WILL SAWIN, Columbia University
The mixing conjecture over function fields

Michel and Venkatesh conjectured a generalization of Duke's theorem - that Galois orbits of CM points are equidistributed on a product of two modular curves. Shende and Tsimerman proved a function-field analogue of this conjecture, conditional on a hypothesis, which I verified in recent work. Also recently, Khayutin has proven the original conjecture under some assumptions, and even more recently Blomer and Brumley have proven a weaker form of the conjecture under a different set of assumptions. These proofs all use very different methods and have distinct strengths and weaknesses. I will describe some of the key ideas of the geometric approach of Shende, Tsimerman, and myself.