EERINYNE-GEER 2/2/17 Mini-Symposium



2010-11, 2016 NEW ZEALAND EARTHQUAKES **Relevance to NYC and US Critical Infrastructure**



EARTHQUAKE ENGINEERING **RESEARCH INSTITUTE Dedicated to Reducing** Earthquake Risk _earning from Earthquakes

The Mini-Symposium will have 2 parts: (1) A series of four talks by the foremost seismic experts involved in the 2010-11 Canterbury earthquake sequence and the 2016 Kaikoura, NZ earthquake in the fields of infrastructure and liquefaction assessment, reconstruction planning, rebuild, and code modifications; (2) a panel of international and NYC code seismic experts will discuss with the speakers key aspects of the NZ practice modifications and implementations as they relate to protection and resiliency of the critical infrastructure of our metropolis and our nation at large.



GEOTECHNICAL EXTREME EVENTS RECONNAISSANCE **Turning Disaster into** Knowledge Sposnored by the NSF



Prof. Tom O'Rourke, PhD, Cornell University



Th. R. Briggs Professor, Dist.M.ASCE, FREng, NAE

"In the new normal for natural disasters, we should reassess and identify critical infrastructure that is "too big to fail", and the risk related to it, and subsequently form local coalitions to protect it using punctuated resilience against what is possible and beyond what is probable."

"Rarely has detailed information about lifeline and building performance been available to the degree that exists for Christchurch where liquefaction effects of several earthquakes are documented in a comprehensive way. Data on the Canterbury sequence provide a unique

understanding for advancing an integrated examination of the impacts of liquefaction on critical infrastructure in the USA."



Jonathan D. Bray





Ellen M. Rathje Univ. of TX Austin



Brendon A. Bradley

Univ. Canterbury, NZ

Prof. Brendon Bradley, PhD, Univ. of Canterbury, New Zealand Deputy Director, QuakeCoRE: NZ Centre for Earthquake Resilience

"The 2016 Kaikoura event was an urgent reminder that "the question is not whether earthquakes happen, but how prepared and resilient we are when they do. Lessons learnt need to be implemented towards resilience, especially regarding critical infrastructure and lifeline networks."

Prof. Ellen Rathje, PhD, UT Austin, Warren S. Bellows Centennial Professor, PE, F. ASCE Principal Investigator, DesignSafe resource-sharing platforfm for natural hazards engineering

Faculty Chair in Earthquake Engineering Excellence, PE, F. ASCE, NAE

"We are bringing together our expertise in engineering and information technology to develop the best tools to help engineers better understand the impact of natural hazards on our cities and infrastructure. There is tremendous potential to save lives and property through better engineering, design and planning."



REGISTER TODAY by email at **nyne@eeri.org** Thursday February 2, 2017 3:30 - 7:30 pm

The General Society of Mechanics & Tradesmen 20 W.44th St. (bet. 5th and 6th Aves.), New York, NY 10036

Attendance is FREE for all

4 PDH/AIA credits Cost for PDH certificates: free for EERI members, \$25/PDH for non-EERI members



Prof. Jonathan Bray, PhD, UC Berkeley



Prof. Mary Comerio, UC Berkeley President of EERI

PANELISTS

"We need to reach out to and collaborate with other professions whose work can influence long-range policies for seismic safety and hazard assessment. We need to focus on the challenges of "resilient cities" and focus on technical and policy issues needed to make our cities robust, sustainable and safe. After devastating earthquakes in recent years in China, Haiti, NZ, Italy, Chile and Japan, we have much to learn from these events and from our colleagues around the globe."

Mary Comerio UC Berkeley



Director, MCEER, SEAoNY Code Committee Expert "The exposure of New York City to catastrophic losses (repairs, business interruption, and casualties) in the event of a significant earthquake,



Prof. Andrew Whittaker, PhD, University at Buffalo, PE, SE, F.SEI, F.ASCE, F. ACI

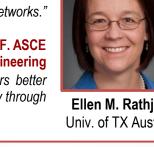
Ramon Gilsanz, Gilsanz Murray Steficek, PE, SE, F.SEI, F.ASCE

Chair, 2014 NYC Build. Code Tech. Committee

such as the 2011 M5.8 Mineral, Virginia event, is high. Such an earthquake would trigger substantial damage to buildings and infrastructure. Damaged infrastructure and collapsed buildings slow response and recovery and prevent re-occupation. Much work is needed to characterize the earthquake risk in the City, and then to rehabilitate buildings and infrastructure to achieve yet-to-be determined performance goals."



Andrew Whittaker Univ. at Buffalo





USGS

capital/traditional insurance markets, linked to strong provision of scientific information, can be critical resources for holistic community-wide risk-mitigation strategies."

resilience, an ongoing discussion, often relies on such near-real-time information. Healthy mechanisms for disaster financing, arising from



"Safety is what structural engineers should focus on, using the least minimum requirements in terms of material while also being true to helping people express their ideas – but ultimately the buildings need to be safe. We're enablers, we enable things to happen by helping actualize the ideas of others."

Sissv Nikolaou WSP | PB

Sissy Nikolaou, PhD, WSP| Parsons Brinckerhoff, PE, F.ASCE Principal, Multi-Hazards & Geotechnical Engineering, Chair, 2014 NYC Seismic Code Tech. Committee

"Extreme events are rare and occur when hardly anticipated with potentially disastrous impacts on our built environment and lives. Urban centers that rely heavily on their infrastructure are particularly vulnerable, as we were urgently reminded during Hurricane Sandy in NYC, the Christchurch sequence, and most recently the 2016 Muisne, Ecuador earthquake."



Ramon Gilsanz GMS

