

**SEMINAR**  
**Department of Mechanical Engineering**  
**SUNY at Stony Brook**

**“Electromechanical Coupling of the Heart”**

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Friday, May 5, 2006, 11:00am  
**Room 231 Old Engineering**

**Abstract**

The main function of the heart is to pump blood. This unique pump is largely driven by a delicate electrical system that controls the sequence and timing of the pumping. We will offer a broad view of many aspects of interaction between electrical and mechanical functions of the heart, starting from cellular level to whole organ. We will also present the concept of structure-function integration as an important aspect of the electromechanical coupling. Some approaches to the measurement and understanding of cardiac electromechanical coupling will be discussed.

**About the Speaker**

Shien-Fong Lin received his PhD degree in Biomedical Engineering from Northwestern University. He joined the Living State Physics Group at Vanderbilt University in 1992 as an assistant professor to study neural function and cardiac activation. While at Vanderbilt, he pioneered the optical mapping technique to measure electrical excitation and propagation in cardiac tissue. He won the first prize in the Young Investigator Competition in North American Society of Pacing and Electrophysiology in 1998. In 2001, he joined the Electrophysiology Research Group in Cedars-Sinai Medical Center in Los Angeles, and was appointed as an Associate Professor at David Geffen School of Medicine, UCLA. He also serves as a scientific consultant for institutions around the world with his expertise in cardiac research. His research interests include cardiac electrophysiology, control of arrhythmias, biomedical optics and biomedical image processing.