The Trivial Notions Seminar
Proudly Announces

Arithmetic Progressions in Primes

A talk by

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Abstract

For hundreds of years, mathematicians have been making conjectures about patterns in primes. Among these is the conjecture that primes contain arbitrarily long arithmetic progressions. In 2004, Ben Green and Terence Tao proved this beautiful and astonishing result. More impressive is the fusion of methods from number theory and ergodic theory used in their proof.

In this talk, I will sketch an ergodic theoretic proof of Szemeredi's Theorem: a set of integers with positive upper density contains arbitrarily long arithmetic progressions. However, this is weaker than Green-Tao's Theorem since the set of primes has density zero. I will briefly discuss how Green and Tao overcame this density issue by adapting ergodic theoretic proof techniques in a number theoretic setting.

Thursday December 8^{th}, at 11:30 am
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