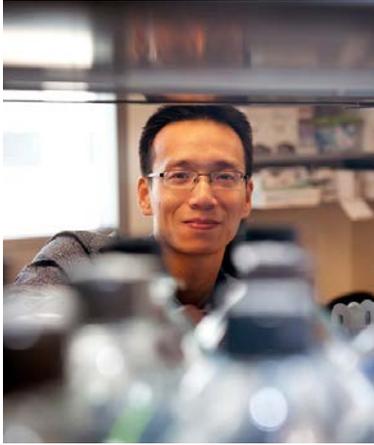


BIOENGINEERING

PRESENTS

Next-Generation Regenerative Therapies for Heart and Lung Diseases: Cells, Secretome, and Exosomes



THURSDAY, March 5th, 2020

12:00 – 1:00 PM

2101 ENGINEERING V

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UNC/NCSU

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Department of Molecular Biomedical
Sciences

ABSTRACT:

Therapeutic tissue regeneration using stem cells has been hampered by the controversial identity of resident stem cells, low cell retention/engraftment, tumorigenicity and immunogenicity issues. Taking a bioengineering/biomaterials approach, this lecture will introduce the uses of drug delivery and biomaterials strategies to generate more potent cell therapies for heart diseases. In addition, a pharmacoengineering approach is taken to refine cell therapies by developing acellular therapeutics such as stem cell-derived secretome and exosomes in the setting of heart and lung regeneration. This lecture will also mention a couple of stories in translating bench research into IND-enabled clinical trials on cell-based therapies

BIOGRAPHY:

Dr. Ke Cheng is the Randall B. Terry, Jr. Distinguished Professor of Regenerative Medicine in the Department of Molecular Biomedical Sciences NC State University and Professor in the UNC/NCSU joint Department of Biomedical Engineering. He is an adjunct professor at the UNC Eshelman School of Pharmacy. Ke also serves as the co-director of the functional tissue engineering program at the Comparative Medicine Institute. Dr. Cheng's formal education began with a B.S. in Pharmaceutical Engineering from the Zhejiang University, followed by a Ph.D. degree in Biological Engineering from University of Georgia. Dr. Cheng's research results have been summarized into publications in journals like Lancet, Nature BME, Nature Comms, Science Advances, J of Clinical Investigation, Circulation, Circulation Research, Biomaterials etc. His work has been directly translated into two awarded investigation new drug applications (IND) and licensed to several biotech companies. Dr. Cheng is Associate Editor of J Cell Mol Med and editorial board member of Circulation Research. He is a Fellow of AIBME and AHA. He is also a standing member of the NIH BMBI Study Section.