John M. Kulicki

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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ATLSS

Spring 2013 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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John M. Kulicki

Chairman/CEO Modjeski and Masters Inc., Mechanicsburg, PA

"Observations on AASHTO Bridge Design"

Friday, March 22nd, 2013 – 4:10 pm

Location: Sinclair Lab Auditorium, Lehigh University, 7 Asa Drive, Bethlehem, PA

http://www.lehigh.edu/~infrk/

John M. Kulicki, Chairman/CEO Modjeski and Masters Inc., Mechanicsburg, PA: A graduate of Lafayette College and Lehigh University, Dr. Kulicki has over forty years of experience in virtually all aspects of bridge analysis and design including suspension, cable-stayed, and long-span truss and arch bridges. He joined Modjeski and Masters in 1974 and is currently Chairman/CEO. His experience includes design, research, code development, and teaching. Designs he has led have won many awards including the American Society of Civil Engineers' Outstanding Civil Engineering Achievement awards and three American Institute of Steel Construction's (AISC's) Prize Bridge awards. Kulicki has authored more than 80 technical papers and presentations, and he has contributed to three engineering handbooks. He is a member of the National Academy of Engineering and has received numerous awards, most recently AISC's Kimbrough Award. He is both a user of, and a contributor to, the AASHTO Bridge Design Specifications having led the 50-member team of experts in the development of the AASHTO LRFD Bridge Design Specifications.

Observations on AASHTO Bridge Design: The bridge design specifications promulgated by the American Association of State Highway and Transportation Officials (AASHTO) is the primary source of technical guidance for highway bridge designers in the United States. The various states may make exceptions to these provisions and the basic document has been the basis of national specifications in many other countries. This presentation will discuss the pre-AASHTO years from the late 1800's until the early 1900's, review the design philosophies utilized by AASHTO to provide structural safety, illustrate how lessons from failures have been incorporated in the design requirements, summarize the development of the latest generation of the specifications, and introduce two potential new directions to make the specifications even more robust and comprehensive.

Bridges are a highly visible part of the built environment. In addition to safely transporting drivers over obstacles, the appearance of well-proportioned bridges can add to the view shed and capture the spirit of the public. Some illustrative examples will be presented and the role of design professionals other than engineers will be discussed based on personal observations from recent projects.

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."**

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