



William F. Baker



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Spring 2009 Khan Lecture Series

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

Organized by: DAN M. FRANGOPOL

Fazlur Rahman Khan Endowed Chair of Structural Engineering and Architecture
Department of Civil and Environmental Engineering, ATLSS Center, Lehigh University
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William F. Baker

Structural & Civil Engineering, Partner
Skidmore, Owings & Merrill, Chicago & London
"Engineering the World's Tallest: Burj Dubai"

Friday, March 20, 2009 – 4:10 pm

Location: Sinclair Lab Auditorium, Lehigh University, 7 Asa Drive, 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. For more information on Fazlur R. Khan please visit:

<http://www.fazlurkhan.com>



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.

WILLIAM F. BAKER, P.E., S.E.: William F. Baker is the Structural and Civil Engineering Partner for the Chicago and London offices of Skidmore, Owings & Merrill. Since joining the firm in 1981, Bill's scope of engineering projects extends from designing structural systems for supertall buildings, to smaller, specialized structures such as entry pavilions and gateways. He was elected partner in 1996. Most recently, Bill developed the structural system for the Burj Dubai, the world's tallest building, to be completed in 2009. Other currently completed projects include the long span structure of the Virginia Beach Convention Center and the glass cable-net entrance pavilion of the General Motors Renaissance Center in Detroit, Michigan. He is this year's recipient of the "The Fazlur Rahman Khan Medal" given by the CTBUH. The Fazlur Rahman Khan Medal recognizes an individual for his or her demonstrated excellence in design and/or research that has made a significant contribution to a discipline(s) for the design of tall buildings and the built urban environment. In addition to working at SOM, Bill is an adjunct thesis professor at the Illinois Institute of Technology College of Architecture and on the Specifications Committee of the American Institute of Steel Construction (AISC). He frequently lectures on a variety of structural engineering topics within the U.S. and abroad.

Engineering the World's Tallest: Burj Dubai

The Burj Dubai represents the state-of-the-art in tall building design. Once completed, it will be not only the world's tallest building, but the tallest man-made structure ever created. From the project's initial concept design through construction, the combination of several important technological innovations results in a building of unprecedented height. This lecture will describe some of the structural design methods, materials, and construction techniques which enable the creation of a superstructure that is both efficient and robust.

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.**" For more information on Fazlur Rahman Khan please visit:

<http://www.fazlurkhan.com>

Please contact Leslie J. Ladick at 610-758-6123 or Email: lj2@lehigh.edu with any questions.