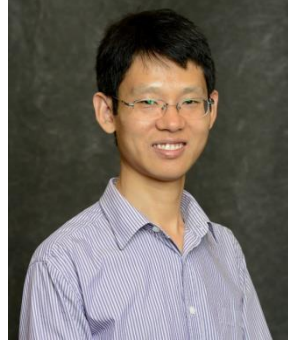


The Department of Mechanical Engineering
College of Engineering and Applied Sciences
Stony Brook University

Mechanical Engineering Seminar



Dr. Chi Zhou
Professor

Department of Industrial and Systems Engineering at Buffalo University

Lecture Title: Beyond Robotics

Friday, April 24, 2015 at 11AM, Room 173 Light Engineering Building

Abstract

Traditional *mass production* of standardized goods has been the source of the nation's economic strength and leadership position in the last century. However, it is also because of mass production that we are losing the competitiveness as it cannot handle the ever changing turbulent market environment. Innovative practitioners begin to find their way to a new paradigm, *mass customization*, by creating variety and customization through flexibility and quick responsibility to meet customers' diverse and changing needs. However, customized product is very challenging to be mass-produced in traditional ways, the business has to wait for today's advanced technologies to enable profitable customization. As an emerging and advanced technology, additive manufacturing (3D printing) can fabricate parts directly from 3-dimensional digital models without part-specific tooling and fixtures. Thus, it provides tremendous flexibility and huge potential to enable mass customization and push the current marketplace to the new frontier in business competition. However, additive manufacturing is still in its infancy, multiple barriers still exist which hinders the full realization of mass customization. This talk will highlight current challenges and potential solutions for achieving mass customization by 3D printing. Process planning, geometric modeling and design optimization related to this topic will be discussed

Biography

Dr. Chi Zhou is an assistant professor in Department of Industrial and Systems Engineering at the University at Buffalo. He received his doctorate in industrial and systems engineering from the University of Southern California in 2012 and his master's degree in computer science from USC in 2010. Prior to joining UB in July 2013, Zhou was a senior research and development engineer at EnvisionTec Inc. He participated in various R&D projects related to the development of featured 3D printing machines. Dr. Zhou's current research interests are in the areas of computer-aided design and manufacturing (CAD/CAM) related to direct digital manufacturing. His research has been published in high-quality venues. Zhou received several best paper awards in SME and ASME-related conferences and journals. He is also the recipient of 2014 Outstanding Young Manufacturing Engineer from the SME.

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