## JACOB FOX, Stanford University

Arithmetic progressions, regularity lemmas, and removal lemmas

A celebrated theorem of Roth from 1953 shows that every dense set of integers contains a three-term arithmetic progression. This has been the starting point for the development of an enormous amount of beautiful mathematics. In this talk, I will discuss major recent progress on the bounds on some of the well-studied extensions of Roth's theorem and related problems.