



**Samir Damani, MD**  
**Fellow in Cardiovascular Medicine**  
**STSI KL2 Scholar**

Dr. Samir Damani first received a doctorate in pharmacy from the University of Georgia in 1999 and then a medical degree from the Medical College of Georgia in 2003. His interests in human physiology and disease biology led him to pursue residency training and subsequently a chief residency in internal medicine at Scripps Clinic in La Jolla, California from 2003 – 2007. Dr. Damani, now in his final year of a cardiovascular diseases fellowship at Scripps Clinic, has recently joined STSI as a KL2 awardee and clinician scholar where he is focusing on leveraging advances in genomic technology to better define key biologic pathways involved in cardiovascular disease and to develop methods for identification of novel biomarkers indicating susceptibility to myocardial infarction, obesity, sudden cardiac death, and atrial fibrillation.

His current projects include the complete morphologic and molecular characterization of circulating endothelial cells (CECs) in patients with acute myocardial infarction (MI). CECs were first noted in the blood of patients with acute MI over a decade ago; however, no further characterization of CECs has been performed. With recent funding from the American Recovery and Reinvestment Act, Dr. Damani and Dr Topol are coordinating this ambitious trans-disciplinary endeavor to fully define CECs with respect to their cellular ultrastructure, genomic, transcriptomic, and epigenetic features, with the goal of illuminating the molecular mechanisms leading to the disruption of endothelial integrity, acute plaque rupture, and related arterial catastrophes (i.e., stroke, heart attack).

In addition to the CEC project, Dr. Damani will participate in two additional studies including one with the newly FDA-approved antiarrhythmic drug dronedarone in a gene-specific trial to prevent atrial fibrillation in patients undergoing cardiac surgery. The other study involves assessing complex genetic patterns of sudden cardiac arrest in patients with an automatic implantable cardioverter defibrillator.