UBC Number Theory Seminar: September 22, 2021

Speaker: Naomi Sweeting (Harvard University)

Title: Heegner points and patched Euler systems in anticyclotomic Iwasawa theory

Abstract: this talk will report on recent work proving new cases of the Heegner Point Main Conjecture of Perrin-Riou. I'll explain the statement of the conjecture and the method of patched bipartite Euler systems used in the proof. This method reduces the HPMC to a main conjecture of Bertolini and Darmon "at infinite level", which can be resolved using the work of Skinner-Urban along with a deformation-theoretic input following methods of Fakhruddin-Khare-Patrikis. One consequence of the results is an improved p-converse theorem to the work of Gross-Zagier and Kolyvagin: p-Selmer rank one implies analytic rank one.