

# Séminaire de théorie des nombres

Le 06 mars 2017 à 14h (PRG)

## Serre's uniformity conjecture for elliptic curves with a rational cyclic isogeny

Exposé de Pedro Lemos  
(University of Warwick)

**Résumé :** Serre's uniformity conjecture asks if, given an elliptic curve  $E$  over the rationals without complex multiplication, its residual mod  $l$  representation is surjective for all primes  $l > 37$ . In this talk, I will show how an argument of Darmon and Merel — which is, itself, based on Mazur's formal immersion technique — can be adapted to prove the conjecture when  $E$  admits a non-trivial cyclic rational isogeny.