earthquake Effects; G. Chock\**

11:30 am – 12:00 pm: **Panel/Group Discussions**

12:00 pm – 12:15 pm: **Development of Technical and Policy Recommendations and Conclusions**

12:15 pm – 1:15 pm: **Lunch** (Location: Kilohana Garden)

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**Session V: Systems & Processes to Improve Emergency Response,  
Reconstruction & Recovery**

*Chairpersons: Seitaro Tajiri (Japan); Sabine Kast (U.S.)*

- 1:15 pm – 2:30 pm: **Brief presentations by topic speakers** (5 presentations @ 15 minutes)  
*Examples of Recovery Proposals and Recovery Process; M. Kawamura\**  
*Measuring lifeline emergency response using temporal network models; G. Cimellaro\**  
*Development of an Open Source Structural Health Monitoring and Damage Detection System for Sustainable and Resilient Structures; E. Kalkan\**  
*Improving Community Resilience Through Public-Private Partnership: The BORP Strategy; M. Bogaard\**  
*What is needed for resiliency of tall buildings in San Francisco and elsewhere?; M. Çelebi\**
- 2:30 pm – 3:00 pm: **Panel/Group Discussions**
- 3:00 pm – 3:15 pm: **Development of Technical and Policy Recommendations and Conclusions**
- 3:15 pm – 3:20 pm: **Closure** (Day 2 Closing, Announcements)
- 7:00 pm – 11:00 pm: **Dinner Event** (Offsite location)

**FRIDAY, DECEMBER 5, 2014**

Location: Kilohana Room

- 8:30 am – 8:40 am: **Coffee/Tea**
- 8:40 am – 8:45 am: **Opening Remarks**, K. Miyamoto (U.S.-Japan), M. Kawamura (Japan)

**Session VI: Humanitarian Engineering: The Role of Engineering and Technology  
in Less-Developed Communities**

*Chairpersons: Peter Yanev (U.S.); Mineo Takayama (Japan)*

- 8:45 am – 10:00 am: **Brief presentations by topic speakers** (5 presentations @ 15 minutes)  
*Improving Earthquake Resiliency in Developing Cities; K. Miyamoto\**  
*'Ductility' is 'Damage', People Don't Want to Live in Damaged Buildings; A. Wada\**  
*Saving Lives through Humanitarian Engineering; S. Kast\**  
*An Example of Improving Earthquake Safety Project in South-east Asia; T. Teramoto\**

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*Effectively Adapting and Adopting Risk Reduction Technologies in Emerging Communities; V. Cedillos\**

10:00 am – 10:30 am: **Panel/Group Discussions**

10:30 am – 10:45 am: **Development of Policy Recommendations**

10:45 am – 11:00 am: **Break**

**Session VII: Closing Session**

*Chairpersons: Mitsuru Kawamura (Japan);  
Christopher Rojahn (U.S.); Kit Miyamoto (U.S.-Japan)*

11:00 am – 12:00 pm: **Workshop Summary & Closing Words**

Special Video Presentation (tentative): *Personal Message to Participants from Roland Sharpe—U.S. Founder of the U.S.-Japan Workshop series*

*Summary & Conclusions; M. Kawamura, C. Rojahn, K. Miyamoto*

1:00 pm – 6:00 pm: **Optional Golf Tournaments** (*Not hosted*)

Location: Francis I Brown North & South Courses

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