

Colloquium

University of Notre Dame
Department of Mathematics

Harold Blum - University of Utah

Speaker: Harold Blum

University of Utah

Will give a lecture entitled
Moduli of Fano varieties and K-stability

Date: Wednesday, December 6, 2023

Time: 4:00 PM

Location: 129 Hayes-Healy Bldg



Departmental Tea: Tea in Room 257 (lounge in Hurley Hall) at 3:30 p.m.

Zoom URL: [notredame.zoom.us/j/94209026501?](https://notredame.zoom.us/j/94209026501?pwd=d0hDdmRua0JETFV6MkpPSWFJZkZDQT09)

pwd=d0hDdmRua0JETFV6MkpPSWFJZkZDQT09 Meeting ID: 942 0902 6501 Passcode: 596816

Abstract:

Algebraic geometry is the study of shapes defined by polynomial equations called algebraic varieties. One natural approach to study them is to construct a moduli space, which is a space parameterizing such shapes of a given type (e.g. algebraic curves). After surveying this topic, I will focus on the problem of constructing moduli spaces parametrizing Fano varieties, which are a class of positively curved complex manifolds that form one of the three main building blocks of varieties in algebraic geometry. While algebraic geometers once considered this problem intractable due to various pathologies, it has recently been solved using K-stability, which is an algebraic definition introduced by differential geometers to characterize when a Fano variety admits a Kahler-Einstein metric.