Matthew Szczesny *May 2025* **Curriculum Vitae**

Address

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Personal

Born in Wroclaw, Poland, on July 14, 1976.
US, Canadian, and Polish citizen.

Education

· **University of Toronto** - B.Sc. (Honors), 1994-1997.
Mathematics and Computer Science.

· **University of California at Berkeley** - Ph.D., 1997-2002,
Advisor: Edward Frenkel.

Thesis: *Algebraic Curves, Twisted Vertex Operators and Prym Varieties*.

Employment

· **Boston University** - Professor, 2020-

· **Boston University** - Associate Professor, 2011-2020.

· **Boston University** - Assistant Professor, 2005 - 2011.

· **University of Pennsylvania** - Postdoc, 2002 - 2005.

Grants awarded

· Simons Foundation Collaboration Grant - *Factorization algebras, defects, and holomorphic field theories on algebraic surfaces* 2022-2027, $42,000. Sole PI.

· Simons Foundation Collaboration Grant - *Hall Algebras, Combinatorial Hopf Algebras, and Algebraic Geometry over F1.* 2015-2020, $35,000. Sole PI.

· NSA Young Investigators Grant - *Geometric and Algebraic Structures in Conformal and Perturbative Quantum Field Theory*, 2009-2011, $30,000. Sole PI.

· NSF DMS-0401619 - *Orbifold Conformal Field Theory and Algebraic Geometry*, 2004-2008, $96,533. Sole PI.

· Boston University startup grant, 2005-2007, $20,000. Sole PI.

Honors and Awards

· Nominated for 2019 Metcalf Award for teaching excellence.

· Recognized as one of the Student Leaders' favorite professor by the Office of Orientation at BU in 2010.

· Dept. of Mathematics and Statistics Commencement speaker 2008.

- University of Pennsylvania, Award for Good Teaching, Math 412, 2004.
- University of Pennsylvania, Award for Good Teaching, Math 371, 2003.
- University of Pennsylvania, Award for Good Teaching, Math 350, 2002.
- National Science and Engineering Research Council of Canada Postdoctoral fellowship 2002-2004 (declined).
- National Science and Engineering Research Council of Canada Julie Payette Graduate Fellowship, 2000 - 2002.
- National Science and Engineering Research Council of Canada Graduate Fellowship, 1998-2000.
- Morrey Prize (UC Berkeley), 1999.
- University of Toronto National Scholarship, 1994-1997.
- Canada Scholarship, 1994-1997.

Refereed Publications

All entries below appear in refereed journals. Authors appear in alphabetical order, and collaborative publications contain equal contributions from each author.

1. Attard A.; Percy J.R.; Szczesny M. P. Cygni*: Many periods or none,* JAAVSO 23 2 (1995), 140-143.
2. Attard A.; Percy J.R.; Szczesny M. *Photometric variability of* P. Cygni*: 1985-1993*, Astron. and Astrophys. Suppl. 117 (1996), 255-259.
3. Szczesny M. *Wakimoto modules for twisted affine Lie algebras*, Math. Res. Lett. 9 no. 4 (2002), 433-448.
4. Frenkel E.; Szczesny M. *Twisted modules over vertex algebras on algebraic curves*, Adv. Math. 187 no. 1 (2004), 195-227.
5. Szczesny M. *Orbifold conformal blocks and the stack of pointed G-covers*, J. of Geom. and Phys. 56 no. 9 (2006), 1920-1939.
6. Libgober A.; Szczesny M. *Discrete torsion, orbifold elliptic genera, and the chiral de Rham complex*, Pure and Appl. Math. Quart. 2 no. 4 (2006) (special volume in honor of R. MacPherson), 1217-1236.
7. Cadman C.; Coskun I.; Jabbusch K.; Joyce M.; Kovacs S.; Lieblich M.; Sato F.; Szczesny M.; Zhang J. *A first glimpse at the minimal model program*, Contemp. Math. Vol 388 17-42, AMS, 2005.
8. Frenkel E.; Szczesny M. *Chiral de Rham complex and orbifolds*, J. of Alg. Geom., 16 no. 1 (2007), 599-624.
9. Ben-Zvi D.; Heluani R.; Szczesny M. *Supersymmetry of the Chiral de Rham Complex*, Compos. Math. 244 (2008), 503-521.

10. Szczesny M. *On the structure and representations of the Insertion-Elimination Lie algebra*, Lett. Math. Phys. 84 no. 1 (2008), 65-74.
11. Kremnizer K.; Szczesny M. *Feynman graphs, rooted trees, and Ringel-Hall algebras*, Comm. Math. Phys. 289 (2009), no. 2, 561–577.
12. Szczesny M. *Hecke correspondences and Feynman graphs*, Comm. in Number Theory and Phys. 4 no. 1 (2010), 161-186.
13. Szczesny M. *Colored trees and noncommutative symmetric functions*, Electronic Journal of Combinatorics. 17 (2010) N19, 10 pages.
14. Szczesny M. *Incidence Categories*, Journal of Pure and Applied Algebra, 215 no. 4 (2011).
15. Szczesny M. *Representations of quivers over* $\mathbb{F}_1$. Int. Math. Res. Notices (2012) Vol. 2012 no. 10, 2377-2404.
16. Szczesny M. *Pre-Lie algebras and Incidence Categories of Colored Rooted Trees.* Preprint arXiv:1008.2780, submitted.
17. Szczesny M. *On the Hall algebra of coherent sheaves on* $\mathbb{P}^1/\mathbb{F}_1$. Journal of Pure and Applied Algebra 216 no. 2 (2012).
18. Szczesny M. *On the Hall algebra of semigroup representations over* $\mathbb{F}_1$. Math. Z. 276 (2014), no. 1-2, 371-386.
19. Flores J.; Lorscheid O.; Szczesny M. *Cech cohomology over* $\mathbb{F}_{1^2}$. J. Algebra 485 (2017), 269-287.
20. Lorscheid O., Szczesny M. *Quasioherent sheaves on projective schemes over* $\mathbb{F}_1$. Journal of Pure and Applied Algebra 222 (2018), 1337-1354.
21. Szczesny M. *Twisted modules and co-invariants for commutative vertex algebras of jet schemes.* J. Algebra 506 (2018), 350-363.
22. Szczesny M. *The Hopf algebra of skew shapes, torsion sheaves on* $\mathbb{A}^n_{/\mathbb{F}_1}$*, and ideals in Hall algebras of monoid representations.* Adv. Math. 331 (2018), 209-238.
23. Eppolito C.; Jun J.; Szczesny M. *Hopf algebras of Matroids over Hyperfields.* J. Algebra 556 (2020), 806-835.
24. Eppolito C., Jun J., Szczesny M. *Proto-exact categories of matroids, Hall algebras, and K-theory.* Math. Z. 296, 147-167 (2020)
25. Beers D., Szczesny M. *Split Grothendieck rings of rooted trees and skew shapes via monoid representations.* Involve 12 (2019), 1379-1397.
26. Szczesny M.; Walters J.; Williams B. *Toroidal prefactorization algebras associated to holomorphic fibrations and a relationship to vertex algebras.* Adv. Math 386 (2021).
27. Jun J.; Szczesny M. *Hall Lie algebras of toric monoid schemes* . Selecta Math. 30 (2), (2024).

28. Jun J.; Szczesny M.; Tolliver J. *Proto-exact categories of modules over semirings and hyperrings.* J. Algebra 631 (2023).

In preparation

29. Gwilliam O., Szczesny M., Williams B., *Coinvariants and conformal blocks for factorization envelopes*
30. Lorscheid O., Szczesny M. *Loop groups over $\mathbb{F}_1$ and affine Weyl groups.*
31. Gwilliam O; Ladouce, J. Szczesny M.; Williams B.*Chiral differential operators on vectors bundles via the BV formalism*
32. Gwilliam O; Ladouce, J. Szczesny M.; Williams B. *The holomorphic bosonic string on curved targets.*
33. Jun J.; Szczesny M. *T-sheaves and equivariant sheaves on toric varieties.*

Non-refereed Publications

34. Szczesny M. *Algebraic curves, twisted vertex operators, and Prym varieties*, Ph.D. thesis, Berkeley 2002.
35. Szczesny M. *The geometric Langlands program and physics*, notes, available at:
`http://www2.math.northwestern.edu/langlands/mtgprtn04.htm`

Invited conference talks

($*$ indicates declined engagements):

· *Geometry and representation theory associated with G-torsors on curves*, Univ. of Maryland, April 2025 (declined).

· *Bundles and conformal blocks with a twist*, ICMS Edinburgh, June 2022.

· *BU-Keio Workshop in Geometry*, June 2021.

· *Dirk Kreimer 60th Birthday Conference: Algebraic Structures in Perturbative QFT*, IHES, Paris, November 2020.

· *Higher Segal Spaces and their Applications to Algebraic K-Theory, Hall Algebras, and Combinatorics*, CMO, Oxaca, June 2020 - Canceled due to Covid.

· *Holomorphic Quantum Field Theories*, Kavli IPMU, May 2020 - canceled due to Covid.

· *Vertex Algebras* - Special AMS session, Charlottesville, VA., March. 2020 - canceled due to Covid.

· *Mathematical Aspects of Conformal Field Theory*, Special session at AMS JMM, Jan. 2020.

· *Higher symmetries: theory and applications*, Aspen Center for Physics, March 2019.

· *ICM Satellite Workshop on Mathematical Physics*, ICTP-SAFIR, Sao Paulo, Aug. 2018.

- *Hall Algebras and related topics*, Trinity College Dublin - Dec. 2017
- *String geometries and dualities*, IMPA - Dec. 2016.
- *CanaDAM*, University of Saskatchewan, June 2015*.
- *Mock modular functions, moonshine, and string theory*, Simons Center, Aug. 2013.
- *String theory and arithmetic geometry*, Bristol, September 2012
- *La Theorie Quantique des champs et quelques algebres*, Paris 7, March 2012.
- *Chiral differential operators and quantum field theory*, Northwestern, Aug. 2011.
- *AMS Special Session on Species and Hopf Algebraic Combinatorics*, Cornell, Sep. 2011.
- *Geometry and Strings*, UPenn, June 2011.
- *Langlands-Type Dualities in Quantum Field Theory* - KITP, August 2010.
- *Combinatorial Hopf Algebras* - Austin, TX. June 2010*.
- *The Structure of Local Quantum Fields* - Les Houches, France, June 2010.
- *The Geometry and Arithmetic of Algebraic Varieties* - Fields Institute, Toronto, Canada, Oct. 2009.
- *Renormalization and Number Theory* - IHES, Paris, France, June 2009.
- *Lie Theory and its Applications in Physics* - Varna, Bulgaria, June 2009*.
- *Algebraic and Combinatorial Structures in QFT* - Cargese, Corsica, March 2009*.
- *Number Theory and Physics* - ESI, Vienna, Austria, March 2009.
- *Moduli Spaces and Representation Theory* - UIUC, March 2009.
- *The Chiral de Rham Complex and Geometry* - MPI, Bonn, Germany, June 2008.
- *AMS Special Session - Mathematics Motivated by Physics* - Salt Lake City, Oct. 2006*.
- *Homological Mirror Symmetry* - ESI, Vienna, Austria, June 2006.
- *Vertex Algebras and Related Topics* - ESI, Vienna, Austria, June 2005.
- *Geometry and Physics* - ABC-KLM conference, Gregynog, Wales, October 2004.
- AMS conference - *Algebraic Geometry Special Session* - Houston, May 2004.
- *Tensor Categories and Applications* - ESI, Vienna, Austria, July 2004.
- *Infinite Dimensional Lie algebras* - Fields Institute, Toronto, Canada, July 2003.
- *Motivic Integration, Elliptic Genera, and the Chiral de Rham Complex* - BIRS, Alberta, Canada, June 2003.

· *Vector Bundles on Algebraic Curves* - Luminy, France, June 2002.

Conferences

· *Homotopy Algebra and Higher Structure*, May 2023.
· *Representation Theory*, IHP, Paris, Jan. 2020.
· *Chiral Algebras in the 21st century*, UC Davis, April 2019.
· *Between topology and quantum field theory - Dan Freed 60th Birthday Conference*, UT Austin, Jan. 2019.
· *Categorification in mathematics and physics*, Simons Center, April 2018.
· *Hall algebras, enumerative invariants, and gauge theories*, Fields Institute - Nov. 2016.
· *New moonshines, mock modular forms, and string theory*, Durham, UK, August 2015.
· *Quiver Varieties*, Simons Center, Oct. 2013.

Conference organization

· Geometry and Factorization algebras, Palermo, 2024.

Invited visits

· IMPA, Rio de Janeiro - May-June 2020 (3 weeks) - canceled due to Covid.
· Oxford, (1 week).
· RIMS, Kyoto - Oct. 2019. (2 weeks)
· American Institue of Mathematics - April 2017 (1 week).
· Erwin Schrödinger Institut, Vienna, Austria - Jan. 2017 (2 weeks).
· Fields Institute, Toronto - Nov. 2016 (1 week).
· Universite Paris 7, March - April 2012, (2 months).
· Humboldt University, Berlin - Jan. - Feb. 2012 (2 months).
· Kavli Institute for Theoretical Physics, Santa Barbara - August 2010 (3 weeks).
· Les Houches, France - June 2010 (3 weeks).
· Institut des Hautes Etudes Scientifiques, Bures-Sur-Yvette, France - June 2009 (1 month).
· Institut des Hautes Etudes Scientifiques, Bures-Sur-Yvette, France - July 2006 (1 month).
· Erwin Schrödinger Institut, Vienna, Austria - March 2009 (3 weeks).
· Erwin Schrödinger Institut, Vienna, Austria - August 2007 (declined).
· Erwin Schrödinger Institut, Vienna, Austria - June 2006 (3 weeks).
· Institudo di Matematica Pura e Applicada, Rio De Janeiro, Brazil - January 2006 (3 weeks).
· Research Institute for Mathematical Sciences, Kyoto, Japan - July 2005 (3 weeks).
· The Aspen Center for Physics, July 2004 (3 weeks).

Invited lectures

- **Universite Paris-Sud**, May 2023
  Hall algebras of monoid schemes and Lie algebras
- **Perimeter Insittute**, May 2023
  Higher Weyl modules, conformal blocks, and coinvariants
- **University of Denver - representation theory seminar**, Nov. 2021
  Heterotic sigma models via the BV formalism and chiral differential operators
- **Tsinghua University - geometry seminar**, March 2021
  Chiral differential operators on vector bundles in the BV formalism
- **IMPA** - F1 seminar, December 2020
  Toric Hall algebras
- **Yale University** - Geom., Symm., and Phys. Seminar, October 2020
  Toric Hall algebras
- **Viriginia Commonwealth Univ.** - Geometry and Topology Seminar June 2020, *Toric Hall algebras*
- **Univ. of Waterloo** - Algebraic Combinatorics Seminar, March 2020
  Hall algebras in combinatorics
- **RIMS, Kyoto** - Oct. 2019
  On the Hall algebra of a toric variety over $\mathbb{F}_1$
- **UMass Amherst** - Representation Theory Seminar, March 2019
  Factorization algebras and vertex algebras from holomorphic fibrations and toroidal algebras.
- **Georgia Southern University** - Colloquium, Jan. 2019
  Factorization algebras in geometry and quantum field theory.
- **Ohio State University** - Representation Theory Seminar, April 2018
  On the Hall algebra of a toric variety over $\mathbb{F}_1$
- **Oxford University** - March 2018
  On the Hall algebra of a toric variety over $\mathbb{F}_1$
- **MIT** - Geometric Representation Theory Seminar, Nov. 2017
  Toroidal algebras via factorization algebras.
- **Boston University** - Geometry and Physics Seminar, Sep. 2013
  Algebraic geometry and representation theory over $\mathbb{F}_1$
- **Northeastern University** - Quivers Seminar, Oct. 2012.
  Hall algebras and representation theory over F_1*.*
- **Institut Henri Poincare** - Algebra Seminar, March 2012.
  Representation theory and Hall algebras over the field with one element.
- **Tubingen University** - Number theory and harmonic analysis seminar, Feb. 2012
  Hall algebras of belian (and related) categories.
- **Humboldt University**, Berlin - Mathematical Physics Seminar, Feb.

2012.
Rooted trees, Feynman graphs, Hall algebras, and the field with one element.

- **Brandeis** - Everytopic Seminar, Oct. 2011.
  F_1–linear categories and Hall algebras.
- **MIT** Infinite Dimensional Lie algebras Seminar, April 2011.
  Representation theory and Hall algebras over F_1.
- **IMPA, Rio de Janeiro** - Algebra Seminar, Feb. 2011.
  F_1–linear categories and Hall algebras.
- **University of Texas, Austin** - GRASP Seminar, April 2010.
  Incidence categories and quiver varieties over F_1.
- **MIT** - Infinite Dimensional Lie algebras Seminar, March 2010.
  Feynman graphs, Hall algebras, and incidence categories.
- **Boston University** - Mathematical Physics Seminar, Oct. 2009.
  Hall algebras, incidence categories, and Hecke correspondences.
- **Northeastern University** - GASC Seminar, Nov. 2008.
  Algebraic and combinatorial structures in the renormalization of perturbative quantum field theories.
- **Brandeis University** - Everytopic Seminar, Nov. 2008.
  Algebraic and combinatorial structures in the renormalization of perturbative quantum field theories.
- **Boston University** - Mathematical Physics Seminar, Oct. 2008.
  Feynman graphs, rooted trees, and Ringel-Hall algebras.
- **MIT** - Group Actions Seminar ,March 2008.
  Elliptic genera: orbifold and equivariant genera.
- **MIT** - Mathematical Physics Seminar, Oct. 2007.
  An overview of the chiral de Rham complex.
- **Boston University** - Mathematical Physics Seminar, Nov. 2006.
  The geometric Langlands program and conformal field theory.
- **Wroclaw University, Poland** - Discrete Harmonic Analysis Seminar, June 2006. *Vertex algebras and moduli spaces.*
- **Wroclaw University, Poland** - Geometric Group Theory Seminar, June 2006. *Elliptic genera and automorphic forms.*
- **University of Wisconsin** - Algebraic Geometry Seminar, April 2006.
  Supersymmetry in the chiral de Rham complex.
- **IMPA, Brazil** - Algebra Seminar, Jan. 2006.
  Elliptic genera and the chiral de Rham complex.
- **Boston University** - Mathematical Physics Seminar, Nov. 2005.
  Supersymmetry in the chiral de Rham complex.
- **UIC** - Algebraic Geometry Seminar, Oct. 2005.

The chiral de Rham complex on orbifolds and orbifold elliptic genera.

- **Nagoya University, Japan** - Mathematical Physics Seminar, July 2005. *The chiral de Rham complex, elliptic genera, and automorphic forms.*
- **University of Connecticut** - Colloquium, April 2005. *The chiral de Rham complex, elliptic genera, and automorphic forms.*
- **Johns Hopkins** - Algebraic geometry Seminar, March 2005. *The chiral de Rham complex and orbifolds.*
- **Boston University** - Geometry Serminar, Feb. 2005. *The chiral de Rham complex, orbifolds, and automorphic forms.*
- **University of Waterloo, Canada** - Colloquium, Feb. 2005. *The chiral de Rham complex, elliptic genera, and automorphic forms.*
- **UMass Amherst** - Colloquium, Feb. 2005. *The chiral de Rham complex, elliptic genera, and automorphic forms.*
- **Notre Dame** - Colloquium, January 2005. *The chiral de Rham complex, elliptic genera, and automorphic forms.*
- **University of Ottawa, Canada** - Colloquium, Jan. 2005. *The chiral de Rham complex, elliptic genera, and automorphic forms.*
- **University of Western Ontario, Canada** - Colloquium, Jan. 2005. *The chiral de Rham complex, elliptic genera, and automorphic forms.*
- **SUNY Stony Brook** - Geometry and Physics Seminar, Oct. 2004. *The chiral de Rham complex on orbifolds and orbifold cohomology.*
- **UIUC** - Algebraic Geometry Seminar, Sept. 2004. *The chiral de Rham complex and orbifolds.*
- **Yale University** - Colloquium, March 2004. *The chiral de Rham complex and the sigma model.*
- **University of Michigan** - Algebraic Geometry Seminar, March 2004. *The chiral de Rham complex and orbifolds.*
- **Boston University** - Geometry Seminar, Feb. 2004. *Orbifold conformal blocks and the stack of admissible G–covers.*
- **University of Massachusetts, Amherst** - Representation Theory Seminar, March 2004. *The chiral de Rham complex and orbifold cohomology.*
- **Rutgers University** - Vertex algebra Seminar, Dec. 2003. *Twisted vertex operators on algebraic curves.*
- **Columbia University** - Algebraic Geometry Seminar, Oct. 2003. *The chiral de Rham complex on orbifolds and orbifold cohomology.*
- **University of Wisconsin, Madison** - Algebraic Geometry Seminar, Sept. 2003. *Orbifold cohomology and the chiral de Rham complex.*
- **UPenn** - Math/Physics Seminar, May 2003. *Elliptic genera and the chiral de Rham complex.*
- **UPenn** - Algebra Seminar, Sept. 2002.

Twisted vertex operators on algebraic curves.

· **Berkeley** - Infinite-dimensional Lie Algebras Seminar, April 2002.
Twisted vertex operators on algebraic curves.

· **Berkeley** - Quiver Varieties Seminar, Nov. 2001.
Nakajima's quiver varieties and GIT quotients.

Courses taught

• **Boston University:**

Graduate Courses:

· MA 822 - Topics in Geometry - *Introduction to effective quantum field theories*, Spring 2018.

· MA 822 - Topics in Geometry - *Elliptic genera and automorphic forms*, Spring 2007.

· MA 745 - Algebraic Geometry I, Fall 2007, Fall 2011, Fall 2016, Fall 2017, Fall 2020, Fall 2024.

· MA 742 - Algebra II, Spring 2020.

· MA 742 - Representation Theory, Spring 2011.

· MA 742 - Category Theory, Spring 2016.

· MA 731 - Lie Groups, Fall 2006, Spring 2023.

· MA 727 - Algebraic Topology, Fall 2013.

· MA 726 - Complex Geometry, Spring 2013, Fall 2023.

· MA 722 - Differential Topology II, Spring 2006, Spring 2020.

· MA 721 - Differential Topology I, Fall 2009, Fall 2012.

Undergraduate courses:

· MA 581 - Probability, Summer 2020.

· MA 564 - Topology, Spring 2008, Spring 2009, Spring 2014, Spring 2015, Spring 2016, Spring 2017.

· MA 511 - Real Analysis, Summer 2019.

· MA 412 - Complex Variables, Summer 2012 - 2018, Spring 2017, Spring 2018.

· MA 242 - Linear Algebra, Fall 2005, Summer 2007, Fall 2008, Fall 2021, Fall 2022, and Summer 2012-2018.

· MA 293 - Discrete Mathematics, Fall 2005.

· MA 294 - Abstract algebra, Spring 2012.

· MA 230 - Honors Multivariable Calculus, Spring 2010.

· MA 225 - Multivariable Calculus, Fall 2010, Fall 2015, Fall 2022, Fall 2023, Fall 2024, Spring 2025.

- MA 124 - Calculus II, Fall 2013, Spring 2015, Fall 2018, Spring 2021.
- MA 123 - Calculus, Fall 2006, Summer 2007, Fall 2007, Fall 2008, Fall 2009, Fall 2010, Fall 2011, Fall 2012.

- **UPenn:**
  - Graduate topics course: *Vertex algebras and algebraic curves*
  - Graduate abstract algebra II.
  - Advanced linear algebra
  - Calculus for business
  - Vector calculus
  - Abstract algebra II
  - Number theory

Service

- **University level:**
  - Member of CAS APT Committee, 2022-2025.
  - Member of BU Advising Network, 2018-.
  - Member of Provost's Graduate Academic Programs and Policies Provost committee 2015–2018.
  - Member of CAS Graduate Academic Affairs Committee, 2012–2015 (chair in 2013-2014).
  - CAS representative for Provost's Learning Outcome Assessment Committee.
  - Member of ERC workshop faculty panel, 2013-2014.
- **Departmental:**
  - Director of Undergraduate Studies, 2018–2021, 2023-2024, 06/2025-12/2025
  - Director of Graduate Studies, 2012–2015.
  - Undergraduate student advisor 2015–.
- **Departmental Committees:**
  - Member of mid-tenure committee for Prof. Brian Williams.
  - Member of tenure committee for Prof. Yu-Shen Lin.
  - Chair of FTL hiring committee 2024.
  - Chair of geometry Postdoc search committee 2022-2023.
  - Member of Merit Committee, 2020, 2024.
  - Chair of undergraduate committee 2018–2021.
  - Member of search committees in 2009, 2011, 2012, 2014, 2015, 2017, 2021, 2023.

- Member of departmental BU Hub committee, 2017-.
- Member of mid-tenure review committee for Prof. Siu-Cheong Lau, Spring 2017.
- Member of T&P committees for Prof. Jared Weinstein (2021-2022), Prof. Jennifer Balakrishnan (2020-2021), Prof. Siu-Cheong Lau (2019-2020),Prof. Kostas Spiliopoulos (2017-2018), Prof. Jared Weinstein (2016-2017), Margaret Beck (chair, 2014-2015), Prof. Sam Isaacson (2013-2014), Prof. Ashis Gangopadhyay (2022-2023).
- AMS graduate student chapter faculty advisor 2013-.
- Member of APR Committee 2013.
- Member of RULE curriculum development project team, 2010-.
- Member of GAANN committee 2009, 2012.
- Boston University Graduate Committee, 2005-current
- Boston University Putnam Committee, 2006-2010.
- Co-organizer of BU Geometry Seminar 2005-2011.
- Organizer of several graduate learning seminars.
- Served on qualifying exam committees of Jeehoon Park, Myoungil Kim, Ross Sweet, Ander Steele, Brandon Ward, Tommy Macaulay, Tim Harper, Jackson Walters, Sachi Hashimoto, Richard Magner, Frank Xu, Angus McAndrew, James Ladouce, Jacksyn Bakerberg, Ju Tan.
- Served on dissertation defense committees of Tomoo Matsumura, Fabian Torres-Ardila, Karen Yeats, Ryota Matsuura, Brandon Ward, Ross Sweet, Tommy Macaulay.
- Chair of dissertation defense committee for Nikolay Nikolaev.
- Supervised 20+ graduate reading courses.

- **UPenn:**
  - Putnam Examination Committee, 2004-2005.
  - Preliminary Examination Committee, 2004-2005.
  - Advisor for Mathematics Minors, 2002-2005.
  - Graduate Admissions Committee, 2002-2004.
- **Professional:**
  - Referee for: JAMS, Duke, Crelle's, Nagoya J. Math, Osaka J. Math, Comm. Math. Phys, TAMS, IMRN, American J. of Math, J. of the Aust. Math. Soc, Comm. in Number Th. and Phys., J. Algebra, Nuclear Phys. B., Selecta Math, J. Geom. Phys., J. Alg. Comb., TAC. Cambridge Journal of Math.
  - Ph.D. defense committee member for Anandam Banerjee (Northeastern), Zhenbin Luo (Brandeis), Nathaniel Bade (Northeastern).

- **Outreach:**
  - PROMYS Math Circles at Waltham High School.

Graduate Students

- Brandon Ward, Ph.D. 2013.
- Jackson Walters. Ph.D. 2019.
- James Ladouce. Ph. D. 2021.
- Garrett Oren, Ph.D. 2026 (expected).

Undergraduate Students

- Jorge Antonio Rivera - honors thesis project *Classification of complex semisimple Lie algebras*, 2024-2025.
- Christopher La Fond - honors thesis project *Mathematical aspects of gauge theories*, 2022-2023.
- David Beers - Summer and Fall 2018 UROP research project.
- Stephen Cattell - honors thesis project *The Representation Theory of Lie Algebras*, 2009.

Languages Polish, Swedish, French, English, Russian