1109-11-192 **Paul Pollack** and **Lola Thompson*** (`lola.thompson@oberlin.edu`). *Runs of consecutive primes via the Maynard-Tao method.*

In this talk, we will describe how Maynard and Tao's method for producing many primes in intervals of bounded length can be applied to problems involving runs of consecutive primes. For example, one can show that, for each of the arithmetic functions $f \in \{\varphi, \sigma, \omega, \tau\}$ and every natural number K, there are infinitely many solutions to the inequalities $f(p_n - 1) < f(p_{n+1} - 1) < \cdots < f(p_{n+K} - 1)$, and similarly for $f(p_n - 1) > f(p_{n+1} - 1) > \cdots > f(p_{n+K} - 1)$. We will also discuss the answers to some questions of Sierpiński on the digit sums of consecutive primes. This talk is based on joint work with Paul Pollack. (Received January 31, 2015)