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**David Conlon, Jacob Fox and Yufei Zhao\***, Mathematics Institute, University of Oxford,  
Oxford, OX2 6GG, United Kingdom. *Pseudorandomness in the Green-Tao theorem.*

The celebrated Green-Tao theorem states that there are arbitrarily long arithmetic progressions in the primes. One of the key steps in its proof is a relative Szemerédi theorem, which roughly says that every relatively dense subset of a pseudorandom set of integers contains long arithmetic progressions. What pseudorandomness hypotheses does one need to prove the Green-Tao theorem? This is the question that I will address in the talk. (Received September 14, 2015)