

# HARVEY MUDD

C O L L E G E

**Department of Engineering  
Seminar Program  
Wednesday, March 28, 2012  
Galileo McAlister, 4:10pm**



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Jami J. Shah is Professor, Faculty of Mechanical & Aerospace Engineering at Arizona State. He holds a Ph.D. in Mechanical Design from Ohio State and MS in Materials Engineering from Pitt. Prior to his academic career he worked in manufacturing industry for 6 years, designing mechanical equipment and chemical machinery. His research areas include: Design theory & methodology, design education, DfM/DfA, geometric computing, AI & Knowledge based systems and computational metrology. He is the co-author of 2 US patents, 2 books, and 200+ peer reviewed technical papers in professional journals and conferences. He is the founding chief editor of ASME Transaction, the *Journal of Computing & Information Science in Engineering (JCISE)* which he served in that capacity fro 2001-2010. He is currently Area Editor of *Research in Engineering Design*. He was elected Fellow of ASME in 2001. He is the recipient of numerous awards, including the 2008 ASME Design Automation award, Siemens Engineering Education Excellence Award 2003, Ohio State Outstanding Alumnus Award 2003. He was nominated for ASME's 2011 Lifetime Achievement Award. He served as the Head of "The Virtual Corporation", an organization involving over 100 undergraduates from all disciplines, designing, building and marketing robotic devices for outdoor applications.

## **"Research in Design Thinking and Cognitive Informatics"**

An overview of current research projects in my lab, with an emphasis on those most closely related to design education. These include: (i) identification, characterization and measurement of design skills leading to the development of standardized tests for divergent thinking, visual thinking, spatial reasoning and qualitative reasoning (NSF#0728192); (ii) relationship of problem formulation and representation to design creativity; effective patterns discovered in these experiments through data mining will be incorporated in a tutoring system for students (NSF CreativeIT 1002910); (iii) development of a framework for holistic design ideation that incorporates several intuitive and experiential methods and tools (NSF 1045644,1150271)