

CONTACT INFORMATION

School of Sciences
University of Louisiana at Monroe
700 University Ave.
Monroe, Louisiana 71209
+1 318 342 1851

CITIZENSHIP

Born October 11, 1987 in Burlington, Vermont, United States

RESEARCH INTERESTS

Algebra, (Noncommutative) Algebraic Geometry, Derived Categories, and Category Theory and their applications, especially to Data Science, Cryptography, and Natural Language Processing.

EDUCATION

Doctor of Philosophy, Mathematics May 12, 2018
University of South Carolina, Columbia, SC
Dissertation: Geometry of Derived Categories on Noncommutative Projective Schemes
Advisor: Matthew Ballard

Master of Science, Mathematics May 22, 2011
University of Vermont, Burlington, VT
Major Concentration: Abstract Algebra
Minor Concentration: Algebraic Number Theory

Bachelor of Science, Computer Science May 16, 2009
Rensselaer Polytechnic Institute, Troy, NY
Minors: Applied Mathematics and French

APPOINTMENTS

Assistant Professor of Mathematics August 2020 - Present
University of Louisiana at Monroe, Monroe, LA

Capital One Endowed Professorship in Mathematics August 2020 - May 2023
University of Louisiana at Monroe, Monroe, LA

Visiting Assistant Professor July 2018 - July 2020
Lafayette College, Easton, PA

Graduate Teaching Assistant August 2012 - May 2018
University of South Carolina, Columbia, SC

Graduate Teaching Assistant August 2009 - May 2011
University of Vermont, Burlington, VT

EMPLOYMENT

Associate
Princeton Consultants, Inc, Princeton, NJ
Information Technology consultant.

August 2011 - August 2012

PUBLICATIONS

(with Matthew Ballard) *Kernels for Noncommutative Projective Schemes*.
J. Noncommut. Geom. 15 (2021), 1129-1180. doi: 10.4171/JNCG/427

FUNDING

Fourier-Mukai Partners in Noncommutative Algebraic Geometry (FY 23) Not Funded
Louisiana Board of Regents Support Fund, Research Competitiveness Subprogram. \$142,041.

Derived Categories in Noncommutative Projective Algebraic Geometry (2018) Not Funded
Proposed NSF Mathematical Sciences Post Doctoral Research Fellowship originally with Ragnar Buchweitz (University of Toronto), later revised to work with Michael Weems (University of Glasgow) \$210,000.

Dean's Dissertation Fellowship Nominee (2016) Not Funded
Nominated by the Department of Mathematics at the University of South Carolina for a fellowship from the College of Arts and Sciences to spend a year in residence at the Institute of Advanced Study in Princeton, NJ. \$25,000.

AWARDS AND HONORS

Project NExT (New Experiences In Teaching) Fellow Red '22
The Mathematical Association of America's (MAA) Project NExT aims to build a cohort amongst early career faculty, providing guidance on building a successful academic career and positioning fellows to become leaders within the mathematics community. The fellowship consists of three week-long meetings at MathFest in August 2022, the Joint Math Meetings (JMM) in January 2023, and the MathFest in August 2023.

Rensselaer Medalist 2004
Scholarship to Rensselaer Polytechnic Institute. \$60,000.

UNDERGRADUATE MENTORING AND RESEARCH SUPERVISION

The Entrepreneurship Pelican Cup Spring 2023
Immerse AR
Served as faculty advisor for one of six finalists in the Pelican Cup Entrepreneurship Pelican Cup business competition.

Emerging Scholars Program (ULM) Spring 2021
Sagar Bhetuwal
Number Theory research project focused on providing a formal verification of the proof of the Prime Number Theorem using the Lean proof assistant.

TEACHING EXPERIENCE

UNIVERSITY OF LOUISIANA AT MONROE

Course Number	Course Name	Section
Math 4007	History of Mathematics	44692 (F22)
Math 3086	Modern Algebra	44367 (F21), 63395 (S23)
Math 3080	Real Analysis	64863 (S22), 44174 (F23)
Math 3073	Numerical Methods	45407 (F23)
Math 2040	Foundations of Mathematics	65041 (S23)
Math 2032	Calculus III	44879 (F22)
Math 2002	Applied Linear Algebra	41001 (S21), 64042 (F21), 64042 (S23)
Math 1018	Contemporary Mathematics	40992, 40994 (F21), 60847, 62225 (S22)
Math 1011	College Algebra	42181, 43002, 43013 (F20), 62690, 62691 (S21)
Math 1007	Contemporary Mathematics	45282, 45288 (F22), 64979 (S23), 45282, 45288 (F23)

LAFAYETTE COLLEGE

Course Number	Course Name	Sections
Math 272	Linear Algebra with Applications	01 (S20)
Math 162	Calculus II	06, 07 (S19), 01, 03 (F19)
Math 161	Calculus I	01, 04 (F18), 04 (F19), 01, 02 (S20)
Math 161	Summer Program to Advance Leadership	SPAL (Su19)

UNIVERSITY OF SOUTH CAROLINA

Course Number	Course Name	Sections
Math 170	Finite Mathematics	007 (S14), 007 (S16)
Math 142	Calculus II	004 (Su14), 020 (S18)
Math 122	Calculus for Business Administration and Social Sciences	E01 (S17)
Math 116	Brief Precalculus Mathematics	E1B, E2B (F13), E1B, E2B (F15), E1B, E2B (F16)
Math 115	Precalculus Mathematics	011 (F14)
Math 111	Basic College Mathematics	M13 (Su13), 006 (S15), 006 (F17)

UNIVERSITY OF VERMONT

Course Number	Course Name	Sections
Math 019	Fundamentals of Calculus I	S, W(F10)
Math 017	Applications of Finite Math	G (F09), A (S10), Z2 (Su10)

PRESENTATIONS

Implementing Standards Based Grading in STEM March 28, 2023
University of Louisiana System For our Future Conference 2023
Lake Charles, LA

Algebra, Geometry, and Categories, Oh My! March 11, 2020
Department Seminar, Lafayette College, Easton, PA

A Little Abstract Nonsense May 21, 2018
Lafayette College, Easton, PA

Abstract Nonsense: Grokking Category Theory May 17, 2018
Wilkes University, Wilkes-Barre, PA

Kernels for Noncommutative Projective Schemes November 28, 2017
 Graduate Colloquium
 University of South Carolina, Columbia, SC

Kernels for Noncommutative Projective Schemes October 12, 2017
 Algebra Seminar
 University of New Brunswick, Fredericton, NB, CA

Kernels for Noncommutative Projective Schemes October 9, 2017
 Algebra Seminar
 Temple University, Philadelphia, PA

Kernels for Noncommutative Projective Schemes August 28, 2017
 Algebraic Geometry Seminar
 University of South Carolina, Columbia, SC

Noncommutative Projective Schemes May 13, 2016
 Temple Graduate Student Conference in Algebra, Geometry, and Topology
 Temple University, Philadelphia, PA

Noncommutative Projective Schemes May 14, 2016
 Student Algebra/Number Theory Seminar
 University of South Carolina, Columbia, SC

Fully Faithful Abstract Nonsense: November 2015
Representable Functors and The Yoneda Embedding
 Graduate Colloquium
 University of South Carolina, Columbia, SC

Fully Faithful Abstract Nonsense: July 2015
Representable Functors and The Yoneda Embedding
 Graduate Student Algebraic Geometry, Commutative Algebra, and Number Theory Seminar
 University of South Carolina, Columbia, SC

CONFERENCES AND WORKSHOPS

Funding for PANTS, GAGS, and regional workshops provided by federal funding agencies supporting the meetings. Funding from the Capital One Endowed Professorship in Mathematics provided for travel to BIRS and participation in Project NExT (MathFest 2022, JMM 2023, and MathFest 2023).

Funding for participation in the Mathematics Research Community provided by the American Mathematical Society.

Math Corequisite Academy Workshop November 7, 2023
 Louisiana Board of Regents
 Baton Rouge, LA

Mathematical Association of America MathFest August 1 - 6, 2023
 Tampa, FL

Mathematics Research Community June 4 - 10, 2023
 Derived Categories, Arithmetic and Geometry, Bridgeland Stability Group
 Beaver Hollow Conference Center, Java, NY

<i>Joint Mathematics Meetings</i> Boston, MA	January 3 - 7, 2023
<i>Mathematical Association of America MathFest</i> Philadelphia, PA	August 3 - 6, 2022
<i>Mathematical Association of America Project NExT (New Experiences in Teaching)</i> Philadelphia, PA	August 1 - 3, 2022
<i>Series on Exploring Combinatorics and Number Theory (SECANT) IV</i> Cedar Crest College, Allentown, PA (Online)	January 15 - 16, 2022
<i>Derived, Birational, and Categorical Algebraic Geometry</i> Invited Participant Banff International Research Station, Banff, Alberta, CA	November 14 - 19, 2021
<i>Series on Exploring Combinatorics and Number Theory (SECANT) III</i> Cedar Crest College, Allentown, PA (Online)	January 15 - 16, 2021
<i>Derived, Birational, and Categorical Algebraic Geometry</i> Invited Participant Banff International Research Station, Banff, Alberta, CA (Online)	November 2 - 6, 2020
<i>Joint Mathematics Meetings</i> Denver, CO	January 15-17, 2020
<i>Series on Exploring Combinatorics and Number Theory (SECANT) II</i> Cedar Crest College, Allentown, PA	October 12-13, 2019
<i>Joint Mathematics Meetings</i> Baltimore, MD	January 16-19, 2019
<i>Series on Exploring Combinatorics and Number Theory (SECANT)</i> Cedar Crest College, Allentown, PA	November 17-18, 2018
<i>Georgia Algebraic Geometry Symposium</i> Georgia Institute of Technology, Atlanta, GA	February 23-25, 2018
<i>Workshop on Topics in Algebraic Geometry</i> The University of North Carolina at Chapel Hill, Chapel Hill, NC	November 3-5, 2017
<i>Palmetto Number Theory Series (PANTS) XXVIII</i> University of Tennessee, Knoxville, TN	September 16-17, 2017
<i>Georgia Algebraic Geometry Symposium</i> University of Georgia, Athens, GA	March 3-5, 2017
<i>Workshop on Symplectic Varieties and Geometric Representation Theory</i> The University of North Carolina at Chapel Hill, Chapel Hill, NC	October 28-30, 2016
<i>UGA-SWAG: Summer Workshop in Algebraic Geometry</i> University of Georgia, Athens, GA	August 26-29, 2016

<i>Temple Graduate Student Conference in Algebra, Geometry, and Topology</i> Temple University, Philadelphia, PA	May 14-15, 2016
<i>Georgia Algebraic Geometry Symposium</i> Emory University, Atlanta, GA	October 2015
<i>AMS Summer Institute on Algebraic Geometry</i> University of Utah, Salt Lake City, UT	July 27 - 31, 2015
<i>Georgia Algebraic Geometry Symposium</i> University of Georgia, Athens, GA	October 2014
<i>Arizona Winter School</i> University of Arizona, Tucson, AZ	March 2014
<i>Palmetto Number Theory Series (PANTS) XXI</i> Clemson University, Clemson, SC	December 2013
<i>Palmetto Number Theory Series (PANTS) XX</i> Davidson College, Davidson, NC	September 2013
<i>Algebraic Geometry Northeastern Series (AGNES)</i> Yale University, New Haven, CT	April 2013
<i>AMS Spring Western Sectional Meeting</i> University of Colorado, Boulder, CO	April 2013
<i>Palmetto Number Theory Series (PANTS) XIX</i> University of South Carolina, Columbia, SC	December 2012
<i>Palmetto Number Theory Series (PANTS) XVIII</i> Wake Forest University, Winston-Salem, NC	September 2012
PROFESSIONAL MEMBERSHIP	
<i>American Mathematical Society</i> , Member	
SERVICE	
<i>Mathematics Hiring Committee Member</i> University of Louisiana at Monroe	Fall 2022 - Spring 2023
<i>Co-Requisite Course Design</i> Contemporary Mathematics University of Louisiana at Monroe	Spring 2022
<i>Browse on the Bayou</i> Mathematics program representative for ULM's Spring on-campus recruiting event. University of Louisiana at Monroe	March 21, 2022
<i>Investiture Ceremony Marshal</i> University of Louisiana at Monroe	October 1, 2021

University Curriculum Committee Member 2021-Present
University of Louisiana at Monroe

Louisiana Math Forward Committee Member 2021
University of Louisiana at Monroe

Mathematics Hiring Committee Member Spring 2021
University of Louisiana at Monroe

High School Math Contest Proctor 2013-2015
University of South Carolina

ORGANIZER

Student Algebra/Number Theory Seminar Summer 2016
University of South Carolina

Student Algebraic Geometry, Commutative Algebra, and Number Theory Seminar Summer 2015
University of South Carolina

Student Algebraic Geometry Seminar Spring 2015
University of South Carolina

Student Algebraic Geometry Seminar Fall 2014
University of South Carolina