

Nicholas Packauskas | CV

Department of Mathematics, SUNY Cortland, PO Box 2000

Cortland, NY, 13045 – USA

☎ (785) 650-1905 • ✉ nicholas.packauskas@cortland.edu

Education

- **University of Nebraska** **Lincoln**
Ph.D. in Mathematics, advised by L. Avramov and M. Walker 2013–2019
- **University of Nebraska** **Lincoln**
Master of Science in Mathematics 2013–2015
- **University of Kansas** **Lawrence**
Master of Arts in Mathematics, advised by D. Katz 2010–2013
- **University of Kansas** **Lawrence**
B.S. in Mathematics, Honors Program Graduate 2006–2010

Academic Appointments

- **The State University of New York at Cortland** **Cortland**
Assistant Professor 2019–present

Research

Interests......
Commutative algebra and algebraic geometry. I am particularly interested in homological methods, infinite free resolutions, and homotopy Lie algebras and their use in studying commutative rings.

- Publications.**.....
- *The Homotopy Lie Algebra of a Tor-Independent Tensor Product* *Submitted*
w/ L. Ferraro, M. Gheibi, D. Jorgensen, and J. Pollitz
 - *Higher Differential Operators of Low Order over Commutative Graded Rings* *In preparation*
w/ R. Diethorn, J. Jeffries, C. Miller, J. Pollitz, H. Rahmati, and S. Vassiliadou
 - *Quasipolynomial Growth of Betti Sequences* *In preparation*
w/ L. Avramov and M. Walker

- Invited Workshops and Summer Schools.**.....
- *RTG Summer School on Topics in Commutative Algebra* *May 2018*
A workshop consisting of several major, active research topics in commutative algebra held at the University of Utah from May 7–11 2018.
 - *Structures on Free Resolutions* *October 2017*
A workshop on “Structures on Free Resolutions” and related topics held at Texas Tech University from October 26–28 2017.
 - *MSRI Summer School: Commutative Algebra and Related Topics* *May 2017*

An MSRI summer school consisting of four courses during a two-week period held at the Okinawa Institute of Science and Technology in Okinawa, Japan from May 22 - June 2 2017.

- *RTG Workshop on the Homological Conjectures in Commutative Algebra* November 2016
A workshop consisting of three mini-courses at the University of Illinois at Chicago from November 18 - 20 2016.

Expository Papers.....

- *Cohen-Macaulayness and the First Hilbert Coefficient for a Parameter Ideal*
As part of my Master of Arts degree at KU, I wrote an expository paper under the supervision of Daniel Katz. Available upon request.

Talks

Invited Talks.....

- *The Homotopy Lie Algebra of a Tor-Independent Tensor Product* November 2021
Syracuse Algebra Seminar, Syracuse New York
- *Quasi-Polynomial Growth of Betti Sequences* April 2021
Syracuse Algebra Seminar, Syracuse NY (Virtual)
- *Growth of Betti Sequences over a Complete Intersection* February 2021
Algebra and Number Theory Seminar, Texas Tech University, Lubbock, Texas (Virtual)
- *Quasipolynomial Growth of Betti Sequences over Complete Intersection Rings* October 2020
AMS Sectional meeting, Special Session on Commutative Algebra and Connections to Algebraic Geometry and Combinatorics, Virtual Conference
- *Quasipolynomial Growth of Betti Sequences* May 2020
Zoom Special Session on DG Methods in Commutative Algebra and Representation Theory, Virtual Conference.
- *Growth of Betti Sequences and the Homotopy Lie Algebra* November 2019
University of Texas at Arlington Algebra Seminar, Arlington, Texas.
- *Growth of Betti Sequences over a Complete Intersection* October 2019
Route 81 Mathematics Conference, Kingston, Ontario, Canada.
- *Quasipolynomial Growth of Betti Sequences over Complete Intersections* April 2019
KUMUNUjr Conference, Lincoln, Nebraska.
- *Quasipolynomial Growth of Betti Sequences* November 2018
AMS Sectional meeting, special session on commutative algebra, Fayetteville, Arkansas.
- *Growth of Betti Sequences over Complete Intersections* September 2018
Creighton Early Career Mathematicians Conference, Omaha, Nebraska.

Local talks.....

- *Betti Sequences, Poincaré Series, and Homotopy Lie Algebras* Spring 2019
Commutative Algebra Reading Seminar, University of Nebraska-Lincoln.
- *Free Resolutions and Commutative Rings* Fall 2018
Graduate Student Seminar, University of Nebraska-Lincoln.
- *Homotopy Lie Algebra of a Local Ring* Spring 2018
Commutative Algebra Reading Seminar, University of Nebraska-Lincoln.
- *Introduction to Maximal Cohen-Macaulay Modules* Spring 2018
Commutative Algebra Reading Seminar, University of Nebraska-Lincoln.
- *Hilbert Polynomials and Multiplicity* Fall 2017
Commutative Algebra Reading Seminar, University of Nebraska-Lincoln.

- *Andre-Quillen Homology* *Spring 2017*
Commutative Algebra Reading Seminar, University of Nebraska-Lincoln.
 - *Introduction to Free Resolutions* *Fall 2016*
Commutative Algebra Reading Seminar, University of Nebraska-Lincoln.
 - *Limits and Co-Limits* *Fall 2015*
Category Theory Seminar, University of Nebraska-Lincoln.
 - *Multiplicity of Regular Local Rings* *Fall 2013*
Commutative Algebra Reading Seminar, University of Nebraska-Lincoln.
- Posters.....
- *Quasipolynomial Growth of Betti Sequences over Complete Intersections* *April 2019*
Morgantown Algebra Days, Morgantown West Virginia.

Teaching Experience and Development

The State University of New York at Cortland, August 2019 - present.....

Instructor of Record

- MAT 121, Calculus A *Fall 2019, Spring 2022*
- MAT 272, Linear Algebra *Fall 2019, Spring 2020, Fall 2021*
- MAT 115, Precalculus *Fall 2020, Spring 2021, Fall 2021*
- MAT 224, Proofs and Reasoning *Spring 2021*
- MAT 370, Algebraic Structures *Spring 2020, Fall 2020, Spring 2021*

University of Nebraska-Lincoln, August 2013 - July 2019.....

Instructor of Record

- Math 101, College Algebra *Spring 2018*
- Math 208, Calculus III *Fall 2017, Summer 2019*
- Math 223, Differential Equations *Summer 2015, 2016, Spring 2017*
- Math 103, College Algebra and Trigonometry *Fall 2015, 2016*
- Math 203, Contemporary Mathematics *Spring 2016*
- Math 100A, Intermediate Algebra *Fall 2014, Spring 2015*

Graduate Teaching Assistant

- Math 208, Calculus III *Fall 2018*
- Math 106, Calculus I *Spring, Summer 2014*
- Math 107, Calculus II *Fall 2013*

Grading

- I have graded several classes for faculty instructors at the University of Nebraska-Lincoln, including the undergraduate courses Applied Calculus, Modern Algebra, and Number Theory. I have also graded the graduate courses Topology and Algebraic Topology.

University of Kansas, August 2008 - July 2013.....

Instructor of Record

- Math 105, Topics in Mathematics *Summer 2013*
- Math 115E, Applied Calculus I: Enhanced Section *Spring 2013*
- Math 115, Applied Calculus I *Fall 2010, Fall 2012*
- Math 116, Applied Calculus II *Fall 2011, Spring 2012*
- Math 002, Intermediate Algebra *Spring 2011*

Undergraduate Teaching Assistant

- Math 105, Topics in Mathematics *Spring 2010*
- Math 365, Elementary Statistics *Fall 2009*
- Math 115, Applied Calculus *Fall 2008*

Pedagogical Development.....

- **Mathematics Department Teaching Mentor Program** *Fall 2016 - present*
I was observed several times by an experienced faculty member (Susan Hermiller) and we met periodically to discuss teaching.
- **Math 896: Teaching and Learning Mathematics** *Fall 2014, Spring 2015*
I completed a three credit-hour course sequence covering fundamental topics in mathematics education and the role of active learning in the classroom.

Service and Professional Development

The State University of New York at Cortland, August 2019 - present.....

- **Mathematics Faculty Search, Chair** *Fall 2021 - present*
Chair of the committee to hire a new faculty member in the area of statistics.
- **College Academic Grievance Tribunal** *Fall 2021- present*
I serve as a faculty representative in alleged instances of academic misconduct.
- **Department Curriculum Committee** *Fall 2020 - present*
This committee serves the departments development of the program's curriculum.
- **Department Scholarship Committee** *Fall 2019 - present*
Chair *Fall 2020 - present*
This committee selects students to receive certain departmental scholarships as well as the D.L. Pugh and W.H. Reynolds awards for junior and senior mathematics majors.
- **Academic Advisor** *Fall 2019- present*
Currently, I serve as an advisor to ten math majors at SUNY Cortland.

University of Nebraska-Lincoln, August 2013 - 2019.....

- **Preparing Future Faculty Fellow** *Summer, Fall 2018*
I participated in the PFF program, which is intended to help PhD students understand the job application process and transition to a faculty position.
- **New Student Enrollment, Math Advising Assistant** *Summer 2018*
I worked at New Student Enrollment helping new students choose which mathematics course to take during the upcoming academic year.
- **KUMUNU Jr., Co-Organizer (Co-PI)** *April 2018*
Local Co-Organizer *April 2017*
An annual NSF-funded conference for graduate students and post-docs in commutative algebra held at the University of Nebraska-Lincoln. In 2018-2019 I was a Co-PI on the NSF grant proposal.
- **Commutative Algebra Reading Seminar, Co-Organizer** *January 2016 - January 2018*
A weekly seminar for graduate students of the University of Nebraska-Lincoln who are interested in commutative algebra and its related areas. I helped set the schedule and found speakers for each seminar. In spring semesters we would all present on a similar topic, which I helped to select.
- **AMS Student Chapter at UNL, President** *Fall 2015 - 2016*
I served in a leading capacity for the graduate student chapter of the American Mathematical Society at the University of Nebraska. My responsibilities included organizing a visiting colloquium speaker, distributing travel funds, and organizing local events.
- **Math Day Volunteer** *2013 - 2019*

An annual day of math competitions for Nebraska high school students. I helped keep time and proctor during competitions, as well as volunteer at the puzzles and games table.

- **Mathematics Resource Center Counselor**

2013 - 2019

One semester each year, I tutored students in lower-level math courses for two hours every week.