

BOSTON UNIVERSITY GEOMETRY AND PHYSICS SEMINAR

# AN ELEMENTARY MODEL FOR DIFFERENTIAL K-THEORY

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Dec 11, 2013, 4:00 – 5:00pm

Math/Computer Science, Room 148

111 Cummington Street, Boston

Tea: 3:45pm in Room MCS 144

**Abstract:** For differentiable manifolds, differential K-theory is a refinement of the K-theory of the underlying topological space and encodes additional information at the level of differential forms. For instance, the Chern character of a differential K class is a well-defined closed differential form and not just a cohomology class and there are useful refinements of the index theory expressed in terms of pushforwards in differential K-theory. It is known that K-theory, and in fact every cohomology theory, has such a differential refinement. Nonetheless, having specific models for a given theory is desirable for constructions and better understanding the algebraic structure of the theory. We will discuss an elementary model of differential K-theory and provide explicitly the necessary  $S^1$ -integration maps that imply the correctness of the model. This is a joint work with Thomas Tradler and Scott Wilson.

See <http://math.bu.edu/research/geom/seminar.html> or contact Si Li [sili@math.bu.edu](mailto:sili@math.bu.edu) for more information.