Department of Mathematics
University of Notre Dame

UNIVERSITY OF NOTRE DAME | MATHEMATICS

Colloquium

Speaker: Luya Wang

Institute for Advanced Study



Will give a lecture entitled

Interactions between smooth and symplectic topology

Date: Wednesday, December 9, 2026

Time: 4:00 PM

Location: 129 Hayes-Healy Center

Departmental Tea: A tea will precede the event at 3:30 pm in 257 Hayes-Healy Center.

Zoom URL: notredame.zoom.us/j/99784730964?pwd=4ZYRzNOXQBdovMdOMU42EXITRAEaPb.1

Abstract:

Symplectic structures lie between smooth topology and complex geometry and exhibit both flexible and rigid phenomena. However, we still do not have a good understanding of what a general symplectic manifold should look like. In this talk, I will begin by surveying some classical results of Gromov and McDuff from the 1980s, which use pseudoholomorphic curves to classify symplectic manifolds containing certain distinguished submanifolds. I will then discuss my joint work on a question of Donaldson in the 1990s, which relates smooth structures in dimension four to symplectic structures in dimension six. Finally, I will describe my joint work on refinements of the Gromov-McDuff techniques and their applications to classification problems in the compact setting, which has many interactions with low-dimensional topology.