



Topic: **Non-layer based Additive Manufacturing Processes: Research in CNC Accumulation and Applications**

Speaker: **Dr. Yong Chen**
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Date: **25 March 2014, Tuesday**

Time: **11.00am to 12.00pm**

Venue: **EA-06-03** (map of NUS can be found at <http://map.nus.edu.sg/>)

Host: **Prof. Jerry Fuh**

Abstract

The advent of 3D printing/additive manufacturing and its use in rapid prototyping has drastically changed the design and manufacturing landscape by enabling companies to prototype and produce products faster and cheaper. With the price of these technologies dramatically dropping in recent years, their accessibility is on the increase. However, significant challenges remain to be addressed in future 3D printing research. This talk will provide an overview of Additive Manufacturing (AM) processes and discuss some main challenges to be addressed such as building-around-inserts. Based on our recent research work, a novel non-layer based AM process (named CNC accumulation) will be introduced and related modeling and control techniques for achieving desired fabrication properties will be presented. Some new applications based on the process will also be discussed. The talk will conclude with remarks and thoughts on research opportunities for future mechanical engineers.

About the Speaker



Dr. Yong Chen is an associate professor in the Epstein Department of Industrial and Systems Engineering at the University of Southern California (USC). He received his Ph.D. degree in Mechanical Engineering from Georgia Institute of Technology in 2001. Prior to joining USC in 2006, he was a senior Research and Development (R&D) engineer in 3D Systems Inc, the world pioneer of 3D printing systems. Dr. Chen's research focuses on additive manufacturing (3D printing) in micro- and meso- scales, especially modeling, analyzing, synthesizing, and optimizing digital design and manufacturing. Dr. Chen has published more than 80 publications in refereed journals and conferences. Among them, he received multiple Best/Outstanding Paper Awards in the major design and manufacturing conferences and journals. Other major awards he received include the National Science Foundation (NSF) Faculty Early Career Development (CAREER) Award and the Outstanding Young Manufacturing Engineer Award from the Society of Manufacturing Engineers (SME).

Admission is free. All are welcome to attend.