

MSRI–Evans Talk

Monday, 4:10–5:00pm, 60 Evans

March 13 **Karl Rubin**, University of California – Irvine, MSRI

The three most important things about elliptic curves

The rank of an elliptic curve comes in three flavors: arithmetic (which measures the set of rational points), analytic, and cohomological. Conjecturally all three coincide, but in many cases one knows more about one than another. In this talk we will introduce elliptic curves and their ranks, and discuss various conjectures and theorems relating these ranks. As an example of the interplay between the different types of rank, we will state a theorem (joint with Barry Mazur) about the cohomological rank that was inspired by a conjecture about the analytic rank.