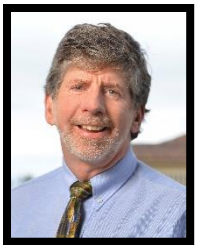

**GREGORY DEIERLEIN**

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.

LEHIGH UNIVERSITY

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

ATLSS

# Fall 2020 (Virtual) Khan Distinguished Lecture

*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


## GREGORY DEIERLEIN

John A. Blume Professor in the School of Engineering, Stanford University, Stanford, CA

## "From Performance-Based Engineering to Urban Resilience"

## Thursday, November 19, 2020 – 4:30 pm

**Via Zoom (click on link to register)**
http://www.lehigh.edu/frkseries

**Greg Deierlein** is a Professor and Director of the Blume Earthquake Engineering Center at Stanford University, co-director of the NSF supported SimCenter of the Natural Hazards Engineering Research Infrastructure (NHERI), and former Deputy Director of the Pacific Earthquake Engineering Research (PEER) Center. Deierlein specializes in the seismic design and behavior of structures, computational simulation of buildings and civil infrastructure, and performance-based engineering. He has led major collaborative teams, involving researchers from the U.S., Japan, and Taiwan to develop and test innovative composite steel-concrete frame systems, self-centering braced frame systems, and light-frame residential construction. He is active in the development of building code standards and policies to promote seismic resilience, including work with the Applied Technology Council (ATC), the American Institute of Steel Construction (AISC), and the Earthquake Engineering Research Institute (EERI). He serves on the Specification Committee of the AISC, the Board of Directors of EERI, the national Advisory Committee on Earthquake Hazard Reduction, and the Board of Trustees of GeoHazards International. Deierlein's research and professional activities have been recognized through and AISC Lifetime Achievement Award, an Engineering News Record top newsmaker award, and several awards from ASCE including three Norman Medals, a Walter Huber Research Prize, two State-of-the Art awards, and others. He is a registered professional engineer, member of the US National Academy of Engineering, and Distinguished Member of ASCE.

**From Performance-Based Engineering to Urban Resilience.** Performance-based earthquake engineering has matured over the past twenty years from a conceptual framework into a formal methodology that can enable quantitative assessment of the seismic risks to buildings and infrastructure. Enabled by advanced computational technologies, performance-based methods provide for more transparent design and decision making that takes advantage of the latest research in characterizing earthquake ground motion hazards, simulating structural behavior, and assessing earthquake damage and its consequences. Performance-based approaches are facilitating the design of innovative structures and influencing building code requirements and public policies for earthquake safety. Continued developments to extend performance-based engineering to city-scale simulations provide emerging opportunities to engage urban planners, public officials, and other stakeholders in developing strategies to avoid and mitigate risks and improve resilience to earthquakes and other natural hazards. Examples include new technologies to enable high-resolution earthquake scenario studies and earthquake policy initiatives in San Francisco and Los Angeles.

---

**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."*

SEI ASCE 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.*