

Department of Applied Mathematics and Statistics  
The Johns Hopkins University

**SEMINAR**

Lowell Abrams  
Department of Mathematics  
The George Washington University

**Friday**, November 14, 2003  
304 Whitehead Hall  
Refreshments: **10:30 a.m.**  
Seminar: **11:00 a.m.**

**DIGITAL, COMBINATORIAL, AND CONTINUOUS TOPOLOGY  
IN THE SERVICE OF MAGNETIC RESONANCE IMAGING**

ABSTRACT

The Spherical Homeomorphism Conjecture, proposed by Shattuck and Leahy in 2001, serves as the backbone of their algorithm to correct the topology of magnetic resonance images of the human cerebral cortex. I will describe this conjecture and the confluence of ideas from digital, combinatorial, and continuous topology involved in the formulation and proof of a Spherical Homeomorphism Theorem.

(This is joint work with Carey Priebe and Donniell Fishkind.)