ALGEBRA SEMINAR

Atiyah classes and homotopy algebras

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ABSTRACT: The Atiyah class of a holomorphic vector bundle E is the obstruction to the existence of a holomorphic connection on E. A theorem of Kapranov states that, for a complex manifold X, the Atiyah class of T_X makes the (shifted) tangent bundle $T_X[-1]$ into a Lie algebra object in the derived category $D^+(X)$. Furthermore, Kapranov proved that, for Kaehler manifolds, this Lie algebra structure on $T_X[-1]$ stems from an L_∞ algebra structure on $\Omega^{0,*}[-1](T_X)$. I will show how Kapranov's theorems can be extended to the more general setting of Lie pairs of algebroids so as to produce new homotopy algebras.

MONDAY, NOVEMBER 26, 2012
1:40 – 2:30 PM
ROOM 617, WACHMAN HALL
DEPARTMENT OF MATHEMATICS