

MATTHEW WEAVER

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EDUCATION

Purdue University, West Lafayette, IN

August 2015 - July 2022 (expected)

Ph.D. in Mathematics

Advisor: Bernd Ulrich

Purdue University, West Lafayette, IN

August 2011 - May 2015

B.S. in Mathematics

RESEARCH INTERESTS

Commutative Algebra and its connections and applications to Algebraic Geometry. I am particularly interested in the study of Rees algebras of ideals and modules.

AWARDS AND HONORS

Recipient of Graduate Teaching Award

Spring 2021

Purdue University Graduate School

Recipient of Excellence in Teaching Award

Fall 2020

Purdue University Department of Mathematics

Recipient of Certificate of Merit Teaching Award

Fall 2018, Fall 2019

Purdue University Department of Mathematics

Phi Beta Kappa Honor Society

Inducted Spring 2015

Purdue University

Phi Kappa Phi Honor Society

Inducted Spring 2014

Purdue University

Kappa Kappa Psi

Inducted Spring 2012

Purdue University

(Honorary band service fraternity)

PUBLICATIONS AND PREPRINTS

On Rees algebras of ideals and modules over hypersurface rings, *preprint* arXiv:2112.02148.

The equations defining Rees algebras of Gorenstein ideals of codimension three in hypersurface rings, *in preparation*.

SELECTED TALKS

On Rees Algebras of Ideals in Hypersurface Rings

March 26 2022

AMS Spring Sectional Meeting

Polynomial Relations and the Rees Algebra

November 6, 2021

Graduate Research Day

Purdue University

The Equations Defining Rees Algebras of Ideals of Hypersurface Rings

October 18, 2021

Commutative and Homological Algebra Market Presentations (CHAMP) Seminar

Rees Algebras of Codimension Three Gorenstein Ideals of Hypersurface Rings and their Defining Equations Algebraic Geometry and Commutative Algebra Seminar University of Notre Dame	<i>September 28, 2021</i>
The Equations Defining Rees Algebras of Codimension Three Gorenstein Ideals of Hypersurface Rings Commutative Algebra Seminar Purdue University	<i>September 1, 2021</i>
Rees Algebras of Ideals in Hypersurface Rings and their Defining Equations Commutative Algebra Seminar Purdue University	<i>October 14, 2020</i>
Defining Equations of Rees Algebras Graduate Research Day Purdue University	<i>November 9, 2019</i>
Defining Ideals of Rees Algebras Commutative Algebra Student Seminar Purdue University	<i>April 24, 2019</i>
Macaulay2: An Introduction Commutative Algebra Student Seminar Purdue University	<i>January 16, 2019</i>

SELECTED CONFERENCES ATTENDED

AMS Spring Sectional Meeting (<i>Virtual</i>) American Mathematical Society	<i>March 26 - 27, 2022</i>
Combinatorial Algebra meets Algebraic Combinatorics (<i>Virtual</i>) The Fields Institute	<i>January 21 - 23, 2022</i>
AMS Fall Southeastern Sectional Meeting (<i>Virtual</i>) American Mathematical Society	<i>November 20 - 21, 2021</i>
AMS Fall Western Sectional Meeting (<i>Virtual</i>) American Mathematical Society	<i>October 23 - 24, 2021</i>
AMS Fall Central Sectional Meeting (<i>Virtual</i>) American Mathematical Society	<i>October 9 - 10, 2021</i>
AMS Spring Western Sectional Meeting (<i>Virtual</i>) American Mathematical Society	<i>May 1 - 2, 2021</i>
AMS Spring Central Sectional Meeting (<i>Virtual</i>) American Mathematical Society	<i>April 17 - 18, 2021</i>
AMS Spring Eastern Sectional Meeting (<i>Virtual</i>) American Mathematical Society	<i>March 20 - 21, 2021</i>
MAA Fall Sectional Meeting Wabash College Mathematical Association of America	<i>October 26, 2019</i>
Thematic Program in Commutative Algebra and its Interaction with Algebraic Geometry University of Notre Dame	<i>June 16 - 21, 2019</i>

TEACHING EXPERIENCE

Instructor of Record

Served as the instructor of record for the following courses at Purdue University:

MA 26500 - Linear Algebra	<i>Spring 2021</i>
MA 16010 - Applied Calculus I (Two sections: one traditional and one online)	<i>Fall 2020</i>
MA 59800-554 - Linear Algebra (To prepare mathematics graduate students for qualifying exams)	<i>Summer 2020</i>
MA 16010 - Applied Calculus I	<i>Fall 2019</i>
MA 59800-554 - Linear Algebra (To prepare mathematics graduate students for qualifying exams)	<i>Summer 2019</i>
MA 16010 - Applied Calculus I	<i>Fall 2017 - Fall 2018</i>
MA 16100 - Plane Analytic Geometry And Calculus I	<i>Summer 2017</i>
MA 15800 - Precalculus And Trigonometry	<i>Fall 2016 - Spring 2017</i>

Teaching Assistant

Served as a recitation teaching assistant for the following courses at Purdue University:

MA 16200 - Plane Analytic Geometry And Calculus II	<i>Fall 2015 - Summer 2016</i>
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SERVICE

Graduate Student Representative Graduate School Grade Appeals Committee Purdue University College of Science	<i>Fall 2021 - Present</i>
Graduate Student Representative Graduate Curriculum Academic Policy Committee Purdue University College of Science	<i>Fall 2020 - Present</i>
Graduate Student Mentor Association for Women in Mathematics	<i>Fall 2020 - Present</i>
Vice President Purdue University AMS Chapter American Mathematical Society	<i>Fall 2020 - Present</i>
Organizer Commutative Algebra Student Seminar Purdue University Department of Mathematics	<i>Fall 2021 - Present</i> & <i>Spring 2019- Fall 2019</i>
Senator Purdue University Graduate Student Government (Representative for the Department of Mathematics)	<i>Fall 2020 - Summer 2021</i>
Senior Graduate Teaching Assistant Department of Mathematics Screening Panel Purdue University College of Science (To determine hiring of teaching assistants)	<i>Fall 2020</i>

Treasurer
Purdue University AMS Chapter
American Mathematical Society

Fall 2019 - Summer 2020

Graduate Representative
Purdue University Department of Mathematics

Fall 2019 - Summer 2020

PROGRAMMING SKILLS

Proficient in the following programming languages:

Macaulay2

HTML

Python

REFERENCES

Bernd Ulrich (*advisor*)

Purdue University
Email: bulrich@purdue.edu

Irena Swanson

Purdue University
Email: irena@purdue.edu

William Heinzer

Purdue University
Email: heinzer@purdue.edu

Claudia Polini

University of Notre Dame
Email: cpolini@nd.edu

Dominic Naughton (*teaching*)

Purdue University
Email: dnaughto@purdue.edu

Huimei Delgado (*teaching*)

Purdue University
Email: hdelgado@purdue.edu