Alberto Tonolo
University of Padova (Italy)

May 7, 2015

12:30pm-1:30pm

OSB A327

Equivalences between categories of modules

Two equal problems have equal solutions: therefore it is not necessary to solve both of them. There are relationships weaker than equality which are useful in the same sense. For instance, two equivalent linear systems are not equal, but they have the same solutions. Another example that one meets very soon in abstract algebra is the concept of isomorphism: two isomorphic objects share the same algebraic properties. In this talk we will concentrate on Rings. Isomorphic rings are not equal, but they can be thought as essentially the same, only with different labels on the individual elements. In this talk I will present other notions of "similarity" between rings; in particular we will discuss Morita equivalent and Tilting equivalent rings. They are relationships defined between rings that preserves some ring-theoretic properties. Giving priority more to comprehensibility than to precision, I hope to be able to give you through examples the taste of an important contemporary field of research.