JACKSON MORRIS

CURRICULUM VITAE

Department of Mathematics
University of Washington
Seattle, WA 98195-4350
Pronouns: he/they | jackmann@uw.edu | jackson-morris.github.io

EDUCATION

Ph.D. in Mathematics *June 2026* (Expected)
University of Washington
Advisors: Kyle Ormsby and John Palmieri
Thesis title: Cooperations and periodicity in motivic homotopy theory

B.S. in Mathematics, *magna cum laude* *December 2020*
University of Kentucky

RESEARCH INTERESTS

Algebraic Topology: motivic homotopy theory, chromatic homotopy theory, Hermitian K-theory, algebraic K-theory, Brown–Gitler spectra, synthetic spectra, periodicity, Adams spectral sequence, Steenrod algebra, slice spectral sequence, syntomic cohomology, symplectic cobordism, telescope conjecture

PUBLICATIONS AND PREPRINTS

1. *Equivariant K-theory of equivariant* $\mathbb{RP}^\infty$, Manyi Guo, **Jackson Morris**, Alex Waugh, and Albert Jinghui Yang. In preparation
2. *Slices of fixed points and diachromatic blueshift*, **Jackson Morris** and Kyle Ormsby. In preparation.
3. *Cooperations for regular number rings,* **Jackson Morris**. In preparation.
4. *Spectrum level splittings of truncated motivic Brown–Peterson cooperations algebras*, **Jackson Morris**, Sarah Petersen, and Elizabeth Tatum. Submitted. `https://arxiv.org/abs/2509.19542`
5. *Rings of cooperations for Hermitian K-theory over finite fields*, **Jackson Morris**. Submitted. `https://arxiv.org/abs/2509.02786`
6. *On the ring of cooperations for real Hermitian K-theory*, **Jackson Morris**. Submitted. `https://arxiv.org/abs/2506.16672`
7. *Toric Double Determinantal Varieties*, Alexander Blose, Patricia Klein, Owen McGrath, and **Jackson Morris**. Published in **Communications in Algebra 49** (2020), **7**, 3085-3093. `https://arxiv.org/abs/2006.04191`

SELECTED PRESENTATIONS & SEMINAR TALKS

New Mexico State University, Las Cruces, NM *Winter 2026*
Invited talk: Splittings and cooperations in motivic homotopy theory

Joint Math Meetings, Washington D.C. *January 2026*
Invited talk: Cooperations in motivic homotopy theory

University of Virginia Topology Seminar, Charlottesville, VA *November 2025*
Invited talk: Splittings and cooperations in motivic homotopy theory

University of Kentucky Topology Seminar, Lexington, KY *November 2025*
Invited talk: Splittings and cooperations in motivic homotopy theory

eCHT Secondary Steenrod algebra seminar, Online *November 2025*
Contributed talk: Higher Adams differentials and hidden extensions

Duke University Geometry and Topology Seminar, Durham, NC *October 2025*
Invited talk: Splittings and cooperations in motivic homotopy theory

University of Colorado Boulder Homotopy Theory Seminar, Boulder, CO *September 2025*
Invited talk: Splittings of truncated motivic Brown–Peterson cooperations algebras

University of Michigan Geometry Seminar, Ann Arbor, MI *September 2025*
Invited talk: On the ring of cooperations for real Hermitian K-theory

University of Notre Dame Topology Seminar, South Bend, IN *September 2025*
Invited talk: Splittings and cooperations in motivic homotopy theory

University of Washington Topology Seminar, Seattle, WA *June 2025*
Invited talk: On the ring of cooperations for real Hermitian K-theory
Preseminar: The algebraic Atiyah-Hirzebruch spectral sequence

GSTGC 2025, Bloomington, IN *April 2025*
Invited talk: On the ring of cooperations for real Hermitian K-theory

Reed College Colloquium, Portland, OR *February 2025*
Invited talk: Finding fixed points with invariants

Joint Math Meetings, Seattle WA *January 2025*
Invited talk: Towards real kq-resolutions

EAST 2024, Utrecht, NL *September 2024*
Lightning talk: Towards real kq-resolutions

GROOT seminar, Online *August 2024*
Invited talk: Symplectic orientations

Talbot 2024, Nacogdoches, TX *August 2024*
Contributed talk: $\pi_*\mathrm{THH}(\mathbb{Z}_p^{\mathrm{fil}})/p$ and $\pi_*\mathrm{THH}(\ell_p^{\mathrm{fil}})/(p, v_1)$

eCHT Hopf rings seminar, Online *April 2024*
Contributed talk: Motivic twisted K-theory

SERVICE AND PROFESSIONAL ACTIVITIES

Journal Refereeing

Algebraic and Geometric Topology *2025-Present*

Conference Organization

JMM Special Session: Homotopy Theory *January 2025*
Secondary local organizer for satellite session.
Reserved room on UW campus, set up projector, directed foot traffic.

Seminar Organization

DUBTOP Seminar
Chromatic homotopy theory and the language of stacks *Winter 2025*
Co-organized with Alex Waugh.
Goodwillie calculus *Fall 2024*
Co-organized with Nelson Niu and Alex Waugh.

Back-To-School seminar *Fall 2024*
Sole organizer.
Student lectures on fun math learned over the summer.

Reading seminars
Topics included: Algebraic K-theory, cohomology operations, motivic homotopy theory, vector bundles and topological K-theory, categorical homotopy theory, model categories *2023 - 2024*

TEACHING EXPERIENCE

Instructor of Record
University of Washington
Math 208 – Linear Algebra *Winter 2023, Summer 2023*

Graduate Assistant

Electronic Computational Homotopy Theory (eCHT)

Research Seminar — *Fall 2025*

Quadratic Curve Counting (TA for Thomas Brazelton *and* Sabrina Pauli) — *Fall 2024*

Park City Math Institute (PCMI)

Experimental Math Lab (TA for JD Quigley) — *Summer 2024*

University of Washington

Math 441 – Topology — *Summer 2022, Summer 2024*

Math 300 – Intro to Proofs — *Spring 2023, Winter 2024*

Math 208 – Linear Algebra — *Fall 2023, Spring 2024, Winter 2025, Spring 2025, Fall 2025*

Math 126 – Multivariable Calculus — *Spring 2022, Fall 2024*

Math 124 – Differential Calculus — *Fall 2021, Winter 2022*

Math 120 – Precalculus — *Fall 2022*

Directed Reading Mentor

University of Washington

Homotopy Theory (Mentee: Solden Stoll) — *Spring 2025, Summer 2025*

Representation Theory (Mentees: Dylan Rosenlind, Samuel Hsu, and Jin Hu) — *Spring 2024, Fall 2024*

Geometric Group Theory (Mentee: Jack Zhang) — *Winter 2023*

Introductory Homotopy Theory (Mentees: Ansel Goh, Nathan Louie) — *Fall 2022*

Graduate Student Mentor

University of Washington

Mentor of an incoming first year graduate student — *2023-2024*

Math Olympiad Judge

UW Math Hour

Judge for elementary school math competition — *2023, 2024*

HONORS AND AWARDS

Lee and Cozette McFarlan Travel Fellowship — *Summer 2025*
Department of Mathematics – University of Washington — *$750*
For travel to European Talbot in Kolding, Denmark

Research Assistantship — *Summer 2025*
Graduate School – University of Washington
For "good research progress."
Selected by mathematics graduate program committee.

JC Eaves Scholarship — *2019 -2020*
Department of Mathematics – University of Kentucky — *$2000*
For "continued excellence in mathematics as a Kentuckian."
Nominated by mathematics faculty.

Carolyn Bunyan Award — *2020*
Department of Mathematics – University of Kentucky — *$2000*
For "outstanding mathematics majors interested in continuing education in mathematics."
Nominated by mathematics faculty.

SELECTED WORKSHOP AND CONFERENCE PARTICIPATION

Igorfest: Midwest Topology Conference Fall 2025 — *October 2025*
Minneapolis, MN

European Talbot — *July 2025*
Kolding, DEN

(WAGS) Western Algebraic Geometry Seminar — *April 2025*
Vancouver, VAN

(GSTGC) Graduate Student Topology and Geometry Conference *April 2025*
Bloomington, IN

Joint Math Meetings *January 2025*
Seattle, WA

Hot Topics: Life after the Telescope Conjecture *December 2024*
Berkeley, CA

(EAST) European Autumn School in Topology *September 2024*
Utrecht, NL

Talbot *August 2024*
Nacogdoches, TX

Motivic Homotopy, K-theory, and Modular Representations *August 2024*
Los Angeles, CA

PCMI 2024: Motivic Homotopy Theory *July 2024*
Park City, UT

eCHT Research Workshop on Hopf Rings *June 2024*
Online

Scissors Congruence, Algebraic K-theory, & Trace Methods *July 2023*
Bloomington, IN

(GTA) Graduate Students in Geometry, Topology, and Algebra *May 2022*
Philadelphia, PA

REFERENCES

Mark Behrens mbehren1@nd.edu
John and Margaret McAndrews Professor of Mathematics
University of Notre Dame
Relationship: Research mentor

Kyle Ormsby ormsbyk@reed.edu
Mathematics Department Chair
Reed College
Relationship: PhD advisor and research collaborator

John Palmieri jpalmier@uw.edu
Professor of Mathematics
University of Washington
Relationship: PhD advisor; Mathematics Department Chair during first 2 years of graduate study

J.D. Quigley mbp6pj@virginia.edu
Assistant Professor of Mathematics
University of Virginia
Relationship: Research mentor; Program supervisor and mentor at PCMI

Charles Camacho camachoc@uw.edu
Assistant Teaching Professor
University of Washington
Relationship: Teaching supervisor and mentor

Natalie Naehrig naehrn@uw.edu
Assistant Teaching Professor
University of Washington
Relationship: Teaching supervisor and mentor