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

Algebraic Geometry Seminar

Intermediate Jacobians and hyperKahler manifolds

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Abstract: In recent years, there have been an increasing number of connections between cubic 4folds and hyperkahler manifolds. The aim of the talk is to give background in this area and then describe another instance of this phenomenon, which is carried out in joint work with R. Laza and C. Voisin: Given a general cubic 4fold X, one may consider the universal family Y_U \to U of smooth hyperplanes sections of X and the relative Intermediate Jacobian fibration f: J_U \to U. In 1995 Donagi and Markman constructed a holomorphic symplectic form on J_U, with respect to which the fibration f is Lagrangian. Since then, there have been many attempts to find a smooth hyperkahler compactification of J_U. This was conjectured to exist and to be deformation equivalent to O'Grady's 10–dimensional exceptional example. With Radu Laza and Claire Voisin, we solve this conjecture by using relative compactified Prym varieties.

Wednesday, November 2 at 4:00 PM in SEO 427