

Chelsea Walton

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| CONTACT INFORMATION | <i>Work Address :</i> Department of Mathematics Rice University P.O. Box 1892 Houston, TX 77005-1892 | <i>Email and Website:</i> notlaw@rice.edu https://math.rice.edu/~notlaw/ |
| EMPLOYMENT | Rice University Houston, Texas. Full Professor (with tenure) July 2023 - present Associate Professor (with tenure) July 2020 - June 2023 The University of Illinois at Urbana-Champaign Urbana-Champaign, Illinois. Associate Professor (with tenure), Smith Prof. Scholar Aug. 2018 - June 2020 Temple University July 2015 - June 2018 Philadelphia, Pennsylvania. Selma Lee Bloch Brown Early Career Assistant Professor Massachusetts Institute of Technology Sept. 2012 - June 2015 Cambridge, Massachusetts. C.L.E. Moore Instructor/ NSF Postdoctoral Fellow University of Washington Sept. 2011 - Aug. 2012 Seattle, Washington. NSF Postdoctoral Fellow | |
| VISITING POSITIONS | University of Hamburg June - Nov. 2022, June - July 2023 Hamburg, Germany. Humboldt Research Fellowship Programme for Experienced Researchers Mathematical Sciences Research Institute (MSRI) Jan. 2020 - May 2020 Berkeley, California. Program Co-organizer and Member: Quantum Symmetries Mathematical Sciences Research Institute (MSRI) Jan. 2013 - May 2013 Berkeley, California. (NSF) Postdoctoral Fellow | |
| EDUCATION | University of Michigan Aug. 2011 Ph.D in Mathematics, Rackham Graduate School, Ann Arbor, Michigan. Advisor: Professor J. Tobias Stafford; Co-Advisor: Professor Karen E. Smith. University of Manchester Sept. 2007 - Aug. 2008, Jan. - Aug. 2009 - 2011 Visiting Student, Mathematics Department, Manchester, England. University of Michigan June 2007 M.S. in Pure Mathematics, Rackham Graduate School, Ann Arbor, Michigan. Michigan State University May 2005 B.S. with High Honors in Mathematics, Honors College, East Lansing, Michigan. | |
| RESEARCH INTERESTS | Noncommutative Algebra, Quantum Symmetries, Hopf algebras and their variants/ Quantum Groups, and Representation Theory. | |

GRANTS AND
FELLOWSHIPS

NSF Algebra and Number Theory grants

(conference grants listed under “Conferences, Workshops co-organized”)

National Science Foundation, USA.

- Grant No. DMS-2100756 \$225,000.00 USD Apr. 2021 - Mar. 2024
- Grant No. DMS-1663775 \$161,973.00 USD Aug. 2017 - Sept. 2020
 - Transferred to U. Illinois Urbana-Champaign Grant No. DMS-1903192.
 - 1 year extension, transferred PI to UIUC DGS L. DeVille in Sept. 2020.
- Grant No. DMS-1401207, \$148,445.00 USD Sept. 2014 - Aug. 2017
 - Undergraduate Research, Supplement No. DMS-1519286, \$5,000.00 USD
 - Transferred to Temple U. Grant No. DMS-1550306.

Banff International Research Station grant, senior personnel

- National Science Foundation, Grant No. DMS-2201974.

University of Illinois Urbana-Champaign Campus Research Board

- Grant No. RB19132 \$29,987 USD Apr. 2019 - June 2020

Sloan Research Fellowship

Sept. 2017 - Aug. 2020

Alfred P. Sloan Foundation, New York, NY, USA.

- \$60,000.00 USD (+1 yr ext'n)

NSF Math. Sciences Postdoctoral Fellowship

Aug. 2011 - July 2014

National Science Foundation, USA.

- Grant No. DMS-1102548, \$135,000.00 USD

HONORS AND
AWARDS

AMS Claytor-Gilmer Fellowship

Jan. 2024

American Mathematical Society, Providence, Rhode Island.

Career Champion Award, Class of 2022

Aug. 2022

Rice University Center for Career Development, Houston, Texas.

Arnold O. Beckman Research Award

May 2019

UIUC Campus Research Board, Urbana, Illinois.

Andre Lichnerowicz Prize in Poisson geometry

July 2018

Int'l Conf. on Poisson Geometry in Mathematics and Physics, Toronto, Canada.

Real McCoy award for Mathematics

Sept. 2017

Detroit Area Pre-College Engineering Program (DAPCEP), Detroit, Michigan.

Recent Alumni Award

Mar. 2016

College of Natural Science, Michigan State University, E. Lansing, Michigan.

Infinite Kilometer (Infinite K) Award for outreach

Jan. 2013

School of Science, Massachusetts Institute of Technology, Cambridge, Mass.

Wirt and Mary Cornwell Prize in Mathematics

Apr. 2011

University of Michigan, Ann Arbor, Michigan.

RESEARCH
PUBLICATIONS

40. R. Laugwitz and C. Walton, Constructing non-semisimple modular categories with local modules, <https://arxiv.org/pdf/2202.08644>, to appear in *Commun. Math. Phys.*

39. A. Hernandez, C. Walton, and H. Yadav, On non-counital Frobenius algebras, <https://arxiv.org/pdf/2204.14182>, to appear in *J. Algebra Appl.*

38. C. Walton and H. Yadav, Filtered Frobenius algebras in monoidal categories, *Int. Math. Res. Notices*, 2022, rnac314.

37. Y. Morales, M. Müller, J. Plavnik, A. Ros Camacho, A. Tabiri, C. Walton, Algebraic structures in group-theoretical fusion categories, *Algebras Represent. Theory* (2022), pp. 1-33.
36. H. Huang, C. Walton, E. Wicks and R. Won, Universal quantum semigroupoids, *J. Pure Appl. Algebra*, 227(2):107193, 2023.
35. F. Calderón and C. Walton, Algebraic properties of face algebras, *J. Algebra Appl.*, 2350076, 2022.
34. C. Walton, E. Wicks and R. Won, Algebraic structures in comodule categories over weak bialgebras. *Comm. Algebra*, 50(7):2877–2910, 2022.
33. C. Walton, X. Wang and M. Yakimov, Poisson geometry and representations of PI 4-dimensional Sklyanin algebras, *Selecta Math* 27:99 (2021).
32. R. Laugwitz and C. Walton, Constructing non-semisimple modular categories with relative monoidal centers, *Int. Math. Res. Notices*, 2021, rnab097.
31. R. Laugwitz and C. Walton, Braided commutative algebras over quantized enveloping algebras, *Transform. Groups* 26 (2021), pp. 957-993.
30. P. Etingof, R. Kinser and C. Walton, Tensor algebras in finite tensor categories, *Int. Math. Res. Notices*, 2021, rnz332.
29. A. Conner, E. Kirkman, W. F. Moore, and C. Walton, Noncommutative Knörrer periodicity and noncommutative Kleinian singularities, *J. Algebra* 540 (2019), pp. 234–273.
28. A. Chirvasitu, C. Walton, and X. Wang, Gelfand-Kirillov dimension of cosemisimple Hopf algebras, *Proc. Amer. Math. Soc.* 147 (2019), pp. 4665–4672.
27. C. Walton and J. Zhang, On the quadratic dual of the Fomin-Kirillov algebras, *Trans. Amer. Math. Soc.* 372 (2019), pp. 3921–3945.
26. C. Walton, X. Wang and M. Yakimov, Poisson geometry of PI three-dimensional Sklyanin algebras, *Proc. Lond. Math. Soc.* 118, no. 6, (2019), pp. 1471-1500.
25. Z. Cline, A. Estornell, C. Walton, and M. Wynne, PBW deformations of quadratic monomial algebras, *Comm. Algebra* 47, no. 7 (2019), pp. 2670-2688.
24. K. Chan, E. Kirkman, C. Walton, and J. Zhang, McKay correspondence for semisimple Hopf actions on regular graded algebras, I, *J. Algebra* 508 (2018), pp. 512–538.
23. C. Walton and S. Witherspoon, PBW deformations of braided products, *J. Algebra* 504 (2018), pp. 536–567.
22. A. Mejía Castaño, S. Montgomery, S. Natale, M. D. Vega, and C. Walton, Cocycle deformations and Galois objects for semisimple Hopf algebras of dimension p^3 and pq^2 , *J. Pure Appl. Algebra* 222, no. 7, (2018) pp. 1643–1669.
21. K. Chan, E. Kirkman, C. Walton, and J. Zhang, McKay correspondence for semisimple Hopf actions on regular graded algebras, II, *J. Noncom. Geom.* 13, no. 1, (2019), pp. 87–114.
20. A. Chirvasitu, C. Walton, and X. Wang, On quantum groups associated to a pair of preregular forms, *J. Noncom. Geom.* 13, no. 1, (2019), pp. 115–159.

19. D. J. Reich and C. Walton, Explicit representations of 3-dimensional Sklyanin algebras associated to a point of order 2, *Involve, a Journal of Mathematics* 11-4 (2018), pp. 585–608.
18. P. Etingof and C. Walton, Finite dimensional Hopf actions on algebraic quantizations, *Algebra & Number Theory* 10, no. 10 (2016), pp. 2287–2310.
17. J. Cuadra, P. Etingof, and C. Walton, Finite dimensional Hopf actions on Weyl algebras, *Adv. Math.* 302 (2016), pp. 25–39.
16. P. Etingof and C. Walton, Finite dimensional Hopf actions on deformation quantizations, *Proc. Amer. Math. Soc.* 145 (2017), pp. 1917–1925.
15. S. J. Sierra and C. Walton, Maps from the enveloping algebra of the positive Witt algebra to regular algebras, *Pacific J. Math* 284, no. 2 (2016), pp. 475–509.
14. P. Etingof, D. Goswami, A. Mandal, and C. Walton, Hopf coactions on commutative algebras generated by a quadratically independent comodule, *Comm. Algebra* 45, no. 8 (2017), pp. 3410–3412.
13. C. Walton and X. Wang, On quantum groups associated to non-Noetherian regular algebras of dimension 2, *Math Z.* 284, no. 1, (2016), pp. 543–574.
12. K. Chan, E. Kirkman, C. Walton, and J. J. Zhang, Quantum binary polyhedral groups and their actions on quantum planes, *J. Reine Angew. Math* 2016, no. 719 (2016), pp. 211–252.
11. P. Etingof and C. Walton, Pointed Hopf actions on fields, II, *J. Algebra* 460 (2016), pp. 253–283.
10. R. Kinser and C. Walton, Actions of some pointed Hopf algebras on path algebras of quivers, *Algebra & Number Theory* 10, no. 1 (2016), pp. 117–154.
9. J. Cuadra, P. Etingof, and C. Walton, Semisimple Hopf actions on Weyl algebras, *Adv. Math.* 282 (2015), pp. 47–55.
8. P. Etingof and C. Walton, Pointed Hopf actions on fields, I, *Transform. Groups* 20, no. 4 (2015), pp 985–1013.
7. C. Walton and S. Witherspoon, Poincaré-Birkhoff-Witt deformations of smash product algebras from Hopf actions on Koszul algebras, *Algebra & Number Theory* 8, no. 7 (2014), pp. 1701–1731.
6. S. J. Sierra and C. Walton, The universal enveloping algebra of the Witt algebra is not noetherian, *Adv. Math.* 262 (2014), pp. 239–260.
5. K. Chan, C. Walton, and J. J. Zhang, Hopf actions and Nakayama automorphisms, *J. Algebra* 409 (2014), pp. 26–53.
4. P. Etingof and C. Walton, Semisimple Hopf actions on commutative domains, *Adv. Math.* 251C (2014), pp. 47–61.
3. K. Chan, C. Walton, Y. Wang, and J. J. Zhang, Hopf actions on filtered regular algebras, *J. Algebra* 397, no. 1 (2014), pp. 68–90.
2. C. Walton, Representation theory of three-dimensional Sklyanin algebras, *Nuclear Physics* 860, no. 1 (2012), pp. 167–185.
1. C. Walton, Degenerate Sklyanin algebras and generalized twisted homogeneous coordinate rings, *J. Algebra* 322, no. 7 (2009), pp. 2508–2527; Corrigendum, 356 , no. 1 (2012), pp. 275–282.

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| EXPOSITORY PUBLICATIONS | 1. C. Walton, An Invitation to Noncommutative Algebra, <i>A Celebration of the EDGE Program's Impact on the Mathematics Community and Beyond</i> . Springer, Cham, 2019. pp. 339–366. | |
| PREPRINTS | 2. F. Liu Lopez and C. Walton, Twists of graded algebras in monoidal categories, https://arxiv.org/abs/2311.18105 , <i>submitted</i> . 1. R. Laugwitz, C. Walton, and M. Yakimov, Reflective centers of module categories and quantum K-matrices, https://arxiv.org/abs/2307.14764 , <i>submitted</i> . | |
| TEXTBOOK (IN PROGRESS) | C. Walton, <i>Symmetries of Algebras</i> , in progress, to be published by 619 Wreath. See https://math.rice.edu/~notlaw/symalgbook.html for updates. | |
| DISTINGUISHED INVITED LECTURES | Fields-Carleton Distinguished Lecture series Oct. 2023 “Modernizing Modern Algebra”, Carleton U., Ottawa, Canada. Invited Scientific Lecture, Blackwell-Tapia Conference Nov. 2021 “Frobenius Algebras Galore”, MSRI/ IPAM/ IMSI/ IAS [online]. NAM Claytor-Woodard Lecture, Joint Mathematics Meeting Jan. 2021 “An Invitation to Noncommutative Algebra”, Washington, DC [online]. Review: https://bit.ly/3qDonWI (short url) <i>Declined: AMS Invited Address, Joint Mathematics Meeting</i> Jan. 2021 <i>(Previously accepted to give MAA Invited Address, at most one allowed)</i> MAA Invited Address, Joint Mathematics Meeting Jan. 2021 “Navigating Collaboration”, Washington, DC [online]. Plenary Lecture, AWM Symposium Apr. 2019 “Quantum Symmetry...and more”, Rice U., Houston, Texas. Plenary Lecture, AMS Western Section Meeting Oct. 2016 “On Quantum Symmetry”, U. Denver, Denver, Colorado. | |
| INVITED AND CONTRIBUTED RESEARCH TALKS | Reflective centers and quantum K-matrices Rocky Mountain Representation Theory seminar [online]. Jan. 2024 Subfactors and 2-categories conference, BIRS, Banff, Canada. Dec. 2023 Global Categorical Symmetries conference, Les Diablerets, Switzerland. Aug. 2023 Constructing non-semisimple modular categories Southeastern Lie Theory Workshop, North Carolina State U. May 2023 Algebra Seminar, U. Marburg, Germany. Aug. 2022 Hopf algebras, monoidal cat, related topics, Bucharest, Rom. [online] July 2022 Math. Forschungsinstitut Oberwolfach, Oberwolfach, Germ. [online]. Sept. 2021 SIAM-AG21 Minisymposium [online]. Aug. 2021 Seattle Noncommutative Algebra Day, U. Washington [online]. Dec. 2020 Filtered Frobenius algebras in monoidal categories Emmy Noether Seminar, U. Erlangen-Nürnberg, Germany. Nov. 2022 Quantum Topology and Categorification Seminar, U. Hamburg, Germ. Oct. 2022 Algebra Seminar, U. Edinburgh, UK. Oct. 2022 Algebra Seminar, TU Dresden, Dresden, Germany [online]. Dec. 2021 Mathematical Congress of the Americas [online]. July 2021 | |

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| Modernizing Modern Algebra: Category theory is coming... | |
| Department Colloquium, U. Hamburg, Germany. | Nov. 2022 |
| Giessen-Marburg Joint Colloquium, U. Giessen, Germany. | Nov. 2022 |
| SFB Higher Invariants Colloquium, U. Regensburg, Germany. | Oct. 2022 |
| Department Colloquium, U. Edinburgh, UK. | Oct. 2022 |
| Poisson geometry of PI Sklyanin algebras | |
| Algebraic Geometry seminar, Stanford U. [online] | Jan. 2022 |
| Math. Forschungsinstitut Oberwolfach, Oberwolfach, Germany. | May 2018 |
| Noncommutative Algebra meeting, U. Washington, Seattle, Wash. | Mar. 2018 |
| Joint Mathematics Meeting: Noncom. Alg. session, San Diego, Calif. | Jan. 2018 |
| GAP XV: Quantization, Penn. State University, State College, Penn. | Aug. 2017 |
| Linking noncom. rings and alg. geom. ICMS, Edinburgh, Scotland | June 2017 |
| Gone Fishing conference, Notre Dame, Notre Dame, Indiana. | May 2017 |
| Frobenius Algebras Galore | |
| LAGOON seminar [online] | July 2021 |
| Women in Comb. and Rep. Theory Workshop, UC Riverside [online] | May 2021 |
| On Quantum Symmetry/ Hopf actions (survey) | |
| Department Colloquium, U. Chicago [online]. | May 2021 |
| Department Colloquium, Ohio State U. [online]. | Apr. 2021 |
| Department Colloquium, Penn. State U. [online]. | Mar. 2021 |
| Department Colloquium, Dalhousie U. [online]. | Nov. 2020 |
| Department Colloquium, Rutgers U. [online]. | Nov. 2020 |
| Department Colloquium, Indiana U., Bloomington, Indiana. | Nov. 2019 |
| Department Colloquium, U. Michigan, Ann Arbor, Michigan. | Oct. 2019 |
| Department Colloquium, Rice U., Houston, Texas. | Oct. 2019 |
| Geom. and Categ. Aspects of CFTs CMO-BIRS, Oaxaca, Mexico | Sept. 2018 |
| Department Colloquium, Northern Illinois U., Dekalb, Illinois. | Apr. 2018 |
| Department Colloquium, Purdue U., West Lafayette, Indiana. | Jan. 2018 |
| Annual Math Conference, Miami U., Oxford, Ohio. | Sept. 2017 |
| Department Colloquium, U. Washington, Seattle, Wash. | Mar. 2017 |
| Department Colloquium, DePaul U., Chicago, Il. | Feb. 2017 |
| Department Colloquium, Bryn Mawr, Bryn Mawr, Penn. | Jan. 2017 |
| Department Colloquium, Emory U., Atlanta, Georgia. | Jan. 2017 |
| Algebra Seminar, U. Illinois Urbana-Champaign, Urb.-Champ., Il. | Dec. 2016 |
| Department Colloquium, Louisiana State U., Baton Rouge, Louis. | Nov. 2016 |
| Modular Categories: CMO-BIRS, Oaxaca, Mexico. | Aug. 2016 |
| Department Colloquium, U. Iowa, Iowa City, Iowa. | Dec. 2015 |
| Department Colloquium, UCSB, Santa Barbara, Calif. | May 2015 |
| Grad. Student Conf. (GSCAGT), Temple U., Philadelphia, Penn. | May 2015 |
| Expository Talk, Maurice Auslander Conference, Woods Hole, Mass. | May 2015 |
| Algebra section, SACNAS, Los Angeles, California. | Oct. 2014 |
| Math. Forschungsinstitut Oberwolfach, Oberwolfach, Germany. | May 2014 |
| Algebra Seminar, Northeastern U., Boston, Massachusetts. | Oct. 2013 |
| Universal Quantum Semigroupoids | |
| Noncommutative Algebra seminar [online]. | Mar. 2021 |
| Quantum Symmetries seminar [online]. | Oct. 2020 |
| Quantum Groups seminar [online]. | Aug. 2020 |

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| Algebraic structures in group-theoretical fusion categories | |
| A(achen)-B(ochum)-C(ologne)-D(arstellungstheorie) seminar [online]. | July 2020 |
| MSRI Quantum Symmetries seminar [online]. | Apr. 2020 |
| Seattle Noncommutative Algebra Day, U. Washington, Seattle, Wash. | Feb. 2020 |
| Tensor algebras in finite tensor categories | |
| CIMPA school on Quantum Sym., U. Los Andes. Bogotá, Colombia | June 2019 |
| Quantum Symmetries summer school, Ohio State U., Columbus, Ohio. | June 2019 |
| Homotopy meets homology workshop, Trinity College, Dublin, Ireland. | May 2019 |
| Seattle Noncommutative Algebra Day, U. Washington, Seattle, Wash. | Mar. 2019 |
| On Morita equivalence | |
| Department Colloquium, Indiana U., Bloomington, Indiana. | Feb. 2019 |
| On the quadratic dual of the Fomin-Kirillov algebras | |
| Algebra seminar, U. Waterloo, Waterloo, Canada. | Nov. 2018 |
| AMS section meeting, Northeastern U., Boston, Mass. | Apr. 2018 |
| On braided commutative algebras | |
| Mathematical Physics seminar, Perimeter Institute, Waterloo, Canada. | Nov. 2018 |
| AMS section meeting, San Francisco St. U., San Francisco, California. | Oct. 2018 |
| Cocycle deformations of semisimple Hopf algebras | |
| Joint Mathematics Meeting: AWM workshop, San Diego, Calif. | Jan. 2018 |
| AMS section meeting, Washington St. U., Pullman, Wash. | Apr. 2017 |
| Deformation Theory seminar, U. Penn, Philadelphia, Penn. | Feb. 2017 |
| Universal enveloping algebra of the Witt algebra is not noetherian | |
| AMS section meeting, U. Calif. Riverside, Riverside, Calif. | Nov. 2017 |
| Seattle Noncommutative Algebra Day, Seattle, Washington. | Aug. 2015 |
| AMS section meeting, Temple U., Philadelphia, Pennsylvania. | Oct. 2013 |
| Algebra seminar, U. California San Diego, San Diego, California. | Apr. 2013 |
| Algebra seminar, U. Oregon, Eugene, Oregon. | Apr. 2013 |
| Noncommutative McKay Correspondence | |
| Quantum Symmetries: Subfactors and Planar Alg. conf., Maui, Hawaii. | July 2017 |
| Joint Mathematics Meeting: Noncom. Alg. session., Atlanta, Georgia. | Jan. 2017 |
| Generalized Geometry Conf., Clay Math Inst., Oxford, England. | Dec. 2016 |
| No Quantum Symmetry | |
| Joint Mathematics Meeting: Quantum Groups session, Atlanta, Geor. | Jan. 2017 |
| Lie Theory seminar, National Univ. of Córdoba, Córdoba, Argentina. | July 2016 |
| US-Mexico conf. Rep. Theory, Categ., Noncom. Alg., USC, LA, Calif. | June 2016 |
| PBW deformations of braided products | |
| Algebra Seminar, Louisiana State U., Baton Rouge, Louis. | Nov. 2016 |
| Joint Mathematics Meeting: Noncom. Alg. session, Seattle, Wash. | Jan. 2016 |
| On quantum groups associated to a pair of preregular forms | |
| AMS section meeting, Bowdoin College, Bowdoin, Maine. | Sept. 2016 |
| Bridges between Noncom. Algebra and Alg. Geom., BIRS, Banff, Can. | Sept. 2016 |
| XXI Coloquio Latin. de Álgebra, U. Buenos Aires, Buenos Aires, Arg. | July 2016 |
| Finite dimensional Hopf actions on algebraic quantizations | |
| Seattle Noncommutative Algebra Day, Seattle, Washington. | Apr. 2016 |

- Semisimple/ Finite dimensional Hopf actions on Weyl algebras**
 Nichols Algebras and applications, BIRS, Banff, Canada Sept. 2015
 AMS section meeting, Michigan State U., East Lansing, Michigan. Mar. 2015
 Noncommutative Alg. Geom. workshop, Fudan U., Shanghai, China. Aug. 2014
- On quantum groups assoc. to non-Noetherian reg. algebras of dim. 2**
 Geometric Algebra Conference, Fields Institute, Toronto, Canada. July 2015
 AMS section meeting, U. Nevada Las Vegas, Las Vegas, Nevada. Apr. 2015
- Actions of some pointed Hopf algebras on path algebras of quivers**
 Joint Mathematics Meeting: Noncom. Alg. session, San Antonio, Tex. Jan. 2015
 Hopf algebras and actions workshop, U. Washington, Seattle, Wash. Nov. 2014
- Finite dimensional Hopf actions on commutative domains**
 Representation Theory seminar, Northeastern U., Boston, Mass. Nov. 2014
 Poisson 2014, U. Illinois Urbana-Champaign, Urbana, Illinois. Aug. 2014
 Math. Forschungsinstitut Oberwolfach, Oberwolfach, Germany. Apr. 2014
 Algebra seminar, U. Washington, Seattle, Washington. Nov. 2013
- Noncommutative Invariant Theory (survey)**
 Department Colloquium, Rice U., Houston, Texas. Sept. 2014
 Department Colloquium, Sam Houston State U., Huntsville, Texas. Mar. 2014
 Algebra Seminar, Texas A&M U., College Station, Texas. Mar. 2014
 Department Colloquium, Syracuse U., Syracuse, New York. Feb. 2014
 Department Colloquium, Temple U., Philadelphia, Pennsylvania. Jan. 2014
 Department Colloquium, U. California San Diego, San Diego, Calif. Jan. 2014
 Department Colloquium, U. Waterloo, Waterloo, Canada. Nov. 2013
 AMS section meeting, Temple U., Philadelphia, Pennsylvania. Oct. 2013
 Every Topic seminar, Brandeis U. Waltham, Massachusetts. Oct. 2013
 Southern California Algebra Conference (UCLA) Apr. 2013
 Department Colloquium, Iowa State University, Ames, Iowa. Apr. 2013
- PBW deformations of smash product algebras from Hopf actions**
 CMS section meeting, U. Ottawa, Ottawa, Canada. Dec. 2013
- Semisimple Hopf actions on commutative domains**
 Postdoctoral seminar, MSRI, Berkeley, California. Mar. 2013
- Hopf actions and Nakayama automorphisms**
 New Trends in Noncom. Algebra and Alg. Geom., BIRS, Banff, Can. Oct. 2012
- Quantum binary polyhedral groups and their actions on quantum planes**
 Algebra seminar, Syracuse University, Syracuse, New York. Oct. 2012
 Noncommutative Invariant Theory conf., U. Washington, Seattle. May 2012
 Comm. Alg. with Alg. Geom., Rep. Thy, CIMAT, Guanajuato, Mex. May 2012
 AMS section meeting, U. Hawaii at Manoa, Honolulu, Hawaii. Mar. 2012
- Representation theory of three-dimensional Sklyanin algebras**
 Noncom. Alg. Geom., D-branes, Simons Center, Stony Brook, N. York. Dec. 2011
 Algebra seminar, U. California Santa Barbara, Santa Barbara, Calif. Nov. 2011
 AMS section meeting, Wake Forest U., Winston-Salem, N. Carolina. Sept. 2011
- Degenerate Sklyanin Algs. and Gen. Twisted Homog. Coord. Rings**
 Algebra Seminars, U. Stuttgart, Ger.; U. Newcastle, U. Leeds, UK. Feb. 2011
 Department Colloquium, Wake Forest U., Winston-Salem, N. Carolina. Nov. 2010
 Algebraic Geometry Seminar, U. Illinois U-C, Urbana, Illinois. Nov. 2010

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| | Algebra Seminar, Michigan State U., East Lansing, Michigan. | Oct. 2010 |
| | Kent Algebra Days, U. Kent, Canterbury, England. | June 2010 |
| | Algebraic Geometry Seminar, U. Warwick, Warwick, England. | Feb. 2010 |
| | AMS Western section meeting, U. California, Riverside, California. | Nov. 2009 |
| | Algebra Seminar, Northeastern U., Boston, Massachusetts. | Oct. 2009 |
| INVITED | Hamilton's Quaternions | |
| EXPOSITORY | Undergraduate Math Club, Rice U., Houston, Texas. | Sept. 2021 |
| TALKS (FOR | Undergraduate Math Club, Louisiana State U., Baton Rouge, Louis. | Nov. 2016 |
| UGRADS) | Undergraduate Math Club, Temple U., Philadelphia, Penn. | Feb. 2016 |
| | Undergraduate Mathematics Symposium, U. Illinois, Chicago, Illinois. | Oct. 2015 |
| | MathROOTS (high school program), MIT, Cambridge, Mass. | June 2015, 2016 |
| | Symmetries in Algebra | |
| | GROW conference, U. Illinois U-C, Urbana, Illinois. | Oct. 2019 |
| | Department Colloquium, Reed College, Portland, Oregon. | Mar. 2018 |
| | An Introduction to Noncommutative Invariant Theory | |
| | Undergraduate Math Club, MIT, Cambridge, Massachusetts. | Apr. 2015 |
| | Keynote address, AFRAMath conference, Boston U. Boston, Mass. | Apr. 2014 |
| | ADVANCE PRiME seminar series, Purdue U., West Lafayette, Indiana. | July 2013 |
| | EDGE symposium, New College of Florida, Sarasota, Florida. | June 2013 |
| | Noncommutative Algebra?! | |
| | PURE REU, University of Hawaii, Hilo, Hawaii. | July 2015 |
| | Department Colloquium, Smith College, Northampton, Massachusetts. | Sept. 2014 |
| | Department Colloquium, Medgar Evers College, New York, New York. | Apr. 2014 |
| | Department Seminar, Spelman College, Atlanta, Georgia. | Sept. 2010 |
| | Department Colloquium, Wellesley College, Wellesley, Massachusetts. | Oct. 2009 |
| | Undergraduate Math Club, U. of Michigan, Ann Arbor, Michigan. | Oct. 2009 |
| | Introducing Noncommutative Projective Algebraic Geometry | |
| | Alg. and Rep. Thy (ARTIN) meeting, U. Glasgow, Scotland. | May 2008 |
| | Inst. of Adv. Study: Women and Mathematics, Princeton, New Jersey. | May 2007 |
| INVITED | Beyond Abstract Algebra | |
| PROFESSIONAL | Women and Mathematics Program, Inst. for Advanced Study [online]. | May 2021 |
| DEVELOPMENT | Navigating Collaboration | |
| LECTURES | CIMPA school on Quantum Sym., U. Los Andes. Bogotá, Colombia | June 2019 |
| | Infinite Possibilities Conference, Howard U., Washington D.C. | Apr. 2018 |
| | Math in the Age of Trump | |
| | USTARS conference, Amherst College, Amherst, Mass. | Apr. 2017 |
| | Marjorie Lee Browne Colloquium, U. Michigan, Ann Arbor, Michigan. | Jan. 2017 |
| CONFERENCES, | Noncom. Geometry and Noncom. Invariant Thy workshop | Sept. 2022 |
| WORKSHOPS | Banff International Research Station, Banff, Canada. | |
| CO-ORGANIZED | - Organizer, https://www.birs.ca/events/2022/5-day-workshops/22w5084 | |
| | Women in Noncommutative Algebra and Representation Theory 3 (WINART3) workshop | Apr. 2022 |
| | Banff International Research Station, Banff, Canada. | |
| | - Contact organizer, https://bit.ly/3wWDzj2 (short url) | |
| | - Research Group co-leader (with Elizabeth Wicks) | |

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| | Gulf Coast Undergraduate Research Symposium (GCURS) | Oct. 2021 |
| | Mathematics section co-organizer, Rice University, Houston, Texas. | |
| | AMS Meeting Special Sessions | (various) |
| | Hom'l aspects of quantum symmetries, Joint Math Meeting, Wash. DC. | Jan. 2021 |
| | New Dev. in NC Alg. & Rep. Thy, Joint Math Meeting, Atlanta, GA. | Jan. 2017 |
| | Quantum Algebra, Western Section Meeting, Denver, Colorado. | Oct. 2016 |
| | MSRI semester on Quantum Symmetry | Spring 2020 |
| | Mathematical Sciences Research Institute, Berkeley, California. | |
| | - Program Organizer, http://www.msri.org/programs/312 | |
| | - Contact organizer, Conn. for Women, http://www.msri.org/workshops/905 | |
| | Quasy-Con: Midwest Quantum Symmetries conference | Nov. 2019 |
| | - Contact organizer, https://math.rice.edu/~notlaw/QuaSy-Con2019.html | |
| | Women in Noncommutative Algebra and Representation Theory 2 (WINART2) workshop | May 2019 |
| | University of Leeds, Leeds, UK. | |
| | - Non-local Contact organizer, https://bit.ly/2LTQJXy (short url) | |
| | - Research Group co-leader (with Julia Plavnik) | |
| | - NSF conference grant DMS-1900575, \$11,398.00 USD | |
| | Kirkman & Lorenz: Algebra Extravaganza! | July 2017 |
| | Conference in honor of Ellen Kirkman and Martin Lorenz | |
| | Temple University, Philadelphia, Pennsylvania. | |
| | - Contact organizer, https://math.temple.edu/events/conferences/k-1/ | |
| | - NSF conference grant DMS-1712663 (co-PI with V. Dolgushev), \$24,969 USD | |
| | Graduate Student Conf in Algebra, Geometry, and Topology | May 2016 |
| | Temple University, Philadelphia, Pennsylvania. | |
| | - https://math.temple.edu/events/conferences/gscagt/ | |
| | - NSF conference grant DMS-1623003 (co-PI with D. Futer), \$37,900 USD | |
| | Women in Noncommutative Algebra and Representation Theory (WINART) workshop [16w5023] | April 2016 |
| | Banff International Research Station, Banff, Canada. | |
| | - Contact organizer, https://bit.ly/2kNgNaq (short url) | |
| POSTDOCTORAL ADVISEES | Hongdi Huang , Rice University. | July 2020 - present |
| | Xingting Wang , Temple University. | July 2015 - June 2018 |
| PH.D. ADVISEES | Jacob Kesten , Rice University. Ph.D candidate. | July 2023 - present |
| | Fernando Liu Lopez , Rice University. Ph.D candidate. | June 2021 - present |
| | Anh-Tuong Nguyen , UIUC. Ph.D candidate. | June 2019 - Dec 2023 |
| | Fabio Alejandro Calderón Mateus , U.N.C.-Bogotá. | Sep. 2020 - July 2023 |
| | - Co-advisor: Milton Armando Reyes Villamil, U.N.Colombia-Bogotá | |
| | Harshit Yadav , (UIUC transfer to) Rice University. | Jan. 2019 - Apr. 2023 |
| | Zachary Cline , Temple University. | Dec 2015 - May 2019 |
| SHORT-TERM ADVISEES | Vincent Thompson , Rice University. Houston, TX. | Jan. 2022 - May 2023 |
| | Colleen Delaney , Indiana U., Bloomington, IN (Postdoc institution). | Spr. 2020 |

| | | |
|-----------------|--|------------------------|
| | Pablo Ocal , Texas A&M U., College Station, TX (Ph.D institution). Spring 2020 | |
| | Hongdi Huang , U. Waterloo, Waterloo, Canada (Ph.D institution). Fall 2019 | |
| UNDERGRADUATE | Amanda Hernandez , Rice University | Jan. 2021 - Apr 2022 |
| RESEARCH | - Topic: Non-counital Frobenius algebras. | |
| ADVISEES | - Appeared in <i>J. Algebra Appl.</i> (2023). | |
| | Andrew Estornell, Matthew Wynne , Temple Univ. | Apr. 2017 - May 2018 |
| | - Topic: Deformations of noncommutative algebras. | |
| | - Appeared in <i>Comm. Algebra</i> (2019). | |
| | Dong Bin Choi , Temple University. | Jan. - Dec. 2016 |
| | - Topic: Noncommutative Invariant Theory. | |
| | Daniel Reich , Temple University. | June 2014 - Aug. 2015 |
| | - Topic: PI three-dimensional Sklyanin algebras. | |
| | - Appeared in <i>Involve, a Journal of Mathematics</i> (2018). | |
| PH.D. COMMITTEE | Austen James, Rice U., Houston, TX. | Nov. 2022 |
| MEMBER | Zhiyuan Wang, Rice U. (Physics), Houston, TX. | July 2022 |
| | Helbert Javier Venegas Ramirez, U. N. Colombia, Bogotá, Colombia. | June 2020 |
| TEACHING | Course Instructor | |
| | Rice University, Houston, Texas | |
| | - Topics in Algebra (Grad), Symmetries of Algebras, Math 466/566. | Spring 2024 |
| | - Algebra 1 (Grad), Math 463/563. | Fall 2023 |
| | - Algebra 2 (Grad), Math 464/564. | Spring 2023 |
| | - Group Representation Theory (Undergrad), Math 374. | Spring 2022 |
| | - Algebra 1 (Grad), Math 463/563. | Fall 2021 |
| | - Algebra 2 (Undergrad), Math 357. | Spring 2021 |
| | - Algebra 1 (Grad), Math 463/563. | Fall 2020 |
| | University of Illinois, Urbana-Champaign, Illinois | |
| | - Algebra (Grad), Math 500. | Fall 2019 |
| | - Abstract Algebra (Ugrad), Math 417 sections D13, E13. | Spring 2019 |
| | - Abstract Algebra (Grad), reading course. | Spring 2019 |
| | - Representation Theory (Grad), Math 506. | Fall 2018 |
| | Temple University, Philadelphia, Pennsylvania | |
| | - Abstract Algebra (Grad), Math 8011. | Fall 2017 |
| | - Homological Algebra (Grad), Math 9011. | Spring 2017 |
| | - Modern Algebra (Ugrad), Math 3098. | Fall 2016 |
| | - Calculus III (Ugrad), Math 2043, Section 008. | Spring 2016 |
| | Massachusetts Institute of Technology, Cambridge, Massachusetts. | |
| | - Seminar in Algebra and Number Theory (Ugrad), Math 18.704. | Spring 2015 |
| | Learning Group Facilitator | |
| | State sums models and Invariants of 3-Manifolds. | Spring 2023 |
| | - Meusburger's <i>State sum models with defects based on spherical fusion cat.</i> (2022). | |
| | 2-dim'l Top'l Quantum Field Theories and Frob. algebras. | Spring 2019, Fall 2022 |
| | - Kock's <i>Frobenius Algs and 2D Top'l Quantum Field Theories</i> (2003) §1.1-3.3. | |
| | - Led by Fernando Liu Lopez in Fall 2022. | |

Algebraic Structures in Braided Tensor Categories [hybrid]. Fall 2021, Spring 2022
 - Fröblich-Fuchs-Runkel-Schweigert's *Correspondences of ribbon categ.* (2006).

Hochschild cohomology [online]. Spring 2021

- Witherspoon's *Hochschild Cohomology for Algebras* (2020).

3-dim'l Top'l Quantum Field Theories and Modular Categories [online]. Fall 2020

- (no text, a couple of talks, the rest of the slots are videos and discussion)

Braided Tensor Categories [online]. Summer 2020

- Etingof-Gelaki-Nikshych-Ostrik's *Tensor Categories* (2015) Ch. 8.

Monoidal Categories. Fall 2019

- Turaev-Virelizier's *Monoidal Categories and Top'l Field Theory* (2017) §1.1-6.7.

Directed Reading Course Facilitator

- Category Theory, (Ugrad, Rice), Math 490. Spring 2024

- Category Theory, (Grad, Rice), Math 690. Spring 2023

- Symmetries of Algebras, (Ugrad, Rice), Math 490. Fall 2022

- Group Rep. Theory, Spelman-Morehouse DRP Program. [online] Spring 2022

- Category Theory (Ugrad, Rice), unofficial. Summer 2021

- Alg. Structures in Monoidal Categories (Ugrad, Rice), Math 490. Spring 2021

- Group Representation Theory (Ugrad, Rice), Math 490. Fall 2020

Advanced Short Course Instructor

CIMPA summer school on Hopf algebra and Tensor Categories. Aug. 2019

- Location: National Univ. of Córdoba, Córdoba, Argentina.

- Course: Artin-Schelter regular algebras and their quantum symmetries.

Instructor for Enhancing Diversity in Graduate Education program

Course: Advanced Linear Algebra

Howard College, Washington D.C. June 2015

Harvey Mudd College, Claremont, California. June 2014

New College of Florida, Sarasota, Florida. June 2013

Pomona College, Claremont, California. June 2012

Recitation Leader

Massachusetts Institute of Technology, Cambridge, Massachusetts.

Calculus III, Math 18.02 section 1 & 18.02 **Course Administrator** Fall 2014

Calculus III, Math 18.02A sections 3 and 6 Jan. 2014

Calculus I-III, Math 18.01A/02A sections 2 and 3 Fall 2013

Calculus III, Math 18.02 sections 10 and 14 Fall 2012

Graduate Student Instructor (GSI)

University of Michigan, Ann Arbor, Michigan.

Calculus I (primary instructor), Math 115 section 18 Fall 2010

Differential Equations, Math 216 sections 41-44 Fall 2009

Calculus II (primary instructor), Math 116 section 36 Fall 2008

Calculus I (primary instructor), Math 115 section 42 Fall 2006

GSI, Michigan Math and Science Scholars July 2006

University of Michigan, Ann Arbor, Michigan.

GSI, Emerging Scholars Program Aug. 2004 - May 2005

Michigan State University, East Lansing, Michigan.

SELECTED
SERVICE AND
OUTREACH

DIVERSITY, INCLUSION, AND EQUITY SERVICE (INDIVIDUALIZED)

Tailored especially to underrepresented racial and gender minorities.

- Provides advice and advocacy work on transitional points in the academic career path, including undergraduate training to graduate training, to a postdoctoral fellowship, to a tenure-track position, to obtaining tenure, through various media.
- Aids in (academic) job offer negotiations.
- Assists with navigating the collaborative research process.
- Serves as unofficial liaison for mental health and family services.

INTERNAL SERVICE FOR RICE UNIVERSITY

- University-Wide Promotion and Tenure Committee Fall 2023 - Spring 2024
- Physics/ Quantum Initiative Hiring Committee Fall 2022 - Spring 2023
- Mathematics Hiring Interviewer Fall 2021 - Spring 2023
- AGNT seminar organizer Fall 2021 - Spring 2023
- Graduate Admissions Committee (co-chair from F2021) Fall 2020 - Spring 2023
- Graduate Committee Fall 2020 - Spring 2023
- Diversity Committee (member-at-large) Fall 2020 - Spring 2023
- Appointments (Hiring) Committee Fall 2020 - Spring 2021

INTERNAL SERVICE FOR UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

- Algebra seminar organizer Fall 2019
- Colloquium Committee Fall 2019
- Math 500 (Graduate Algebra) Committee Fall 2019
- Graduate Affairs Committee Fall 2018 - Spring 2019
- Graduate Recruit Application Screening Fall 2018 - Fall 2019

INTERNAL SERVICE FOR TEMPLE UNIVERSITY

- Colloquium organizer Fall 2016 - Fall 2017
- Graduate committee member Fall 2015 - Spr. 2018
- Algebra seminar organizer Fall 2015 - Fall 2017

EXTERNAL SERVICE ACTIVITIES

Referee. *Adv. Appl. Clifford Algebr.*; *Adv. Math.*; *Alg. Rep. Theory.*; *Bull. London Math. Soc.*; *Comm. Algebra*; *IMRN*; *J. Comm. Algebra*; *J. Algebra*; *J. Algebra Appl.*; *J. London Math. Soc.*; *J. Noncommut. Geom.*; *J. Pure Appl. Algebra*; *J. Symplectic Geom.*; *Humboldt* (German grant); *Math. Surveys Monogr.*; *New York J. Math.*; *NWO* (Dutch grant); *Proc. Amer. Math. Soc.*; *Proc. Edinburgh Math Soc.*; *Trans. Amer. Math. Soc.*.

BIRS Scientific Advisory Board Aug. 2023 - Aug. 2025

Journal Editor (*various*)

Proceedings of the AMS, Editor Feb. 2024 - Jan. 2028

Communications of the AMS, Associate Editor Dec. 2020 - Jan. 2025

WINART Steering Committee March 2022 - Feb 2025

- Advisory role for the new leadership: D. Addabbo, M. Kulkarni, L. Martirosyan.

Panel Member

Job Advice Panel, Southeastern Lie Theory workshop, NCSU. May 2023

NAM Panel, Joint Mathematics Meetings, San Diego, Calif. Jan. 2018

Connections for Women workshop, MSRI, Berkeley, Calif. Jan. 2013

USTARS Symposium, U. Iowa, Iowa City, Iowa. Apr. 2012
 Diversity in Graduate Math workshop, MSRI, Berkeley, Calif. Oct. 2008
 IAS Women and Mathematics, IAS, Princeton, New Jersey. May 2007
WINART Network lead July 2015 - Feb 2022
 - Created and managed site women-in-ncalg-repthy.org & email listserv for women and non-binary researchers in Noncommutative Algebra and Representation Theory.
 - Lead organizer for the first, second, and third WINART workshops.
 - Liaison to the AWM and other Women in Math Research Networks.
NSF and NSA Grant Panels Disclosed dates 2015, 2018, 2020, 2021
Scientific Advisory Committee
 Poisson Geometry Summer School and Conference July 2022
 CIMPA Research School on Quantum Symmetries, Bogotá, Colombia July 2019
Instructor, Enhancing Diversity in Grad. Education (EDGE) program
 Howard College, Washington D.C. June 2015
 Harvey Mudd College, Claremont, California. June 2014
 New College of Florida, Sarasota, Florida. June 2013
 Pomona College, Claremont, California. June 2012
AMS-Simons Travel Grants Committee Member Feb. 2015 - Jan. 2018
 American Mathematical Society, USA.
Advisory Board Member, MIT PRIMES July 2014 - present
 Massachusetts Institute of Technology, Cambridge, Massachusetts.
Program Coordinator, MIT PRIMES Circle Aug. 2012 - July 2014
 Massachusetts Institute of Technology, Cambridge, Massachusetts.
Member, Mathematics Undergraduate Committee Aug. 2003 - May 2005
 Michigan State University, East Lansing, Michigan USA.
 - Initiated the development of course MTH 290: *Transition to Higher Mathematics*;
 Currently known as MTH 301: *Foundations of Higher Mathematics*.

· Updated: February 3, 2024 ·