LEHIGH UNIVERSITY

P. C. ROSSIN COLLEGE OF ENGINEERING AND APPLIED SCIENCE

2014

FAZLUR RAHMAN KHAN DISTINGUISHED LECTURE SERIES

Honoring a legacy in structural engineering and architecture

Presentations will be held in the Sinclair Laboratory Auditorium at Lehigh University

Receptions to precede events starting at 4:10 P.M.

http://www.lehigh.edu/frkseries

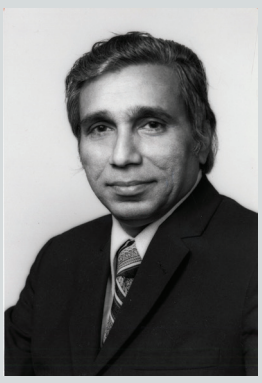
Friday, February 21st, 2014
4:30 P.M.
"The Evolution of Building Design to Resist Earthquakes"

Friday, March 21st, 2014
4:30 P.M.
"Structure Becoming Architecture: Case Studies of Aesthetics, Form, and Efficiency"

Friday, April 11th, 2014
4:30 P.M.
"Renaissance, Rebirth and Disruptive Innovation"

About the Khan Series

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.

James R. Harris
Principal, J. R. Harris & Company, Denver, CO

The Evolution of Building Design to Resist Earthquakes

Much of the history of the development of design approaches and building code provisions for seismic resistance in the United States is in direct response to damaging earthquakes. The early work was largely empirical. The fundamentals of an analytical mechanics approach were created in the middle of the 20th century, and over the past half century there has been a considerable amount of theoretical development and laboratory validation. The economic and social impact of large earthquakes is very consequential, and the technical aspects of the problem are challenging. Modern computing power coupled with new analytical techniques and better characterization of the demand from ground shaking are making possible much more realistic approaches to achieving the desired performance in future earthquakes.

Jon D. Magnusson
Senior Principal, Magnusson Klemencic Associates, Seattle, WA

Structure Becoming Architecture: Case Studies of Aesthetics, Form, and Efficiency

Architects are exploring forms and aesthetics that were impossible to realize as recently as ten years ago. Today almost anything appears possible.

This presentation will explore how many "impossible dreams" were conceptualized, designed, and built. From the swoopy curves of Frank Gehry's Experience Music Project to the crisp angularity of the Rem Koolhaus Seattle Central Library…architects are truly exploring the boundaries of the possible. Each of these projects succeeded by creating a different set of engineering solutions ranging from inventing new structural systems to advanced construction methodology to seismic isolation. The presentation will finish with a look to the future with another generation of exotic architecture pushing technology forward.

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Charles H. Thornton
Chairman, Charles H. Thornton & Company, LLC, New York, NY

Renaissance, Rebirth and Disruptive Innovation

After 50 years with Thornton Tomasetti and its prior companies, Dr. Thornton reinvented himself by getting into new technologies, disruptive innovations and new challenges. Starting in 2005, when he stepped down as Chairman, stockholder and founding principal of Thornton Tomasetti, he formed four new companies – a management and engineering firm called, Charles H Thornton and Company LLC, a technology and structural health monitoring company called STRAAM LTD, and TTG, an industrialized, prefabricated construction entity which can build mid- to high-rise buildings in one half the time with a savings of approximately 20 to 30% in cost, and finally AECOS LTD, a systems integration company which is presently working on many projects utilizing the TTG system and an automated parking system. Dr. Thornton will present information about all four of these companies.

Furthermore, he has written a memoir entitled "Charles H Thornton: a Life of Elegant Solutions." This book will be published in the fall of 2013 and will be available on April 11, 2014. All proceeds from book sales generally go to the Ace Mentor Program of America which was founded by Charles H Thornton. Any books sold on April 11 will be at a discounted price with the proceeds going 50% to ACE and 50% to the Fazlur R. Khan Endowment Fund.

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This lecture series is sponsored by:

Civil & Environmental Engineering: College of Engineering & Applied Science
Art, Architecture & Design: College of Arts & Sciences