University of Notre Dame Department of Mathematics

COLLOQUIUM

Chris Schommer-Pries

MIT

Will give a lecture entitled:

The Structure of Fusion Categories via Topological Quantum Field Theories

On

Monday, April 4, 2011

At

4:15pm

In

117 Hayes-Healy Hall

Abstract

Fusion categories arise in several areas of mathematics and physics - conformal field theory, operator algebras, representation theory of quantum groups, and others. They have a rich an fascinating structure. In this talk we will explain recent work, joint with Christopher Douglas and Noah Snyder, which ties this structure to the structure of 3-dimensional topological quantum field theories. In particular every fusion category gives rise to such a theory. This correspondence makes use of the machinery of higher category theory, specifically the recent work of Hopkins and Lurie on the Cobordism Hypothesis. However no previous knowledge of fusion categories, topological field theories, higher categories, or the cobordism hypothesis will be assumed.