

CURRICULUM VITAE

FEDERICO GALETTO

1. BACKGROUND INFORMATION

Contact Information.

Mailing address Cleveland State University - Department of Mathematics and Statistics
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Website math.galetto.org

Education.

2009 - 2013 *Ph.D. in Mathematics*, Northeastern University
2007 - 2009 *M.S. in Pure Mathematics*, Northeastern University
2005 - 2008 *Laurea Magistrale in Matematica* (equivalent to M.S.), Università degli Studi di Torino
2001 - 2005 *Laurea in Scienze Matematiche* (equivalent to B.S.), Università degli Studi di Torino

Academic Positions.

2023 - present *Associate Professor*, Cleveland State University, Cleveland, OH
2018 - 2023 *Assistant Professor*, Cleveland State University, Cleveland, OH
2015 - 2018 *Postdoctoral Fellow*, McMaster University, Hamilton, ON
Fall 2016 *Visiting Researcher*, Fields Institute, Toronto, ON
2013 - 2015 *Coleman Postdoctoral Fellow*, Queen's University, Kingston, ON
2007 - 2013 *Teaching Assistant*, Northeastern University, Boston, MA

Grants and Awards.

2023 Undergraduate Summer Research Award, *Finite Group Actions on Free Resolutions*, Cleveland State University, Office of Research, \$4,725
2022 - 2025 NSF Standard Grant DMS-2200844, *Finite Group Actions on Free Resolutions*, \$123,410 (PI)
2020 - 2022 NSF Conference Grant DMS-2003883, *Macaulay2 Workshop at Cleveland State University*, \$19,973 (PI)
2020 Undergraduate Summer Research Award, *Jets of graphs*, Cleveland State University, Office of Research, \$3,937.50

Research Interests.

Commutative and homological algebra, algebraic geometry
Computational methods and mathematical software

2. PUBLICATIONS

Refereed Papers.

- 2024 18. L. Ferraro, F. Galetto, F. Gandini, H. Huang, M. Mastroeni, and X. Ni. The InvariantRing package for Macaulay2. *Journal of Software for Algebra and Geometry*, 14(1):5–11, 2024.
- 17. F. Galetto, H. H. López, M. Rahmati, J. Sang, and C. Yu. Experience in teaching quantum computing with hands-on programming labs. *The Journal of Supercomputing*, 2024.
- 2023 16. F. Galetto. Setting the scene for Betti characters. *Journal of Software for Algebra and Geometry*, 13(1):45–51, 2023.
- 2022 15. F. Galetto and N. Iammarino. Computing with jets. *Journal of Software for Algebra and Geometry*, 12(1):43–49, 2022.
- 14. F. Galetto. Finite group characters on free resolutions. *Journal of Symbolic Computation*, 113:29–38, 2022.
- 2021 13. F. Galetto, E. Helmick, and M. Walsh. Jet graphs. *Involve*, 14(5):793–812, 2021.
- 2020 12. J. Biermann, H. de Alba, F. Galetto, S. Murai, U. Nagel, A. O’Keefe, T. Römer, and A. Seceleanu. Betti numbers of symmetric shifted ideals. *Journal of Algebra*, 560:312–342, 2020.
- 11. F. Galetto. On the ideal generated by all squarefree monomials of a given degree. *Journal of Commutative Algebra*, 12(2):199–215, 2020.
- 2019 10. F. Galetto, J. Hofscheier, G. Keiper, C. Kohne, A. Van Tuyl, and M. E. Uribe-Paczka. Betti numbers of toric ideals of graphs: a case study. *Journal of Algebra and its Applications*, 18(12):1950226, 14, 2019.
- 9. F. Galetto, A. V. Geramita, Y.-S. Shin, and A. Van Tuyl. The symbolic defect of an ideal. *Journal of Pure and Applied Algebra*, 223(6):2709–2731, 2019.
- 8. F. Galetto, A. V. Geramita, and D. L. Wehlau. Degrees of regular sequences with a symmetric group action. *Canadian Journal of Mathematics*, 71(3):557–578, 2019.
- 2018 7. H. Abe, L. DeDieu, F. Galetto, and M. Harada. Geometry of Hessenberg varieties with applications to Newton-Okounkov bodies. *Selecta Mathematica (New Series)*, 24(3):2129–2163, 2018.
- 6. F. Galetto, A. V. Geramita, and D. L. Wehlau. Symmetric complete intersections. *Communications in Algebra*, 46(5):2194–2204, 2018.
- 2017 5. F. Galetto, Y.-S. Shin, and A. Van Tuyl. Distinguishing \mathbb{k} -configurations. *Illinois Journal of Mathematics*, 61(3-4):415–441, 2017.
- 4. F. Galetto. Generators of truncated symmetric polynomials. *Journal of Pure and Applied Algebra*, 221(2):276–285, 2017.
- 2016 3. F. Galetto. Propagating weights of tori along free resolutions. *Journal of Symbolic Computation*, 74:1–45, 2016.
- 2015 2. F. Galetto. Free resolutions and modules with a semisimple Lie group action. *Journal of Software for Algebra and Geometry*, 7(1):17–29, 2015.
- 2014 1. F. Galetto. Computational methods for orbit closures in a representation with finitely many orbits. *Experimental Mathematics*, 23(3):310–321, 2014.

Preprints.

- 2024 1. N. Altafi, R. Di Gennaro, F. Galetto, S. Grate, R. M. Miro-Roig, U. Nagel, A. Seceleanu, and J. Watanabe. Betti numbers for connected sums of graded gorenstein artinian algebras, [arXiv:2401.10492](#).

Unpublished Papers.

- 2012 1. F. Galetto. Free resolutions of orbit closures for the representations associated to gradings on Lie algebras of type E_6 , F_4 and G_2 , [arXiv:1210.6410](#) (preprint of doctoral dissertation; excerpt published in *Experimental Mathematics*, 23(3):310–321, 2014)

Expository Papers.

- 2018 1. F. Galetto. Betti numbers with a dash of representations. *Canadian Mathematical Society Notes*, 50(1):16, 2018.

Dissertations and Theses.

- 2013 *Free resolutions of orbit closures for representations with finitely many orbits*, Ph.D. Thesis, Northeastern University, supervised by J. Weyman
 2008 *Metodi omologici con applicazioni alla teoria degli anelli locali*, Tesi di Laurea Magistrale, Università degli Studi di Torino, supervised by M. Roggero
 2005 *Curve ellittiche*, Tesi di Laurea, Università degli Studi di Torino, supervised by M. Roggero

3. TALKS AND CONFERENCE ATTENDANCE**Invited Talks.**

- 2024 Mar *Jets of graphs*, Mathematics Colloquium, Oberlin College
 2023 Oct *Jets of graphs and symbolic powers*, AMS Sectional Meeting, Special Session on Varieties With Unexpected Hypersurfaces, Geproci Sets and Their Interactions, Creighton University
 Jan *Finite group actions on free resolutions*, Joint Mathematics Meetings, AMS Special Session on The Combinatorics and Geometry of Jordan Type and Lefschetz Properties, Boston, MA
 Jan *Jet graphs*, Joint Mathematics Meetings, AMS Special Session on Topological and Combinatorial Methods in Commutative Algebra, Boston, MA
 2022 Oct *Finite group actions on free resolutions*, AMS Sectional Meeting, Special Session on The Combinatorics and Geometry of Jordan type and Commuting Varieties, University of Massachusetts-Amherst
 May *Jet graphs*, AMS Sectional Meeting, Special Session on Commutative Algebra, University of Denver
 Mar *Finite group actions on free resolutions*, AMS Sectional Meeting, Special Session on Homological Methods in Commutative Algebra, Tufts University
 2021 Apr *Jets of graphs*, Department of Mathematics and Statistics Colloquium, James Madison University
 2020 Oct *Star configurations and symmetric shifted ideals*, Geometry, Algebra, Singularities, and Combinatorics Seminar, Northeastern University

- Oct *Finite group actions on free resolutions*, AMS Sectional Meeting, Special Session on Commutative Algebra and Connections to Algebraic Geometry and Combinatorics, Pennsylvania State University, University Park Campus
- May *Representations with finitely many orbits and free resolutions*, Algebra Seminar, Jagiellonian University
- Mar *Betti numbers and equivariant free resolutions of star configurations*, Algebra/Combinatorics/Geometry Seminar, University of Pittsburgh
- 2019 Dec *Tangent schemes of determinantal varieties*, CMS Meeting, Scientific Session on Commutative Algebra, Toronto, ON
- 2018 Dec *Betti numbers of symbolic powers of star configurations*, CMS Meeting, Scientific Session on Symbolic and Regular Powers of Ideals, Vancouver, BC
- Mar *Towards Newton-Okounkov bodies of Hessenberg varieties*, AMS Sectional Meeting, Special Session on Convex Bodies in Algebraic Geometry and Representation Theory, Ohio State University
- Mar *The symbolic defect of an ideal*, AMS Sectional Meeting, Special Session on Commutative and Combinatorial Algebra, Ohio State University
- 2017 Dec *Distinguishing k -configurations*, CMS Meeting, Scientific Session on Applications of Combinatorial Topology in Commutative Algebra, Waterloo, ON
- Oct *Distinguishing k -configurations*, Mathematics Colloquium, Dalhousie University
- Apr *Towards Newton-Okounkov bodies of Hessenberg varieties*, AMS Sectional Meeting, Special Session on Combinatorial and Computational Commutative Algebra and Algebraic Geometry, Washington State University
- 2016 Sep *Equivariant resolutions of De Concini-Procesi ideals*, AMS Sectional Meeting, Special Session on Combinatorial Aspects of Nilpotent Orbits, Bowdoin College
- May *Symmetric complete intersections*, Algebra & Geometry Seminar, Università degli Studi di Genova
- Apr *Symmetric complete intersections*, AMS Sectional Meeting, Special Session on Commutative Algebra and Its Interactions with Combinatorics and Algebraic Geometry, North Dakota State University
- Apr *Equivariant resolutions of De Concini-Procesi ideals*, Algebra Seminar, University of Nebraska - Lincoln
- Apr *An introduction to equivariant free resolutions*, Algebra Seminar, University of Nebraska - Lincoln
- Mar *Symmetric complete intersections*, AMS Sectional Meeting, Special Session on Combinatorial and Computational Algebra, University of Georgia
- 2015 Jan *On a family of equivariant resolutions*, Joint Mathematics Meetings, AMS Special Session on Syzygies, San Antonio, TX
- 2014 Dec *Equivariant resolutions of De Concini-Procesi ideals*, Welcome Home Workshop, Università degli Studi di Torino
- Nov *Equivariant resolutions of De Concini-Procesi ideals*, Geometric Methods in Representation Theory, University of Iowa
- Oct *Equivariant resolutions of De Concini-Procesi ideals*, AMS Sectional Meeting, Special Session on Commutative Algebra and Its Interactions with Algebraic Geometry, Dalhousie University
- Aug *An algorithm for determining actions of semisimple Lie groups on free resolutions*, Applications of Computer Algebra, Fordham University
- Jan *An algorithm for determining actions of semisimple Lie groups on free resolutions*, Department Colloquium, Queen's University
- 2013 Feb *Representations with finitely many orbits and free resolutions*, Representation Theory, Homological Algebra, and Free Resolutions, MSRI

- Jan *Representations with finitely many orbits and free resolutions*, Geometry Seminar, Texas A&M University
- 2012 Nov *Representations with finitely many orbits and free resolutions*, Commutative Algebra & Algebraic Geometry Seminar, City University of New York, Graduate Center
- Nov *Representations with finitely many orbits and free resolutions*, Geometric Methods in Representation Theory, University of Missouri, Columbia
- 2011 Dec *Risoluzioni libere di ideali determinantal*, Welcome Home Workshop, Università degli Studi di Torino

Conference and Seminar Talks.

- 2021 Mar *Finite group actions on free resolutions*, Topology, Algebra, & Geometry Seminar, Cleveland State University
- 2020 Sep *Jets of graphs*, Topology, Algebra, & Geometry Seminar, Cleveland State University
- Jan *Symmetric shifted ideals*, Combinatorial Algebra meets Algebraic Combinatorics, Dalhousie University
- 2019 Oct *Betti numbers, linear quotients, and star configurations*, Topology, Geometry & Algebra Seminar, Cleveland State University
- Apr *The symbolic defect of an ideal*, Topology, Geometry & Algebra Seminar, Cleveland State University
- 2017 Oct *Equivariant resolutions of De Concini-Procesi ideals*, Dalhousie University
- Sep *Distinguishing k -configurations*, Algebra Seminar, McMaster University
- Mar *Regular sequences and symmetric group actions*, Algebra Seminar, McMaster University
- 2016 Oct *Geometric technique for syzygies*, Thematic Program on Combinatorial Algebraic Geometry, Fields Institute
- Oct *An example of an equivariant free resolution of a monomial ideal*, Thematic Program on Combinatorial Algebraic Geometry, Fields Institute
- 2015 Nov *An overview of Boij-Soederberg theory*, Algebra Seminar, McMaster University
- Oct *Tangent schemes of determinantal varieties*, Geometry & Topology Seminar, McMaster University
- 2014 Nov *Equivariant resolutions of De Concini-Procesi ideals*, Algebra Seminar, Loyola University Chicago
- Jan *An algorithm for determining actions of semisimple Lie groups on free resolutions*, Combinatorial Algebra meets Algebraic Combinatorics, Dalhousie University
- 2013 Sep *Free resolutions and representations with finitely many orbits*, Algebraic Geometric Seminar, Queen's University
- 2012 Nov *Representations with finitely many orbits and free resolutions*, Cornell Workshop on Syzygies, Cornell University
- Feb *Algorithms for irreducible decomposition of monomial ideals*, Graduate Student Seminar, Northeastern University
- Feb *Equivariant criteria for exactness and reducedness*, Quivers and Invariant Theory Seminar, Northeastern University
- Jan *Free resolutions of orbit closures for representations with finitely many orbits*, Combinatorial Algebra meets Algebraic Combinatorics, Université du Québec à Montréal
- 2011 Sep *Free resolutions of orbit closures for representations with finitely many orbits*, Route 81, Cornell University
- Apr *Orbit closures for the representations associated to graded Lie algebras: an interactive approach*, Maurice Auslander International Conference, Woods Hole Marine Biology Laboratory

- Feb *Generalized Tanisaki Ideals and the Cohomology of Hessenberg Varieties*, Graduate Student Seminar, Northeastern University
- 2009 Dec *Grassmannians and Cluster Algebras*, Topics in Representation Theory, Northeastern University
- May *An Introduction to Hodge Algebras*, Tapas Seminar, Northeastern University

Conference Attendance.

- 2023 May Workshop on Lefschetz Properties in Algebra, Geometry, Topology and Combinatorics, Fields Institute
- Apr Workshop on Syzygies and Regularity at UIC
- Jan Combinatorial Algebra meets Algebraic Combinatorics, University of Waterloo
- 2022 Aug MAA MathFest, Philadelphia, PA
- Jul $\text{Spec}(\overline{\mathbb{Q}})$, Fields Institute
- May Macaulay2 Conference at Cleveland State University
- Jan Combinatorial Algebra meets Algebraic Combinatorics, Fields Institute
- 2021 Dec CMS Winter Meeting
- Oct AMS Fall Western Sectional Meeting, University of New Mexico, Albuquerque
- Aug MAA MathFest
- Jan Combinatorial Algebra meets Algebraic Combinatorics, Université du Québec à Montréal
- Jan Joint Mathematics Meetings
- 2020 Nov LGBTQ+ Math Day
- Aug Free Resolutions and Representation Theory Workshop, ICERM
- May Macaulay2 Workshop at Cleveland State University
- Apr CAZoom
- 2019 Aug Structure of length 3 resolutions workshop, University of California San Diego
- Jul SageMath and Macaulay2 - An Open Source Initiative, IMA
- Jun Conference on Commutative Algebra and its Interaction with Algebraic Geometry In Honor of Bernd Ulrich, University of Notre Dame
- 2018 Sep Route 81, Syracuse University
- Jun Combinatorial Algebraic Geometry Retrospective Workshop, Fields Institute
- Jun Graduate Summer School in Algebraic Group Actions, McMaster University
- Apr Macaulay2 Workshop at Wisconsin, University of Wisconsin - Madison
- Jan Combinatorial Algebra meets Algebraic Combinatorics, McMaster University
- Jan Joint Mathematics Meetings, San Diego, CA
- 2017 May Ordinary and Symbolic Powers of Ideals, BIRS-CMO
- Jan Joint Mathematics Meetings, Atlanta, GA
- 2016 Dec CMS Meeting, Scientific Session on Recent Advances in Commutative Algebra, Niagara Falls, ON
- Fall Thematic Program on Combinatorial Algebraic Geometry, Fields Institute
- Apr Free Resolutions, Representations, and Asymptotic Algebra, BIRS
- Jan Combinatorial Algebra meets Algebraic Combinatorics, University of Western Ontario
- 2015 Oct Route 81, Queen's University
- Oct AMS Fall Central Sectional Meeting, Loyola University Chicago
- Jan Combinatorial Algebra meets Algebraic Combinatorics, Queen's University
- 2014 Nov Symbolic and Numerical Methods for Tensors and Representation Theory, Simons Institute, University of California Berkeley
- Jun Macaulay2 Research Meeting and School, University of Illinois at Urbana-Champaign
- 2013 Nov Route 81, Syracuse University

- May Maurice Auslander International Conference, Woods Hole Oceanographic Institute
 Jan Joint Mathematics Meetings, San Diego, CA
 2012 Aug Macaulay2 Developer's Workshop, Wake Forest University
 Jun MRC: Geometry and Representation Theory Related to Geometric Complexity and Other Variants of P v. NP, Snowbird, UT
 May PASI: Commutative Algebra and Its Interactions with Algebraic Geometry, Representation Theory, and Physics, CIMAT
 Apr Maurice Auslander International Conference, Woods Hole Oceanographic Institute
 Apr Interactions between Commutative Algebra and Representation Theory, Syracuse University
 2011 Nov Commutative Algebra and Algebraic Geometry Conference, University of Illinois at Urbana-Champaign
 Jun Commutative Algebra Summer Graduate School, MSRI
 May Geometry of Orbit Closures, Università degli Studi di Roma "Tor Vergata"
 2006 Aug Scuola Matematica Interuniversitaria, Università degli Studi di Perugia

4. TEACHING EXPERIENCE

Courses Taught.

| Year | Term | Course No. | Title | Enrolled | Institution |
|---------|--------|-------------|---|----------|-------------|
| 2023-24 | Spring | MTH 182 | Calculus II | 30 | CSU |
| | Spring | MTH 220 | Introduction to Discrete Mathematics | 34 | CSU |
| | Fall | MTH 220 | Introduction to Discrete Mathematics | 26 | CSU |
| | Fall | MTH 301 | Introduction to Number Theory | 15 | CSU |
| | Fall | CIS 492/593 | Special Topics in Quantum Computing | 10 | CSU |
| 2022-23 | Spring | MTH 288 | Linear Algebra | 30 | CSU |
| | Spring | MTH 458 | Abstract Algebra II | 6 | CSU |
| | Fall | MTH 220 | Introduction to Discrete Mathematics | 26 | CSU |
| | Fall | MTH 358 | Abstract Algebra | 13 | CSU |
| 2021-22 | Spring | MTH 482/582 | Topics in Number Theory | 9 | CSU |
| | Spring | MTH 358 | Abstract Algebra | 24 | CSU |
| | Fall | MTH 434/534 | Differential Geometry | 9 | CSU |
| | Fall | MTH 301 | Introduction to Number Theory | 15 | CSU |
| 2020-21 | Spring | MTH 415/515 | Real Analysis | 36 | CSU |
| | Spring | MTH 220 | Introduction to Discrete Mathematics | 34 | CSU |
| | Fall | MTH 301 | Introduction to Number Theory | 30 | CSU |
| | Fall | MTH 220 | Introduction to Discrete Mathematics | 30 | CSU |
| 2019-20 | Spring | MTH 493/593 | Computational Commutative Algebra | 16 | CSU |
| | Spring | MTH 220 | Introduction to Discrete Mathematics | 34 | CSU |
| | Fall | MTH 358 | Abstract Algebra | 13 | CSU |
| | Fall | MTH 220 | Introduction to Discrete Mathematics | 35 | CSU |
| 2018-19 | Spring | MTH 482/582 | Topics in Number Theory | 13 | CSU |
| | Spring | MTH 220 | Introduction to Discrete Mathematics | 34 | CSU |
| | Fall | MTH 333 | Geometry | 25 | CSU |
| | Fall | MTH 514 | Linear Algebra/Functions of Several Variables | 11 | CSU |
| 2017-18 | Winter | MATH 3V03 | Graph Theory | 48 | McMaster |
| | Winter | MATH 1AA3 | Calculus for Science II (joint with 1ZB3) | 55 | McMaster |

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| | Winter | MATH 1ZB3 | Engineering Mathematics II-A | 82 | McMaster |
| | Fall | MATH 3B03 | Geometry | 26 | McMaster |
| 2016-17 | Summer | MATH 2R03 | Linear Algebra II | 46 | McMaster |
| | Winter | MATH 702 | Algebra II (graduate) | 10 | McMaster |
| 2015-16 | Summer | MATH 2R03 | Linear Algebra II | 55 | McMaster |
| | Fall | MATH 1A03 | Calculus for Science I | 206 | McMaster |
| 2014-15 | Winter | MATH 281 | Introduction to Real Analysis | 110 | Queen's |
| | Winter | APSC 171-900 | Calculus I | 63 | Queen's |
| 2013-14 | Winter | MATH 281 | Introduction to Real Analysis | 108 | Queen's |
| | Fall | APSC 171 | Calculus I | 233 | Queen's |
| 2012-13 | Spring | MATH 1215 | Mathematical Thinking | 38 | NEU |
| | Fall | MATH 1215 | Mathematical Thinking | 23 | NEU |
| 2011-12 | Spring | MATH 1215 | Mathematical Thinking | 32 | NEU |
| | Fall | MATH 1215 | Mathematical Thinking | 47 | NEU |
| 2010-11 | Summer II | MATH 1215 | Mathematical Thinking | 23 | NEU |
| | Fall | MATH 1341 | Calculus I for Sci/Engr | 20 | NEU |
| 2009-10 | Summer I | MATH 1215 | Mathematical Thinking | 15 | NEU |
| | Spring | MATH 1341 | Calculus I for Sci/Engr | 21 | NEU |
| | Fall | MATH 1341 | Calculus I for Sci/Engr | 30 | NEU |
| 2008-09 | Spring | MTH U241 | Calculus I for Sci/Engr | 28 | NEU |
| | Fall | MTH U241 | Calculus I for Sci/Engr | 25 | NEU |
| 2007-08 | Summer I | MTH U131 | Calculus for Business and Economics | 23 | NEU |
| | Spring | MTH U241 | Calculus I for Sci/Engr | 28 | NEU |
| | Fall | MTH U341 | Calculus III for Sci/Engr (Recitations) | N/A | NEU |

Student Mentoring.

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|------|--------|--|--|
| 2024 | Spring | J. McKinney A. Gopani, R. Motta, G. Peto | Senior Project, <i>Theory and Applications of the Smith Normal Form</i> Independent Study, <i>Representation Theory of Finite Groups</i> |
| 2023 | Fall | T. Vidmar D. Gerrity, J. Kropf, M.G. Johnson, J. Rockamore | Senior Project, <i>Applications of Linear Algebra to Graph Theory</i> Choose Ohio First Poster, <i>The Multifaceted Applications of Elliptic Curves and their Relevance in Cryptography</i> |
| | Summer | S. Elfadil, G. Peto | Undergraduate Summer Research Award, <i>Finite Group Actions on Free Resolutions</i> |
| 2022 | Spring | J.S. Richard | Honors Project, <i>A Graphical Explanation of the Todd-Coxeter Algorithm</i> |
| | | M. Lysyj | Graduate Exit Project, <i>The Four Color Theorem</i> |
| 2021 | Fall | C. Scott | Senior Project, <i>A Mathematical Approach To Digital Signature Schemes</i> |
| | Spring | N. Iammarino | Graduate Exit Project, <i>The Principal Component of the Jets of a Graph</i> |
| | | N. Iammarino | Research Assistant, <i>Macaulay2 Jets package</i> |
| | | K. Sammon | Honors Project, <i>Proofs of the root and ratio tests</i> |
| | | N. Benedict | Senior Project, <i>Elliptic Curves Cryptography</i> |
| | | N. Nunez | Senior Project, <i>The Poincaré Model of Hyperbolic Geometry</i> |
| | | C. Hyer | Graduate Exit Project, <i>Tropical Geometry</i> |

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| 2020 | Fall | C. Hyer, N. Iammarino | Independent Study, <i>Projective Geometry</i> |
| | Summer | E. Helmick M. Walsh | Undergraduate Summer Research Award, <i>Jets of Graphs</i> |
| 2019 | Spring | A. Ellis | Senior Project, <i>Conics</i> |

5. SERVICE AND PROFESSIONAL DEVELOPMENT

Internal Service.

| | |
|-------------|---|
| 2022 - 2024 | Nominating Committee, College of Arts and Sciences, CSU |
| 2022 - 2024 | Graduate Program Committee, Department of Mathematics and Statistics, CSU |
| 2021 - 2023 | Search Committee - Tenure Track, Department of Mathematics and Statistics, CSU |
| 2021 - 2022 | Nominating Committee, College of Science and Health Professions, CSU |
| 2021 | Chair Search Advisory Committee, Department of Mathematics and Statistics, CSU |
| 2020 - 2022 | Undergraduate Program Committee, Department of Mathematics and Statistics, CSU |
| 2020 - 2023 | Topology/Algebra/Geometry Seminar Organizer, CSU |
| 2020 - 2022 | LGBTQ+ Student Services Advisory Team, CSU |
| 2019 - 2023 | Undergraduate Assessment Committee, Department of Mathematics and Statistics, CSU |
| 2019 - 2023 | CSU Freshman-Sophomore Mathematics Competition |
| 2018 - 2022 | Search Committee - Lecturer, Department of Mathematics and Statistics, CSU |
| 2018 - 2020 | Graduate Program Committee, Department of Mathematics and Statistics, CSU |
| 2012 - 2013 | Mathematics Graduate Student Association, NEU |
| 2012 - 2013 | Teaching Committee, Department of Mathematics, NEU |

External Service.

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| 2024 - 2025 | Séminaire de Mathématiques Supérieures, An Introduction to Recent Trends in Commutative Algebra (organizer with S. Da Silva, E. Guardo, M. Harada, J. Rajchgot, P. Klein, and A. Van Tuyl) |
| 2024 | Judge for Choose Ohio First Research Presentations at Case Western Reserve University |
| 2023 - 2024 | Science Olympiad Northeast Ohio Volunteer |
| 2023 | Judge for AWM Graduate Student Poster Session at JMM |
| 2022 | Macaulay2 Conference at Cleveland State University (organizer with C. Gibbons, H. Lopez, and B. Stone) |
| 2021 | Special Session on Hyperplane arrangements in connection with commutative algebra at the 2021 AMS Fall Western Sectional Meeting (organizer with K.-N. Lin) |
| 2021 | Michigan Research Experience for Graduates (project leader with F. Gandini) |
| 2020 | Virtual Macaulay2 Workshop at Cleveland State University (organizer with C. Gibbons, H. Lopez, and B. Stone) |
| 2019 - present | Reviewer for AMS Mathematical Reviews (x3) |
| 2016 | Scientific Session on Recent Advances in Commutative Algebra at the 2016 CMS Winter Meeting in Niagara Falls, ON (organizer with S. Faridi and A. Van Tuyl) |

Referee Service.

Algebra & Number Theory
 Communications in Algebra (x3)
 Contemporary Mathematics
 CUBO
 Journal of Algebra and its Applications (x3)
 Journal of Algebraic Combinatorics
 Journal of Commutative Algebra (x2)
 Journal of Pure & Applied Algebra (x2)
 Journal of Software for Algebra and Geometry (x2)
 Journal of Symbolic Computation
 La Matematica
 Proceedings of the American Mathematical Society
 Rendiconti Matematici del Circolo di Palermo
 Rocky Mountain Journal of Mathematics (x2)
 The Electronic Journal of Combinatorics

Affiliations.

2015 - present Member of the American Mathematical Society
 2021 - 2024 Member of the Mathematical Association of America

Professional Development.

2023 The Diversity Institute workshops: Disability & Ableism
 The Diversity Institute workshops: Allyship and Solidarity Across Identities; Leveraging Difference; Power, Privilege and Society; Bias in Action
 2021 MAA Project NExT, Gold 21 Cohort
 2020 Write Winning Grant Proposals Seminar
 AMS Webinars, Teaching Math Online: Theory Into Practice
 Faculty Online Teaching and Design Course, Center for eLearning, Cleveland State University
 REMOTE: The Connected Faculty Summit
 LockDown Browser & Respondus Monitor Training
 2019 Safe Space Program, Cleveland State University
 2017 Human rights, Equity, Accessibility, Respect Toolkit Workshop Series, McMaster University
 2013 Positive Space Program, Queen's University