FIU | Electrical and Computer Engineering
FLORIDA INTERNATIONAL UNIVERSITY

"Direct Printing Technology for Additive Manufacturing"

Mr. Xudong Chen

SAVE THE DATE!!! You have been invited to the *Electrical and Computer Engineering Seminar Series* on **Friday, February 21, 2014.** Find details of the presentation below.

When: Friday, February 21, 2014
Time: 10:00 AM - 11:00 AM
Where: FIU Engineering Center, EC 1115
Contact: 305-348-2807
Map: http://campusmaps.fiu.edu/

ABSTRACT

Additive Manufacturing (AM) is being touted as a reinvention of how things are fabricated even though it is still in a stage of infancy. The popular term for AM is 3D printing, which utilizes a digital model to produce solid objects in any 3D shape. While the traditional manufacturing industry has been demanding higher density and more functionality of each device, AM has been a homogenous approach to making structures. It will be necessary to expand AM to allow for multi-materials with multi-functions and provide heterogeneity within these structures to meet increasing demands. Direct Printing (DP) is based on Micro-Dispensing with exceptional volume control, flexibility of material choices and the capability of printing on conformal surfaces and in 3D. The diverse materials which can be printed include but are not limited to electronic inks/pastes (conductive, resistive and dielectric), epoxies, adhesives, solders, ceramics, bio-polymers and even living cells. Direct Printing has the advantage of patterning conformal electronics on diverse surfaces and including doubly curved. 3D Printing has the advantage of unique true 3D shapes. Both have the advantage of digital to fabricate. The combination of these two produces advanced electrically functional structures and including RF structures. At the frontier of the next industrial revolution, there are significant challenges in basic and applied research on materials, designs, software and processes, but these also bring a lot of opportunities.

BIOGRAPHY

Mr. Xudong Chen is currently the Vice President of Engineering and Sales at nScrypt Inc. He has been working with additive manufacturing using Micro-Dispensing/Direct Printing technology for more than five years. He has extensive experience in process development and he has successfully applied direct printing technology to a number of applications including photovoltaic, RF shielding, antenna, interconnect, and packaging. Mr. Chen has materials science and engineering background and he has worked with a variety of materials including solder, adhesive, epoxy, conductive/resistive/dielectric thick film pastes and LTCC for conformal and 3D applications.