Targeting Atherosclerosis: From Mechanobiology to Nanomedicine

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Abstract

Atherosclerosis is the most common cause of myocardial infarction and stroke. My research goal is to enhance our fundamental understanding of atherosclerosis and apply innovative methods to accelerate the translation of such discoveries into more effective therapies. In this talk, I will discuss my recent efforts towards understanding the pathogenesis and developing nanomedicine for atherosclerosis. First, I will describe the hemodynamic regulation of vascular homeostasis and atherogenesis and my works in deciphering the regulatory mechanisms of microRNAs in mediating the vascular cell phenotypes and the development of atherosclerotic lesion. Second, I will discuss the lesion-targeted nanoparticle delivery system we established and the use of these nanocarriers to deliver drugs and small RNAs to treat atherosclerosis.

Bio-Sketch

Dr. Kuei-Chun (Mark) Wang is an Assistant Professor in the School of Biological and Health Systems Engineering at the Arizona State University (ASU), starting August 2019. Before joining ASU, he was an Assistant Project Scientist in the Institute of Engineering in Medicine at the University of California, San Diego (UCSD). Dr. Wang received his Ph.D. degree in Bioengineering and post-doctoral training from UCSD, under the mentorship of Dr. Shu Chien. He received a Scientist Development Grant award from the American Heart Association and the NIH K99/R00 Pathway-to-Independence award in 2017.