University of Southern California

DANIEL J. EPSTEIN DEPARTMENT OF
INDUSTRIAL AND SYSTEMS ENGINEERING

EPSTEIN INSTITUTE SEMINAR • ISE 651 SEMINAR

Essentials of Technological Creativity and Invention

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ABSTRACT

Great engineering systems, processes and products are usually based largely on the exercise of inventive thinking and not on routine procedures for engineering analysis and optimization. Research could conservatively aim at making marginal improvements to the state-of-the-art in the chosen domain, or it may be based on original and novel ideas and potentially lead to breakthrough impacts and discovery of new frontiers. Creative engineers and researchers use inventive, non-routine approaches and in most instances their creations clearly stand out. Inventive thinking and problem solving enriches professional life and brings prosperity to organizations and society. Contrary to common belief, creativity and the ability to invent can be acquired and enhanced. Some fundamentals are presented in this seminar.

TUESDAY, OCTOBER 22, 2013
GRACE FORD SALVATORI (GFS) ROOM 101
3:30 – 4:50 PM

SPEAKER BIO

BEHROKH KHOSHNEVIS

Behrokh Khoshnevis is a Professor of Industrial & Systems Engineering, Biomedical Engineering, Civil & Environmental Engineering, and Aerospace & Mechanical Engineering at the University of Southern California and is active in robotics and mechatronics related research and development projects that include the development of several 3D Printing processes, a technology for automated construction of building structures as well as extraterrestrial infrastructure construction, development of mechatronics systems for biomedical applications (e.g., restorative and orthodontic dentistry, rehabilitation engineering, and tactile sensing devices), autonomous mobile and modular robots for assembly applications on earth and in space, and various other hi-tech projects. His academic research projects are entirely based on his inventions. He routinely conducts lectures and seminars on the subject of invention.

Dr. Khoshnevis' inventions have received worldwide publicity in acclaimed media. Contour Crafting was identified as one of top 25 inventions among over 4000 candidate inventions by National Inventors Hall of Fame and the History Channel's Modern Marvels program. NASA recently entitled Dr. Khoshnevis as a NASA Innovative Advanced Concept Fellow because of his idea of Lunar and Martian construction using in-situ materials utilized by Contour Crafting.