BOSTON UNIVERSITY GEOMETRY AND PHYSICS SEMINAR

THE HIGHER DIMENSIONAL KAC-MOODY AND VIRASORO ALGEBRAS

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October 3, 2018, 4:00 – 5:00pm
Math/Computer Science, Room 148
111 Cummington Street, Boston

Tea: 3:45pm in Room 144

Abstract: In this talk, we introduce multivariable generalizations of familiar infinite dimensional Lie algebras with a focus on two familiar examples: the Kac-Moody and the Virasoro Lie algebras. Our construction is geometric, and uses the theory of factorization algebras defined on higher dimensional complex manifolds. We will characterize central extensions using knowledge of certain Gelfand-Fuks cohomologies. In addition, we will show evidence for a higher vertex algebra structure on the respective vacuum modules using a higher dimensional analog of the operator product expansion coming from factorization. Throughout the talk we will remark on the appearance of these Lie algebras as symmetries of holomorphic quantum field theories in arbitrary dimensions.

See `http://math.bu.edu/research/geom/seminar.html` or contact Yoosik Kim *yoosik@bu.edu* or Siu-Cheong Lau *lau@bu.edu* for more information.