

Colloquium

University of Notre Dame
Department of Mathematics

Eric Riedl - University of Notre Dame

Speaker: Eric Riedl

University of Notre Dame

Will give a lecture entitled
Geometric Manin's and Lang's Conjectures



Date: Wednesday, September 6, 2023

Time: 4:00 PM

Location: 129 Hayes-Healy Hall

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

Zoom URL: <https://notredame.zoom.us/j/99986867672?pwd=Z2NJRIZwL0dTR0Nxbk50NEIHK0dNdz09>



Abstract:

Let X be the set of solutions to some polynomial equations over a number field K . What do the K -points of X look like in a "general piece" of X ? This natural question inspires a huge fraction of arithmetic geometry, and remains completely open in most cases. The answer is conjectured to be closely connected to the curvature of X . Perhaps two of the best-known of these conjectures are Lang's Conjecture, which says that negatively curved varieties have few K -points, and Manin's Conjecture, which quantitatively estimates the number of K -points on positively curved varieties. These deep conjectures remain far out of reach, even in many natural examples. However, by replacing number fields with the function fields of complex curves, we can make analogous conjectures in algebraic geometry that appear more tractable. We discuss some recent work on these conjectures.