Summer Research Position—Medical Physics
June 2010 –August 2010

The Cardiac Magnetic Resonance Center at Beth Israel Deaconess/Harvard Medical School seeks to hire a college student who is interested in working in Boston this summer, in medical physics.

The qualified student will be sophomore, junior or senior, with an interest in or some knowledge of magnetic resonance imaging, mathematical transforms and Matlab software development. The research involves hardware, software development and image analysis. Pay is $10 / hour, full time.

Potential projects:
1. **Data fusion of electrophysiology data and MR imaging data**
   This project involves development of Matlab/graphics software to fuse and display medical imaging data to investigate the relationship between scar and electrical signals in the heart. The software will be applied to patient data sets.

2. **Analysis of T1 mapping in patients with myocardial scar.**
   This project involves development of rapid T1 mapping methods, and analysis of T1 maps, in patients with scar.

3. **Fat/water separation technique applied to imaging of the left atrium.**
   Many excellent fat-water separation techniques—which generate separate images of fat and water -- have recently been demonstrated. This project will combine the most suitable techniques with T1-weighting for the application of imaging scar in the left atrium.

Work will involve simulations, MR scanning of phantoms, volunteers and patients, data analysis, image processing and software development. All students will be considered! Students with only coursework experience encouraged to apply.

Please contact:

**Dana C. Peters, PhD**
dcpeters@bidmc.harvard.edu
Beth Israel Deaconess Medical Center
Scientific Director, Cardiac MR Center
Assistant Professor of Medicine
Harvard Medical School
617-667-8037
330 Brookline Ave, RW 453
Boston MA 02115