ALGEBRA SEMINAR TALK

WITH

JANUSZ ADAMUS

Department of Mathematics
The University of Western Ontario

FRIDAY, NOVEMBER 18, 2011

2:30 P.M. – Middlesex College Room 107

"Effective flatness criterion – from Auslander to Vasconcelos' conjecture"

Abstract: In his seminal 1961 paper, Auslander gave a beautiful characterization of flatness of a finite module over a regular local ring R in terms of torsion in tensor powers of the module. Almost 40 years later, Vasconcelos conjectured a generalization of this criterion to the category of finite type R-algebras. I will survey a recent development in this area, leading to the establishing of Vasconcelos' conjecture (and then some) in characteristic zero, by local analytic methods. These are joint works with E. Bierstone and P.D. Milman, and with Hadi Seyedinejad.


J. Adamus


P. Millman


E. Bierstone


M. Auslander


W. V. Vasconcelos


S. M. H. Seyedinejad

Flatness is one of the fundamental notions in commutative algebra and algebraic geometry, yet often it is not easy to decide whether a given module is flat. Certainly not as easy as in these pictures above. How to understand flatness in geometrical terms? Can the majesty of complex analytic geometry help? How does it all end? It is a great pleasure to welcome again Janusz Adamus, who will tell us a wonderful adventure story of the quest for understanding flatness. Come enjoy a nice talk!

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ALL ARE WELCOME! ☺