Philadelphia Area Number Theory Seminar

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Maximal Curves: A Tour

Abstract: A curve with as many points as possible over a nite eld F_q is known as a maximal curve. Well-studied examples include the Hermitian, Suzuki and Ree curves. Curves with many points also often have many symmetries. Maximal curves bring together combinatorics, algebra, algebraic geometry, and number theory. These objects have also found application in coding theory, through algebraic geometry codes, and cryptography, through variations of the McEliece cryptosystem. This talk will give an introduction to the area and a tour of some current directions and open problems. We will discuss automorphism groups, Jacobians, and recent attacks on and variations of the McEliece cryptosystem.

Thursday, March 24, 2016
2:40{4:00PM

Bryn Mawr College
Department of Mathematics
Park Science Center 328
Tea and refreshments at 2:20PM in Park 355