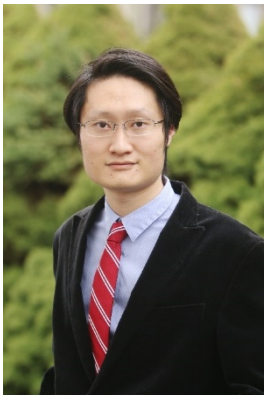
UC San Diego
JACOBS SCHOOL OF ENGINEERING
NanoEngineering

UCSD NANOENGINEERING/CHEMICAL ENGINEERING

SPECIAL SEMINAR

Tuesday, January 28, 2020
Seminar Presentation: 3:00pm – 4:00pm
SME room 248

"Putting 3D Bioprinting to Tissue and Tissue Model Fabrication"



Y. Shrike Zhang Ph.D.
Assistant Professor
Department of Medicine
Harvard Medical School

Abstract: Over the last decades, the fabrication of three-dimensional (3D) tissues has become commonplace. However, conventional 3D fabrication techniques are limited in their capacity to produce complex tissue constructs with the required precision and controllability that is needed to replicate biologically relevant tissues. To this end, 3D bioprinting offers great versatility in the fabrication of biomimetic volumetric tissues that are structurally and functionally relevant. It enables precise control of the composition, spatial distribution, and architecture of bioprinted constructs facilitating the recapitulation of the delicate shapes and structures of targeted organs and tissues. This talk will discuss our recent efforts in developing a series of advanced 3D bioprinting strategies along with various cytocompatible bioink formulations. These platform technologies are likely to provide new opportunities in constructing functional tissues to facilitate regeneration and microtissue models for promoting personalized medicine.

This talk will further discuss general research project designs, during which how successes are perceived while failures are learned in provoking the conception of new research ideas.

Biosketch: Dr. Zhang is an Assistant Professor in the Department of Medicine at Harvard Medical School and Associate Bioengineer in the Division of Engineering in Medicine at the Brigham and Women's Hospital. Dr. Zhang is directing the Laboratory of Engineered Living Systems, where the research is focused on innovating medical engineering technologies, including 3D bioprinting, organs-on-chips, microfluidics, and bioanalysis, to recreate functional tissues and their biomimetic models for applications in regenerative medicine and personalized medicine. He is an author of >175 peer-reviewed publications (h-index: 49) and his scientific contributions have been recognized by >40 international, national, and regional awards.