



Spring 2009

FAZLUR RAHMAN KHAN LECTURE SERIES

Honoring a legacy in structural engineering and architecture

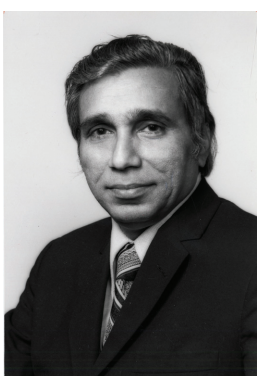
Presentations will be held in the Sinclair
Laboratory Auditorium at Lehigh University

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

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

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 (www.fazlurrkhan.com). 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.



Leslie E. Robertson
Leslie E. Robertson
Associates, R.L.L.P.,
New York, NY



William F. Baker
Partner - Skidmore,
Owings & Merrill,
Chicago & London



Bruce R. Ellingwood
Distinguished Prof.
Georgia Inst. of Tech
Atlanta, GA

Friday, February 20th, 2009

4:30 P.M.

“The Architect & the Structural Engineer -
Partners in Design”

Friday, March 20th, 2009

4:30 P.M.

“Engineering the World’s Tallest: Burj Dubai”

Friday, April 17th, 2009

4:30 P.M.

“Abnormal Loads and Progressive Collapse -
Assessment and Mitigation of Risk”

THE ARCHITECT & THE STRUCTURAL ENGINEER - PARTNERS IN DESIGN

The pendulum has swung from an extreme where the Engineer dominated the design of buildings and structures to an extreme where the Architect has become the nearly undisputed leader...sometimes with little or no concern of the talents, aesthetic sense, and opinions of the Engineer. This lecture examines a little of the messages to be found on both sides of this pendulum. As well, making use of a myriad of PowerPoint images, buildings and structures, large and small, will be examined in the light of the significant impact of the functional, the sustainable, and the aesthetic sense of the Structural Engineer.

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.

ABNORMAL LOADS AND PROGRESSIVE COLLAPSE - ASSESSMENT AND MITIGATION OF RISK

A progressive collapse is one that initiates from a local structural failure and propagates, by a chain reaction mechanism, into a failure that involves a major portion of the structural system and is disproportionate to the local initiating damage. Such collapses can initiate as a result of extreme environmental or abnormal loads or design/construction errors. Public awareness of building safety issues has increased markedly in recent years as a result of well-publicized natural and man-made disasters. The presentation summarizes design strategies to minimize the likelihood of progressive collapse, and prospects for the implementation of general provisions in national standards.