

Meeting: 1001, Evanston, Illinois, SS 24A, Special Session on Hopf Algebras at the Crossroads of Algebra, Category Theory, and Topology

1001-18-237 **Masoud Khalkhali*** (masoud@uwo.ca). *Yetter-Drinfeld modules, flatness, and Hopf-cyclic cohomology.*

I will first explain the surprising emergence of Yetter-Drinfeld modules and their variations in the context of cyclic cohomology where these modules appear as natural coefficient systems for Hopf-cyclic cohomology (joint work with P. Hajac, B. Rangipour, and Y. Sommerhaeuser). The first examples of these theories are due to Connes and Moscovici in their work on transverse elliptic theory on foliations. I will then indicate how these modules can be interpreted as flat modules in the sense of noncommutative differential geometry. Finally I will explain new work on cup products for Hopf-cyclic cohomology (joint work with B. Rangipour). (Received August 27, 2004)