

# EERI 2016 DISTINGUISHED LECTURE

## FROM PERFORMANCE-BASED ENGINEERING TO EARTHQUAKE RESILIENCE

By: Gregory Deierlein, J.A. Blume Professor of Engineering, Stanford University

Performance-based earthquake engineering has matured over the past twenty years from a conceptual framework into a formal methodology that can enable quantitative assessment of the seismic risks to buildings and infrastructure. Enabled by advanced nonlinear analysis, performance-based methods provide for more transparent design and decision making that takes advantage of the latest research in characterizing earthquake ground motion hazards, simulating structural behavior, and assessing earthquake damage and its consequences. Performance-based approaches are facilitating the design of innovative structures and influencing building code requirements and public policies for earthquake safety. Yet, many challenges remain to evaluate recovery from earthquake damage and implications on the socio-economic functions of society. This talk will examine the major developments in performance-based earthquake engineering and ways it can be applied to reduce earthquake risks and improve earthquake resilience.



**THURSDAY,  
SEPT. 8, 2016**



**LECTURE  
6:00 – 7:30 PM**



**SOCIAL EVENT  
AT 5:30 PM**

REFRESHMENTS WILL BE SERVED



**LOCATION:  
MEK-3550**

**KENNECOTT BUILDING  
UNIVERSITY OF UTAH**



 Department of  
**Civil & Environmental Engineering**  
THE UNIVERSITY OF UTAH



Greg Deierlein is the John A. Blume Professor of Engineering in the Department of Civil & Environmental Engineering at Stanford University where he directs the Blume Earthquake Engineering Center. He holds a doctorate from the University of Texas at Austin, a master of science from the University of California at Berkeley, and a bachelor of science from Cornell University. Greg previously served as the deputy director for the Pacific Earthquake Engineering Research (PEER) Center where he led the research planning to develop performance-based approaches and technologies in earthquake engineering. Deierlein specializes in the design and behavior of steel, concrete and composite structures, nonlinear structural analysis, computational fracture and damage mechanics, and performance-based earthquake engineering. He is a registered professional engineer and maintains professional activities as a structural engineering consultant, design peer reviewer, and participant in national technical and building code standards committees. In 2013, he was elected to the US National Academy of Engineering for his contributions to applying nonlinear analysis in structural design.

**STUDENTS, ENGINEERS, ARCHITECTS, AND PLANNERS ARE ENCOURAGED TO ATTEND**

**1.5 PDH WILL BE OFFERED**