

JACKSON MORRIS

CURRICULUM VITAE

Department of Mathematics
University of Washington
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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}^∞* , 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. *A \mathbb{C} -motivic w_1 -self-map of periodicity 1*, **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

University of Illinois Champaign-Urbana, Champaign-Urbana, IL

January 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 <i>Invited talk:</i> Splittings and cooperations in motivic homotopy theory	<i>October 2025</i>
University of Colorado Boulder Homotopy Theory Seminar , Boulder, CO <i>Invited talk:</i> Splittings of truncated motivic Brown–Peterson cooperations algebras	<i>September 2025</i>
University of Michigan Geometry Seminar , Ann Arbor, MI <i>Invited talk:</i> On the ring of cooperations for real Hermitian K-theory	<i>September 2025</i>
University of Notre Dame Topology Seminar , South Bend, IN <i>Invited talk:</i> Splittings and cooperations in motivic homotopy theory	<i>September 2025</i>
University of Washington Topology Seminar , Seattle, WA <i>Invited talk:</i> On the ring of cooperations for real Hermitian K-theory <i>Preseminar:</i> The algebraic Atiyah-Hirzebruch spectral sequence	<i>June 2025</i>
GSTGC 2025 , Bloomington, IN <i>Invited talk:</i> On the ring of cooperations for real Hermitian K-theory	<i>April 2025</i>
Reed College Colloquium , Portland, OR <i>Invited talk:</i> Finding fixed points with invariants	<i>February 2025</i>
Joint Math Meetings , Seattle WA <i>Invited talk:</i> Towards real kq-resolutions	<i>January 2025</i>
EAST 2024 , Utrecht, NL <i>Lightning talk:</i> Towards real kq-resolutions	<i>September 2024</i>
GROOT seminar , Online <i>Invited talk:</i> Symplectic orientations	<i>August 2024</i>
Talbot 2024 , Nacogdoches, TX <i>Contributed talk:</i> $\pi_*\mathrm{THH}(\mathbb{Z}_p^{\mathrm{fil}})/p$ and $\pi_*\mathrm{THH}(\ell_p^{\mathrm{fil}})/(p, v_1)$	<i>August 2024</i>
eCHT Hopf rings seminar , Online <i>Contributed talk:</i> Motivic twisted K-theory	<i>April 2024</i>

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

Co-organized with Nelson Niu and Alex Waugh.

Fall 2024

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

<u>Instructor of Record</u>		
University of Washington		
<i>Math 208 – Linear Algebra</i>		<i>Winter 2023, Summer 2023</i>
<u>Graduate Assistant</u>		
Electronic Computational Homotopy Theory (eCHT)		
<i>Research Seminar</i>		<i>Fall 2025</i>
<i>Quadratic Curve Counting (TA for Thomas Brazelton and Sabrina Pauli)</i>		<i>Fall 2024</i>
Park City Math Institute (PCMI)		
<i>Experimental Math Lab (TA for JD Quigley)</i>		<i>Summer 2024</i>
University of Washington		
<i>Math 441 – Topology</i>		<i>Summer 2022, Summer 2024</i>
<i>Math 300 – Intro to Proofs</i>		<i>Spring 2023, Winter 2024</i>
<i>Math 208 – Linear Algebra</i>		<i>Fall 2023, Spring 2024, Winter 2025, Spring 2025, Fall 2025, Winter 2026</i>
<i>Math 126 – Multivariable Calculus</i>		<i>Spring 2022, Fall 2024</i>
<i>Math 124 – Differential Calculus</i>		<i>Fall 2021, Winter 2022</i>
<i>Math 120 – Precalculus</i>		<i>Fall 2022</i>
<u>Directed Reading Mentor</u>		
University of Washington		
<i>Homotopy Theory (Mentee: Soden Stoll)</i>		<i>Spring 2025, Summer 2025</i>
<i>Representation Theory (Mentees: Dylan Rosenlind, Samuel Hsu, and Jin Hu)</i>		<i>Spring 2024, Fall 2024</i>
<i>Geometric Group Theory (Mentee: Jack Zhang)</i>		<i>Winter 2023</i>
<i>Introductory Homotopy Theory (Mentees: Ansel Goh, Nathan Louie)</i>		<i>Fall 2022, Winter 2023</i>
<u>Graduate Student Mentor</u>		
University of Washington		
<i>Mentor of an incoming first year graduate student</i>		<i>2023-2024</i>
<u>Math Olympiad Judge</u>		
UW Math Hour		
<i>Judge for elementary school math competition</i>		<i>2023, 2024</i>

HONORS AND AWARDS

Lee and Cozette McFarlan Travel Fellowship	<i>Summer 2025</i>
Department of Mathematics – University of Washington	<i>\$750</i>
<i>For travel to European Talbot in Kolding, Denmark</i>	
Research Assistantship	<i>Summer 2025</i>
Graduate School – University of Washington	
<i>For “good research progress.”</i>	
<i>Selected by mathematics graduate program committee.</i>	
JC Eaves Scholarship	<i>2019 -2020</i>
Department of Mathematics – University of Kentucky	<i>\$2000</i>
<i>For “continued excellence in mathematics as a Kentuckian.”</i>	
<i>Nominated by mathematics faculty.</i>	
Carolyn Bunyan Award	<i>2020</i>
Department of Mathematics – University of Kentucky	<i>\$2000</i>
<i>For “outstanding mathematics majors interested in continuing education in mathematics.”</i>	
<i>Nominated by mathematics faculty.</i>	

SELECTED WORKSHOP AND CONFERENCE PARTICIPATION

Igorfest: Midwest Topology Conference Fall 2025	<i>October 2025</i>
<i>Minneapolis, MN</i>	

European Talbot	<i>Kolding, DEN</i>	<i>July 2025</i>
(WAGS) Western Algebraic Geometry Seminar	<i>Vancouver, VAN</i>	<i>April 2025</i>
(GSTGC) Graduate Student Topology and Geometry Conference	<i>Bloomington, IN</i>	<i>April 2025</i>
Joint Math Meetings	<i>Seattle, WA</i>	<i>January 2025</i>
Hot Topics: Life after the Telescope Conjecture	<i>Berkeley, CA</i>	<i>December 2024</i>
(EAST) European Autumn School in Topology	<i>Utrecht, NL</i>	<i>September 2024</i>
Talbot	<i>Nacogdoches, TX</i>	<i>August 2024</i>
Motivic Homotopy, K-theory, and Modular Representations	<i>Los Angeles, CA</i>	<i>August 2024</i>
PCMI 2024: Motivic Homotopy Theory	<i>Park City, UT</i>	<i>July 2024</i>
eCHT Research Workshop on Hopf Rings	<i>Online</i>	<i>June 2024</i>
Scissors Congruence, Algebraic K-theory, & Trace Methods	<i>Bloomington, IN</i>	<i>July 2023</i>

REFERENCES

Mark Behrens	mbahren1@nd.edu
John and Margaret McAndrews Professor of Mathematics	
University of Notre Dame	
<i>Relationship: Research mentor</i>	
Kyle Ormsby	ormsbyk@reed.edu
Mathematics Department Chair	
Reed College	
<i>Relationship: PhD advisor and research collaborator</i>	
John Palmieri	jpalmier@uw.edu
Professor of Mathematics	
University of Washington	
<i>Relationship: PhD advisor; Mathematics Department Chair during first 2 years of graduate study</i>	
J.D. Quigley	mbp6pj@virginia.edu
Assistant Professor of Mathematics	
University of Virginia	
<i>Relationship: Research mentor; Program supervisor and mentor at PCMI</i>	
Charles Camacho	camachoc@uw.edu
Assistant Teaching Professor	
University of Washington	
<i>Relationship: Teaching supervisor and mentor</i>	
Natalie Naehrig	naehrnl@uw.edu
Assistant Teaching Professor	
University of Washington	
<i>Relationship: Teaching supervisor and mentor</i>	