

# Samuel Eilenberg Lectures

Spring 2024



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## Søren Galatius

University of Copenhagen

### "Moduli spaces of high dimensional manifolds"

Following influential work of John Harer in the 1980s, Ulrike Tillmann in the 1990s, and Ib Madsen and Michael Weiss in the 2000s, we learned a new approach to the moduli space of Riemann surfaces, and to the diffeomorphism groups and mapping class groups of oriented 2-manifolds. A lesson learned by their work is that patterns emerge in the large-genus limit, another is that these patterns are well expressed in homotopy theoretic terms.

Inspired by these developments in (real) dimension 2, Oscar Randal-Williams and I set out to study moduli spaces of higher-dimensional manifolds in a similar spirit. The goal of this semester's Eilenberg Lectures will be to present some of our joint work, as well as some background, context, and some very recent developments in high-dimensional manifold theory building on our work.

Mondays at 4:10 pm

520 Mathematics Hall

First lecture: January 22

Columbia University