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LECTURE SERIES



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ABSTRACT:

DesignSafe (www.designsafe-ci.org) is the cyberinfrastructure (CI) platform being developed as part of the Natural Hazards Engineering Research Infrastructure (NHERI) to support natural hazards engineering research. DesignSafe allows researchers to more effectively share, publish, and find data; perform numerical simulations using high performance computing; and integrate diverse datasets. DesignSafe embraces a cloud strategy, with all data, simulation, and analysis taking place on the server-side resources of the CI, accessible and viewable from the desktop. Two important DesignSafe components for researchers are the Data Depot and the Discovery Workspace. The Data Depot is the central shared data repository that supports the full research lifecycle, from data creation to analysis to curation and publication. The Discovery Workspace is the place for researchers to perform simulations using the most sophisticated computational tools (including OpenSees), as well as to analyze, visualize, and transform their data using cloud-based tools such as MATLAB or Jupyter notebooks. This presentation will describe the DesignSafe functionalities and provide examples of how DesignSafe can be used today to enhance earthquake engineering research.

SHORT BIOGRAPHY:

Dr. Ellen M. Rathje is the Warren S. Bellows Centennial Professor in the Department of Civil, Architectural, and Environmental Engineering at the University of Texas at Austin (UT), and Senior Research Scientist at the UT Bureau of Economic Geology. She has expertise in the areas of seismic site response analysis, engineering seismology, seismic slope stability, field reconnaissance after earthquakes, and remote sensing of geotechnical phenomena. Dr. Rathje is a founding member and current Co-Chair of the Geotechnical Extreme Events Reconnaissance (GEER) Association and she was a member of the Board of Directors of the Earthquake Engineering Research Institute (EERI) from 2010-2013. She is the Principal Investigator for the DesignSafe-ci.org cyberinfrastructure for the NSF-funded Natural Hazards Engineering Research Infrastructure (NHERI) and co-PI for the Center for Integrated Seismicity Research (CISR) at the Bureau of Economic Geology. She has been honored with various research awards, including the Huber Research Prize from the American Society of Civil Engineers (ASCE) in 2010, the Hogentogler Award for outstanding paper from ASTM Committee D18 in 2010, the Shamsher Prakash Research Award in 2007, and the Shah Innovation Prize from EERI in 2006. She was named a Fellow of the American Society of Civil Engineers in 2016.