

Speaker: Avinash Kulkarni

Title: Intersections of symmetric determinantal varieties, theta characteristics, and an application to arithmetic

Abstract. A symmetric determinantal hypersurface (symmetroid) is the zero locus of the determinant of a symmetric matrix of linear forms. In this talk, we study intersections of symmetroids. First, we classify when an intersection of symmetroids contains an “accidental” singularity. We then use this result to study theta characteristics of complete intersection canonical curves. Finally, we discuss the inverse Galois problem for Galois actions on the Picard lattice of a del Pezzo surface of degree one.

N.B. This is joint work with Sameera Vemulapalli.