

BLAKE FARMAN

CURRICULUM VITAE

MATHEMATICS AND STATISTICS
LOUISIANA TECH UNIVERSITY
BFARMAN@LATECH.EDU
[HTTPS://WWW.BLAKEFARMAN.PHD](https://www.blakefarman.phd)

CONTACT INFORMATION

Nethken Hall
P.O. Box 10348
Ruston, Louisiana 71272
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CITIZENSHIP

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

RESEARCH INTERESTS

Algebra, (Noncommutative) Algebraic Geometry, Derived Categories, and Category Theory

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 September 2024 - Present
Louisiana Tech University, Ruston, LA

Assistant Professor August 2020 - August 2024
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

LEADERSHIP AND GOVERNANCE

Communication Coordinator February 2025 - Present
Louisiana-Mississippi Section
Mathematical Association of America

Membership Outreach Director (Officer) January 2025 - Present
Board of Directors
Friends of Black Bayou
Black Bayou National Wildlife Refuge
Monroe, LA

Director at Large January 2024 - January 2025
Board of Directors
Friends of Black Bayou
Black Bayou National Wildlife Refuge
Monroe, LA

EMPLOYMENT

Associate August 2011 - August 2012
Princeton Consultants, Inc, Princeton, NJ
Information Technology consultant.

PUBLICATIONS

(with Ann Clifton, Krystal Cruse, Will Long) *Fostering Growth Mindsets: Implementing Standards-Based Grading in College Algebra*
(with Ann Clifton, Mary Fendley, and Joshua Coriell) *Work in Progress: First-Year Engineering Students' Confidence in Communicating Mathematical Content*
(with Matthew Ballard) *Kernels for Noncommutative Projective Schemes*.
J. Noncommut. Geom. 15 (2021), 1129-1180. doi: 10.4171/JNCG/427

FUNDING

LEAPS-MPS: Building the Foundations of Formal Homotopy Theory through Model Categories (FY 25) In Review
\$165,753
National Science Foundation

Fourier-Mukai Partners in Noncommutative Algebraic Geometry In Review
\$118,624
DMS - Algebra and Number Theory
National Science Foundation

Applied eXploration In Open Mathematics Lab [AXIOM Lab] Funded
\$60,875
Targeted Departmental Enhancement Grant
Louisiana Board of Regents Support Fund

Student Activity Enhancement Fee Funded
\$2,000
Student Development
University of Louisiana at Monroe

Fourier-Mukai Partners in Noncommutative Algebraic Geometry Not Funded
\$113,918.
Research Competitiveness Subprogram
Louisiana Board of Regents Support Fund

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

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 **E**xperiences In **T**eaching) 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

Emerging Scholars Program (ULM) Spring 2024
 Riya Shrestha
 Knot Theory research project focused on identifying a family of knots for which there is a winning strategy in the Region Unknot Game.

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

LOUISIANA TECH UNIVERSITY

Course Number	Course Name	Section
Math 587	Interactive Theorem Proving with Lean	(S25)
Math 490	Interactive Theorem Proving with Lean	(S25)
Math 308	Introduction to Linear Algebra	001 (W25)
Math 243	Calculus III	004 (F24)

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 3040	Introduction to Algebra and Analysis	64086 (S24)
Math 2040	Foundations of Mathematics	65041 (S23)
Math 2032	Calculus III	44879 (F22), 44879 (F24)
Math 2002	Applied Linear Algebra	41001 (S21), 64042 (F21), 64042 (S23)
Math 1032	Calculus II	40999 (F24)
Math 1031	Calculus I	63789 (S24), 40997 (F24)
Math 1018	Contemporary Mathematics	40992, 40994 (F21), 60847, 62225 (S22)
Math 1011	College Algebra	42181, 43002, 43013 (F20), 62690, 62691 (S21), 63057, 63167 (S24)
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

Algebra, Geometry, and Categories, Oh My!
Louisiana Tech University
Ruston, LA

May 11, 2023

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

March 28, 2023

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

March 11, 2020

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.

LA/MS Sectional Meeting February 20 - February 22, 2025
Mathematical Association of America
Jackson, MS

Math Corequisite Academy Workshop October 15, 2024
Louisiana Board of Regents

Baton Rouge, LA	
<i>LA/MS Sectional Meeting</i> Mathematical Association of America New Orleans, LA	February 29 - March 2, 2024
<i>High School Math Teacher and Faculty Collaboration</i> Louisiana Department of Education Baton Rouge, LA	November 30, 2023
<i>Math Corequisite Academy Workshop</i> Louisiana Board of Regents Baton Rouge, LA	November 7, 2023
<i>Mathematical Association of America MathFest</i> Tampa, FL	August 1 - 6, 2023
<i>Mathematics Research Community</i> Derived Categories, Arithmetic and Geometry, Bridgeland Stability Group Beaver Hollow Conference Center, Java, NY	June 4 - 10, 2023
<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

Mathematical Association of America, Member
American Mathematical Society, Member

SERVICE

TO THE PROFESSION

Section NExT Committee Member February 2025 - Present
Louisiana-Mississippi Section
Mathematical Association of America

TO THE STATE

Mindset Meauxtivor Fall 2024 - Spring 2025
Louisiana Board of Regents

TO THE UNIVERSITY

Literary Rally March 15, 2025
Proctor

Undergraduate Research & Service-Learning Symposium March 14, 2025
Judge

Professors on the Plaza October 16, 2024
Louisiana Tech University

Browse on the Bayou September 30, 2022
Mathematics program representative for ULM's Fall on-campus recruiting event
University of Louisiana at Monroe

Mathematics Hiring Committee Chair Fall 2023
University of Louisiana at Monroe

Mathematics Hiring Committee Member Fall 2022 - Spring 2023
University of Louisiana at Monroe

Co-Requisite Course Design Spring 2022
Contemporary Mathematics
University of Louisiana at Monroe

Browse on the Bayou March 21, 2022
Mathematics program representative for ULM's Spring on-campus recruiting event
University of Louisiana at Monroe

Investiture Ceremony Marshal October 1, 2021
University of Louisiana at Monroe

University Curriculum Committee Member 2021-2024
University of Louisiana at Monroe

Louisiana Math Forward Committee Member 2021
University of Louisiana at Monroe

Mathematics Hiring Committee Member
University of Louisiana at Monroe

Spring 2021

High School Math Contest Proctor
University of South Carolina

2013-2015

TO THE COMMUNITY

Fall Celebration
Setup, Operated Canoe/Kayak Rental, Breakdown
Black Bayou Lake National Wildlife Refuge

October 19, 2024

Water Sweep
Waterway cleanup at Black Bayou Lake National Wildlife Refuge
Ouachita Green

September 14, 2024

ORGANIZER

Student Algebra/Number Theory Seminar
University of South Carolina

Summer 2016

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

Summer 2015

Student Algebraic Geometry Seminar
University of South Carolina

Spring 2015

Student Algebraic Geometry Seminar
University of South Carolina

Fall 2014