

# **Sustainability of the Built and Natural Environment**

## **Objectives**

The objective of this symposium is to bring together leaders and thinkers with the aim of focusing much needed discussions in the area of future civil infrastructure system design and development considering sustainability and resilience of the built and natural environments. In the face of mounting challenges associated with energy demands, natural resources depletion, climate variability and change, environmental impacts, and natural hazards, innovations in the way civil infrastructure systems are planned, designed, constructed, operated and managed are needed. Further, existing civil infrastructure systems are assessed to be woefully below par; as civil infrastructure mitigation and retrofit options are explored, these options could be viewed with the aim of evolving and modernizing the current civil infrastructure system towards improved sustainability and resiliency. The presentations and panel discussions in this symposium are expected to help provide vision and direction for engineering research, education and practice for improving resilience and environmental sustainability of contemporary civil infrastructure systems.

## **Scope**

Topics covering the range of civil infrastructure subsystems, including water/wastewater systems, municipal waste system, building systems, transportation and structural systems, and land development and watershed systems, and their dependence and impacts on energy, natural resources, environment and society will be included within several integrative themes (as suggested below). In addition to this symposium promoting discussions that are visionary in nature in these multidisciplinary topics related to sustainability of the built and natural environment, it is also expected to help establish mutually beneficial collaborative research activities between the Korean researchers and the US researchers in civil infrastructure engineering.

## **Session Topics/Themes**

1. Watersheds, Ecology and Environmental Sustainability
2. Water/Wastewater and Waste Management Systems; Energy, and Environment
3. Energy, Environment, and Buildings
4. Resilient and Sustainable Interdependent Civil Infrastructure Systems

## **Keynote Speakers**

Names TBA; speakers will be selected to cover the range of themes identified above

## **Symposium Chair and Co-Chairs**

This symposium is organized by a group of water resources and environmental engineering faculty at NC State University; this effort is coordinated by Ranji Ranjithan.