Mathematics, Statistics, and Computer Science   **@ UIC**

Departmental Colloquium

Moduli and Hodge Theory

Phillip Griffiths (Institute for Advanced Study)

Abstract: Moduli spaces of varieties X are of central interest in algebraic geometry. For X smooth and of general type the moduli space M exists and has a canonical projective completion $\overline{M}$. Aside from the case of algebraic curves there are essentially no general results about or examples of the structure of the boundary $\overline{M} \setminus M$. Hodge theory provides the basic invariant of a complex algebraic variety. Using Lie theory the space of Hodge structures and its boundary is well understood. It is therefore natural to use the Hodge- theoretic boundary to study $\overline{M} \setminus M$. This talk will give an informal presentation of this approach together with one result and one application to moduli of a particularly interesting algebraic surface. *Based on joint work in progress with Mark Green, Radu Laza, and Colleen Robles.

Friday, April 5 at 3:00 PM in 636 SEO