

## ***TOPOLOGY SEMINAR***

**Guest Speaker: Daniel Hartman**

**University of Georgia**

**Date:** Tuesday, February 27, 2024

**Time:** 2:30 PM

**Location:** 258 Hurley Bldg

**Zoom Link:** NA



***Lecture Title:***

**Pseudo-isotopies of simply connected 4-manifolds**

***Abstract***

Published in 1986, Quinn provided a proof that, for simply connected 4-manifolds, any homeomorphism pseudoisotopic to the identity is actually isotopic to the identity. Additionally for smooth manifolds, diffeomorphisms that are pseudoisotopic are smoothly stably isotopic. Both of these results are fundamental to the world of 4-manifolds. Now part of the strategy Quinn's employs for deriving these results revolves around understanding and manipulating a specific collection of embedded disks. There is one particular "move" that is critical to Quinn's argument: the replacement criterion. However, the justification for using this move is incorrect. I plan to discuss the replacement criterion and give a way to circumvent it in order to complete Quinn's proofs.