BOSTON UNIVERSITY GEOMETRY SEMINAR

NOTE: SPECIAL DATE AND TIME!

ON GEOMETRY AND QUANTUM FIELD THEORY

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January 26, 2012, 1:00-2:00pm
Math/Computer Science, Room 148
111 Cummington Street, Boston

Abstract: Given a manifold X (satisfying some technical assumptions), one can ask to equip it with a Riemannian metric of positive scalar curvature; the obstruction to doing so is a topological invariant of X called the $\hat{A}$-genus. Further, one can ask if X supports a metric of positive Ricci curvature. Conjecturally, the obstruction to positive Ricci curvature is an invariant called the Witten genus of X. I will describe a quantum field theoretic construction of these genera. The field theories are a version of Chern-Simons theory. In defining the field theory I will make use of an approach to derived geometry given by dg-manifolds. No prior familiarity with quantum field theory will be assumed in this talk.

See `http://math.bu.edu/research/geom/seminar.html` or contact Takashi Kimura *kimura@math.bu.edu* for more information.