



Seminar

K-Theory, Quadratic Forms and Number Theory

Title: The Procesi-Schacher conjecture and Hilbert's 17th problem for algebras with involution

Speaker: Dr. Thomas Unger (UCD)

Date: Wed 22nd April 2009 at 4:00PM

Location: Mathematical Sciences Seminar Room

Abstract: In 1976 Procesi and Schacher developed an Artin-Schreier type theory for central simple algebras with involution and conjectured that in such an algebra a totally positive element is always a sum of hermitian squares. I will present elementary counterexamples to this conjecture and some cases where the conjecture does hold. If time permits I will discuss a Positivstellensatz for noncommutative polynomials, positive semidefinite on all tuples of matrices of a fixed size. This is joint work with Igor Klep.