Speaker: Sarah Frei

Title: Symplectic involutions and cohomology of Kummer-type fourfolds

Abstract: The middle cohomology of hyperkahler fourfolds of Kummer type was studied by Hassett and Tschinkel, who showed that a large portion is generated by cycle classes of fixed-point loci of symplectic involutions. In recent joint work with K. Honigs, we study certain symplectic fourfolds over arbitrary fields. We have extended the results of Hassett and Tschinkel and characterized the Galois action on the cohomology. This has natural consequences for derived equivalences between certain generalized Kummer fourfolds, a result which uses as input joint work with K. Honigs and J. Voight on the n-torsion in abelian surfaces versus their duals.