CELEBRATING 40 YEARS
CIVIL AND SYSTEMS ENGINEERING

THE INAUGURAL JOHNS HOPKINS UNIVERSITY
ROSS B. COROTIS LECTURE FOR CIVIL AND SYSTEMS ENGINEERING

ENGINEERING RISK AND DECISION ANALYSIS FOR COMMUNITIES FACING NATURAL HAZARDS:

A TALK IN FOUR+ PARTS

ROSS B. COROTIS, NAE
DENVER BUSINESS CHALLENGE
PROFESSOR EMERITUS
DEAN EMERITUS
UNIVERSITY OF COLORADO BOULDER

WEDNESDAY, MARCH 1, 2023

GILMAN 50

4:00-4:15 P.M.	INTRODUCTION OF ROSS COROTIS
4:15-5:15 P.M.	LECTURE

GLASS PAVILION*

5:30-6:30 P.M.	COCKTAIL HOUR
6:30-7:30 P.M.	DINNER
7:30-8:30 P.M.	LIVE MUSIC BY JHU ALUM BUDDY CLEVELAND AND THE ROADHOUSE REDEEMERS

*Event by invitation only

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Ross B. Corotis, NAE, is an emeritus professor of engineering at the University of Colorado Boulder. He researches the coordinated roles of engineering and social science in framing and communicating long-term hazard risks and resiliency for the built environment. With three degrees from MIT, he was on the faculty at Northwestern University, established the Department of Civil Engineering at Johns Hopkins University, and was Dean of Engineering at CU Boulder. He has chaired committees on structural safety for ASCE and ACI, the Advisory Committee of IASSAR, served as science advisor for the Department of State in Washington, DC., and was editor of the journals *Structural Safety* and ASCE's *Journal of Engineering Mechanics.* For the National Academies, he served on the Building Research Board, the Disasters Roundtable, the Board on Infrastructure and the Constructed Environment, chaired the Laboratory Assessment Board, was founding chair of the Committee on NIST Technical Programs, and was chair of the Civil & Environmental Engineering section of the NAE. He is a registered professional engineer and structural engineer, Distinguished Member of ASCE, Fellow of the Structural Engineering and Engineering Mechanics Institutes, recipient of the ASCE OPAL Lifetime Achievement Award in Education, and author of more than 250 publications.

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The cost of natural disasters continues to rise around the world, in part because of population growth, urbanization, and the pressures they place on land use, and in part because policy makers continue to undervalue natural hazard risk in long-term planning. Yet these hazards are critical to community sustainability and fundamental to the concept of resilience. The shortcoming in reducing the vulnerability of infrastructure lies partly with engineers and risk professionals, who must be aware of public perceptions of risk and political process rationality, which present inherent incompatibilities. Engineers need to know which measures of risk are most meaningful or relevant to decision makers, and then be able to communicate those risks, and the costs and benefits of mitigation, in concise, credible, and meaningful terms. This seminar will discuss four related aspects: approximate reliability methods for community-wide resilience, issues of risk perception, practical rationality of elected officials, and the role for generalized information theory as an alternative to probability.

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