

Meeting: 1003, Atlanta, Georgia, SS 1A, AMS Special Session on Current Events

1003-11-1422 **Bryna Kra*** (kra@math.northwestern.edu), Department of Mathematics, 2033 Sheridan Road, Evanston, IL 60208-2730. *The Green-Tao Theorem on primes in arithmetic progression: a dynamical point of view.*

A long-standing and almost folkloric conjecture is that the primes contain arbitrarily long arithmetic progressions. Until recently, the only progress on this conjecture was due to van der Corput, who showed in 1939 that there are infinitely many triples of primes in arithmetic progression. In an amazing fusion of methods from analytic number theory and dynamics, Ben Green and Terence Tao showed that for any integer k greater than or equal to 3, there exist infinitely many arithmetic progressions of prime numbers of length k . I'll give an introduction to some of the ideas in the proof, concentrating on those drawn from ergodic theory. The lecture is intended to be accessible to all mathematicians. (Received October 05, 2004)