

DEPARTMENT OF INDUSTRIAL AND ENTERPRISE SYSTEMS ENGINEERING

GE/IE 590 SEMINAR

Complex Systems Engineering by Self-Organized Communities

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Abstract

A new paradigm of systems realization is emerging in which complex systems are developed in a bottom-up manner by self-organized communities of individuals, as opposed to hierarchical organizations. While self-organized communities have resulted in highly successful information-based products such as open-source software and open encyclopedias, a number of socio-technical challenges need to be addressed in order to enable the realization of complex physical products. Dr. Panchal will discuss these socio-technical challenges and highlight the research in his group to address the challenges. The research integrates theories and computational approaches from the fields of engineering design, complex networks, sociology, and organization science. He will also briefly outline his research on integrated materials and products design.

Biography

Dr. Jitesh H. Panchal is an Assistant Professor in the School of Mechanical and Materials Engineering at Washington State University. He received his BTech (2000) from Indian Institute of Technology (IIT) Guwahati, and MS (2003) and PhD (2005) from Georgia Tech. Dr. Panchal's research interests are in computational design of complex engineering systems with a focus on a) collective systems innovation, and b) integrated products and materials design. He is a co-author of the book titled *Integrated Design of Multiscale, Multifunctional Materials and Products*. He is a recipient of NSF CAREER award for his research on collective innovation, ASME CIE Young Engineer Award, Robert E. Fulton EIM best paper award and university silver medal from IIT Guwahati.

Location: 112 Transportation Building
Date: Monday, January 30, 2012
Time: 4:00 p.m.