K-Theory, Quadratic Forms and Number Theory Seminar

Dr. David Solomon (King's College London)

will speak on

Generalising Stickelberger: Annihilators (and more) for class groups of number fields

Wed 24th March 2010 at 4:00PM

Location: Mathematical Sciences Seminar Room

Stickelberger's Theorem (from 1890) gives an explicit ideal in the Galois group-ring which annihilates the minus-part of the class group of a cyclotomic field. In the 1980's Tate and Brumer proposed a generalisation (the 'Brumer-Stark conjecture') for any abelian extension of number fields K/k, with K of CM type and k totally real.

Both the theorem and the conjecture leave certain questions unanswered: Is the (generalised) Stickelberger ideal the full annihilator, the Fitting ideal or what? And, at a more basic level, what can we say in the plus part, e.g., for a real abelian field? I shall discuss possible answers, some still conjectural, to pieces of these puzzles, using two new p-adic ideals of the group ring.

This talk is part of the **K-Theory, Quadratic Forms and Number Theory** series. For more, see
https://maths.ucd.ie/seminars