



Constructing and Solving Variational Image Registration Problems

Nathan Cahill

Associate Professor

School of Mathematical Sciences

Rochester Institute of Technology, Rochester, NY

Successfully aligning medical images from a single modality or from multiple modalities enables subsequent processing, analysis, and/or visualization that can aid in the screening, diagnosis, prognosis, treatment, and monitoring of disease. In the past two decades, a vast amount of research has been performed to develop various models and computational techniques for image registration within a wide spectrum of applications. This presentation explores the approaches that have been developed for nonrigid registration using variational techniques. It focuses on three key aspects of the variational registration problem: dissimilarity measures, regularization, and rapid solution techniques. It presents new contributions in each area, and it explores some of the open questions in the field.

4 pm, Wed., November 11, 2009

Auditorium of the Center for Imaging Science

www.cis.rit.edu/seminar

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