## Speaker: Lucile Devin

Title: Possible values of Chebyshev's bias in function fields

Abstract: For every given integer m, Chebyshev's original interrogation is to investigate on the probability ("the bias") that given a random real number x, there are more prime numbers lower than x that are non-quadratic residues than that are quadratic residues modulo m. We will discuss the translation of this question in function fields. This idea was initiated by Cha, who observed several interesting biases as the hypothesis of linear independence of the zeros of the L-functions does not always holds. We show that almost anything can happen depending on the modulus m, in particular one can have complete biases (=1), no bias at all (=1/2), a bias in the "wrong direction" (<1/2) and, conditionally on a hypothesis of linear independence of the zeros, the bias can approach any value in the interval  $\left[\frac{1}{2}, 1\right]$ .