Speaker: Ping Xu

Title: Formality theorem for dg manifolds

Abstract: The Atiyah class of a dg manifold (M,Q) is the obstruction to the existence of an affine connection that is compatible with the homological vector field Q. The Todd class of dg manifolds extends both the classical Todd class of complex manifolds and the Duflo element of Lie theory.

We establish a formality theorem for smooth dg manifolds: given any finite-dimensional dg manifold (M, Q), there exists an L_∞ quasi-isomorphism from the dgla of the polyvector fields to the dgla of polydifferential operators, whose first Taylor coefficient is the composition of the action of the square root of the Todd class with the Hochschild–Kostant–Rosenberg map. We also establish a Kontsevich–Duflo type theorem for all finite-dimensional smooth dg manifolds. This is a joint work with Hsuan-Yi Liao and Mathieu Stienon.