On Lehmer's problem and hyperbolic geometry

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Abstract: I will discuss the well known relation between Lehmer's problem for the Mahler measure of integral polynomials and the Short Geodesic conjecture for arithmetic manifolds with the emphasis on the quantitative side of the picture. If time permits, I will also talk about the recent work of Fraczyk and Pham who found geometric applications of the work of Amoroso and David on a higher dimensional analogue of Lehmer's problem.