



Algebra and Number Theory Seminar

Title: Curves over finite fields for algebraic geometry codes and quantum codes

Speaker: Gary McGuire (UCD)

Date: Thu 10th October 2019 at 2:00PM

Location: Seminar Room SCN 1.25

Abstract: Good quantum error-correcting codes can be constructed from algebraic geometry codes that have particular properties. These algebraic geometry codes can in turn be constructed from algebraic curves over finite fields that have particular properties. We shall describe some recent work that enlarges the collection of curves with the desirable properties. We are able to find the number of rational points and a canonical divisor for the curves. Our work shows that many more curves give rise to quantum error-correcting codes than was previously thought. Joint work with Francisco Monserrat, Julio Moyano, Fernando Hernando.

https://maths.ucd.ie/kazim_b/UCDANTseminar.html