I M B M istanbul matematiksel bilimler merkezi
istanbul center for mathematical sciences

Monoid Algebras and Category Algebras

Robert Boltje

University of California, Santa Cruz

Abstract

For a finite monoid one can form a monoid algebra over any base ring the same way one can form a group algebra. More generally, for a finite category, one can form its category algebra. Even more general, one can use 2-cocycles on the category to obtain twisted category algebras. Interestingly, many interesting algebras arise that way. Properties of the category translate into properties of the algebra. We will focus on regular and inverse categories and explain recent work of Linckelmann-Stolorz and Boltje-Danz that shows that twisted regular category algebras are quasi-hereditary. This gives a unified proof for algebras such as the Brauer algebra, Temperley-Lieb algebra, partition algebra, and what motivated our interest, the biset algebra.

Date : Thursday, September 20, 2012
Time: 14:00
Place: IMBM Seminar Room, Boğaziçi University South Campus