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

○ *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

- *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 272, Linear Algebra *Fall 2019, Spring 2020*
- MAT 370, Algebraic Structures *Spring 2020*
- MAT 121, Calculus A *Fall 2019*

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

- **Department Scholarship Committee** *Fall 2019 - present*
  This committee selects students to receive the D.L. Pugh and W.H. Reynolds awards for junior and senior mathematics majors.
- **Academic Advisor** *Fall 2019- present*
  To date, I have served as academic advisor to three 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.