K-Theory, Quadratic Forms and Number Theory Seminar

Title: Lifting modular forms: Hecke eigenvalues, Poincare series, and differential operators

Speaker: Dr. Robert Rhoades (EPFL)

Date: Wed 15th April 2009 at 4:00PM

Location: Mathematical Sciences Seminar Room

Abstract: Harmonic Maass forms have found many applications in the theory of partitions due to their relations with combinatorial generating functions and mock theta functions. In this talk we will explore a different direction and consider the relationship between harmonic Maass forms and classical modular forms. We will demonstrate how to "lift" classical modular forms into the realm of harmonic Maass forms. With this construction we can "lift" open problems from modular form theory into problems regarding harmonic Maass forms. Of particular interest are questions regarding non-vanishing of Hecke eigenvalues and Poincare series.