

Michael Morrow

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Education

University of Kentucky, Kentucky, USA

Ph.D. Candidate Mathematics

Advisor: Uwe Nagel

August 2019 - Present

University of Kentucky, Kentucky, USA

M.S. Mathematics

April 2021

Central Washington University, Washington, USA

B.S. Mathematics

June 2019

Research Interests

Computational and combinatorial commutative algebra, asymptotic algebra

Publications and Preprints

Computing Gröbner Bases and Free Resolutions of OI-Modules

with U. Nagel, submitted, 2023. Available at [arXiv:2303.06725](https://arxiv.org/abs/2303.06725).

The OIGroebnerBases Package for Macaulay2

preprint, 2023. Available at [arXiv:2310.04891](https://arxiv.org/abs/2310.04891).

Software

OIGroebnerBases.m2

a Macaulay2 package, 2023. Available at <https://github.com/morrowmh/OIGroebnerBases>.

Awards and Fellowships

Summer Research Fellowship

University of Kentucky

Summer 2023

Eaves Fellowship

University of Kentucky

Summer 2022

Dale and Mary Jo Comstock Scholarship

Central Washington University

Spring 2019

Talks and Presentations

Syzygy Computations in OI-Modules

- (Invited) Joint Mathematics Meetings, San Francisco, CA

January 2024

- (Invited) CMS Winter Meeting, Montreal, QC

December 2023

Finite Computation of Gröbner Bases for OI-Modules

- (Invited) Algebra and Geometry Seminar, University of New Mexico

October 2023

- Qualifying Talk, University of Kentucky

December 2021

Computing Gröbner Bases and Free Resolutions of OI-Modules

- (Poster) BrianFest, University of Nebraska-Lincoln

August 2023

Gröbner Bases and Syzygies of Sequences of Related Ideals

- Spectra Survey of Mathematics Conference, University of Kentucky

May 2023

- (Invited) AMS Fall Southeastern Sectional Meeting, University of Tennessee-Chattanooga

October 2022

Computing Free Resolutions of OI-Modules

- Algebra Seminar, University of Kentucky

November 2022

Equivariant Gröbner Bases

- Master's Talk, University of Kentucky

April 2021

Conferences and Workshops

Joint Mathematics Meetings

San Francisco, CA

January 2024

BrianFest

University of Nebraska-Lincoln

August 2023

Summer CAMP

Professional development workshop

University of Nebraska-Lincoln

August 2023

Commutative Algebra and its Interaction with Algebraic Geometry

SLMath summer school

University of Notre Dame

May 2023

Spectra Survey of Mathematics Conference

University of Kentucky

May 2023

AMS Fall Southeastern Sectional Meeting

University of Tennessee-Chattanooga

October 2022

WARTHOG

Infinite-dimensional methods in commutative algebra

University of Oregon

June 2022

Macaulay2 Conference

Cleveland State University

May 2022

Teaching Experience

Instructor of Record, University of Kentucky

- Matrix Algebra
- College Algebra

Spring 2023

Summer 2021, Summer 2020

Recitation Leader, University of Kentucky

- Elementary Calculus
- Calculus II
- Calculus III
- Calc for Life Sciences
- Finite Math
- Algebra and Trig for Calculus

Fall 2023 (Lead TA*), Spring 2020

Fall 2022

Spring 2022

Fall 2021

Spring 2021

Fall 2020, Fall 2019

Algebra Prelim Peer Coach**, University of Kentucky

May 2023, December 2022

*: mentors other TAs and provides peer observations and feedback

**: organizes several 3-hour long group problem sessions and coaches peers on test-taking strategies

Service and Outreach

UKY MathLab Undergraduate Research Project Leader

University of Kentucky

Fall 2023

Algebra Seminar Co-organizer

University of Kentucky

Fall 2023

Graduate Student Peer Mentor Program

University of Kentucky

Fall 2020 - Fall 2022

Panel for Incoming First-Year Students

University of Kentucky

August 2021

Julia Robinson Math Festival

University of Kentucky

November 2019

Kittitas Valley Math Circle

Central Washington University

September 2017 - June 2019