UTA Bioengineering Department Seminar

Novel Regulators of Stem Cells in the Cardiovascular System

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Wednesday, September 20, 2017, 12:00-1:00 p.m.  
NH 203 (UTA)

Abstract:
Ischemic heart disease remains the leading cause of disability and death. Despite technological advancement in therapeutics, the hospitalization rate is still rising. Adult stem/progenitor cell therapy is a promising therapeutic option, however, is hampered by limited differentiation potential and poor survival. This seminar will introduce our recent progress in the research of transcription factor E2F1 as a critical regulator in the oxidative metabolism and bone marrow endothelial-progenitor-cells differentiation and of long non-coding RNA myocardial infarction associated transcript (MIAT) as a survival factor in the DNA damage response of cardiac stem cells. A better understanding of stem/progenitor cell differentiation and survival at ischemic injury may aid design of better strategies of cell therapy to repair damaged myocardium.

Biography:
Dr. Qin received his MD from Tongji Medical University, China (1981-1989) and completed his residency (1989-91) and Pediatrics fellowship (1991-92) at Union Hospital of the University. Then he did a research fellowship in molecular and cellular biology at the International Centre for Genetic Engineering and Biotechnology, Trieste, Italy (1995-98). Dr. Qin worked as research specialist at University of Illinois at Chicago (1998-2001) and as instructor/assistant professor of medicine at Caritas St. Elizabeth’s Medical Center, Tufts University (2001-06). Dr. Qin served on the faculty of Northwestern University Feinberg School of Medicine as assistant professor to tenured associate professor (2007-2016). In July 2016, Dr. Qin moved to UAB.

Dr. Qin’s research program is dedicated to defining the molecular mechanisms that underlie cardiovascular biology and contribute to the recovery from cardiovascular disease, and to translating the results from these basic science investigations to clinical applications. His lab for the first time disclosed the roles of the E2F oncogenes in the angiogenesis and blood pressure regulation. His work on bone marrow and cardiac stem cells has contributed to the advancement of the field of ischemic tissue repair. Dr. Qin has published over 90 original research articles in major international journals. He serves on the editorial board of dozen journals in cardiovascular sciences, and serves on the review committees of national and international funding organizations including NIH, VA, and AHA. Dr. Qin’s research has been supported by NIH, AHA, and ADA.