

**College of Engineering Announces  
Interdisciplinary Scholarship Program Winners**

**Tampa, Fla. (May 6, 2010)** – Two projects have been awarded funding through the College of Engineering Interdisciplinary Scholarship Program that encourages interdisciplinary efforts between the College and other USF colleges. The program supports meritorious internal grants up to \$15,000 that involve interdisciplinary research or instructional activities. One to three grants are funded per year.

**Molecular Electronic Hybrid Device Interfaces**

**Electrical Engineering Professors Andrew Hoff, Chris Ferekides, and Chemistry Professor Peter Zhang**

Three unique yet complementary research laboratories will team to enable the design, development and synthesis, fabrication, and characterization of novel molecule-semiconductor structures. This year-long project will provide support and interdisciplinary research training across laboratories to doctoral students from each department with both faculty and students having the opportunity to generate new knowledge for dissemination and to secure additional funding from DOE, DOD, or NSF programs. Hybrid photonic device technology is importantly at the forefront of global interest due to the possibilities for energy harvesting. A technology that promotes more efficient production and operation of such devices will significantly enhance regional and state economic development and contribute to a sustainable regional community.

**Atrial Fibrillation Source Identification through Signal Analysis**

**Electrical Engineering Professor Ravi Sankar, and Cardiologist and  
Vascular Surgeon Fabio Leonelli, M.D.**

This multidisciplinary research involves collaboration of cardiologists managing and treating atrial fibrillation (AF) and biomedical signal processing researchers who will develop an innovative approach to the analysis of the cardiac electrical waveforms generated during episodes of AF. It is the most common type of cardiac arrhythmia, a problem associated to abnormal rate or rhythm of the heartbeat that eventually leads to the risk of stroke or heart failure, which affects more than 2.5 million Americans. The primary objectives of this project are to analyze the electrical activity generated by the aberrant atrial tissues during AF, determine the characteristics of the AF signal as it propagates through the atria, and identify the source triggering it in patients at Tampa General Hospital and James Haley VA Hospital. The outcomes will significantly assist in managing and treating AF; provide cardiologists with the tools to increase the success rate of potentially curing AF; provide a platform for future biomedical engineering research projects; provide graduate student education and training with potential for publications, patents and future funding.

*university offers 232 degree programs at the undergraduate, graduate, specialist and doctoral levels, including the doctor of medicine. The USF System has a \$1.8 billion annual budget, an annual economic impact of \$3.2 billion, and serves more than 47,000 students on institutions/campuses in Tampa, St. Petersburg, Sarasota-Manatee and Lakeland. USF is a member of the Big East Athletic Conference.*

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