

Colloquium

University of Notre Dame
Department of Mathematics

Søren Galatius - University of Copenhagen

Speaker: Søren Galatius

University of Copenhagen

Will give a lecture entitled

Contractible compact manifolds and their
homeomorphism groups

Date: Tuesday, January 16, 2024

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:

I will begin by reviewing a method for constructing contractible compact manifolds, due to Kervaire in 1969. The d -disk is of course an example, but for $d > 3$ there are plenty of examples of contractible compact d -manifolds whose boundary is not simply connected; such manifolds are of course not homeomorphic to the d -disk. I will then discuss a new result on the group of homeomorphisms of such a manifold, joint with Randal-Williams. We study the normal subgroup consisting of homeomorphisms acting trivially on the boundary and our main result is that, at least in dimension $d > 5$, this subgroup is contractible.