

Department of Applied Mathematics and Statistics
The Johns Hopkins University

SEMINAR

Laurent Younes
Dept. of Applied Mathematics & Statistics
The Johns Hopkins University

April 10, 2008
304 Whitehead Hall
Refreshments: 3:30 p.m.
Seminar: 4:00 p.m.

**METAMORPHOSIS: A GENERAL FRAMEWORK FOR METRIC
REGISTRATION**

ABSTRACT

In the pattern-matching approach to imaging science, the process of “metamorphosis” is template matching with dynamical templates. Metamorphosis allows for a simultaneous registration and metric comparison between various types of mathematical representation of shapes.

We will develop a general theory for this framework, involving the action of groups on Riemannian manifolds, and provide the relevant equations for the associated variational problems. Application of this theory to landmark, image, and density matching will then be discussed.