Connor Malin

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Research interests	algebraic & geometric topology, manifolds, operads, homotopy calculus

Education

University of Notre Dame	South Bend, IN
PhD candidate in Mathematics	2019 – Present
Adviser: Mark Behrens	
University of Alabama	Tuscaloosa, AL
BA, MA in Mathematics	2015 – 2019
Adviser: Lawrence Roberts	

Publications

The stable embedding tower and operadic structures on configuration spaces.
Connor Malin. 2023. to appear in *Homology, Homotopy and Applications*. arxiv

An elementary proof of the homotopy invariance of stabilized configuration spaces.
Connor Malin. *Proc. Amer. Math. Soc. 151 (2023), 3635-3644.* arxiv

Preprints

One point compactifications of configuration spaces and the self duality of the little disks operad. Connor Malin. 2023. arxiv

Koszul self duality of manifolds. Connor Malin. 2023. arxiv

Invited talks

TBA. January 2024. JMM Special Session: *Homotopy theory*. San Francisco

TBA. January 2024. JMM Special Session: *Modern developments in the theory of configuration spaces*. San Francisco

TBA. November 2023. New Mexico State University Geometry and Topology Seminar

TBA. October 2023. University of Chicago Algebraic Topology Seminar

TBA. October 2023. BIRS Workshop Online Seminar

Koszul duality and manifold calculus. June 2023. *Advances in Homotopy theory IV*.

Embedding calculus of singular manifolds. March 2023. University of Lafayette Topology Seminar

The homotopy theory of configuration spaces. February 2023. University of Alabama Algebra and Topology Seminar

Koszul duality and the Lie bracket on the homology of configuration spaces. September 2022. European Autumn School in Topology

Duality in topology. August 2022. Notre Dame Math Orientation

Seminars organized

Factorization Homology. Notre Dame Graduate Student Topology Seminar. Spring 2023.

Embedding Calculus. Notre Dame Graduate Student Topology Seminar. Spring 2021.

Koszul duality from a homotopical perspective. September 2023. Notre Dame Graduate Student Seminar

Koszul self duality of manifolds. July 2023. Young Topologists Meeting

Differentiating automorphisms of the E_n operad. July 2023. Stability in Topology, Arithmetic, and Representation Theory Workshop

An operadic proof of Poincaré-Koszul duality. March 2023. Notre Dame Graduate Topology Seminar

An introduction to factorization homology. February 2023. Notre Dame Graduate Topology Seminar

Nonabelian Poincaré Duality. February 2023. Notre Dame Graduate Topology Seminar

Resolutions of moduli spaces by moduli spaces. October 2022. Notre Dame Graduate Topology Seminar

Spectral Lie algebra models for unstable v_n-periodic homotopy theory. April 2022. Notre Dame Graduate Topology Seminar

Diff isomorphic implies diffeomorphic. September 2021. Notre Dame Graduate Topology Seminar

Demystifying buzzwords: real homotopy theory is derived algebra. September 2021. Notre Dame Graduate Seminar

Operads and manifold Calculus. March 2021. Notre Dame Graduate Topology Seminar

Homotopy sheaves and manifold calculus. March 2021. Notre Dame Graduate Topology Seminar

Funky manifolds. September 2020. Notre Dame Graduate Topology Seminar

Applications of the Poincaré conjecture. September 2020. Notre Dame Graduate Topology Seminar

Manifold up to homotopy = Poincaré duality + what?. August 2020. Notre Dame Graduate Seminar

Spaces of manifolds, cobordism categories, and the Madsen-Weiss theorem. July 2020. Notre Dame Oral Exam

The geometric model structure on categories. January 2020. Notre Dame Infinity Category Reading Seminar

The Hopf invariant 1 problem via Adams operations. November 2019. Notre Dame Graduate Topology Seminar

Homotopy and its application to the Brouwer fixed point theorem. April 2019. Troy MathFest

Games on groups. August 2018. University of Alabama Algebra & Topology seminar

On subsums of series with positive terms. April 2018. University of Tennessee Undergraduate Math Conference

Teaching assistant, Notre Dame Department of Mathematics:

Calculus A, Calculus B, Calculus II, Calculus III

Grader, Notre Dame Department of Mathematics:
Topology I, Topology II

<table>
<tr><td>Scholarships and fellowships</td><td>Bayer Fellowship (Notre Dame)</td><td>2022</td></tr>
<tr><td></td><td>Schmitt Fellowship (Notre Dame)</td><td>2019</td></tr>
<tr><td></td><td>Thomas W. Palmer Scholarship (University of Alabama)</td><td>2019</td></tr>
<tr><td></td><td>National Merit Scholarship</td><td>2015</td></tr>
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