

Reza Akhtar, Ph.D.

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Education

- 1995** A.B. in Mathematics *magna cum laude*, Harvard University
Thesis: *Cyclotomic Euclidean Number Fields*
Thesis advisor: Barry Mazur.
- 1995** S.M. in Applied Mathematics, Harvard University.
- 1997** Sc.M. in Mathematics, Brown University.
- 2000** Ph.D. in Mathematics, Brown University
Dissertation: *Milnor K -theory and zero-cycles on algebraic varieties*
Dissertation advisor: Stephen Lichtenbaum
Areas of emphasis: Algebraic geometry, algebraic cycles.
- 2026 (exp.)** M.A. in Theology, Catholic International University.
Concentration: Catholic Social Teaching

Language Proficiency

Native: English
Professional working knowledge: French
Working knowledge: Latin, Koine Greek, Arabic, Biblical Hebrew, Syriac, German, Urdu.

Employment

- July 2012 - present** Professor, Department of Mathematics, Miami University.
Permanent Graduate Level A status, December 2018.
- July 2006 - June 2012** Associate Professor, Department of Mathematics, Miami University.
- August 2000 - June 2006** Assistant Professor, Department of Mathematics, Miami University.

Research Publications

My dissertation and early papers are in algebraic geometry, specifically algebraic cycles. Most of the rest of my work is concerned with questions at the intersection of algebra and combinatorics.

R. Akhtar. Strong complete mappings for pyramidal groups. In preparation.

*R. Akhtar and S. R. Arvind. On the distribution of the greatest common divisor for number fields. In preparation.

R. Akhtar. Group actions and Messiaen's modes of limited transposition. Under review.

*R. Akhtar, J. Charboneau, and S. Gagola III. Strong complete mappings for 2-groups. *Discrete Math.* **348** (2025), no. 10, Paper No. 114568.

- R. Akhtar. Linear operator identities in quasigroups. *Comm. Math. Univ. Carolinae* **63** (2022), no. 1, 1-9.
- R. Akhtar and S. Gagola III. Strong complete mappings for 3-groups. *Discrete Math.* **345** (2022), no. 1, Paper No. 112643.
- +R. Akhtar and R. Joshua. Explicit Chow-Lefschetz decompositions of Kummer manifolds. *K-theory: Proc. of the International Colloquium, Mumbai, 2016*. Hindustan Book Agency (2018), 155-194.
- R. Akhtar. Symmetric linear operator identities in quasigroups. *Comm. Math. Univ. Carolinae* **58** (2017), no. 4, 401-417.
- R. Akhtar. On generalized associativity in groupoids. *Quasigroups and Rel. Sys.* **24** (2016), 1-6.
- *R. Akhtar and L. Lee. Connectivity of the zero-divisor graph for finite rings. *Involve* **9** (2016), no. 3, 415-422.
- *R. Akhtar, B. Burns, H. Hoganson, H. Mansfield, O. Sobieska, and Z. Woods. Splitting techniques and the Betti numbers of secant powers. *Involve* **9** (2016), no. 5, 737-750.
- *R. Akhtar and M. Forlini. The Linear Chromatic Number of a Sperner Family. *Discrete Applied Mathematics* **171** (2014), 1-8.
- R. Akhtar, A. B. Evans, and D. Pritikin. Representation Numbers of Complete Multipartite Graphs. *Discrete Mathematics* **3112** (2012), 1158-1165.
- *R. Akhtar, A. Arp, M. Kaminski, J. VanExel, D. Vernon, and C. Washington. The varieties of Bol-Moufang quasigroups defined by a single operation. *Quasigroups and Rel. Sys.* **20** (2012), 1-10.
- R. Akhtar. Representation Numbers of Some Sparse Graphs. *Discrete Mathematics* **312** (2012), no. 22, 3417-3423.
- R. Akhtar and R. Joshua. Toric Residue Codes: I. *Finite Fields and their Applications* **17** (2011), no. 1, 15-50.
- R. Akhtar and P. Larson. Small-sum pairs in abelian groups. *J. de Th. des Nombres de Bordeaux* **22** (2010), no.3, 525-535.
- R. Akhtar, A. B. Evans, and D. Pritikin. Representation Numbers of Stars. *Integers* **10** (2010), 733-745.
- *R. Akhtar, M. Boggess, T. Jackson-Henderson, I. Jiménez, R. Karpman, A. Kinzel, and D. Pritikin. On the unitary Cayley graph of a finite ring. *Elec. J. of Combinatorics* **16** (2009), no. 1, Research Paper 117, 13 pp.
- R. Akhtar and R. Joshua. Lefschetz Decompositions for Quotient Varieties. *Journal of K-theory* **3** (2009), no.3, 547-560.
- +R. Akhtar, P. Brosnan, and R. Joshua, eds. *The Geometry of Algebraic Cycles*. Papers from the

2nd Conference on Algebraic Cycles held at the Ohio State University, Columbus, OH. March 25–29, 2008. Clay Mathematics Proceedings **9**.

R. Akhtar, T. Jiang, and Z. Miller. Asymptotic determination of edge-bandwidth of multidimensional grids and Hamming graphs. *SIAM J. on Discrete Mathematics* **22** (2008), no. 2., 425-449.

R. Akhtar, T. Jiang, and D. Pritikin. Edge-bandwidth of the triangular grid. *Elec. J. of Combinatorics* **14** (2007), no. 1, Research Paper 67, 11 pp.

R. Akhtar. A mod- ℓ vanishing theorem of Beilinson-Soulé type. *J. of Pure and Applied Algebra* **208** (2007), no. 2, 555-560.

*R. Akhtar and L. Lee. Homology of zero-divisors. *Rocky Mountain J. of Mathematics* **37** (2007), no. 4, 1105-1126.

R. Akhtar and R. Joshua. Künneth decompositions for quotient varieties. *Indagationes Mathematicae* **17** (2006), no. 3, 319-344.

R. Akhtar. Cycles on curves over global fields of positive characteristic. *Trans. of the Amer. Math. Soc.* **357** (2005), 2557-2569.

R. Akhtar. Adequate equivalence relations and Pontryagin products. *J. of Pure and Applied Algebra* **196** (2005), no. 1, 21-37.

R. Akhtar. Milnor K -theory of smooth varieties. *K-theory* **32** (2004), no. 3, 269-291.

R. Akhtar. Torsion in mixed K -groups. *Communications in Algebra* **32** (2004), no. 1, 295-313.

R. Akhtar. Zero-cycles on varieties over finite fields. *Communications in Algebra* **32** (2004), no. 1, 279-294.

R. Akhtar and A. Lachlan. On countable homogeneous 3-graphs. *Archive for Mathematical Logic* **34** (1995), no. 5, 331-344.

* = joint work with students, + = conference volume

Research Presentations

Quasigroups, generalized associativity, and automatic theorem-proving.
Colloquium, Wright State University, November 2017.

Betti numbers of secant powers of the edge ideal of a graph.
MIGHTY LVII, Wright State University, April 2016.

Explicit motivic decompositions for Kummer varieties and manifolds.
Seminar, Ohio State University, November 2015.

Splitting techniques and the Betti numbers of secant ideals.
Colloquium, Ohio State University, April 2014.

Representation numbers of complete multipartite graphs.
MIGHTY LII, Indiana State University, April 2012.

Bol-Moufang quasigroups defined by a single operation.
SIDIM, University of Puerto Rico - Humacao, February 2011.

Small-sum pairs in abelian groups.
CMS Winter Meeting, Vancouver, BC. December 2010.

The Linear Chromatic Number of a Sperner Family.
MIGHTY L, University of Wisconsin – Superior, October 2010.

The zero-divisor graph: at the intersection of algebra and combinatorics.
Colloquium, Butler University, October 2009.

The Beilinson-Soulé Conjecture with finite coefficients.
Algebraic Cycles Conference II, Ohio State University, March 2008.

Motivic decompositions for quotient varieties.
Algebraic Geometry Seminar, Ohio State University, March 2007.

Chow-Künneth and Lefschetz Decompositions for Quotient Varieties".
CMS Winter Meeting, Toronto, ON. December, 2006.

Elliptic Curves, Arithmetic, and Geometry.
Colloquium, Baldwin-Wallace College, November 2006.

The zero-divisor graph: at the intersection of algebra and combinatorics.
Undergraduate Seminar, Trinity University, September 2006.

Combinatorial methods for studying zero-divisors.
Colloquium, Trinity University, September 2006.

Beyond the zero-divisor graph: a homology theory for zero-divisors.
Colloquium, Wabash College, June 2006.

Edge-bandwidth of the triangular grid.
MIGHTY XLII: Ohio State U. – Marion Campus, April 2006.

A vanishing theorem of Beilinson-Soulé type.
 K -theory Seminar, Ohio State University, March 2006.

Cycles, cohomology, and motives.
Colloquium, Miami University, April 2005.

Algebraic cycles on curves over global fields.
Algebraic Geometry Seminar, Ohio State University, April 2005.

Algebraic Cycles on Abelian Varieties.
Colloquium, Rose-Hulman Institute of Technology, November 2004.

Elliptic Curves, Arithmetic and Geometry.
Colloquium, Wabash College, March 2004.

Cycle groups of curves over global fields of positive characteristic.
Joint Mathematics Meetings. Phoenix, AZ, January 2004.

Cycles on Algebraic Varieties.
Colloquium, University of Dayton, October 2002.

Adequate equivalence relations and cycles on abelian varieties.
AMS Regional Meeting, Boston University, October 2002.

Kato-Somekawa groups and higher Chow groups of zero-cycles.
AMS Regional Meeting, Ohio State University, September 2001.

Milnor K -theory of smooth schemes.
AMS Regional Meeting, U. of Kansas, April 2001.

Milnor K -theory and Intersection Theory.
Colloquium, University of Cincinnati, January 2001.

Zero-cycles on algebraic varieties.
Algebra Seminar, University of Pennsylvania, January 2000.

Teaching and Advising

At Brown University

MTH 9, Calculus I: Summer 1998.
MTH 17, A.P. Calculus II: Fall 1998.

At Miami University

MTH 151, Calculus I: Fall 2000, Fall 2001, Fall 2005.
MTH 153, Calculus I: Fall 2009.
MTH 190, First Year Seminar in Mathematics and Statistics: Spring 2013, Fall 2013, Fall 2014.
MTH 222, Linear Algebra: Fall 2000, Fall 2007 (2 sec.), Spring 2013, Fall 2013, Fall 2014, Spring 2016, Spring 2017 (2 sec.), Spring 2022 (2 sec.), Spring 2023 (2 sec.), Fall 2023, Spring 2024 (2 sec.).
MTH 231, Discrete Mathematics: Spring 2003, Spring 2005 (2 sec.).
MTH 245, Differential Equations for Engineers: Spring 2010, Fall 2010, Fall 2011, Fall 2012, Fall 2015, Fall 2017, Spring 2018, Fall 2019, Spring 2020, Spring 2021 (2 sec.), Summer 2021
MTH 247, Financial Mathematics for Actuaries. Spring 2015, Spring 2016.
MTH 249, A.P. Calculus II: Fall 2002, Fall 2003, Fall 2006, Fall 2013, Fall 2020 (2 sec.).
MTH 249H Honors A.P. Calculus II: Fall 2007, Fall 2012.
MTH 251, Calculus II: Spring 2001, Spring 2006, Fall 2008, Spring 2011, Summer 2017 (first third), Fall 2019, Summer 2023 (first half).
MTH 252, Calculus III: Fall 2004, Spring 2007, Spring 2012, Spring 2014, Fall 2017, Fall 2018, Summer 2021, Fall 2021, Summer 2022, Fall 2022, Fall 2024, Spring 2025.
MTH 252H, Honors Calculus III: Spring 2008.
MTH 331, Introduction to Proof: Fall 2024.
MTH 347, Differential Equations: Fall 2006.
MTH 420/520, Topics in Algebra: Spring 2004, Summer 2016.

MTH 421/521, Abstract Algebra I: Fall 2001, Spring 2003, Fall 2005, Spring 2007, Fall 2009, Fall 2011, Spring 2012, Fall 2014, Fall 2016, Fall 2018, Spring 2020, Fall 2022, Fall 2023.

MTH 422/522, Abstract Algebra II: Spring 2001, Spring 2010.

MTH 425/525, Number Theory: Fall 2003, Fall 2004, Spring 2014, Spring 2018.

MTH 447/547, Topics in Mathematical Finance: Spring 2011, Spring 2013, Fall 2016, Summer 2018, Summer 2020.

MTH 620, Topics in Algebra: Summer 2003.

MTH 621, Graduate Algebra I: Fall 2002, Fall 2008, Fall 2010, Fall 2015, Fall 2021.

MTH 622, Graduate Algebra II: Spring 2002, Spring 2006, Spring 2019.

Undergraduate advising

From 2003-2019, I served as academic advisor for between five and twelve undergraduate students each year studying towards the B.S. in Mathematics. I have completed the first four modules of the Advisor Training program and expect to be formally awarded Level B Advisor status within the next few weeks.

Course development

In 2015, I developed MTH 247 (Financial Mathematics for Actuaries) to provide students with preparation for the second exam in the Society of Actuaries sequence.

Supervised Student Research

Master's Theses

M.S. Thesis advisor for Leah Andaloro, September 2022 - May 2023.
Thesis: The Herzog-Schönheim Conjecture for Finite Pyramidal Groups

M.A. Thesis advisor for Jeffrey Cooper, August 2009 - April 2010.
Thesis: Product dimension of a random graph.

M.A. Thesis advisor for Daniel Baczkowski, August 2003 - July 2004.
Thesis: Diophantine equations involving arithmetic functions of factorials.

Master's final projects (M.A. or M.S. Mathematics)

Isaac Numoah (January 2025 - present)

Jacob Charboneau (September 2021 - August 2022)

Robyn Campbell (October 2018 - July 2019)

Emmanuel Tamakloe (January 2015 - October 2015)

Christine Stoller (January 2013 - August 2013)

Joshua Fitzgerald (January 2012 - August 2012)

Laura Hoffman (January 2011 - October 2011)

Cory Washington (January 2010 - January 2013)

Carmen Weddell (August 2009 - April 2010)

Joshua Wagner (August 2008 - June 2009)

Benjamin Byer (August 2006 - May 2007, project not completed)

Holly Attenborough (August 2005 - May 2006)

Melody Brickel (January - May 2004)

Deborah Puffer (January - May 2003)

Amy Herron (March - July 2002)

Graduate Independent Studies

Jacob Barahona-Kaamsvag, Anthony Wilkie, Michael Woode, Ruifeng Xu, Summer 2019.

Delaney Aydel, Summer 2017.

Robert Seiver, Fall 2009.

Graduate Examinations

Algebra Comprehensive Exam Committee (18 times since 2000).

Master's Final Exam Committee (3 thesis advisor, 12 final project advisor, 16 final project committee member)

Undergraduate Honors Thesis Reader

Iordan Ganev, Spring 2010.

Undergraduate (Miami) research students

S. Ram Arvind, Summer 2017.

Maxwell Forlini, Summer 2009.

Nathan St. John, Summer 2007.

Lucas Lee, Summer 2003.

Undergraduate SUMSRI research students

2013: Brittany Burns, Haley Mansfield, Ola Sobieska, Zerotti Woods.

2012: Rachel Aldrich, Sarah Drummond, Barbara Hernandez, Hannah Hoganson, Lauren Morey, Marco Tapia-Guilliams, Alicia Velek.

2011: Crystal Altamirano, Stephanie Angus, Lauren Brown, Laura Gioco, Joseph Crawford.

2010: Ashley Arp, Michael Kaminski, Jasmine Van Exel, Davian Vernon.

2009: Daniel Caproni, Joshua Edgerton, Margaret Rahmoeller, Mychael Sanchez, Anna Tracy.

2008: Megan Bernstein, Megan Boggess, Tiffany Jackson-Henderson, Isidora Jiménez, Rachel Karpman.

2007: Katherine Benson, Louis Cruz, Yesenia Cruz, Melissa Tolley, Bryant Watkins.

2006: Chantelle Bicket, Samantha Graffeo, Darragh Ross, Edward Washington.

2005: Camil Aponte, Natalia Córdova, Clyde Gholston, Helen Hauser, Patrice Johnson, Nathan Mims.

2004: Amanda Phillips, Julie Rogers, Kevin Tolliver, Frannie Worek.

Undergraduate Independent Studies

Dylan Palo, Spring 2017.

Kara Ungerman, Fall 2013.

Jonathon Hall, Spring 2008.

Todd Van Woerkom, Fall 2007.

Awards

External funding

Principal investigator on NSA grant (\$250,000) to support MARI 2025 and 2026 (not awarded).

Co-principal investigator on NSA grant (\$174,572) to support MACRO 2024 and 2025 (not awarded).

Co-principal investigator on NSA grant (\$250,000) to support SUMSRI 2019 and 2020 (not awarded).

Co-principal investigator on NSF grant (\$28,900), travel for SUMSRI 2018 and 2019 (not awarded).

Co-principal investigator on NSA grant (\$125,000) to support SUMSRI 2018 (awarded).

Co-principal investigator on NSA grant (\$118,804) to support SUMSRI 2015 (awarded).

Co-principal investigator on NSF grant (\$90,000) to support SUMSRI 2015 (not awarded)

Co-principal investigator on NSA grant (\$125,000) to support SUMSRI 2014 (not awarded)

Co-principal investigator on NSF Grant (\$175,416) to support SUMSRI 2013 and 2014 (awarded).

Co-principal investigator on NSA Grant (\$150,000) to support SUMSRI 2013 (awarded).

Co-principal investigator on NSF Grant (\$142,541) to support SUMSRI 2011 and 2012 (awarded).

Co-principal investigator on NSA Grant, (\$431,270) to support SUMSRI 2011 and 2012 (awarded).

Co-principal investigator on NSA Grant, (\$188,441) to support SUMSRI 2010 (awarded).

Internal Funding

Miami University USS (Undergraduate Summer Scholars) grants for 2003, 2007, 2009, 2017 to supervise student research in algebra and combinatorics.

Miami University College of Arts and Sciences Summer Research Grant (\$4000), 2000.

Miami University Committee for Faculty Research Summer Grant (\$6000), 2000.

Other awards and recognition

Student Recognition of Teaching Excellence Award, Fall 2020.

M. Pauline Priest Barney fellowship, 2016-2017.

This fellowship is given to a faculty member in the Department of Mathematics for the specific purpose of developing a new course or redesigning an existing mathematics course. In Fall 2014, I was asked to develop a course to prepare Actuarial Science minors for the second exam (Financial Mathematics) in the sequence for professional licensure. I taught this course (MTH 247) for the first time in Spring 2015. I then used the fellowship to study what might be improved in future offerings of the course. I taught the course again in Spring 2016. Unfortunately, in Spring 2017 and Spring 2018, the class had to be canceled due to low enrollment; student demand was assessed to be too low to warrant even putting it on the schedule for Spring 2019 or 2020.

Nominated for Alumni Distinguished Educator Award, 2008.

Exxon-Mobil Project NExT Fellow, 2001.

Project NExT is a professional development program for early-career mathematicians which has been

administered by the Mathematical Association of America since 1994. Fellows attend three national conferences, at which sessions are held to discuss and explore various issues of concern to new faculty members. Project NExT also maintains a network of mentors and several mailing lists for further discussion and dissemination of information.

SUMSRI Program

I was heavily involved in the Summer Undergraduate Mathematical Sciences Research Institute (SUMSRI), from early in my career (2002) until discontinuation of the program in 2018. SUMSRI was a seven-week long program, hosted by the Department of Mathematics at Miami University, whose goals was to encourage talented undergraduates – particularly those from underrepresented demographic groups – to pursue research and graduate education in the mathematical sciences. Students recruited from universities across the country were given the opportunity to conduct research in a seminar under the direction of a faculty member in mathematics or statistics; each research seminar was assisted by a graduate student in the mathematical sciences who also served as a mentor to the undergraduates. SUMSRI also offered a sequence of short courses, a colloquium series, and a graduate panel discussion featuring representatives from programs at universities in the general area. Until 2014, students were also given funding to attend the annual Joint Mathematics Meetings the following January to present their research in poster form.

Program Director: (2014, 2018)

I wrote the grant proposals, advertised the program, recruited students, and selected between eight and seventeen students (dependent on the level of funding) from an applicant pool of roughly 200 students each year. I made offers and assigned students to research seminars. I was also responsible for setting the program schedule, inviting colloquium speakers, and organizing other program events.

Program Director and Coordinator: (2015)

As for Program Director, with the additional responsibility of organizing travel for students, processing paychecks, and keeping accounts of all program expenses.

Program co-Director: (2010 - 2013)

As for Program Director, except that duties were shared with Program co-Director Patrick Dowling (Department of Mathematics).

Research Seminar Director: (2003 - 2013)

During the seven weeks of the program, I met with an assigned group of four to seven students and supervised their research on a problem of my choosing. The students wrote up their results in a final paper and delivered a final presentation. In some cases (2008, 2010, 2013), the results were reworked and submitted for publication in a research journal.

Algebra Short Course Instructor: (2002, 2003, 2014, 2015)

I designed and delivered a course of 12 contact hours, on a topic in Algebra appropriate for junior-level Mathematics students.

Departmental Service (major)

Associate Chair: Fall 2016 - present.

Ongoing duties include designing and maintaining the department teaching schedule, managing student enrollment (ROR), and hearing / ruling upon academic dishonesty cases (until Spring 2023). As part of this position, I also designed and implemented a force add request management system (Spring 2017, prior to ROR), designed a research map for the department web page (Summer 2017), organized a department retreat (Fall 2017), and assembled an archive of course materials for the department (Spring - Summer 2019).

Chair of *ad hoc* Placement Test Committee: Fall 2024 - Spring 2025.

This was a committee that designed and implemented a replacement for the current department placement test taken by incoming students.

Governance Committee: Fall 2017 - present (Chair), 2008-09, 2006-07.

During the 2017-2018 and 2018-19 academic years, I worked with three other faculty members and in consultation with the department to produce a completely new governance document. While many policies were borrowed from the old document, the new document is organized very differently, in a form designed for ease of use and updating. Much work was necessary to eliminate redundancy, update obsolete statements, ensure consistency with university policy, and firm up various definitions. The new document was adopted by the department in March 2019.

Strategic Planning Committee: Fall 2023 - present.

The charge of this committee is to plan for the future of the department, whether through the development of new programs or other activities.

Department self-study co-author: Summer 2016.

I helped Patrick Dowling and Doug Ward write the department self-study document in advance of the program review conducted in October 2016.

Chair of Department Tenure Committee: Fall 2014 - Fall 2017.

My duties were to call and preside at meetings of the committee each Spring to discuss progress and write review letters for probationary faculty members. During the fall, meetings were held to consider and vote upon applications for tenure and promotion to Associate Professor.

Chair of Department Level 2 and Level 3 Promotion Committees: Fall 2018 - present.

My duties are to call and preside at meetings of the committee when needed to evaluate or recommend TCPL faculty members for promotion either to Associate Lecturer / Associate Teaching Professor (Level 2) or Senior Lecturer / Teaching Professor (Level 3).

Department Graduate Committee: Fall 2007 - Spring 2014 and Fall 2001 - Spring 2004.

The Graduate Committee considers all issues pertinent to the department's graduate degree programs, including course approvals, curriculum changes, and assistantship offers to program applicants.

Department web page: design and maintenance, Fall 2009 - Spring 2014.

Prior to the uniformization of university web pages implemented in 2014, the department maintained its own website. I wrote the code for those pages and updated the relevant information each year.

Chair of Oxford Math lecturer search committee: 2013-14.

Oxford Math tenure-track search committee: 2016-17, 2014-15, 2011-12, 2002-03.

Hamilton tenure-track Math search committee: 2009-10.

Mathematics Committee: Chair 2006-08 and Secretary 2002-2006.

This committee, which was in existence from 2002 through 2009 in the (joint) department of Mathematics and Statistics, considered matters specific to mathematics and communicated a recommendation to the department.

Chair of *ad hoc* Committee for Peer Review of Teaching: Spring 2005.

This committee devised a departmental policy for peer review of teaching (for tenure-track faculty), which was then approved by the department and incorporated into the governance document.

Departmental Service (minor)

Visiting Faculty Selection: Summer 2024.

One other faculty member and I assisted the Chair in screening applications for a Visiting Assistant Professor position for 2024-25.

Department Assessment Report (author): 2018.

I wrote the part of the report on the capstone MTH 425, which I had taught that year.

Barney Fellowship Selection *ad hoc* Committee: 2016 and 2019.

This committee was convened to consider applications for the M. Pauline Priest Barney Fellowship.

Department Retreat: 2017.

I organized and conducted an on-campus retreat for the Department of Mathematics, in which we discussed various issues of concern, some proceeding from the 2016 program review.

Chair of *ad hoc* Online Teaching Evaluation Committee: Spring 2012 and Fall 2013.

This committee was tasked with drafting or revising department-specific questions on form for student evaluation of teaching, as the university was transitioning from evaluations on paper to online evaluations.

Computer Committee: Fall 2013 - Spring 2023.

Departmental Library Liaison: Fall 2004 - Spring 2006.

Colloquium Committee: Fall 2003 - Spring 2004.

Mathematics Steering Committee: Fall 2000 - Spring 2001.

Service to the University

Orientation Advisor (2 sessions), Summer 2025.

Graduate Council (alternate), Fall 2019 and Spring 2023.

College of Arts and Sciences Committee on Committees, 2016-2018.

University Library Committee, Fall 2010 - Spring 2013.

CAS Committee for the Review of Chairs and Program Directors: Fall 2010 - Spring 2012.

Graduate Council Financial Assistance Subcommittee: Fall 2010 - Spring 2012.

Harrison Scholarship Screening Committee, 2009.

Honors and Scholars Program Advisory Committee: Fall 2007 - Spring 2010.

Graduate Council Natural Sciences Subcommittee: Fall 2007 - Spring 2008.

Student-Centered Service

Chapter Advisor to Pi Mu Epsilon: Fall 2005 - Spring 2008 and Fall 2009 - Spring 2010.

Invited oration to Pi Mu Epsilon: Fall 2000, Fall 2004, Fall 2010, Fall 2015.

External Service

Ohio Board of Regents Math TAG: (Panel lead since Summer 2013, member since Fall 2010).
The Mathematics Transfer Assurance Guide (TAG) Panel evaluates mid-level mathematics courses (Calculus III, Linear Algebra, Differential Equations) at state-funded institutions within Ohio for appropriateness for transfer credit. The role of panel lead is analogous to that of committee chair.

External Evaluator: I served as an external reviewer for a faculty member seeking promotion and tenure in the Department of Mathematics at Education University in Pakistan. I reviewed the materials submitted and wrote a summary of evaluation.

External Program Reviewer: I served as an external reviewer (along with two others) for the Department of Mathematics at Montclair State University. The site visit was made in November 2022, and our report was compiled and finalized the following December and January.

Program Proposal Reviewer: 2012-2013

In late 2012, Shawnee State University submitted a pre-proposal for a Master's degree program in Mathematics. I wrote a review of the pre-proposal and deemed it solid enough to proceed to a full proposal. The latter was submitted in 2013, and I completed a review of it also.

MAGS Thesis Reviewer: 2010

I wrote a review of a thesis submitted to the Midwest Association of Graduate Schools (MAGS) for an award.

Conference Organization

Co-organizer (with Tetsuya Ishiu and Suman Bhatia) of *Mathematical Foundations of Cybersecurity*: Oxford, OH; September 19-20, 2025.

Co-organizer (with Beata Randrianantoanina and Patrick Dowling) of *Undergraduate Research*: Oxford, OH; September 28-29, 2013.

Co-organizer (with Louis DeBiasio, Tao Jiang, Zevi Miller, and Dan Pritikin) of *MIGHTY LIV*: Oxford, OH; April 6, 2013.

Co-organizer (with Paul Larson and Zevi Miller) of *The Mathematics of Finance*: Oxford, OH; September 30th - October 1st, 2011.

Co-organizer (with Patrick Brosnan and Roy Joshua) of *Algebraic Cycles II: Progress and Prospects*: Columbus, OH; March 24-29, 2008.

Co-organizer (with Paul Larson and Dan Pritikin) of *Recreational Mathematics*: Oxford, OH; September 26-27, 2008.

Co-organizer (with Paul Larson and Bruce Magurn) of *Number Theory* (Miami University Fall Conference): Oxford, OH; September 28-29, 2007.

Co-organizer (with Roy Joshua and Bruce Magurn) of *Conference on Algebraic Cycles*: Oxford, OH;

March 5-6, 2003.

Co-organizer (with Linda Eroh and Carmen Schabel) of Project NExT Special Session *Teaching Students to Write Proofs*, MAA MathFest: Burlington, VT; July 31st, 2002.

Other Service to the Profession

Journal referee:

J. of Pure and Applied Algebra, Communications in Algebra, Hokkaido J. of Mathematics, Clay Mathematics Institute Proceedings, Discussiones Mathematicae, Ars Mathematica Contemporanea, American Mathematical Monthly, J. of K-Theory, Semigroup Forum, Involve, Rocky Mountain J. of Mathematics, Taiwanese J. of Mathematics, Korean J. of Mathematics, Electronic J. of Combinatorics, J. of Integer Sequences, Pacific J. of Mathematics, Hacettepe J. of Mathematics, Punjab J. of Mathematics.

External reviewer for faculty members at University of Education (2024) and Air University (2025), both in Pakistan.

Reviewer for Math Reviews (2 reviews).

Judge for Undergraduate Research Poster Session (Joint Mathematics Meetings), January 2002.

Programming languages

Working knowledge of Python, C++ , Fortran and Matlab.

References

Louis DeBiasio, Department of Mathematics, debiasld@miamioh.edu
Patrick Dowling, Department of Mathematics, dowlinpn@miamioh.edu
Paul Larson, Department of Mathematics, larsonpb@miamioh.edu
Doug Ward, Department of Mathematics, wardde@miamioh.edu.