Frank Reidy Research Center for Bioelectrics

Seminar Series

Induced Pluripotent Stem Cell Technology for Regenerative Medicine, Human Disease and Development Modeling

Speaker: Patrick Sachs, Ph.D.

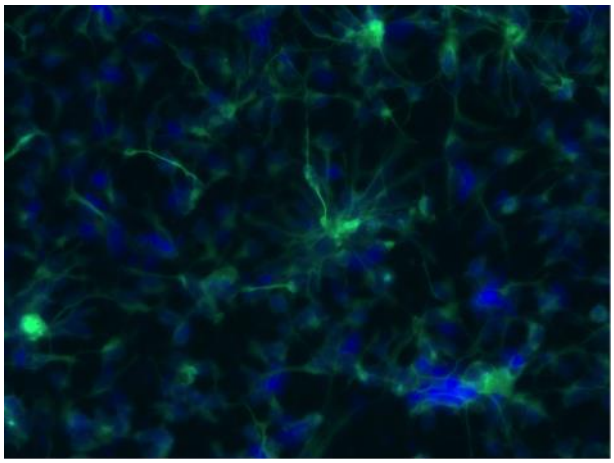
College of Health Sciences, School of Molecular Diagnostic and Translational Sciences, Old Dominion University

When: 9:00 AM, Tuesday, March 15, 2016

Where: 1st floor conference room, IRP II

Abstract:

Through the expression of four transcription factors, either through viral or non-viral transfection methods, normal somatic cells can be “reprogrammed” back to a pluripotent state. These induced pluripotent stem cells are identical to their pluripotent counterparts, embryonic stem cells; however, they share none of the ethical concerns surrounding their procurement. As these cells can be created from any somatic cell, from any individual, this opens up the possibility of generating many different cellular-based systems including: large-scale autologous cell therapies, disease models, and the study of human embryonic development. These cells thus have the potential to revolutionize the ways we research and treat injury and disease.



Biosketch:

Dr. Sachs is an Assistant Professor in the School of Molecular Diagnostics and Translational Sciences at Old Dominion University. He received his Ph.D. from the Medical College of Virginia in the Department of Human and Molecular Genetics, where he studied adult and pluripotent stem cell biology specifically related to the regulation of the enzyme telomerase. In his post-doctoral work, he studied the heterotypic interactions of breast cancer cells with adult stem cells in a mouse model. As a scientist for LifeNet Health, Patrick led efforts to generate pluripotent stem cells from normal and diseased donor cells and expanded LifeNet’s tissue engineering capabilities to include cell-centric grafts and therapies. At ODU, his current research focuses on regenerative medicine techniques that facilitate the study of adult and pluripotent stem cell biology, applications of tissue engineering, and the molecular basis of aging.