



JOHN ZILS



LEHIGH
UNIVERSITY

SPONSORED BY:
THE DEPARTMENT OF CIVIL &
ENVIRONMENTAL ENGINEERING
and
THE DEPARTMENT OF ART, ARCHITECTURE &
DESIGN



Spring 2016 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

dan.frangopol@lehigh.edu, www.lehigh.edu/~dmf206

JOHN ZILS

Senior Structural Consultant, Skidmore Owings & Merrill LLP, Chicago, IL

"Lessons Learned"

Friday, April 15, 2016 – 4:30 pm

Location (New for 2016!): Whitaker Lab 303, Lehigh University, 5 E. Packer Avenue, Bethlehem, PA

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

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.

John Zils. Since joining Skidmore Owings & Merrill LLP (SOM) in 1966, Mr. Zils has served as structural engineer on numerous projects ranging widely in scope and scale. He worked as senior structural engineer for the 10-story Fourth Financial Center Bank and Office Building in Wichita, Kansas, and the 110-story Sears Tower in Chicago. For the King Abdul Aziz International Airport in Jeddah, Saudi Arabia, John was involved in overseeing a large group of structural engineers working on all portions of the large scale project including the innovative Haj Terminal, which is the largest terminal membrane roof structure in the world. As senior structural consultant, Mr. Zils oversees many projects and works closely with the project engineer and engineering team, primarily at the beginning phase of the project and again near its final stages of completion.

John has published numerous articles on structural engineering topics and is the recipient of many awards from the American Society of Civil Engineers, the American Institute of Steel Construction, and the Structural Engineers Association of Illinois, to name a few.

Lessons Learned. Fazlur Khan was a visionary and innovator in building design during a very exciting period in the evolution and development of tall building and long span structural systems. Upon joining Skidmore Owings & Merrill in 1960, Dr. Khan immediately recognized that the computer could provide unprecedented analytical and design power that would revolutionize the design profession. He convinced SOM to purchase a computer for the structural department which then provided him with the means to explore structural behavior in great depth and develop the many innovative structural systems attributed to him. What may not be as well-known about him was his unique ability to mentor, motivate and teach all who came in contact with him to include not only other structural engineers but architects and clients as well.

During my early and formative years as a structural engineer, I had the enormous benefit to work with Fazlur on numerous major buildings to include the Sears Tower in Chicago and the Haj Terminal in Jeddah, Saudi Arabia. The experience and lessons learned during this 16-year period (1966-1982) were invaluable and provided me with a foundation and approach to my career as a structural engineer and architect. This lecture will attempt to articulate some of these lessons and ideas using various projects to illustrate the lessons learned. Dr. Khan was an innovative and brilliant engineer but his legacy will also include the impact of his ability to communicate and teach these lessons to all of us. Even though his professional career of 22 years was relatively short, his impact on the building profession and those who came in contact with him is enormous.

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.**"



STRUCTURAL
ENGINEERING
INSTITUTE
Lehigh Valley
Chapter

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.