

IGT-Kolloquium

Donnerstag, 15. Dezember 2016

Recent Advances in Physical Modeling & Remote Sensing of Civil Infrastructure Systems

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17. 00 Uhr, ETH Zürich, Hönggerberg, HIL E3

Natural and man-made hazards are often associated with costly damages to civil infrastructure systems, such as buildings, bridges, levees, dams, pipelines and offshore structures of all types. The lack of high-quality field and lab data of soil system response have eluded researchers and practitioners until recently.

Recent advancements in physical modeling facilities (centrifuge & full scale) and advancement in remote sensing technology are leading to a new reality for the health assessment of soil-structure systems. This new reality is leading to a paradigm shift in the evaluation and modeling of soil-structure systems. Physical modeling, remote sensing and computational simulations are destined to replace the current empirical approaches and will ultimately become the main tool for analysis and design of soil-structure systems. The presentation will discuss the results of recent research studies utilizing physical modeling to simulate the response of critical soil-structure systems to natural and man-made hazards.

PROFILE

Professor Tarek Abdoun is the Thomas Iovino Chair Professor and Director of Rensselaer Polytechnic Institute (RPI) Geo-Centrifuge Center. He received several awards from professional societies, including the American Society of Civil Engineers (ASCE) “Walter L. Huber Civil Engineering Excellence in Research Prize”, the US Army “Commander’s Award for Public Service with accompanying medal”, and “Shamsher Prakash International Research Award” for young engineers, scientists and researchers. He is also the recipient of several educational societies, including the American Society of Engineering Education (ASEE) north region “Outstanding Teaching Award”, the “Wharton QS-Stars Reimagine Education Bronze Award”, and Chi Epsilon National Civil Engineering Honor Society “Excellence in Teaching Award”; for the successful development & implementation of web-based education tools and mixed reality educational games in the undergraduate engineering education at several USA campuses. He authored or co-authored over 200 technical publications. His research interests cover geotechnical engineering, Advanced Field Monitoring, Centrifuge & Full-scale Testing, Soil-Structure Interaction, Soil Dynamics and Earthquake Engineering, Satellite Based InSAR Remote sensing, Modeling of Blast loading & Hurricane loading, and offshore systems. He served as chair or member of national and international professional committees of major projects associated with tunnels, dams, levees, and pipelines.