Curves on threefolds: Towards a generalised Noether-Lefschetz theorem

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007 Kemeny Hall, 4:00 pm
(Tea 3:30 pm 300 Kemeny Hall)

Abstract

Let X be a "general" algebraic surface defined by a homogeneous polynomial of degree d, d at least 4 in complex projective space of dimension 3. The Noether-Lefschetz theorem in geometric form, asserts that any algebraic curve C in X must be of the form $X \cap S$, for another surface S in the projective space. The analogue of this theorem to higher dimensions, conjectured by Griffiths and Harris was shown to be false by C.Voisin.

In this talk, I will show that a weaker generalisation of this theorem is true and discuss the main circle of ideas.

This talk should be accessible to graduate students.

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