Title: Existence of rational points on smooth projective varieties

Abstract:

Let k be a number field. We prove results including:

1) If there is an algorithm to decide whether a smooth projective k-variety has a k-point, then there is an algorithm to decide whether an arbitrary k-variety has a k-point.

2) If there is an algorithm to decide whether a smooth projective 3-fold has a k-point, then there is an algorithm to compute $X(k)$ for any curve X over k.