

THURSDAY, JANUARY 13, 2022

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Speakers named for Spring 2022 Fazlur R. Khan Distinguished Lecture Series

Speakers for the Spring 2022 Fazlur Rahman Khan Distinguished Lecture Series have been announced. The February lecture will be conducted virtually; the March and April events will be held in-person on campus and live-streamed via Zoom.

The Khan Lecture Series, which is co-sponsored by the Departments of Civil and Environmental Engineering and Art, Architecture, and Design, honors Dr. Fazlur Rahman Khan's legacy of excellence in structural engineering and architecture. Civil and environmental engineering professor [Dan M. Frangopol](#) is the inaugural holder of the Fazlur Rahman Khan Endowed Chair of Structural Engineering and Architecture at Lehigh and the organizer of the lecture series.

Visit the [FRK Lecture Series website](#) for detailed information on this and past year's speakers, a history of Dr. Khan, and Zoom registration to attend the events virtually.

The [Structural Engineering Institute-Lehigh Valley Chapter](#) will be awarding 1 PDH credit for each lecture to eligible attendees.

Related News

[BS-to-MS tracks jump-start STEM graduate study](#)

Tue, Jan 25, 2022

[Smarter catalysts through 'induced activation'](#)

Thu, Jan 20, 2022

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Wed, Jan 19, 2022

[Nanoparticle Transport in Crowded, Confined Media, Spring 2022 Seminar](#)

Mon, Jan 10, 2022

2022 Spring Fazlur Rahman Khan Distinguished Lecture Series



STEPHEN J. RESSLER, Professor Emeritus, U.S. Military Academy (USMA) at West Point, NY; current President of the Lehigh Valley Section, American Society of Civil Engineers (ASCE); Bethlehem, PA

"The Ashtabula Bridge Disaster and the Advent of Civil Engineering Professionalism" Constructed in 1865, the 154-foot railroad truss bridge over the Ashtabula River in northeastern Ohio represented a unique and innovative response to the challenge of adapting traditional timber bridge-building techniques to a new and fundamentally different structural material—iron. The Ashtabula Bridge served its purpose with minimal problems for eleven years. But on the evening of December 29th, 1876, during a severe blizzard, the structure collapsed under the weight of a routine service loading—a passenger train pulled by two steam locomotives. Tragedy then turned to unspeakable horror, as

coal-fired heating stoves in the passenger coaches set the wreckage on fire. Within minutes, many passengers who had survived the collapse perished in an uncontrollable blaze. The official death toll was 92—but the actual number was probably much higher, because there was no reliable count of passengers on the train. The Ashtabula Bridge disaster was America's worst rail accident up until that time. The event shocked the nation and prompted a rigorous response from the civil engineering professional community. In this lecture, we will examine the unique design of the Ashtabula Bridge, its troubled construction process, and the likely causes of the collapse. We will also explore the surprising impact of this catastrophe on bridge design practice during a pivotal period when civil engineering was undergoing an important transition from a craft-based occupation to a profession.

Friday, February 18, 2022– 4:30 pm

Lecture will be live streamed only

[Register Now](#)

[MORE DETAILS](#) available on Ressler's presentation. [\(PDF\)](#)



ADRIAN D. SMITH, Partner, Adrian Smith + Gordon Gill Architecture, Chicago, IL

"Supertall Towers + Green Cities" Adrian D. Smith, FAIA is one of the first American architects to design supertall buildings internationally. During his 50+-year career, his work has shown an evolving interest in the use of vernacular and indigenous forms and compositions together with state-of-the-art systems and technologies to integrate new buildings into the regional context. As a leading expert on the advanced technology of supertall towers and their impact on cities, this talk will explore projects that have effectively reduced negative environmental impacts, while simultaneously improving the overall quality of life in the city. His talk will feature major international projects including the Burj Khalifa, Jeddah Tower, and plans for a self-sustaining satellite city in China.

Friday, March 25, 2022 – 4:30 pm

Location: Whitaker Lab 303, Lehigh University,

5 E. Packer Avenue, Bethlehem, PA

Lecture will also be live streamed, please register for link

[Register Now](#)

[MORE DETAILS](#) available on Smith's presentation. [\(PDF\)](#)



MITSUYOSHI AKIYAMA, Professor and Chair of the Department of Civil & Environmental Engineering, Waseda University, Tokyo, Japan

"Increasing the Resilience of Highway Bridges Under Multiple Hazards Including Earthquake, Tsunami, Corrosion and Climate Change" After recent large earthquakes, such as the 2011 Great East Japan earthquake and 2016 Kumamoto earthquake, field investigations confirmed that several bridges were severely damaged and collapsed not only due to the earthquake, but also to the subsequent tsunami, landslide or fault displacement. In addition, long-term material deterioration might have an important impact on structural damage to bridges. Therefore, it is important to study multiple hazards and their effects on the reliability, risk and resilience of bridges and bridge networks. Although earthquake is still a dominant hazard to bridges in many earthquake-prone countries, a life-cycle reliability and risk approach has to consider all hazards causing bridge failure during the structure's lifetime including climate change effect. Such an approach is presented in this lecture. In addition, issues on how to ensure the reliability, reduce the risk and enhance the

resilience of bridges and bridge networks under multiple hazards are discussed. Finally, the concepts and methods presented are illustrated on both individual bridges and bridge networks.

Friday, April 29, 2022 – 4:30 pm

Location: Whitaker Lab 303, Lehigh University,
5 E. Packer Avenue, Bethlehem, PA

Lecture will also be live streamed, please register for link

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[MORE DETAILS](#) available on Akiyama's presentation. [\(PDF\)](#)

Related Links:

- [Lehigh University: 2022 Fazlur R. Khan Distinguished Lecture Series](#)
- [Faculty Profile: Dan M. Frangopol](#)

Department/Program:

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