Daniel Krashen
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will speak on

Quadratic Forms and the u-invariant of Fields

ABSTRACT:
The u-invariant of a field gives information about how large a homogeneous quadratic polynomial may be with coefficients in a given field without having a nontrivial zero. Despite the fact that these invariants are reasonably well understood for finite fields, global fields, function fields of complex varieties, and $p$-adic fields, many aspects of their behavior remains conjectural. In particular, the problem of computing the u-invariant of a rational function field of $K(x)$, if one knows the u-invariant of $K$ is one of the outstanding open problems in the area. In particular, the case that $K$ is a global field is completely open. In this talk I will describe work in progress, joint with David Harbater and Julia Hartmann, where we compute the u-invariant of $K(x)$ when $K$ is a $p$-adic ($p$ not 2) or more generally a “higher local field.”

Monday, 19 November 2007
Lecture at 4:00 pm
Coffee, tea, and refreshments from 3-5 pm
Room 617, Wachman Building
Department of Mathematics