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Invariants as the engine for mathematics

Abstract:
In mathematics and in science an "invariant" of a system is a quantity, like the total energy, that does not change as the system evolves. The discovery and understanding of invariants is one of the engines that drives the development of mathematics. In this talk I will describe some simple mathematical invariants and the deep mathematics that has evolved from trying to understand them.

Tuesday, February 17, 2015

Reception: 3:30-4:00 PM
Cloisters of Mudd Hall

Lecture: 4:00-5:00 PM
Mudd Hall of Philosophy, 101

Michael Hopkins received his PhD from Northwestern and his D.Phil from Oxford in 1984. He has been a professor at Harvard since 2005, after 15 years at MIT and a few years at Princeton. His work concentrates on algebraic topology, especially stable homotopy theory. His recent interests include connections of topological field theory with geometry and physics. He has given many distinguished lectures at national and international venues, including the 2015 Colloquium Lectures at the Joint Mathematics Meeting. He was awarded the Veblen Prize in Geometry by the AMS, the Nemmers Prize in Mathematics and the National Academy of Sciences Award in Mathematics. He is a member of the American Academy of Arts and Sciences, the US National Academy of Sciences and a foreign Member of the Royal Danish Academy of Sciences and Letters.