QUADRATIC FORMS OVER MY FAVORITE RINGS

Larry Gerstein

University of California at Santa Barbara and Dartmouth College

October 14, 1999

102 Bradley Hall, 4:00 pm
(Tea 3:30 pm Math Lounge)

Abstract

The theory of quadratic forms dates back at least to Pythagoras and continues to flourish today. In the talk the subject will be introduced from scratch — starting from the basic definitions — and connections with other areas of mathematics will be mentioned briefly. Then some fundamental problems will be stated, and special attention will be given to these problems over the field $\mathbb{Q}$ of rational numbers and the ring $\mathbb{Z}$ of integers; and also to the analogous theory over the rational function field $k(x)$ — where k is a finite field — and its interesting subrings.

This talk should be accessible to graduate students.