

Hirotschi Abo (University of Idaho)

Title: A K3 surface arising from a stable rank two reflexive sheaf on projective four-space

Abstract:

This talk is concerned with a (non-minimal) K3 surface of degree 12 in projective four-space. This surface is new and of interest in the classification of smooth surfaces of non-general type in projective four-space. This classification problem is motivated by the finiteness result of Ellingsrud and Peskine which says that the degree of a smooth non-general type surface in projective four-space is bounded.

The aforementioned surface is obtained as the zero locus of a global section of a certain stable rank two reflexive sheaf. The purpose of this talk is two-fold; the first is to give a detailed construction of such a reflexive sheaf, and the second is to show how the geometry of the K3 surface reflects the structure of the reflexive sheaf.