

# Colloquium

Monday, November 10, 2014

2:00 pm in Hume 331

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## Polynomial configurations in the primes

### ABSTRACT

The Green-Tao theorem says that the primes contain arithmetic progressions of arbitrary length. Tao and Ziegler extended it to polynomial progressions, showing that configurations  $\{a + P_1(d), \dots, a + P_k(d)\}$  exist in the primes, where  $P_1, \dots, P_k$  are polynomials in  $\mathbf{Z}[x]$  without constant terms (thus the Green-Tao theorem corresponds to the case where all the  $P_i$  are linear). We extend this result further, showing that we can add the extra requirement that  $d$  be of the form  $p - 1$  (or  $p + 1$ ) where  $p$  is prime. This is joint work with Julia Wolf.