

Colloquium

University of Notre Dame
Department of Mathematics

Speaker: Cheuk Yu Mak

University of Edinburgh, United Kingdom

Will give a lecture entitled

From circles on a sphere to symplectic Khovanov
homology and beyond

Date: Tuesday, January 26, 2021

Time: 3:00 PM

Location: Zoom

Zoom URL: [notredame.zoom.us/j/94957722847?](https://notredame.zoom.us/j/94957722847?pwd=d01tckxUekVnd25kYU9XYkZIMGUwUT09)
[pwd=d01tckxUekVnd25kYU9XYkZIMGUwUT09](https://notredame.zoom.us/j/94957722847?pwd=d01tckxUekVnd25kYU9XYkZIMGUwUT09)

Abstract:

Symplectic topology is an area which overlaps with low dimensional topology, geometric representation theory, algebraic geometry and many other areas of mathematics. We will start with some basic examples to motivate several important questions in symplectic topology, and explain certain aspects of their relations with other areas. Subsequently, we will explain how studying Lagrangian Floer theory in symmetric products of algebraic surfaces enables us to 1) resolve a long-standing Lagrangian non-displaceability problem and 2) obtain a more conceptual understanding of symplectic Khovanov homology and its relation with geometric representation theory. Finally, we will describe a work in progress related to homological mirror symmetry.