Mathematics, Statistics, and Computer Science **@ UIC**

Algebraic Geometry Seminar

On the torsion locus of the Ceresa normal function

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Abstract: The Ceresa cycle is a homologically trivial cycle that lives on the Jacobian of any smooth proper curve of genus g. Its image under the Abel-Jacobi map defines a normal function on M_g and Ceresa famously proved that this normal function is generically non-torsion. In this talk, I will explain a joint recent work with Matt Kerr where we prove that the positive-dimensional part of the torsion locus of the Ceresa normal function in M_g is not Zariski dense when g>2. Moreover, it has only finitely many components with generic Mumford-Tate group equal to GSp_2g, these components are defined over the algebraic closure of Q and their union is closed under the action of the absolute Galois group of Q. This result follow from a general study of the distribution of the torsion locus of arbitrary admissible normal functions.

Monday, October 21 at 3:00 PM in 636 SEO