

# CURRICULUM VITAE

FEDERICO GALETTO

## 1. BACKGROUND INFORMATION

### Contact Information.

Mailing address Cleveland State University - Department of Mathematics and Statistics  
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### 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*, 80(10):14029–14056, 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 2. F. Galetto, N. Iammarino, and T. Yu. Jets and principal components of monomial ideals, and very well-covered graphs, [arXiv:2407.01836](#).
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

	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.

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>



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.

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