ALGEBRA SEMINAR TALK

WITH

JOHN E. HARPER

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FRIDAY, JANUARY 20, 2012

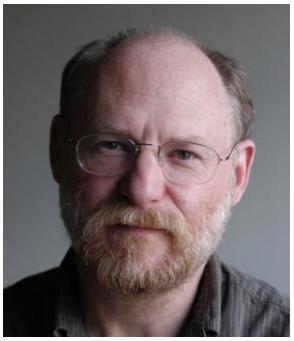
2:45 P.M. – Middlesex College Room 107

"Localization and completion of nilpotent structured ring spectra"

Abstract: Quillen's derived functor notion of homology provides interesting and useful invariants in a wide variety of homotopical algebraic contexts. For instance, in Haynes Miller's proof of the Sullivan conjecture on maps from classifying spaces, Quillen homology of commutative algebras (Andre-Quillen homology) is a critical ingredient. Working in the topological context of structured ring spectra, this talk will introduce several recent results on localization and completion with respect to topological Quillen homology of commutative ring spectra (topological Andre-Quillen homology), E_n ring spectra, and operad algebras in spectra. This includes homotopical analysis of a completion construction and strong convergence of its associated homotopy spectral sequence. The localization and completion constructions for structured ring spectra are precisely analogous to Sullivan's localization and completion of spaces (for which he recently won the Wolf prize), and Bousfield-Kan's version of Sullivan's localization and completion called the R-completion of a space with respect to a ring R. This is joint work with Michael Ching.


J. E. Harper


D. Quillen


H. R. Miller


M. Ching

When one feels that something is missing, one often tries to add something, which sometimes leads to marriage, children, spicy soup, real numbers, or *p*-adic numbers. Clearly in current mathematics, localization and completion form fundamental notions. Here is a chance to learn about the recent exciting work of J. E. Harper and M. Ching, in structured ring spectra, which is an echo of the spectacular work of Sullivan. We are looking forward very much to this delightful Friday afternoon lecture!

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ALL ARE WELCOME! ☺