

Daniel McCormick

155 South 1400 East, JWB 327 – Salt Lake City, UT 84112-0090

✉ mccormic@math.utah.edu • 🌐 math.utah.edu/~mccormic

Education

PhD Mathematics

University of Utah

2018 – Present

Advisors: Srikanth Iyengar, Ben Briggs

BS Mathematics (Magna Cum Laude)

Florida Institute of Technology

2014 – 2018

Advisor: Aaron Welters

Experience

Graduate Student Instructor

University of Utah

Aug 2018 – Present

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”. 2022 (Submitted for publication). arXiv: 2201.06762.
- [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.

Invited Talks

Cohomological Jump Loci in Local Algebra

AMS Spring Central Sectional Meeting

April 2023

AMS 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

University of Michigan

April 2022

Commutative Algebra Seminar

Cohomological Jump Loci

Joint Mathematics Meeting

January 2022 (Cancelled)

Combinatorial and Homological Methods in Commutative Algebra

Volunteered Talks

The Improved New Intersection Theorem

University of Utah

October 2022

Graduate Student Commutative Algebra Seminar (BIKES)

Simplicial Rings and André-Quillen Cohomology

University of Utah

April 2022

Graduate Student Commutative Algebra Seminar (BIKES)

Finding the Symmetry Group of that Metal Thing in Fairmont Park

University of Utah

November 2021

Graduate Student Colloquium

The Singularity Category of a Hypersurface Ring

University of Utah

October 2021

Graduate Student Commutative Algebra Seminar (BIKES)

Koszul Rings

University of Utah

March 2021

Graduate Student Commutative Algebra Seminar (BIKES)

Vasconcelos' Conjecture on the Conormal Module

University of Utah

December 2020

Graduate Student Commutative Algebra Seminar (BIKES)

Hochschild Cohomology and Group Cohomology

University of Utah

October 2020

Graduate Student Commutative Algebra Seminar (BIKES)

Co/ends and Commutative Algebra

University of Utah

August 2020

Graduate Student Commutative Algebra Seminar (BIKES)

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

Graduate Student Commutative Algebra Seminar (BIKES)

Introduction to Local Cohomology*University of Utah**Nov 2019*

Graduate Student Commutative Algebra Seminar (BIKES)

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

Pure Math RTG Seminar

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

Pure Math RTG Seminar

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

Graduate Student Colloquium

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

Graduate Student Commutative Algebra Seminar (BIKES)

Conferences and Workshops

Commutative Algebra Market Preparation Workshop*Lincoln, NE**August 2023*

Participant

AMS Spring Central Sectional Meeting*Cincinnati, OH**April 2023*

Invited speaker

AMS Fall Western Sectional Meeting*Salt Lake City, UT**October 2022*

Invited speaker

GAP XVII*Vancouver, BC, Canada**May 2022*

Participant

KUMUNU*Lincoln, NE**May 2022*

Participant

Joint Mathematics Meeting*Seattle, WA**Jan 2022 (Cancelled)*

Invited speaker

Joint Mathematics Meeting*San Diego, CA**Jan 2018*

Poster presenter, Funded

UW Bothell, Seattle University joint REU Research Symposium*Seattle, WA**Aug 2017*

Speaker

Herglotz-Nevanlinna functions and their applications*Institut Mittag-Leffler, Djursholm, Sweden**May 2017*

Participant

SIAM Mathematical Aspects of Material Science

Philadelphia, PA

Participant

May 2016

Teaching

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