Front Range Algebra, Geometry and Number Theory Seminar

The locus of intermediate Jacobians of cubic threefolds

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The intermediate Jacobian of a cubic hypersurface in $\mathbb{P}^4$ is a principally polarized abelian variety of dimension five, first used by Clemens and Griffiths to show that cubic threefolds are not rational. By the work of Casalaina-Martin and Friedman these intermediate Jacobians are characterized by having a point of multiplicity three on the theta divisor. We use this description to compute the class of the locus of these intermediate Jacobians in the Chow ring of the moduli space of principally polarized abelian varieties. Along the way of our proof, we also give very explicit descriptions of theta divisors on degenerate semiabelic varieties. This is joint work with Klaus Hulek.

Thursday January 27th 2011
3:00-5:00 p.m.
University of Colorado
MATH 350