

**UBC Seminar of algebraic groups, Galois
cohomology and related topics
Friday, January 23, 10-10:50am, WMAX
110.**

Speaker: Travis Schedler (MIT)

Title: Cyclic homology and the Gauss-Manin connection

Abstract: Cyclic homology is a generalization of de Rham cohomology which makes sense for associative algebras (viewed as functions on a "noncommutative space") and coincides with the latter on commutative algebras. I will explain a construction of cyclic homology in the spirit of equivariant de Rham cohomology, a relationship which becomes precise on the level of representations of the algebra. As an application, I will explain a simple construction of the Gauss-Manin connection on cyclic homology, which generalizes the well-known connection in the commutative case. This simplifies complicated formulas of Getzler. This work is joint with V. Ginzburg.