VANDERBILT
School *of* Engineering

DEPARTMENT OF CIVIL & ENVIRONMENTAL ENGINEERING

Friday,

September 5

1:30 pm

FGH 110

"A VISION FOR VSEC: ADVANCING EVIDENCE-BASED POLICY THROUGH COMPLEX SYSTEM ANALYSIS "

DR. HUSSAM MAHMOUD

CRAIG E. PHILIP ENDOWED CHAIR OF ENGINEERING
PROFESSOR, CIVIL & ENVIRONMENTAL ENGINEERING
DIRECTOR, VANDERBILT CENTER FOR SUSTAINABILITY, ENERGY, AND CLIMATE (VSEC)

ABSTRACT

The Vanderbilt Center for Sustainability, Energy, and Climate (VSEC) has recently been launched to drive innovative and interdisciplinary solutions that promote sustainability and inform evidence-based policy. In this presentation, I will define the core pillars that define VSEC. I will also outline my vision for leading VSEC towards developing forward-looking policies that address the interconnected challenges of energy, sustainability, and climate. Building on this vision, I will draw from my research experience to demonstrate, as an example, how systems thinking can advance actionable knowledge. Central to this effort is the development of socio-physical approaches grounded in a systems-of-systems frameworks, which will be also highlighted as a potential direction for the center. Finally, I will reflect on my experience of building interdisciplinary teams, amplifying the voices of young and mid-career researchers, and fostering collaborations that integrate innovation, education, industry, and government. This vision for VSEC positions the center as a hub for advancing rigorous, evidence-based policy grounded in complex system analysis to meet the pressing sustainability challenges of our time.

BIOGRAPHY

Hussam Mahmoud is the Craig E. Philip Endowed Chair in Engineering and a professor in the Department of Civil and Environmental Engineering at Vanderbilt University. He is also the director of the Vanderbilt Center for Sustainability, Energy and Climate (VSEC). Dr. Mahmoud's current research group is focused on establishing Socio-Physical and Hazard-Integrated Environments (SoPHIE) under the theme of Sustainable and Resilient Infrastructure and Communities, focusing on establishing new frameworks for functionality recovery, performance-based design, and life-cycle analysis for the built environment and communities subjected to natural disasters and deterioration with considerations to climate change.