

Daniel McCormick

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Education

PhD Mathematics

University of Utah

2018 – 2024

Advisors: Srikanth Iyengar, Ben Briggs

BS Mathematics (Magna Cum Laude)

Florida Institute of Technology

2014 – 2018

Advisor: Aaron Welters

Experience

Postdoctoral Fellow

Stockholm University

September 2024 – Present

Graduate Student Instructor

University of Utah

Aug 2018 – May 2024

Mathematics REU

University of Washington Bothell

Jun 2017 – Aug 2017

Advisor: Pietro Paparella

Math Tutor

Florida Institute of Technology

Feb 2016 – May 2018

Mathematics Advancement Center

High Performance Computing Cluster System Administrator

Florida Institute of Technology

Aug 2014 – Feb 2016

High Energy Physics Lab A

Awards

NSF-RTG Fellowship

University of Utah

2023

NSF-RTG Fellowship

University of Utah

2022

Early-career AMS-NSF-Simons-ICM Travel Grant

NSF

2022

NSF-RTG Fellowship

University of Utah

2021

Best in Show for Mathematical Sciences

Florida Institute of Technology

2017

Senior Design Showcase

James G. Potter Award for Excellence in Physics

Florida Institute of Technology

2016

Publications

- [2] Benjamin Briggs, Daniel McCormick, and Josh Pollitz. “Cohomological jump loci and duality in local algebra”. In: *Math. Z.* 304.2 (2023), Paper No. 30, 18.
- [1] Sarah L. Hoover, Daniel A. McCormick, Pietro Paparella, and Amber R. Thrall. “On the realizability of the critical points of a realizable list”. In: *Linear Algebra and its Applications* 555 (2018), pp. 301–313. arXiv: 1712.05454.

Conference/Workshop Talks

The Relationship Between the Classical and Ek-Cellular Approach

Talbot - Homological Stability

May 2025

Ghost Maps and André-Quillen Homology

AMS Spring Western Sectional Meeting

May 2024

Special Session on Commutative and Noncommutative Algebra, Together at Last

Ghost Maps and André-Quillen Homology

Syracuse University

November 2023

Route 81 Conference on Commutative Algebra and Algebraic Geometry

Ghost Maps and André-Quillen Homology

Arizona State University

November 2023

Algebra Days at Arizona State

Cohomological Jump Loci in Local Algebra

AMS Spring Central Sectional Meeting

April 2023

Special Session on Homological Methods in Commutative Algebra II

Cohomological Jump Loci in Local Algebra

AMS Fall Western Sectional Meeting

October 2022

Special Session on Commutative Algebra

Cohomological Jump Loci

Joint Mathematics Meeting

January 2022 (Cancelled)

Combinatorial and Homological Methods in Commutative Algebra

Seminar Talks

Cohomological Jump Loci and Duality in Local Algebra

Stockholm University

December 2024

Algebra and Geometry Seminar

Ghost Maps and André-Quillen Homology

Stockholm University

December 2024

Topological Activities

Introduction to André-Quillen Homology

Syracuse University

November 2023

Student Commutative Algebra Seminar (WALKS)

The Improved New Intersection Theorem

University of Utah

October 2022

Graduate Student Commutative Algebra Seminar (BIKES)

Cohomological Jump Loci

University of Michigan

April 2022

Commutative Algebra Seminar

Simplicial Rings and André-Quillen Cohomology*University of Utah*

Graduate Student Commutative Algebra Seminar (BIKES)

*April 2022***Finding the Symmetry Group of that Metal Thing in Fairmont Park***University of Utah*

Graduate Student Colloquium

*November 2021***The Singularity Category of a Hypersurface Ring***University of Utah*

Graduate Student Commutative Algebra Seminar (BIKES)

*October 2021***Koszul Rings***University of Utah*

Graduate Student Commutative Algebra Seminar (BIKES)

*March 2021***Vasconcelos' Conjecture on the Conormal Module***University of Utah*

Graduate Student Commutative Algebra Seminar (BIKES)

*December 2020***Hochschild Cohomology and Group Cohomology***University of Utah*

Graduate Student Commutative Algebra Seminar (BIKES)

*October 2020***Co/ends and Commutative Algebra***University of Utah*

Graduate Student Commutative Algebra Seminar (BIKES)

*August 2020***Total Betti Numbers of Modules of Finite Projective Dimension***University of Utah*

Graduate Student Commutative Algebra Seminar (BIKES)

*Feb 2020***Introduction to Local Cohomology***University of Utah*

Graduate Student Commutative Algebra Seminar (BIKES)

*Nov 2019***Modules over Hopf Algebras in Monoidal Categories***University of Utah*

Pure Math RTG Seminar

*Oct 2019***Invertible Objects in Monoidal Categories***University of Utah*

Pure Math RTG Seminar

*Sep 2019***Which Numbers are Divisible by 5?***University of Utah*

Graduate Student Colloquium

*Sep 2019***Introduction to BGG***University of Utah*

Graduate Student Commutative Algebra Seminar (BIKES)

*Apr 2019***Conferences and Workshops**

Young Topologists Meeting*Stockholm, Sweden*

Participant

*June 2025***Talbot - Homological Stability***Cassopolis, MI*

Invited Speaker

May 2025

Algebra and Friends <i>Borås, Sweden</i> Participant	<i>November 2024</i>
AMS Spring Western Sectional Meeting <i>San Francisco, CA</i> Invited speaker	<i>May 2024</i>
Joint Mathematics Meeting (JMM 2024) <i>San Francisco, CA</i> Participant	<i>January 2024</i>
Route 81 Conference on Commutative Algebra and Algebraic Geometry <i>Syracuse, NY</i> Invited speaker	<i>November 2023</i>
Algebra Days at Arizona State <i>Phoenix, AZ</i> Speaker	<i>November 2023</i>
Commutative Algebra Market Preparation Workshop <i>Lincoln, NE</i> Participant	<i>August 2023</i>
AMS Spring Central Sectional Meeting <i>Cincinnati, OH</i> Invited speaker	<i>April 2023</i>
AMS Fall Western Sectional Meeting <i>Salt Lake City, UT</i> Invited speaker	<i>October 2022</i>
GAP XVII <i>Vancouver, BC, Canada</i> Participant	<i>May 2022</i>
KUMUNU <i>Lincoln, NE</i> Participant	<i>May 2022</i>
Joint Mathematics Meeting (JMM 2022) <i>Seattle, WA</i> Invited speaker	<i>Jan 2022 (Cancelled)</i>
Joint Mathematics Meeting (JMM 2018) <i>San Diego, CA</i> Poster presenter, Funded	<i>Jan 2018</i>
UW Bothell, Seattle University joint REU Research Symposium <i>Seattle, WA</i> Speaker	<i>Aug 2017</i>
Herglotz-Nevanlinna functions and their applications <i>Institut Mittag-Leffler, Djursholm, Sweden</i> Participant	<i>May 2017</i>
SIAM Mathematical Aspects of Material Science <i>Philadelphia, PA</i> Participant	<i>May 2016</i>

Teaching

Postdoctoral Fellow at Stockholm University.....	
○ MM5026: Ordinary Differential Equations (TA)	Spring 2025
○ MM7020: Mathematical Communication (TA)	Fall 2024
Graduate Student Instructor at University of Utah.....	
○ Math 1070: Introduction to Statistical Inference (Instructor of record)	Fall 2023
○ Math 1220: Calculus II (Instructor of record)	Fall 2022
○ Math 2200: Discrete Mathematics (Instructor of record)	Spring 2022
○ Math 2210: Calculus III (Instructor of record)	Fall 2021
○ Math 1050: College Algebra (Instructor of record)	Fall 2020
○ Math 1030: Quantitative Reasoning (Instructor of record)	Spring 2020
○ Math 1311: Accel. Engineering Calculus I (TA)	Fall 2019
○ Math 1220: Calculus II (TA)	Spring 2019
○ Math 2250: Differential Equations and Linear Algebra (TA)	Fall 2018
Directed Reading Program.....	
○ Mathematical Biology (Mentor)	Spring 2022
○ Computational Algebraic Geometry (Mentor)	Fall 2019
○ Category Theory (Mentor)	Spring 2018

Outreach and Service

Commutative Algebra Representative

University of Utah Fall 2022 – Spring 2023

Graduate Student Advisory Committee

Undergraduate Student Mentor

University of Utah Spring 2022

Directed Reading Program in Mathematics

Counselor/Mentor

University of Utah Summer 2020

High School Number Theory Summer Program

Organizer

University of Utah Summer 2020 – Spring 2021

Graduate Student Commutative Algebra Seminar

Organizer

University of Utah Spring 2020

Directed Reading Program in Mathematics

Organizer

University of Utah Spring 2020

Category Theory Seminar

Undergraduate Student Mentor

University of Utah Spring 2019 – Fall 2019

Directed Reading Program in Mathematics

Computer Skills

L^AT_EX, Linux, Bash, Python, Haskell, Julia, MATLAB, HTML, CSS