DISTINGUISHED SEMINAR SERIES

Hosted by the Department of Civil and Environmental Engineering
at Northeastern University

Developing Resilient Civil Infrastructure Systems – a Convergent Approach

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Please arrive early to prevent disruptions.

ABSTRACT: Critical Civil Infrastructure systems, namely- Transportation network, Water systems, Waste-water systems, Electric grid and Communications network are vital to functioning of a community. They ought to be considered as Community assets and should be treated with the same care as all important assets are.

When a damaging natural hazard event such as earthquake, hurricane, and floods occur and strikes a community, the results can vary from tolerable to severe. To minimize the impact of such a hazard event, it is necessary that the community as a system respond in an integrated way. While it is necessary for built environment systems, economic systems, and social systems to work synergistically together, the focus of this talk is built environment systems - specifically the infrastructure systems, excluding the buildings. Because it is not always feasible to develop 100% resilience to damaging hazard events, acceptable functionality is strongly advocated. Such resilience in infrastructure systems can work quite well to keep the community functioning in an acceptable way.

Convergent engineering approach is used to develop the resilience, as it focuses on a Societal-level Problem, requires team -science and use of a transdisciplinary language, all required for a satisfactory solution.

BIO: Vilas Mujumdar practices as an independent consulting engineer since 2009. Previously he was CEO, President, and Partner of many large consulting engineering firms and worked at highest-level in the public sector, such as, Chief of Operations, Division of State Architect, State of California; Director, Engineering Research Centers Program – Natural Hazards, National Science Foundation.

His experience uniquely combines consulting engineering in the private sector - 35 years, State regulatory work - 10 years, and Research management at the Federal Govt. level - 6 years. This is enriched by working in different aspects of engineering such as: Civil/Structural Design, Project Management, Teaching, Research and Research Management in Asia, Europe, Canada, and the US.