ALLYSA LUMLEY, Centre de Reserches Mathématiques
Primes in short intervals: Heuristics and calculations

We formulate, using heuristic reasoning, precise conjectures for the range of the number of primes in intervals of length y around x, where $y \ll (\log x)^2$. In particular, we conjecture that the maximum grows surprisingly slowly as y ranges from $\log x$ to $(\log x)^2$. We will show that our conjectures are somewhat supported by available data, though not so well that there may not be room for some modification. This is joint work with Andrew Granville.