

# Ahsan Kareem

Robert M. Moran Professor of Engineering  
Director of the NatHaz Modeling Laboratory  
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Ahsan Kareem is the Robert M. Moran Professor of Engineering and the Director of the NatHaz Modeling Laboratory at the University of Notre Dame. He is elected President of the International Association for Wind

Engineering (IAWE). He has been awarded numerous honors, including the White House Office of Science and Technology's Presidential Young Investigator Award, as well as ASCE's Theodore von Karman Medal, James Croes Medal, Robert H. Scanlan Medal, Jack E. Cermak Medal and State-of-the-Art Award. Other honors include: induction into the Offshore Technology Conference Hall of Fame; Distinguished Member of ASCE; IAWE's Alan G. Davenport Medal; IASSAR (International Association for Structural Safety and Reliability)'s Distinguished Research Award. He has served as a High-End Foreign Expert at Tongji University and delivered the 2013 Scruton Lecturer at the Institute of Civil Engineers, London, UK. He has been appointed Honorary Professor at several universities overseas, serves on the Editorial Board of several international journals including Engineering by the Chinese Academy of Engineering and has recently co-authored two books. He is an elected Member of the U.S. National Academy of Engineering and a Foreign Fellow of the Indian National Academy of Engineering.

**Abstract:** A multidisciplinary approach rooted in structural engineering, fluid and structural dynamics, turbulence, stochastic modeling, computational and experimental methods, and micrometeorology is needed to address the challenges we face concerning wind effects on structures.

Notwithstanding the developments made in recent decades in this area, which have indeed enhanced our abilities to better understand and capture the effects of turbulent winds on structures, we are at an appropriate juncture to identify the need for embarking on different physical and computational modeling philosophies and paradigms to meet the emerging challenges. A general overview of the basic techniques for quantification of wind loads and their effects using analytical, computational fluid dynamics (CFD) and model-based and data driven simulation schemes, code and standards based procedures, and experimental and full-scale monitoring and their hybrid combination will be presented. Recent advances in analysis, optimization, modeling, simulation and identification tools, modeling frameworks, data analytics, and cyberinfrastructure enabled platforms hold the promise of offering better understanding in solving these complex problems. The seminar will provide a guided tour of the state-of-the-art and the next frontiers in the wind effects through the eye of a cyberinfrastructure enabled platform.

## Schedule of ASCE & JHU Events:

5:00 p.m. Reception: Hodson Hall, 2nd Floor Lobby

5:30 p.m. Carroll Lecture: Hodson Hall, Room 210

6:30 p.m. ASCE Social Hour: Glass Pavilion\*

7:30 p.m. Dinner: Glass Pavilion\*

*\*Reservations are required for cocktails and dinner:*

<http://ascemd.org/upcomingmeetings/>

## The Richard J. Carroll Memorial Lectureship

The Richard J. Carroll Memorial Lectureship in Civil Engineering was established at The Johns Hopkins University to commemorate one of Baltimore's leading structural engineers, Richard J. Carroll, P.E. The lectureship was endowed by the many friends and admirers of Mr. Carroll, who passed away in 1982. The endowment contributes to the ongoing guest seminars in the Department of Civil Engineering and provides for these special lectures.

Richard J. Carroll, P.E. received his Bachelor of Civil Engineering degree from Villanova University in 1955 and studied advanced structural design at The Johns Hopkins University and George Washington University. He was chief structural engineer for the firms of Knoerle, Bender, Stone, and Associates, and Ewell, Bomhardt and Associates and chief field engineer for the Portland Cement Association. In 1964 he founded his own firm, Carroll Engineering, Inc., which grew to 26 employees under his leadership. Mr. Carroll made contributions to the civil engineering profession through his membership in numerous professional societies and he published several papers on concrete use and design with an emphasis on post-tensioned and pre-stressed concrete. He also taught courses in ultimate strength design and plastic design in steel. His untimely death at the age of 49 left a legacy of professionalism, integrity, and vigor.

Donors to the Carroll Memorial Lectureship include:

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# Wind Effects on Structures: Fundamentals to Emerging Frontiers

Wednesday, March 8, 2017

5:30 p.m.

Johns Hopkins University  
Homewood Campus  
Hodson Hall, Room 210



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