



Seminar

## K-Theory, Quadratic Forms and Number Theory

**Title:** Linear Mahler measures and double L-values of modular forms

**Speaker:** Dr. Masha Vlasenko (TCD)

**Date:** Thu 5th April 2012 at 4:00PM

**Location:** Mathematical Sciences Seminar Room (Ag 1.01)

**Abstract:** There are plenty of examples and conjectures where the Mahler measure of a Laurent polynomial in several variables is equal to a special value of a certain L-function. The simplest linear Mahler measures  $M_n = m(1 + x_1 + \dots + x_n)$  were computed by Smyth for  $n = 2, 3$  about 30 years ago and are not yet evaluated for larger  $n$ . Rodriguez Villegas showed that both of these cases can be treated using modular forms. We develop his approach and values of pairs of certain modular forms. Unfortunately the forms appear to be meromorphic in the most 4. This is joint work with Evgeny Shinder.