Richard Bartels

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🌐 https://sites.google.com/view/richard-bartels-math/home

Appointments

Visiting Assistant Professor of Mathematics   **Hartford, CT**
Trinity College   *Fall 2024*

Education

Syracuse University   **Syracuse, NY**
PhD-Mathematics   *May 2024*

- PhD Advisor: Graham Leuschke
  Thesis: Numerical invariants of Cohen-Macaulay local and graded rings

Syracuse University   **Syracuse, NY**
MS-Mathematics   *May 2019*

West Chester University of Pennsylvania   **West Chester, PA**
BA-Mathematics   *January 2017*

- *summa cum laude*

Research

Research Interests

Cohen-Macaulay rings, graded Noetherian algebras, maximal Cohen-Macaulay approximations, Auslander's delta invariant, generalized Loewy length, Ding's conjecture.

Papers

Generalized Loewy length of Cohen-Macaulay local and graded rings (2024) Journal of Algebra arXiv

Talks and Posters

Route 81 Conference on Commutative Algebra and Algebraic Geometry   **Syracuse University**
Generalized Lowey length of Cohen-Macaulay local and graded rings   *November 2023*

Algebra Days at Arizona State (poster)   **Arizona State**
Generalized Lowey length of Cohen-Macaulay local and graded rings   *November 2023*

Syracuse University Algebra Seminar   **Syracuse University**
Generalized Lowey length of Cohen-Macaulay local and graded rings   *September 2023*

KUMUNU 2023 (poster)   **University of Missouri**
Generalized Lowey length of Cohen-Macaulay local and graded rings   *September 2023*

Commutative Algebra Regional Expository Seminar (CARES)   **Virtual**
Maximal Cohen-Macaulay approximations part 2   *April 25, 2023*

Commutative Algebra Regional Expository Seminar (CARES)   **Virtual**
Maximal Cohen-Macaulay approximations part 1   *April 17, 2023*

Working Algebra Knowledge Seminar (WALKS)   **Syracuse University**
Generalized graded length of positively-graded algebras   *October 2023*

Working Algebra Knowledge Seminar (WALKS)   **Syracuse University**
Generalized Lowey length of Cohen-Macaulay local and graded rings   *September 2023*

Working Algebra Knowledge Seminar (WALKS)   **Syracuse University**
Characterizing regular local rings in terms of Auslander's δ-invariant   *March 2023*

Working Algebra Knowledge Seminar (WALKS)   **Syracuse University**
Existence and uniqueness of maximal Cohen-Macaulay approximations   *February 2023*

Working Algebra Knowledge Seminar (WALKS)   **Syracuse University**
Integral extensions   *January 2023*

Mathematics Graduate Organization Colloquium   **Syracuse University**
Cohen-Macaulay approximations and the index of Cohen-Macaulay local rings *October 2022*

Mathematics Graduate Organization Colloquium   **Syracuse University**
Indecomposable decompositions of projective and injective modules   *April 2021*

Conferences and Workshops Attended

Conference on Unexpected and Asymptotic Properties of Algebraic Varieties
University of Nebraska-Lincoln   *August 11, 2023*

Commutative Algebra Market Preparation Workshop
University of Nebraska-Lincoln   *August 8-10, 2023*

48th Annual New York State Regional Graduate Mathematics Conference
Syracuse University   *April 1, 2023*

GTA Philadelphia Mathematics Conference
Temple University   *May 20-22 2022*

47th Annual New York State Regional Graduate Mathematics Conference
Syracuse University   *April 1, 2022*

Awards and Fellowships

Academic Fellowship
Syracuse University   *2017-18, 2020-21, Summer 2023*

Teaching Experience

Instructor of Record

- **MAT 397-Calculus III**
  Syracuse University   *Summer 2022, 2021, and 2020*

- **MAT 286-Calculus for the Life Sciences II**
  Syracuse University   *Fall and Spring 2022*

- **MAT 295-Calculus I**
  Syracuse University   *Spring 2024 and Fall 2023*

Recitation Instructor

- **MAT 397-Calculus III**
  Syracuse University   *Spring 2023*

- **MAT 296-Calculus II**
  Syracuse University   *Spring 2019*

- **MAT 295-Calculus I**
  Syracuse University   *Fall 2019 and 2018*

Service and Mentorship

- **WALKS Founder and Coordinator**   **WALKS website**
  Syracuse University   *Spring 2024, Fall and Spring 2023*

- **Directed Reading Program Mentor**   **DRP website**
  Syracuse University   *Spring 2024, Fall and Spring 2023, Spring 2021*
  Spring 2024-Hilbert space theory
  Fall 2023-Category theory
  Spring 2023-Commutative algebra
  Spring 2021-Real analysis

Tutoring Experience

- **Undergraduate Math Tutor**
  Syracuse University   *Spring 2024, Fall and Spring 2022, Spring 2021*
  I worked as a private tutor for the following courses.

  - MAT 517-Partial Differential Equations and Fourier Series
  - MAT 485-Differential Equations and Matrix Algebra for Engineers
  - MAT 414-Ordinary Differential Equations
  - MAT 412-Introduction to Real Analysis I
  - MAT 397-Calculus III
  - MAT 296-Calculus II
  - MAT 295-Calculus I
  - MAT 286-Calculus for the Life Sciences II
  - MAT 285-Calculus for the Life Sciences I
  - MAT 284-Business Calculus

- **Math and English Tutor**   **Doylestown, PA**
  C2 Education   *Fall 2021*

  I tutored students in Calculus, Pre-Calculus, the SAT and ACT.

- **Math Clinic Tutor**
  Syracuse University   *Summer and Spring 2019, Fall and Summer 2018*

Professional Memberships

- **American Mathematical Society**
- **Mathematical Association of America**