2021 Fazlur R. Khan Distinguished Lecture Series speakers announced

MONDAY, FEBRUARY 1, 2021

Annual series honoring a legacy in structural engineering and architecture continues online

The schedule of speakers for Lehigh University's 2021 Fazlur Rahman Khan Distinguished Lecture Series, which will continue to be held in an online format, has been announced.

The Khan Lecture Series, which is co-sponsored by the Departments of Civil and Environmental Engineering and Art, Architecture, and Design, honors Dr. Fazlur Rahman Khan's legacy of excellence in structural engineering and architecture. Civil and environmental engineering professor Dan M. Frangopol is the inaugural holder of the Fazlur Rahman Khan Endowed Chair of Structural Engineering and Architecture at Lehigh and the organizer of the lecture series.

Visit the FRK Lecture Series website for detailed information on this and past year's speakers, a history of Dr. Khan, and Zoom registration for the virtual events.

2021 (Virtual) Fazlur Rahman Khan Distinguished Lecture Series

JEANNE GANG, Founding Principal and Partner, Studio Gang, Chicago, IL

"Crossing Domains" *Studio Gang's unique design approach is predicated on interdisciplinary collaboration with expert partners ranging from engineers and ecologists to artists and journalists. In this lecture, Jeanne will discuss how this deep and sustained engagement across fields has resulted in the material, spatial, and aesthetic innovations that define award-winning projects like the supertall St. Regis Chicago tower, the city's third tallest building, and the Arcus Center for Social Justice Leadership, which unites traditional cordwood masonry practices with contemporary design and building technologies.* *Read More*

Thursday, February 18, 2020 - 4:30 pm EST

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JACK MOEHLE, Professor of the Graduate School, University of California, Berkeley

"Performance-based Seismic Design of Tall Buildings" *Performance-based seismic design of tall buildings in the western United States began in earnest shortly after the turn of the 21st century. Although even the first designs were subject to independent peer review, there were no guidelines or accepted criteria for how to conduct and review a performance-based design, with the result that similar buildings were often designed to satisfy distinctly different criteria. Guidelines and building code provisions were soon developed to improve uniformity in design approaches and to foster the adoption of the performance-based approach. This lecture will review the development of performance-based seismic design of tall buildings, document a typical design application, and summarize results of over a decade of experience in tall building designs.* **Read More**

Thursday, March 11, 2021 - 4:30 pm EST

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P. BENSON SHING, Professor, Department of Structural Engineering, University of California, San Diego

"Understanding the Seismic Performance of Structural Systems through Large-scale Experiments and Computational Simulations" *The development of design standards for seismic force resisting systems has been relying on data from numerical simulations and laboratory experiments for a long period of time. However, these simulations have often been performed with highly simplified computational models either because of their computational efficiency or because of the lack of more refined modeling options. Moreover, most experimental studies focused on isolated structural elements or subassemblages, which were typically tested to a state of severe damage but not to the point of incipient collapse. It is well recognized that the performance of a structural system in an earthquake depends on how the structural elements interact, which dictates the resulting inelastic mechanisms, as well as on the alternate load paths and redundancy provided in the system. To compensate for the lack of system response data for model validation, design specifications and evaluation criteria often have to have added conservatism. This may not only result in less economical systems but also a lack of uniform safety level across structural materials and systems. To develop reliable performance-based seismic design guidelines, accurate and efficient computational models are essential for predicting the damage states as well as accessing the possibility of collapse of a structural system in an earthquake. Computational modeling of the response of reinforced concrete and masonry structures for such purpose is especially challenging as these structures can develop complex inelastic mechanisms, including the cracking and crushing of concrete/masonry, the yielding, buckling, and fracture of reinforcing bars, and the interaction between the two materials. This lecture demonstrates the importance of structural system testing and refined computational modeling to the advancement of design standards for reinforced masonry structures, and presents some recent work along this direction including major findings.* **Read More**

Thursday, April 15, 2021 - 4:30 pm EST

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- 2021 Fazlur R. Khan Distinguished Lecture
- Series Faculty Profile: Dan M. Frangopol

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