

Speaker: Louis-Pierre Arguin

Title: Large Deviations of Selberg's Central Limit Theorem

Abstract: Selberg's central limit theorem states that the values of the logarithm of the zeta function at a typical point of the critical line are distributed like a Gaussian random variable. It is an open question to know if this fact also holds for large values of zeta. In this talk, I will present joint work with Emma Bailey where we proved sharp upper bounds for the distribution in a precise large deviation regime, unconditionally. This improves previous results of Soundararajan and Harper in that regime. The result can also be applied to recover the sharp upper bounds of Heap, Radizwill and Soundararajan for the fractional moments of zeta, and also to investigate large values in short intervals.