

R.I.T.

College of Science

*Chester F. Carlson*

Center for **IMAGING** SCIENCE

**Seminar Series**

## Advanced Imaging Applications to Cardiac Resynchronization Therapy

**Justin D. Pearlman**

*Professor of Medicine and Radiology*

*Director of Advanced CV Imaging*

*Dartmouth*

**4pm, Wed, Jan. 31,  
2007**



Auditorium of the Center for Imaging Science

For Cardiac Resynchronization Therapy the goal is to identify where cardiac pacemaker leads can be placed to improve cardiac output, avoiding areas of dead tissue, and achieving significant improvement in the ejection fraction (EF). The presentation will show examples of how 64 slice CT, MRI, 2D and 3D ultrasound are currently applied to the heart, with a focus on the challenges of identifying how and when to improve a failing heart by resynchronization. A new mathematical shape model, hemispherical harmonics, will be introduced for this purpose.

**[www.cis.rit.edu/seminar](http://www.cis.rit.edu/seminar)**

**for up-to-date seminar schedule, video archives and abstracts.**

**Speaker Bio**

Justin Pearlman is a Professor of Medicine and a Professor of Radiology, board certified in Internal Medicine and in Cardiology. He also has two degrees in Engineering and Applied Sciences, and appointments in the Dartmouth Graduate School of Computer Science and the Thayer School of Engineering. He founded the MIT graduate level curriculum on advanced medical imaging and analysis. He founded the Medical Computing and Technologies Center and Supercomputing Facility at Massachusetts General Hospital where he served on staff in both Cardiology and Radiology. He continued at Harvard for approximately 12 years until he was recruited by Dartmouth to establish the new Advanced Imaging Center there. He is the Director of Advanced Cardiovascular Imaging at Dartmouth, where new technologies include 3D 64 slice CT, 3T MRI, magnet-compatible near-infrared imaging, 3D ultrasound, and electron paramagnetic imaging. His research includes the development of novel imaging technologies as well as image processing and analysis tools and applications.