Curriculum Vitae: Claudia Miller

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Research Interests: Commutative Algebra, Homological Algebra, Algebraic Geometry

Employment:

2024 (spring), Research Professor, Mathematical Sciences Research Institute, Berkeley

2013 (spring), Research Member, Mathematical Sciences Research Institute, Berkeley

2011-present, Professor, Syracuse University

2003-2011, Associate Professor, Syracuse University

2003 (spring), Postdoctoral Fellow, Mathematical Sciences Research Institute, Berkeley

2002 (fall), Visiting Assistant Professor, University of Nebraska

2001-2002, Assistant Professor, University of Toronto

2000-2001, Visiting Research Instructor, Michigan State University

1997-2000, Assistant Professor, University of Michigan

Education:

1997, Ph.D., University of Illinois at Urbana-Champaign

1993, Certificate of Advanced Study, Cambridge University.

1990, M.S., University of Illinois at Urbana-Champaign.

1989, B.S., Georgia Institute of Technology (chemistry).

Grants and Awards:

2024 NSF Conference Grant: Bielefeld workshop, Sept 2024

2023-2026 NSF Grant (DMS #2302198).

2022-2027 Simons Foundation Collaboration Grant

2022 NSF Conference Grant (with Wehrli): 3rd Upstate NY Topology Seminar, Oct 2022.

2018-2021 NSF Grant, NCE to 2022 (DMS #1802207).

2016-2018 Douglas R. Anderson Faculty Scholar (funded by the Math Department)

2016 Syracuse University Small Grant (with Zacharia).

2016 Syracuse University Seed Grant.

2010-2013 NSF Grant, no-cost extension to 2015 (DMS #1003384).

2012-2013 NSF Conference Grant (with Iyengar, Leuschke, Zacharia): SU workshop, Apr 2012.

2012 University Scholar-Teacher of the Year, Syracuse University.

2008-2010 NSA Grant, (#H98230-08-1-0025).

2006-2008 NSA Grant (Young Investigator), no-cost extension to 2009 (#98230-06-1-0035).

2005-2006 NSA Conference Grant (with Iyengar, Leuschke, Singh) Minnowbrook workshop, Aug 2005.

2000-2004 NSF Grant, no-cost extension to 2007 (DMS #0196121).

1998 Rackham Summer Research Grant, University of Michigan.

1997 Irving Reiner Award (award for best algebra thesis), University of Illinois.

Professional Activities:

- University Senate, 2024-2026

- Co-organizer, AMS Special Session, "Commutative Algebra, Hodge Theory, Singularities", St. Louis, October 2025.

- Co-organizer, BIRS/PIMS Workshop at Banff, "Singularities, D-modules, and Connections to Physics" (with Christine Berkesch, Linquan Ma, Sebastian Olano, Uli Walther), Sept 2025.

- Co-organizer, Conference at Bielefeld University, Germany, "Betti numbers in commutative algebra and equivariant homotopy theory", Sept 2024.

- Co-organizer and co-principal-lecturer, MSRI Summer Graduate School, "Multigraded and differential graded methods in commutative algebra" (with Michael Brown), July/Aug 2024.

- Research in Groups, IAS (Institute for Advanced Study, Princeton), "Derived differential operators" (with Eamon Gallego-Quinlan, Jack Jeffries, Devlin Mallory, Josh Pollitz), July 2024.

- Co-organizer, Introductory Workshop at MSRI Semester Program, 2024.

- Member, AWM JMM Committee, 2022-2025, including running the Poster Session and Mentoring Lunch for women graduate students and other organizational activities.

- Member of NSF Review Panel, multiple times.

- Co-organizer, AMS Special Session, "Commutative Algebra, Differential Operators, and Singularities", Creighton University, October 2023.

- Syracuse University Arts & Sciences Academic Strategic Planning Committee, 2022-2023.

- Co-organizer, AWM Special Session, "Women in Commutative Algebra" (with Janet Striuli), JMM Boston, Jan 2023.

- Co-organizer, Fellowship of the Ring, a national online Commutative Algebra seminar (headed by David Eisenbud), Spring 2020-Spring 2023

- Co-organizer, Women in Commutative Algebra and Algebraic Geometry Workshop(s), a series of virtual workshops at the Fields Institute, Toronto, 2022-2024.

- Co-organizer for Upstate New York Topology Seminar (with Stephan Wehrli), regional conference, Syracuse University, Oct 2022.

- Co-organizer, BIRS/PIMS Workshop at Banff, "Rank conjectures in algebraic topology and commutative algebra" (with Natàlia Castellana, Srikanth B. Iyengar, and Marc Stephan), Fall 2022.

- Co-organizer, virtual seminar series for junior participants of the BIRS/PIMS Workshop at Banff (with Natàlia Castellana, Srikanth B. Iyengar, and Marc Stephan), Summer 2022.

- Co-principal lecturer, PASCA summer school at CIMAT in Guanajuato Mexico, 2022.

- Co-organizer, ICERM Workshop, "D-modules, Group Actions, and Frobenius: Computing on Singularities" (with Christine Berkesch, Linquan Ma, Claudiu Raicu, and Uli Walther), Summer 2021

- Co-editor, Springer Volume "Women in Commutative Algebra - Proceedings of the 2019 WICA Workshop" (we put together a refereed volume of more than 400 pages), submitted/accepted in 2021, to appear in 2022.

- Member of a national external Review Panel, 2020-21.

- Organizer, Homotopical Algebra Reading Group, Summer 2020

- Co-organizer, ICERM Workshop, Summer 2020, "Free Resolutions and Representation Theory" (with Lars Christensen, Steven Sam, and Jerzy Weyman)

- Co-leader of a Research Group, Banff Women in Commutative Algebra (with Alexandra Seceleanu), Fall 2019

- Participant MSRI Summer Research for Women in Mathematics program, Summer 2019

- Co-organizer for Topology Day (inauguration of regional conference series with Menasco, Sikora, Wehrli, Zakharevich), SUNY at Buffalo, Sept 2017.

- Co-organizer, AMS Special Session, "Algebraic Topology" (with Zakharevich), SUNY at Buffalo, Sept 2017.

- Co-organizer, Route 81 Conference in Commutative Algebra and Algebraic Geometry, Syracuse University, Fall 2003, 2006, 2009, 2013, and 2016.

- Member of NSA Review Panel and/or external reviewer, multiple times.

- Co-organizer, AMS Special Session, "Singularities - Algebraic and Analytic Aspects", Georgetown University, March 2015.

- Lecturer at "Computation of F-invariants Workshop", Ann Arbor, May 2012.

- Lecturer at PASI workshop "Commutative algebra and its interactions with Algebraic Geometry, Representation Theory, and Physics", Guanajuato, Mexico, May 2012.

- Co-organizer for Conference "Interactions between Commutative Algebra and Representation Theory", Syracuse University, April 2012.

- Co-organizer, Special Session on Commutative Algebra and Algebraic Geometry, "40 Years and Counting: AWM's Celebration of Women in Mathematics", Brown University, September 2011.

- Co-organizer, AMS Special Session on "Commutative Algebra and Algebraic Geometry", Syracuse University, October 2010.

- Co-organizer for Workshop on Commutative Algebra and its Interactions with Other Fields, Minnowbrook Center, Syracuse University, August 2005.

- Lecturer (3 one hour talks) in Joint Summer Research Conference on Commutative Algebra (Local Cohomology) at Snowbird, June 2005, lectures published jointly as a book.

- Lecturer (4 one hour talks) at VIGRE Mini-Course "Classical Problems in Commutative Algebra", University of Utah, June 2004, notes available on their webpage.

- Referee for many journals.

Publications/Preprints:

1. *k Summands of syzygies over rings of positive Burch index via canonical resolutions*
   (with M. DeBellevue),
   Journal of Algebra, to appear.

2. *Transferring algebra structures on complexes*
   (with H. Rahmati),
   Journal of Homotopy and Related Structures, to appear.

3. *Stable behavior of Frobenius powers over a general hypersurface*
   (with H. Rahmati and R. R.G.),
   Transactions of the AMS, to appear.

4. *Resolutions of differential operators of low order for an isolated hypersurface singularity*
   (with R. Diethorn, J. Jeffries, N. Packauskas, J. Pollitz, H. Rahmati, S. Vassiliadou),
   Michigan Math. Journal, to appear.

5. *Canonical Resolutions over Koszul Algebras*
   (with E. Faber, M. Juhnke-Kubitzke, H. Lindo, R. R.G., A. Seceleanu),
   Women in Commutative Algebra–Proceedings of the 2019 WICA Workshop, Assoc. Women Math. Ser., **29** Springer, (2021) 281–301.

6. *(Co)torsion of exterior powers of differentials over complete intersections* (with S. Vassiliadou),
   Journal of Singularities, **19** (2019), 131–162.

7. *Free resolutions of Artinian compressed algebras*, (with H. Rahmati),
   Journal of Algebra, **497** (2018), 270–301.

8. *The residue field as a high syzygy*,
   (with H. Rahmati and J. Striuli),
   Communications in Algebra, **46** (2018), 2620–2630.

9. *Adams operations on matrix factorizations* (with M. K. Brown, P. Thompson, and M. E. Walker),
   Algebra and Number Theory, **11** (2017), 2165–2192.

10. *Cyclic Adams operations* (with M. K. Brown, P. Thompson, and M. E. Walker),
    Journal of Pure and Applied Algebra, special edition in honor of Ch. Weibel, **221** (2017), 1589–1613.

11. *Duality for Koszul homology over Gorenstein rings* (with H. Rahmati and J. Striuli),
    Mathematische Zeitschrift, **276** (2014), 329–343.

12. *A direct limit for limit Hilbert-Kunz for smooth projective curves* (with H. Brenner and J. Li),
    Journal of Algebra, **372** (2012), 488–504.

13. *On the (non)rigidity of the Frobenius endomorphism over Gorenstein rings* (with H. Dao and J. Li),
    Algebra and Number Theory, **4** (2010), 1039–1053.

14. *Homology of perfect complexes* (with L. L. Avramov, R.-O. Buchweitz, and S. Iyengar),
    Advances in Mathematics, **223** (2010), 1731–1781.

15. *A Riemann-Roch formula for the blow-up of a nonsingular affine scheme* (with C.-Y. J. Chan),
    Journal of Algebra, **322** (2009), 3003–3025.

16. *24 Hours of Local Cohomology: the Snowbird Notes* (with S. Iyengar, G. Leuschke, A. Leykin, E. Miller,
    A. Singh, and U. Walther),
    book in the series AMS Graduate Studies in Mathematics **87** (2007).

17. *Homology over local homomorphisms* (with L. L. Avramov and S. Iyengar),
    American Journal of Mathematics, **128** (2006), no. 1, 23–90.

18. *The Frobenius endomorphism and homological dimensions*,
    Contemporary Mathematics **331** (2003), 207–234.

19. *Frobenius powers of complete intersections* (with L. L. Avramov),
    Mathematical Research Letters, **8** (2001), 225–232.

20. *Mixed ladder determinantal varieties* (with N. Gonciulea),
    Journal of Algebra, **231** (2000), 104–137.

21. *Intersection multiplicities over Gorenstein rings* (with A. Singh),
    Mathematische Annalen, **317** (2000), 155–171.

22. *A Frobenius characterization of finite projective dimension over complete intersections*,
    Mathematische Zeitschrift **233** (2000), 127–136.

23. *An explicit description of the Dennis trace map* (with R. Kantorovitz),
    Communications in Algebra **28** (2000), 1429–1448.

24. *Recovering divisor classes via their (t)-adic filtrations*,
    Journal of Pure and Applied Algebra **127** (1998), 257–271.

25. *Complexity of tensor products of modules and a theorem of Huneke-Wiegand*,
    Proceedings of the American Mathematical Society **126** No. 1 (1998), 53–60.

PhD Students:

- Henry Potts-Rubin, current.
- Desiree Martin, current.
- Casey Necheles, PhD 2021 (joint with Wehrli).
- Mkrtich Ohanyan, PhD 2021 (joint with Briggs), industry.
- Rachel Gettinger, PhD 2020, hired by Yale University.
- Laura Ballard, PhD 2020.
- Eric Ottman, PhD 2019, hired by R.I.T.
- Kosmas Diveris, PhD 2012, hired by St. Olaf College.

Postdocs Mentored:

- Michael DeBellevue, current.
- Rebecca R.G., 2016-2018, hired by George Mason University.
- Hamid Rahmati, 2010-2012, hired by Miami University at Oxford, Ohio.
- Jinjia Li, 2006-2008, hired by University of Louisville.

Departmental Service and Local Outreach:

- Executive Committee + Hiring Committee, 2024-2025.
- Executive Committee + Hiring Committee, 2022-2023.
- Algebra Seminar Co-Organizer, 2022-present.
- Colloquium Co-Organizer, Spring 2016-present.
- Faculty Advisor for AWM graduate student chapter at SU, 2018-present.
- Faculty Co-Mentor for Pi Mu Epsilon/Math Club, 2005-2023 (co-mentor with Kovalev since 2012)
- Chair of Algebra Search Committee, Fall 2022.
- Co-creator and co-organizer of Academic Job Application Workshop for the graduate students and postdocs, Fall 2017-present.
- Executive Committee + Hiring Committee, 2021-2022.
- Hiring Committee, NTT calculus coordinator, Spring 2021.
- Graduate Committee 2020-2021.
- Executive Committee + Chair of Hiring Committee 2019-2020.
- Proposer of an Honors-like Calculus 1-credit add-on course (running currently)
- Proposer of mid-level Graduate Awards.
- Calculus Coordination Committee (CCC) 2015-2020.
- CCC Textbook Committee, 2019-2020
- Project Advance Faculty Advisor (overseeing a high school SU Calculus course)

- Organizer of Graduate Commutative Algebra Seminar, Spring 2015-2018.
- Chair of Hiring Committee, Fall 2017-Spring 2018.
- Chair of Algebra Search Committee, Fall 2017.
- 3rd Year Review Committee for Volterman
- Informal advising of various undergraduates
- Executive Committee + Hiring Committee 2016-2017.
- WISE Portfolio Evaluator 2014-present.
- Calculus II Supervisor, Fall 2016 and Fall 2015.
- Organizer of SWIM (Syracuse Women in Math), 2010-present
- Graduate Committee 2015-2016.
- Pre-tenure Review Committees, various.
- Second reader for Capstone Projects for Honors Program, 2012, 2015 (two).
- Executive Committee + Hiring Committee 2014-2015.
- Executive Committee + Hiring Committee 2013-2014.
- Ad-Hoc Hiring Committee, Fall 2013.
- Ad-Hoc Promotion Committee, 2013-2014.
- Chair of Hiring Committee, 2011-2012.
- Putnam Exam, began/resurrected our participation, 2011.
- Undergraduate Committee, 2009-2012.
- Advisor for postdoctoral associate Hamid Rahmati, 2010-2012.
- Member of various Ph.D. dissertation defense committees and Oral Exam committees, 2007-present.
- Independent study course for undergraduate student, Spring 2011.
- Advisor for a student's Capstone Project for Honors Program, 2009-2010.
- Hiring Committee (postdocs only this year), 2010-2011.
- Algebra Qualifying Exam for Ph.D. students, Jan 2009 and Aug 2010.
- Freshman Advisor, 2009-2010.
- Hiring Committee (and Ad-Hoc Topology Hiring Committee), 2009-2010.
- Executive Committee, 2006-2008.
- Advisor for postdoctoral associate Jinjia Li, 2006-2008.
- Algebra Preliminary Exam for Ph.D. students, Jan 2007.
- Ad-Hoc Committee on Standardizing the Syllabi for the MAT 295-296-397 Sequence, 2006.
- Undergraduate Committee, Syracuse University, 2004 - 2006.
- Independent study courses (with groups of students):
    Spring 2010 (MAT 490 Advanced Reading: Topics in Algebra)
    Spring 2008 (MAT 890 Advanced Seminar: Topics in Algebra)
    Fall 2007 (MAT 890 Advanced Seminar: Topics in Algebra)
    Spring 2006 (MAT 290 Fractals)
    Spring 2005 (MAT 690 Algebraic Number Theory)
    Spring 2004 (MAT 290 Fractals)

- Panel on Applying for Jobs in Academia, MGO conference, Syracuse University, April 2006.
- Involved with starting up Pi Mu Epsilon again at Syracuse, Fall 2004 - Spring 2005.
- Presenter at Kovalevsky Day Festival (two 80 minute math sessions for high school girls), Syracuse University, November 2004.

External Outreach:

- Plenary lecture "Intersection numbers in algebraic geometry", Undergraduate Mathematics Symposium, University of Illinois at Chicago, Fall 2023
- SU Project Advance (visit to 3 high schools each semester to observe their Calculus III class and give an occasional math talk (e.g., fractals or Gauss-Bonnet Theorem)), Fall 2018-present.
- Math Club talk "Fract(ion)al Dimension, Syracuse University, Fall 2021
- Panelist for Fairfield University REU on Applying to Graduate School, Fall 2013.
- Colloquium for Undergraduates, Fairfield University, Spring 2012: "Fract(ion)al dimension".
- Panelist at Nebraska Conference for Undergraduate Women in Mathematics, Feb. 2004.
- Colloquium for Undergraduates, Hope College, 1998: "Blowing Up Curves".

Invited Conference Talks and Workshops:

2024	Apr	MSRI/SLMath Workshop, Recent Developments in Commutative Algebra, Berkeley, CA: "tba"
2023	May	Notre Dame MSRI graduate summer school, Colloquium: "DG algebra structures on resolutions"
	Apr	AMS Special Session, University of Cincinnati: "Transferring algebra structures via homotopy equivalences"
	Feb	MFO Workshop, Oberwolfach, Germany: "Differential operators of low order for an isolated hypersurface singularity"
	Jan	AMS Special Session, JMM, Boston: "Resolutions of "most" commutative Artinian graded k-algebras"
2022	Oct	KUMUNU, University of Nebraska: "Differential operators of low order for an isolated hypersurface singularity"
	Mar	AMS Special Session, Purdue University: "Transferring algebra structures via homotopy equivalences"
2021	May	AMS Special Session, San Francisco, CA: "DG algebra resolutions of quotients by weak complete intersection ideals"
	Mar	AMS Special Session, Georgia Tech: "DG algebra resolutions of quotients by weak complete intersection ideals"
2020	Oct	CIRM (Luminy, France) Workshop *(cancelled due to Covid)*
	Oct	AMS Special Session, University of Tennessee: "Transferring dg-algebra structures"
	Aug	DOCAS (Differential Operators in Commutative Algebra Seminar):
	May	Midwest Topology Seminar, Wayne State University: *(cancelled due to Covid)*
	May	AMS Special Session, Fresno, CA: "Transferring algebra structures on complexes" *(moved online due to Covid)*
	Apr	AMS Special Session, Purdue University: *(2 sessions, both cancelled due to Covid)*
	Mar	AMS Special Session, Boston, MA: *(cancelled due to Covid)*
	Mar	AMS Special Session, Charlottesville, VA: "Transferring dg-algebra structures" *(moved online due to Covid)*
2019	Dec	CMS Special Session, Toronto, ON: "Resolutions of compressed Artinian algebras"
	Nov	AMS Special Session, Gainesville, FL: "Dg-algebra structures for compressed Artinian algebras"
	Oct	AMS Special Session, Binghamton, NY: "Resolutions of compressed Artinian algebras"
	July	RRAGE: Ragnar's Ramifications in Algebra and Geometry Emerging, University of Toronto: "Dg-algebra structures for compressed Artinian algebras"
	June	Conference on Commutative Algebra and its Interaction with Algebraic Geometry, Notre Dame University: "Betti numbers of the Frobenius powers of the maximal ideal over generic hypersurfaces in 3 variables"
	Apr	Morgantown Algebra Days, West Virginia University : "Resolutions and dg-algebra structures for compressed Artinian algebras"

	Mar	AMS Special Session, Auburn, AL: "Resolutions and dg-algebra structures for compressed Artinian algebras"
	Feb	MFO Institute, Oberwolfach, Germany, invited, but did not speak
2018	Oct	AMS Special Session, San Francisco, CA: "Free resolutions of Artinian compressed algebras with application to Frobenius powers of an ideal"
	June	BIRS Institute Workshop, Banff, Canada:
	April	AMS Special Session, Boston, MA: "Free resolutions of Artinian compressed algebras"
2017	Oct	Workshop: Structures on Free Resolutions, Texas Tech University: "Generalized Koszul complexes and application to resolutions"
	April	AWM Special Session, Los Angeles, CA: "Cyclic Adams operations on matrix factorizations"
	Mar	AMS Special Session, Bloomington, IN: "Cyclic Adams operations on matrix factorizations"
2016	April	AMS Special Session, Salt Lake City: "Adams operations for matrix factorizations and a conjecture of Dao-Kurano"
	Mar	AMS Special Session, Athens, GA: "Adams operations for matrix factorizations and a conjecture of Dao-Kurano"
2015	Oct	AMS Special Session, Lloyola, Chicago: "Adams operations for matrix factorizations and a conjecture of Dao-Kurano"
2013	June	Workshop in Luminy, France, invited, but could not attend
	Feb	Speaker at Homological Workshop at M.S.R.I. program, Berkeley
2012	Aug	Speaker at Introductory Workshop at M.S.R.I. program, Berkeley
	May	Computational Workshop on Frobenius Singularities and Invariants, Ann Arbor: "A direct limit for limit Hilbert-Kunz multiplicity for smooth projective curves"
	May	PASI Conference "Commutative Algebra and Its Interactions with...", Guanjuato, Mexico: "Restrictions on modules of finite projective dimension"
	Mar	AMS Special Session, Lawrence: "Duality for Koszul homology"
2011	Oct	AMS Special Session, Salt Lake City: "Duality for Koszul homology over Gorenstein rings"
	April	KUMUNU Conference, Lincoln: "Duality for Koszul homology over Gorenstein rings"
2010	Dec	CMS Special Session, Vancouver: "Limit Hilbert-Kunz multiplicities"
2009	Mar	AMS Special Session, Urbana: "Simpler limit Hilbert-Kunz multiplicities"
2008	Sep	CIRM (Luminy, France) Workshop: Commutative Algebra and its Interactions with Algebraic Geometry
	July	Conference in Honor of Melvin Hochster, University of Michigan: Commutative Algebra: Connections with Algebraic Topology and Representation Theory: "Limit Hilbert-Kunz multiplicities"
	May	Conference in Honor of Luchezar Avramov, University of Nebraska: Commutative Algebra and its Interactions: "On the nonrigidity of the Frobenius endomorphism"
	Jan	AMS Joint Meeting, San Diego: "On nonrigidity of Frobenius"

2007	June	BIRS (Banff, Canada) Workshop: Commutative Algebra and its Interaction with Algebraic Geometry
	Mar	AMS Special Session, Davidson: "A Riemann-Roch formula for the blow-up of a nonsingular affine scheme"
2006	Dec	CMS Meeting, Toronto: "A Riemann-Roch formula for the blow-up of a nonsingular affine scheme"
	May	CIRM (Luminy, France) Workshop: Commutative Algebra and its Interactions with Algebraic Geometry
2005	Sep	Conference in Honor of Phil Griffith, University of Illinois: "Hilbert polynomials over regular local rings via intersection theory on the blow-up"
	Aug	Minnowbrook Workshop on Commutative Algebra: "Hyperplane arrangements"
	June	Joint Summer Research Conference on Commutative Algebra, Snowbird UT: Three Lectures on Local Cohomology
	Apr	MFO (Oberwolfach, Germany) Workshop: Conference on Kommutative Algebra
2004	Dec	CMS Special Session, Montreal: "Extremal algebras"
	Nov	AMS Special Session, Nashville: "Extremal algebras"
	Sep	BIRS (Banff, Canada) Workshop: Commutative Algebra: Homological and Birational Theory
	May	AMS Special Session, Houston: "Extremal algebras"
2003	June	Workshop in Luminy, France, invited, but could not attend
	May	AMS Special Session, San Francisco State University: "Homological properties of the Frobenius endomorphism"
2002	Sep	KUMUNU Conference, University of Kansas: "Survey on methods of Koh and Lee"
	Mar	AMS Special Session, University of Michigan: "Frobenius and Multiplicities"
	Feb	Commutative Algebra Days Conference, University of Nebraska: "Frobenius and Multiplicities"
	Jan	AMS Special Session, San Diego: "Characteristic Zero Hilbert-Kunz Multiplicities"
2001	Oct	AMS Special Session, Williamstown: "Limit Hilbert-Kunz Multiplicities"
	June	Conference in Grenoble: "Frobenius powers of complete intersections"
	Mar	AMS Special Session, University of Kansas: "Frobenius powers of complete intersections"
2000		AMS Special Session, New York City: "Frobenius powers of complete intersections"
1999		AMS Special Session, Salt Lake City: "Mixed ladder determinantal varieties"
		AMS Special Session, Urbana: "Intersection multiplicities over Gorenstein rings"
1998		AMS Special Session, Baltimore: "Frobenius limits of finite length modules over complete intersection rings"
1996		AMS Student Special Session, Seattle Mathfest: "Complexity of Tensor Products and a Theorem of Huneke-Wiegand.
		AMS Special Session, Orlando: Divisor Class "Group of $A[[T]]$ and Lifting MCM Modules"

Invited Seminars and Colloquia:

2024	Feb	UC Berkeley, Seminar on Commutative Algebra and Algebraic Geometry
2023	Oct	Auburn University, Commutative Algebra Seminar
	Oct	SUNY Albany, Algebra Seminar
2022	Apr	Northeastern University, Commutative Algebra Seminar
	Feb	University of Nebraska, Commutative Algebra Seminar
2021	Mar	Dalhousie University, Colloquium
2021	Feb	McMaster University, Algebra Seminar
2020	May	Cornell University, Colloquium *(cancelled due to Covid)*
2019	Mar	Purdue University, Commutative Algebra Seminar
	Feb	University of Nebraska, Commutative Algebra Seminar, 4 talks
2018	Oct	University of Utah, Commutative Algebra Seminar
2017	Mar/May	University of Illinois at Chicago, Commutative Algebra Seminar, 2 talks
	May	Creighton University, Colloquium
2016	Mar	Miami University at Oxford Ohio, Colloquium
2012	Dec	Georgetown University, Colloquium
	Oct	University of Nebraska, Commutative Algebra Seminar, 2 talks
2009	Nov	Yale University, Algebra and Lie Groups Seminar
	Apr	University of Illinois, Commutative Algebra Seminar
2008	Dec	University of Nebraska, Commutative Algebra Seminar
	Sep	CUNY, New York, Commutative Algebra Seminar
	Feb	University of Nebraska, Commutative Algebra Seminar
2006	Apr	University of Illinois, Commutative Algebra Seminar
2005	Feb	University of Utah, Commutative Algebra Seminar
2004	Nov	Cornell University, Commutative Algebra Seminar
	Feb	University of Nebraska, Commutative Algebra Seminar
2003	Jan	MSRI, Algebra Seminar
2002	Feb	New Mexico State University, Colloquium
	Jan	Syracuse University, Colloquium
2000		University of Michigan, Commutative Algebra Seminar
1999		University of Illinois, Commutative Algebra Seminar
		University of Utah, Commutative Algebra Seminar
1998		Hope College, Undergraduate Colloquium
1997		University of Missouri, Commutative Algebra Seminar

Teaching Experience:

- Courses taught at Syracuse University (2003-present):

  ** on leave Fall 2023–Spring 2024 **

  Calculus III Plus (MAT 391), 1-credit reading/seminar course, Fall 2022

  Rings and Modules (MAT 731), Fall 2022

  Linear Algebra (MAT 331), two sections, Fall 2022

  DG-algebra resolutions (MAT 690), graduate reading course, Fall 2022

  Topics in Calculus III (MAT 290), 1-credit reading/seminar course, Fall 2021

  Topics in Algebra: (Co)homology in algebraic geometry and algebra (MAT 830), Fall 2021

  Linear Algebra (MAT 331), two sections, Fall 2021

  Topics in Calculus III (MAT 200), 1-credit course, Fall 2020

  Algebraic Geometry (MAT 738), Fall 2020

  Linear Algebra (MAT 331), two sections, Fall 2020

  Homological Algebra (MAT 732), Spring 2020

  Senior Seminar (MAT 599), Spring 2020

  Introduction to Abstract Mathematics (MAT 375), Fall 2019

  ** on leave Fall 2018–Spring 2019 **

  Senior Seminar (MAT 599), Spring 2018

  Introduction to Abstract Mathematics (MAT 375), Spring 2018

  Commutative Algebra (MAT 733), Fall 2017

  Calculus III (MAT 397), Fall 2017

  Homological Algebra (MAT 732), Spring 2017

  Calculus II (MAT 296), two sections, Fall 2016

  Introduction to Algebra II (MAT 632), Spring 2016

  Topics in Algebra (MAT 830), Fall 2015

  Calculus II (MAT 296), two sections, Fall 2015

  Homological Algebra (MAT 732), Spring 2015

  Senior Seminar (MAT 599), Spring 2015

  Matrix Algebra and Differential Equations (MAT 485), two sections, Fall 2014

  Senior Seminar (MAT 599), Spring 2014

  Rings and Modules (MAT 731), Fall 2013

  Matrix Algebra and Differential Equations (MAT 485), two sections, Fall 2013

  ** on leave Fall 2012–Spring 2013 **

  Senior Seminar (MAT 599), Spring 2012

  Introduction to Abstract Algebra (MAT 534), Spring 2012

  Rings and Modules (MAT 731), Fall 2011

  Introduction to Real Analysis (MAT 512), Fall 2011

  Algebraic Geometry (MAT 738), Spring 2011

  Introduction to Real Analysis (MAT 512), Fall 2010

  Linear Algebra (MAT 331), Fall 2010

  Calculus II (MAT 296), Fall 2010

  Introduction to Algebra II (MAT 632), Spring 2010

  Elements of Modern Mathematics (MAT 183), Spring 2010

Capstone Project (MAT 499), Spring 2010
Calculus II (MAT 296), Fall 2009
Differential Equations (MAT 514), Fall 2009
  ∗∗ on leave Fall 2008–Spring 2009 ∗∗
Advanced Seminar (MAT 890), Spring 2008
Advanced Linear Algebra (MAT 531), Spring 2008
Introduction to Real Analysis (MAT 512), Spring 2008
Advanced Seminar (MAT 890), Fall 2007
Rings and Modules (MAT 731), Fall 2007
Linear Algebra (MAT 331), Fall 2007
Introduction to Real Analysis (MAT 512), Spring 2007
Rings and Modules (MAT 731), Fall 2006
Linear Algebra (MAT 331), Fall 2006
Calculus I (MAT 295), Fall 2006
Independent Study: Fractals (MAT 290), Spring 2006
Differential Equations (MAT 514), Fall 2005
Linear Algebra (MAT 331), two sections, Fall 2005
Independent Study: Algebraic Number Theory (MAT 690), Spring 2004
Applied Linear Algebra (MAT 532), Spring 2005
Calculus I (MAT 295), Fall 2004
Topics in Algebra (MAT 830), Fall 2004
Group Theory (MAT 636), Spring 2004
Independent Study: Fractals (MAT 290), Spring 2004
Linear Algebra (MAT 331), two sections, Fall 2003

- Courses taught at the University of Nebraska (Fall 2002):

  Linear Algebra (MATH 314), 2002

- Courses taught at the University of Toronto (2001-2002):

  Differential Equations (MAT 244), 2002
  Groups and Symmetries (undergraduate group theory) (MAT 301), 2001
  Calculus (MAT 135), 2001-2002

- Courses taught at Michigan State University (2000-2001):

  Differential Equations (MATH 235), 2001
  Calculus (MATH 132), 2000

- Courses taught at the University of Michigan (1997-2000):

  Topics in Commutative Algebra (MATH 615), 2000
  Graduate Commutative Algebra I (MATH 614), 1998
  Linear Algebra for Engineers (MATH 417), 1998, 1999
  Linear Algebra for Engineers (MATH 419), 1998
  Honors Calculus (MATH 176), 2000
  Calculus (MATH 115, 116), 1997-1999