



Speaker

**DR. BILAL  
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Natural disasters in 2011 alone resulted in hundreds of billions of dollars in direct damages and about 30,000 fatalities worldwide. Storms and floods accounted for up to 70 per cent of about 300 natural disasters worldwide, with earthquakes producing the greatest number of fatalities.

Managing these risks rationally requires an appropriate definition of resilience and associated metrics.

In this presentation, Dr. Bilal Ayyub, director of the Center for Technology and Systems Management, University of Maryland, provides a resilience definition that meets a set of requirements with clear relationships to reliability and risk as key relevant metrics. Such metrics provide a sound basis for the development of effective decision-making tools for multi-hazard environments.

The presentation also examines recovery, with its classifications based on level, spatial, and temporal considerations.

Three developed case studies will be used to gain insights to help define recovery profiles.

Dr. Ayyub teaches civil and environmental engineering, risk analysis in engineering and economics, and engineering and applied mathematics and scientific computation at the University of Maryland, College Park. His main research interests are risk, uncertainty, decisions, resilience, sustainability and systems applied to civil, mechanical, infrastructure, energy, defense and maritime fields.

# *Speaking of* **ENGINEERING**

LECTURE SERIES

HAVE YOU EVER WONDERED

*how risks are managed  
for natural disasters?*

**Wednesday, Nov. 30, 2016 at 7:30 p.m.**  
**Memorial University, St. John's campus**  
**S.J. Carew Building; Room EN2006**

RECEPTION TO FOLLOW. ADMISSION IS FREE. ALL ARE WELCOME.

Free parking in lot 22

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