BOSTON UNIVERSITY GEOMETRY AND PHYSICS SEMINAR

QUANTUM FIELD THEORY AND GRASSMANNIAN GEOMETRY

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Oct 3, 2012, 4:00 – 5:00pm
Math/Computer Science, Room B21
111 Cummington Street, Boston

Tea: 3:45pm in Room 144

Abstract: I will describe the recent and profound advances in our understanding of quantum field theory and the connections between its analytic structure and the geometry of Grassmannian polytopes. I will briefly review the recursive tools recently developed to understand the Feynman expansion more efficiently, and then describe how the terms in these recursively-generated formulae are classified by simple combinatorics, and can be understood in terms of the geometry of the 'positive part' of Grassmannian manifolds. All leading singularities of planar pure (N=0) Yang Mills as well as N=1,...,4 SYM will be classified combinatorially together with all their inter-relations. If time permits, non-planar structures will also be described.

See `http://math.bu.edu/research/geom/seminar.html` or contact Si Li *sili@math.bu.edu* for more information.