



Lectures will be held
in-person in Whitaker Lab
303 at Lehigh University

Lectures also held
via Zoom Webinar,
To register go to
www.lehigh.edu/frkseries

Friday, February 24, 2023
4:30 P.M. EST

Tom O'Rourke

Thomas R. Briggs Professor of
Engineering Emeritus,
School of Civil and
Environmental Engineering,
Cornell University,
Ithaca, NY



NEXT GENERATION HAZARD RESILIENT INFRASTRUCTURE

Resilient underground infrastructure can accommodate large ground deformation from earthquakes, hurricanes, floods, adjacent construction, and subsidence. Professor O'Rourke will describe how ten new pipeline and conduit systems have been developed and commercialized using a protocol of large-scale tests and fault rupture experiments. The development and validation of analytical models for the soil-structure interaction of these systems are also described. Examples are used to illustrate the composition and performance of hazard resilient infrastructure. Next steps in the development of this technology are discussed, which include the incorporation of smart sensors.

Friday, April 7, 2023
4:30 P.M. EST

Guy Nordenson

Guy Nordenson and Associates,
Partner,
Structural Engineers LLP,
New York, NY;
Professor of Architecture and
Structural Engineering,
School of Architecture
Princeton University,
Princeton, NJ



WORKING STRUCTURES

What is the role of the structural engineer in her and his collaborations with architects and artists? Fazlur Khan and Joseph Colaco collaborated with William Hartmann on the 1967 Chicago Picasso. How do we characterize that role as compared to the collaborations on Khan's more famous works? What are the critical concepts that can account for the creative contributions of the different participants in key works of architecture? And what civic roles can engineers play in addressing the pressing needs of cities both in the climate crisis but also in the case of transformative events such as 9-11? This talk will review these questions from the perspective of the speaker's participation in recent projects with architects and artists and also efforts to address the challenges of coastal resilience.

Friday, April 28, 2023
4:30 P.M. EST

Kumares C. Sinha

Edgar B. and Hedwig M. Olson
Distinguished Professor of
Civil Engineering,
Lyles School of Civil Engineering,
Purdue University,
West Lafayette, IN



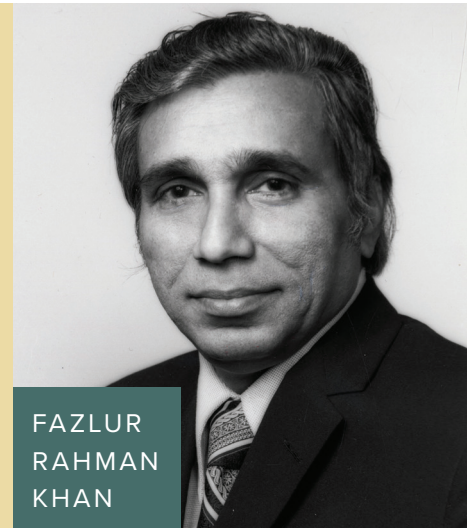
NEXT GENERATION URBAN TRANSPORTATION, URBAN LIVING, AND THE ROLE OF TALL BUILDINGS

Profound changes are taking place in how we live, go to work, do shopping, spend leisure hours, and ship and receive our goods and products, all influenced by emerging technologies and the attendant evolution in our transportation sector. The process of transformation is accentuated by changes in socio-economic characteristics of urban residents caused by pandemic-era contact restrictions and massive growth in telecommunications. The presentation will examine possible long-term cumulative impacts of these changes on urban living with particular emphasis on urban forms and the role of tall buildings.

ABOUT THE KHAN SERIES

In step with the abounding vitality of the time, structural engineer **Fazlur Rahman Khan** (1929-1982) ushered in a renaissance in skyscraper construction during the second half of the 20th century. Fazlur Khan was a pragmatic visionary: the series of progressive ideas that he brought forth for efficient high-rise construction in the 1960s and '70s were validated in his own work, notably his efficient designs for Chicago's 100-story John Hancock Center and 110-story Willis (formerly Sears) Tower — the tallest building in the United States since its completion in 1974.

Lehigh endowed a chair in structural engineering and architecture and has established this lecture series in Khan's honor. It is organized by **Professor Dan M. Frangopol**, the university's inaugural holder of the Fazlur Rahman Khan Endowed Chair of Structural Engineering and Architecture, and sponsored by the Departments of Civil & Environmental Engineering, and Art, Architecture & Design.



FAZLUR
RAHMAN
KHAN

This lecture series is sponsored by:
Civil & Environmental Engineering
College of Engineering & Applied Science
Art, Architecture & Design
College of Arts & Sciences



STRUCTURAL
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Chapter

1 PDH will be awarded
to eligible attendees
for each lecture.

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