

Speaker: Jim Carlson

Title: Special cubic threefolds, abelian varieties, and totally real quintic fields

Abstract: According to a theorem of Clemens and Griffiths, cubic threefolds are determined by their intermediate Jacobian, a principally polarized abelian variety of dimension five. We discuss how special cubic threefolds, and in fact special cubic surfaces, can be constructed from certain totally real quintic fields, and we discuss the relative abundance of such fields. We also discuss the field of periods of some special cubic threefolds.