



RONALD O. HAMBURGER

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 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

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Senior Principal, Simpson Gumpertz & Heger Inc., San Francisco, CA

"Performance-based Design: What, How, When, Why, and Why Not Use It"

Friday, March 4, 2016 – 4:30 pm

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

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

Ronald Hamburger has more than forty years of experience in design, construction, education, research, evaluation, investigation and repair of commercial, institutional, and industrial facilities. He is an internationally recognized expert in performance-based structural, earthquake and blast engineering, and has played a lead role in the development of national structural engineering standards and building code provisions. Following the 11 September 2001 terrorist attacks in New York, Mr. Hamburger served as one of several investigators into the collapse of New York's twin World Trade Center towers on behalf of the Structural Engineering Institute of the American Society of Civil Engineers and the Federal Emergency Management Agency. Mr. Hamburger has lectured at the University of California at Berkeley, the University of California at Los Angeles, Stanford University, and numerous other academic institutions. He is a past-Chair of the Structural Engineering Certification Board, a past President of the National Council of Structural Engineering Associations, a past President and Fellow of the Structural Engineers Association of California and the Structural Engineers Association of Northern California, and a past Director and Vice President of the Earthquake Engineering Research Institute. His practice focuses on the design of major buildings and other structures for extreme loads.

Performance-based Design: What, How, When, Why, and Why Not Use It. Performance-based design is a powerful alternative approach to design in accordance with the building code. It enables the use of structural materials and systems for which building code requirements do not presently exist; as well as the use of systems and materials beyond the limits prescribed by the building code. It can also allow design of buildings capable of better or more reliable performance than would be obtained strictly by adherence to the code. However, the use of performance-based design entails a number of risks that both the design professional and developer need to be aware of. Mr. Hamburger will provide details of the basic process, its benefits and the associated risks.

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.