
Address Fulbright College of Arts & Sciences
525 Old Main
University of Arkansas
Fayetteville, Arkansas 72701

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EMPLOYMENT

University of Arkansas 2020-present
Visiting Assistant Professor

EDUCATION

Ph.D. Mathematics 2015-2020
University of Kansas
Advisor: Hailong Dao

M.A. Mathematics 2013-2015
Wake Forest University
Advisor: Frank Moore

Thesis: Noncommutative Complete Isolated Singularities
B.S. Mathematics (magna cum laude) 2009-2013
Berry College

PUBLISHED AND ACCEPTED WORKS

- [1] J. Lyle, J. Montaña, K. Sather-Wagstaff, Exterior powers and Tor-persistence, Accepted to Journal of Pure and Applied Algebra (2021), <https://arxiv.org/abs/2007.09174>
- [2] B. Holmes, J. Lyle, Rank selection and depth conditions for balanced simplicial complexes, Electronic Journal of Combinatorics (2021), <https://www.combinatorics.org/ojs/index.php/eljc/article/view/v28i2p28>.
- [3] J. Lyle, J. Montaña, Extremal growth of Betti numbers and trivial vanishing of (co)homology, Transactions of the American Mathematical Society, Volume 373 (2020), pp. 7937-7958. <https://www.ams.org/journals/tran/0000-000-00/S0002-9947-2020-08189-6/>
- [4] T. Kobayashi, J. Lyle, R. Takahashi, On the number of indecomposable Cohen–Macaulay modules which are not locally free on the punctured spectrum, Journal of Pure and Applied Algebra, Volume 224 (2020) no. 7. <https://www.sciencedirect.com/science/article/pii/S0022404920300086>
- [5] H. Dao, J. Doolittle, K. Duna, B. Goeckner, B. Holmes, J. Lyle, Higher nerves of simplicial complexes, Algebraic Combinatorics, Volume 2 (2019) no. 5, pp. 803-813. https://alco.centre-mersenne.org/item/ALCO_2019__2_5_803_0
- [6] H. Dao, M. Eghbali, J. Lyle, Hom and Ext, revisited, Journal of Algebra, Volume 571 (2019), pp. 75-93. <https://doi.org/10.1016/j.jalgebra.2018.12.006>.
- [7] H. Dao, J. Doolittle, J. Lyle, Minimal Cohen-Macaulay simplicial complexes, SIAM J. Discrete Math. (2020), 34(3), 1602-1608. (7 pages) <https://epubs.siam.org/doi/abs/10.1137/19M1275164>

TEACHING

University of Arkansas

- Math 2043 (Survey of Calculus), Fall 2021
- Math 2564 (Calculus II), Fall 2020, Spring 2021

University of Kansas

- Math 126 (Calculus II), Recitation Instructor, Spring 2019
- Math 104 (Precalculus), Instructor, Fall 2016, Fall 2018
- Math 115 (Applied Calculus), Instructor, Fall 2017, Spring 2018
- Math 127 (Calculus III), Recitation Instructor, Spring 2017

Wake Forest

- Math 121 (Linear Algebra), Teaching Assistant, Spring 2015
- Math 117 (Discrete Mathematics), Teaching Assistant, Fall 2014
- Math 113 (Multivariable Calculus), Teaching Assistant, Spring 2014
- Math 111 (Calculus I), Teaching Assistant, Fall 2013

AWARDS

Paul F. Conrad Scholarship

University of Kansas

2019

Awarded annually to one or two mathematics graduate students for academic merit

Chancellor's Fellowship

University of Kansas

2015-present

Department Summer Research Scholarship

University of Kansas

2015-2019

Outstanding Graduate Student Award

Wake Forest

2014

Barton Mathematics Award

Berry College

2013

INVITED TALKS

Iowa State University Commutative Algebra Seminar

April 2021

Virtual Session

"Constructions in Combinatorial Commutative Algebra, Old and New"

AMS Special Session on Commutative Algebra

April 2021

Virtual Session

"Rank Selection and Depth Conditions for Squarefree Monomial Ideals"

Wake Forest University Colloquium

March 2021

Virtual Session

"Constructions in Combinatorial Commutative Algebra, Old and New"

AMS Special Session on Homological Methods in Algebra

October 2020

Virtual Session

"Tor-persistence and related conjectures"

AMS Special Session on Commutative Algebra

April 2020

Virtual Session

"Maximal Cohen-Macaulay modules that are not locally free on the punctured spectrum"

University of Nebraska, Lincoln Commutative Algebra Seminar

March 2020

Lincoln, NE

"Extremal growth of Betti numbers and rigidity of (co)homology"

University of Nebraska, Lincoln Commutative Algebra Seminar

March 2020

Lincoln, NE

“Maximal Cohen-Macaulay modules that are not locally free on the punctured spectrum”

Purdue Commutative Algebra Seminar

October 2019

West Lafayette, IN

“Generalizations of Ulrich Modules and Rigidity Theorems”

AMS Special Session on Homological and Characteristic $p > 0$ Methods in Commutative Algebra

September 2019

Madison, WI

“Generalizations of Ulrich Modules and Rigidity Theorems”

KUMUNU Jr.

March 2019

University of Nebraska, Lincoln NE

“Cohen-Macaulay Rings of Finite CM_+ -Representation Type”

AMS Special Session on Commutative and Combinatorial Algebra

March 2019

Auburn University, Auburn AL

“Cohen-Macaulay Rings of Finite CM_+ -Representation Type”

AMS Special Session on Commutative Algebra

November 2018

University of Arkansas, Fayetteville AR

“ c -Ulrich Modules”

AMS Special Session on Multiplicities and Volumes: An Interplay Among Algebra, Combinatorics, and Geometry

October 2018

Ann Arbor, MI

“ c -Ulrich Modules”

KUMUNU Jr.

April 2018

University of Nebraska, Lincoln NE

“Hom and Ext, Revisited”

SERVICE

- Co-organizer of the commutative algebra seminar at the University of Arkansas, 2020-present.
- Co-creator and Co-organizer of CARES, 2020-present: CARES is a regional seminar series uniting Arkansas, Kansas, Missouri, and Nebraska, and which focuses on expository talks given by graduate students. The PI, along with Kyle Maddox and Lance Miller, serves as a global advisor and organizer to the local organizers, who are senior graduate students at their respective institutions.
- Referee for Rocky Mountain J. Math and European Journal of Combinatorics, 2020-present.