Abstract: Roth’s theorem (proved by Klaus F. Roth in 1955) governs approximation of real algebraic numbers by rational ones, or more generally approximations of complex algebraic numbers by elements in a fixed number field. From the point of view of geometry, the natural way to view the real or complex numbers are as points on the projective line, which is essentially the simplest algebraic variety.

This talk will discuss a recent extension of Roth’s theorem to arbitrary algebraic varieties. The theme of the talk, and the key to the generalization, is one of the motivating themes of algebraic geometry: that geometry governs algebra.