

# The Trivial Notions Seminar

## Proudly Announces

### Centaur Squared

A talk by  
Oleg Ivrii

#### Abstract

Imagine a centaur making identical jumps around a circle stadium of unit circumference. If the jump length is irrational, his orbit (the fractional parts of  $n\alpha$ ) is everywhere dense (and in fact uniformly distributed). One way to see this is to notice that the centaur must return within  $(1/n)$ -th of his starting location in at most  $n$  jumps. The story of a single centaur (or a pack of centaurs) is very simple and I will sketch it briefly.

But what about Centaur Squared, the fractional parts of  $n^2\alpha$ ? Are they uniformly distributed in the circle? How do these animals behave in packs? Do they have an ergodic theory? How long does it take them to appear near the starting location?

Thursday, October 29<sup>th</sup> at 2:07 pm  
Science Center 507