

Manami Roy, Fordham University

Title: *Local data of isogenous elliptic curves*

Abstract: For a minimal proper regular model of an elliptic curve E for a prime p , we can compute the local data at p , which includes the special fiber of the minimal model (i.e., Néron type), the exponent appearing at the prime p in the of the conductor of E , and the local Tamagawa number at p . We will discuss how the Kodaira-Néron types and the local Tamagawa numbers of rational elliptic curves change over isogeny graphs. To answer this question, we will examine how local data of rational elliptic curves change under quadratic twists. This is an ongoing project with Barrios, Sahajpal, Tallana, Tobin, and Wiersema. Our aim is to answer an open problem on how the Kodaira-Néron types and the local Tamagawa numbers of isogenous rational elliptic curves with wild ramification change under 2- or 3-isogeny.