



YOZO FUJINO

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 Sears Tower -- the tallest building in the United States since its completion in 1974.



Fazlur Rahman Khan

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 first 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.



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Spring 2018 Khan Distinguished Lecture Series

The Fazlur Rahman Khan Distinguished Lecture Series honors Dr. Fazlur Rahman Khan's legacy of excellence in structural engineering and architecture

Initiated and Organized by **PROFESSOR DAN M. FRANGOPOL**

The Fazlur Rahman Khan Endowed Chair of Structural Engineering and Architecture
Department of Civil and Environmental Engineering, ATLSS Engineering Research Center,
Lehigh University

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YOZO FUJINO

Distinguished Professor of Institute of Advanced Sciences, Yokohama National University,
Yokohama, Japan

“Lessons Learned from 30 Years of Experience in Dynamics, Monitoring and Control of Bridges”

Friday, April 13, 2018 – 4:30 pm

Location: Whitaker Lab 303, Lehigh University, 5 E. Packer Avenue, Bethlehem, PA

<http://www.lehigh.edu/frkseries>

Dr. Yozo Fujino, PhD, is Distinguished Professor of Institute of Advanced Sciences, Yokohama National University and Professor Emeritus of Civil Engineering, University of Tokyo. His areas of expertise include dynamics, control, and monitoring of bridges and structures, and earthquake- and wind-effects on structures. Professor Fujino has been involved in many bridge projects including: the Akashi Kaikyo and Tatara Bridges in Japan, the Millennium Bridge (vibration control) in the UK, the Stonecutters Bridge in Hong Kong, and the Padma Bridge in Bangladesh. He has received numerous awards; recent ones include the Medal with Purple Ribbon from the Emperor of Japan (2007), ASCE's Scanlan Medal (2011), and ASCE's George Winter Medal (2015) to name a few. He is the former president of the International Association of Structural Control and Monitoring (IASCM), and a former vice president of the International Association of Bridge and Structural Engineering (IABSE).

Lessons Learned from 30 Years of Experience in Dynamics, Monitoring and Control of Bridges.

Increasingly, bridges exhibit excessive vibration due to longer spans and greater flexibility, as well as excessive loading; hence, various control remedies have been developed and applied. Based on Prof. Fujino's extensive experience, various vibration displayed by existing bridges and their control are surveyed. The importance of measured vibration responses will also be presented through several examples. It is strongly stressed that monitoring in situ performance of bridges under in-service loads is essential for not only better understanding of bridge behavior, but also better lifetime management.

FAZLUR RAHMAN KHAN (1929 - 1982) One of the foremost structural engineers of the 20th century, Fazlur Khan epitomized both structural engineering achievement and creative collaborative effort between architect and engineer. Only when architectural design is grounded in structural realities, he believed — thus celebrating architecture's nature as a constructive art, rooted in the earth — can “the resulting aesthetics ... have a transcendental value and quality.” His ideas for these sky-scraping towers offered more than economic construction and iconic architectural images; they gave people the opportunity to work and live “in the sky.” Hancock Center residents thrive on the wide expanse of sky and lake before them, the stunning quiet in the heart of the city, and the intimacy with nature at such heights: the rising sun, the moon and stars, the migrating flocks of birds. Fazlur Khan was always clear about the purpose of architecture. His characteristic statement to an editor in 1971, having just been selected Construction's Man of the Year by *Engineering News-Record*, is commemorated in a plaque in Onterie Center (446 E. Ontario, Chicago): **“The technical man must not be lost in his own technology. He must be able to appreciate life; and life is art, drama, music, and most importantly, people.”**



1 PDH will be awarded to eligible attendees for each lecture

Please contact the Khan Chair office at 610-758-6123 or Email: infrk@lehigh.edu with any questions.