PHOTONICS CENTER DISTINGUISHED SEMINAR SERIES

Dr. Shaochen Chen, University of California, San Diego

Light-based Rapid 3D Printing, an Enabling Technology for Soft and Precision Biomaterials

September 28, 2017

11 a.m.-12 p.m.

Room 901

Photonics Center

8 Saint Mary's Street

Refreshments will be served!

Soft materials such as hydrogels are finding extensive uses in tissue engineering and regenerative medicine. However, it has been challenging to fabricate these soft materials into a scaffold with proper physical, mechanical, chemical, and biological properties, especially at micro and nanometer scale, to support cell/tissue growth. In this talk, Dr. Chen will present his laboratory's recent research efforts in rapid 3D printing to create 3D scaffolds and tissue models using a variety of biomaterials. Design, fabrication, and experimental results will be discussed. Such functional biomaterials and micro-physiological systems allow us to investigate cell-microenvironment interactions in response to integrated physical and chemical stimuli. From these fundamental studies he has created both in vitro and in vivo biomimetic tissue models for regenerative medicine and early drug screening.

Dr. Shaochen Chen is a Professor and Vice Chair in the NanoEngineering Department and Professor Affiliate in the Bioengineering Department and Radiology Department at the University of California, San Diego (UCSD). He is a founding co-director of the Biomaterials and Tissue Engineering Center at UCSD. Before joining UCSD, Dr. Chen was a Professor and a Pearlie D. Henderson Centennial Endowed Faculty Fellow in Engineering at the University of Texas at Austin from 2001 to 2010. Between 2008 and 2010, he served as the Program Director for the Nanomanufacturing Program of the National Science Foundation (NSF). Dr. Chen's primary research interests include: biomaterials and 3D bioprinting, stem cell and regenerative medicine, tissue engineering, laser and nanomanufacturing. He has published over 120 papers in top journals and 12 book/book chapters. Among his numerous awards, Dr. Chen received the NSF CAREER award, ONR Young Investigator award, and NIH Edward Nagy New Investigator Award. For his seminal contributions to 3D printing, bioprinting, and nanomanufacturing, Dr. Chen was awarded the Milton C. Shaw Manufacturing Research Medal from the Amercan Society of Mechanical Engineers (ASME) in 2017. He is a Fellow of AAAS, AIMBE, ASME, SPIE, and ISNM.

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