DePaul University
Department of Mathematical Sciences
2320 N Kenmore Ave
Chicago, IL 60614–3210

Office: Schmitt Academic Center, Room 542
Phone: 773-325-4221
Email: c.drupieski@depaul.edu
Website: go.depaul.edu/drupieski

Education

- Ph.D. in Mathematics, University of Virginia 2009
- M.S. in Mathematics, University of Virginia 2008
- B.A. with Honors in Mathematics and Physics, McDaniel College 2004
  Graduated *College Scholar* and *Summa Cum Laude*

Academic Appointments

- DePaul University, Department of Mathematical Sciences
  - Professor 2023–
  - Associate Professor 2016–2023
  - Assistant Professor 2012–2016
- University of Georgia, Department of Mathematics
  - VIGRE Postdoctoral Research Associate 2009–2012

Visiting Positions

- Mathematical Sciences Research Institute (MSRI); Berkeley, CA Spring 2018
  - Research Member – Program on Group Representation Theory and Applications

Teaching Experience—DePaul University

- Undergraduate Courses Taught
  - MAT 110 Foundations of Mathematics for Elementary School Teachers I
  - MAT 111 Foundations of Mathematics for Elementary School Teachers II
  - MAT 120 Quantitative Reasoning
  - MAT 130 Precalculus
  - MAT 131 Precalculus & Trigonometry
  - MAT 135 Business Calculus I
  - MAT 137 Business Statistics
  - MAT 140 Discrete Mathematics I
  - MAT 141 Discrete Mathematics II
  - MAT 150 Calculus I
  - MAT 151 Calculus II
  - MAT 152 Calculus III
  - MAT 215 Introduction to Mathematical Reasoning

  - MAT 216 Foundations of Advanced Mathematics
  - MAT 260 Multivariable Calculus I
  - MAT 261 Multivariable Calculus II
  - MAT 262 Linear Algebra
  - MAT 302 Combinatorics
  - MAT 303 Theory of Numbers
  - MAT 310 Abstract Algebra I
  - MAT 311 Abstract Algebra II
  - MAT 312 Abstract Algebra III (cross listed MAT 472)
  - MAT 320 Geometry I
- Graduate Courses Taught
  - MAT 470 Advanced Linear Algebra
  - MAT 471 Group Theory
  - MAT 472 Fields and Galois Theory
  - MAT 473 Rings and Modules
- Undergraduate Independent Studies & Honors Projects
  - HON 395 Honors Senior Thesis
    Maciej Piwowarczyk: *Irreducible representations of* $R = \bigwedge(V)\#\mathbb{C}G$. (Winter 2020)
- Graduate Independent Studies
  - MAT 596 Advanced Topics in Algebra
    Rodrigo Smith: Topics in Groups, Rings, and Fields (Autumn 2019)
  - MAT 599 Independent Study
    Sadia Ansari, William Asztalos, Matthew Shefcik: Lie Algebras (Winter 2019)
- Graduate Master's Theses
  - MAT 595 Graduate Thesis Research
    Charles Brittenham: *Some centralizers in the Lie superalgebra* $\mathfrak{gl}(m|n)$. (AY 2015–2016)

Research Interests

Representation theory and cohomology of algebraic groups, Lie algebras, finite groups of Lie type, Lie superalgebras, algebraic supergroups, quantized enveloping algebras, polynomial functors, and related algebraic structures.

Grants and Contracts

- External Grants
  - Simons Foundation Collaboration Grant for Mathematicians ($35,000) 2016–2023
    Cohomology and Support Varieties, Award #426905
  - Elsevier Foundation Mathematical Sciences Sponsorship Fund travel grant ($1500) 2015
    Groups, Representations and Cohomology; Sabhal Mòr Ostaig; 23–26 June, 2015

- AMS-Simons Travel Grant for Early Career Mathematicians ($4800) 2013–2015
  Cohomology for Lie superalgebras and finite supergroup schemes
- NSF Grant OISE–0813052, East Asia and Pacific Summer Institutes ($5637) 2008
  Representations and cohomology for algebraic and quantum groups

- Internal Grants (DePaul University)
  - College of Science and Health Faculty Summer Research Grant ($6000) 2024
    Superalgebra for the braid group and related structures
  - University Research Council Competitive Research Leave 2022
    Cohomology and Support for Supergroups
  - College of Science and Health Faculty Summer Research Grant ($5700) 2019
    Representations of supergroups
  - University Research Council Competitive Research Leave 2018
    Group Representation Theory and Applications
  - College of Science and Health Faculty Summer Research Grant ($4200) 2015
    Geometry of Lie superalgebras
  - College of Science and Health Faculty Summer Research Grant ($4200) 2013
    Finite-generation problems for cohomology rings

Publications

- Peer-reviewed publications

21. C. M. Drupieski and J. R. Kujawa, *The Lie superalgebra of transpositions*, Algebr Represent Theor (2025).
20. C. M. Drupieski and J. R. Kujawa, *A survey of support theories for Lie superalgebras and finite supergroup schemes*, A Glimpse into Geometric Representation Theory, Contemp. Math. **804**, Amer. Math. Soc., 2024, p. 87–121.
19. C. M. Drupieski and J. R. Kujawa, *Support varieties for Lie superalgebras in characteristic* 2, Categorical, Combinatorial and Geometric Representation Theory and Related Topics, Proc. Sympos. Pure Math. **108**, Amer. Math. Soc., 2024, p. 99–125.
18. C. M. Drupieski and J. R. Kujawa, *Superized Troesch complexes and cohomology for strict polynomial superfunctors*, J. Pure Appl. Algebra **226** (2022), no. 12, Paper No. 107136, 44pp.
17. C. M. Drupieski and J. R. Kujawa, *Support varieties and modules of finite projective dimension for modular Lie superalgebras*, Algebra Number Theory **15** (2021), no. 5, 1157–1180. With an appendix by Luchezar L. Avramov and Srikanth B. Iyengar.
16. C. M. Drupieski and J. R. Kujawa, *Support schemes for infinitesimal unipotent supergroups*, Adv. Math. **384** (2021), Paper No. 107754, 61pp.
15. C. M. Drupieski and J. R. Kujawa, *Graded analogues of one-parameter subgroups and applications to the cohomology of* $GL_{m|n(r)}$, Adv. Math. **348** (2019), 277–352.
14. C. M. Drupieski and J. R. Kujawa, *On the cohomological spectrum and support varieties for infinitesimal unipotent supergroup schemes*. Advances in Algebra, Springer Proc. Math. Stat., vol. 277, Springer, Cham, 2019, pp. 121–167.
13. C. M. Drupieski and J. R. Kujawa, *On support varieties for Lie superalgebras and finite supergroup schemes*, J. Algebra **525** (2019), 64–110.

12. C. M. Drupieski, *Cohomological finite-generation for finite supergroup schemes*, Adv. Math. **288** (2016), 1360–1432. Corrigendum: Adv. Math. **311** (2017), 935–937.
11. C. P. Bendel, B. D. Boe, C. M. Drupieski, D. K. Nakano, B. J. Parshall, C. Pillen, and C. B. Wright, *Bounding the dimensions of rational cohomology groups*, Developments and Retrospectives in Lie Theory, Develop. Math. **38**, Springer, 2014, p. 51–69.
10. C. M. Drupieski, *Universal extension classes for GL_2*, Algebr. Represent. Theor. **17** (2014), no. 6, 1853–1860.
9. C. M. Drupieski, *Cohomological finite generation for restricted Lie superalgebras and finite supergroup schemes*, Represent. Theory **17** (2013), 469–507.
8. C. M. Drupieski, *Cohomology rings for quantized enveloping algebras*, Proc. Amer. Math. Soc. **141** (2013), no. 11, 3739–3753.
7. C. M. Drupieski, *On projective modules for Frobenius kernels and finite Chevalley groups*, Bull. London Math. Soc. **45** (2013), no. 4, 715-720.
6. University of Georgia VIGRE Algebra Group, *First cohomology for finite groups of Lie type: simple modules with small dominant weights*, Trans. Amer. Math. Soc. **365** (2013), no. 2, 1025–1050.
5. University of Georgia VIGRE Algebra Group, *Second cohomology for finite groups of Lie type*, J. Algebra **360** (2012), 21–52.
4. C. M. Drupieski, D. K. Nakano, and Nham V. Ngo, *Cohomology for infinitesimal unipotent algebraic and quantum groups*, Transform. Groups. **17** (2012), no. 2, 393–416.
3. C. M. Drupieski, D. K. Nakano, and B. J. Parshall, *Differentiating the Weyl generic dimension formula with applications to support varieties*, Adv. Math. **229** (2012), no. 5, 2656–2668.
2. C. M. Drupieski, *On injective modules and support varieties for the small quantum group*, Int. Math. Res. Not. **2011** (2011), no. 10, 2263–2294.
1. C. M. Drupieski, *Representations and cohomology for higher Frobenius–Lusztig kernels*, J. Pure Appl. Algebra **215** (2011), no. 6, 1473–1491.

- Manuscripts Under Submission
  - C. M. Drupieski and J. R. Kujawa, *Lie algebras generated by reflections in Types BCD*, `arXiv:2506.01198`.
- Manuscripts In Preparation
  - C. M. Drupieski and J. R. Kujawa, *Lie superalgebras generated by reflections in Weyl groups of classical type*.

Scholarly Presentations

- Conference Presentations
  - *Some Lie (super)algebras generated by reflections*; Southeastern Lie Theory Workshop XV: Representation Theory of Groups and Algebras, College of Charleston 05/2025
  - *The Lie superalgebra of transpositions*; Representation Theory & Related Geometry: Progress and Prospects, University of Georgia 05/2024
  - *The Lie superalgebra of transpositions*; AMS Spring Western Sectional Meeting, Special Session on Representations of Lie Algebras and Lie Superalgebras 05/2024
  - *Polynomial superfunctors, with applications to and from finite supergroup schemes*; IPAM workshop on Symmetric Tensor Categories & Representation Theory 01/2024

- *The Lie superalgebra of transpositions*; AMS Southeastern Sectional Meeting, Special Session on Representation Theory of Finite and Algebraic Groups 10/2023
- *Superized Troesch complexes & cohomology for strict polynomial superfunctors*; AMS Western Sectional Meeting, Special Session on Non-Semisimple Representation Categories 05/2023
- *The sulfuric stink of super: An homage to results of Brian Parshall by way of Lie superalgebras*; AMS Southeastern Sectional Meeting, Special Session on Representation Theory of Algebraic Groups and Quantum Groups: A Tribute to the Work of Cline, Parshall and Scott 03/2023
- *Support varieties and modules of finite projective dimension for modular Lie superalgebras*; AMS Eastern Virtual Sectional Meeting, Special Session on Linear Algebraic Groups: their Structure, Representations, and Geometry 03/2022
- *Support varieties for modular Lie superalgebras*; AMS Central Sectional Meeting, Special Session on Lie Representation Theory 09/2019
- *Support schemes for infinitesimal unipotent supergroups*; AMS Central and Western Joint Sectional Meeting, Special Session on Recent Advances in Lie and Related Algebras and their Representations 03/2019
- *Cohomology and support varieties for finite supergroup schemes*; Oberwolfach Mini-Workshop: Cohomology of Hopf Algebras and Tensor Categories 03/2019
- *Support schemes for infinitesimal supergroups*; Sixth Conference on Geometric Methods in Representation Theory, University of Iowa 11/2018
- *Support schemes for infinitesimal unipotent supergroups*; AMS Western Meeting; Special Session on Homological Aspects in Commutative Algebra and Representation Theory 10/2018
- *Support varieties for infinitesimal supergroups*; Southeastern Lie Theory Workshop X, University of Georgia 06/2018
- *Cohomology and support varieties for unipotent supergroups*; AMS Eastern Sectional Meeting; Special Session on Hopf Algebras, Tensor Categories, and Homological Algebra 04/2018
- *Graded analogues of one-parameter subgroups and applications* $GL_{m|n(r)}$; AMS Southeastern Section Meeting, Special Session on Categorial Methods in Representation Theory 09/2017
- *Graded analogues of one-parameter subgroups and applications to the cohomology of* $GL_{m|n(r)}$; Mathematical Congress of the Americas; Session on Cohomology of Groups 07/2017
- *Graded analogues of one-parameter subgroups and applications to the cohomology of* $GL_{m|n(r)}$; Southern Regional Algebra Conference, University of South Alabama 03/2017
- *Support varieties for Lie superalgebras*; AMS Fall Central Section Meeting, Special Session on Noncommutative Algebras and their Representations 10/2016
- *Support varieties for Lie superalgebras and graded group schemes*; Workshop on Algebraic Groups, Quantum Groups, and Geometry; University of Virginia 05/2016
- *Support varieties for Lie superalgebras and graded group schemes*; AMS Southeastern Section Meeting, Special Session on Lie Theory, Representation Theory, and Geometry 03/2016
- *Support varieties for Lie superalgebras and graded group schemes*; Joint Mathematics Meetings, Special Session on Geometric and Categorical Methods in Representation Theory 01/2016
- *Support varieties for Lie superalgebras and graded group schemes*; Workshop on Representations, Support, and Cohomology; Bielefeld University 12/2015
- *Universal extension classes for algebraic supergroups*; Groups, Representations, and Cohomology: Conference in Honor of Dave Benson's 60th Birthday; Isle of Skye, Scotland 06/2015

- *Finite-generation for cohomology rings of finite supergroup schemes*; Southwestern Group Theory Day, University of Arizona 03/2015
- *Finite-generation for cohomology rings of finite supergroup schemes*; AMS Central Section Meeting, Special Session on Groups and Representations 03/2015
- *Polynomial superfunctors and universal extension classes for algebraic supergroups*; Southeastern Lie Theory Workshop 2014, University of Georgia 05/2014
- *Cohomology for restricted Lie superalgebras and finite supergroup schemes*; Conference on Cohomology in Lie Theory; University of Oxford 06/2013
- *Second cohomology for finite groups of Lie type*; Seattle Summer π-School and Workshop on Cohomology and Support in Representation Theory; University of Washington 08/2012
- 1- *and* 2*-cohomology for algebraic groups and finite groups of Lie type*; AIM Workshop on Cohomology Bounds and Growth Rates; American Institute of Mathematics 06/2012
- *Support varieties for irreducible modules of small quantum groups*; Southeastern Lie Theory Workshop on Categorification and Representation Theory, NCSU 04/2012
- *Projective modules for Frobenius kernels and finite groups of Lie type*; AMS Southeastern Section Meeting, Special Session on Representations of Algebraic Groups 03/2012
- *Some quantum analogues of results from Lie algebra cohomology*; AMS Central Section Meeting, Special Session on Quantum Groups and Representation Theory 10/2011
- *Comparing algebraic and finite group cohomology*; Southeastern Lie Theory Workshop on Algebraic and Finite Groups; University of Virginia 06/2011
- *Cohomology rings for quantized enveloping algebras*; Joint Mathematics Meetings, Special Session on Lie Algebras, Algebraic Groups, and Related Topics 01/2011
- *Injective modules and support varieties for the small quantum group*; SE Lie Theory Conference on Homological Methods in Representation Theory; University of Georgia 05/2010
- *Cohomology rings of infinitesimal algebraic and quantum groups*; AMS Central Section Meeting, Special Session on Cohomology and Representation Theory of Algebraic Groups 04/2010

- Other Research Presentations
  - *The Lie superalgebra of transpositions*; TACO (Topology, Algebra, Combinatorics, and Operators) Seminar; Loyola University Chicago 09/2023
  - *Support varieties for Lie superalgebras and finite supergroup schemes*; Superalgebra Theory and Representations Seminar (STARS), Ben Gurion University / Bar Ilan University / Weizmann Institute of Science (virtual) 05/2022
  - *Superized Troesch complexes and resolutions for the Frobenius twist functor*; Algebra and Representation Theory Seminar, University of Oklahoma 04/2022
  - *Superized Troesch complexes and resolutions for the Frobenius twist functor*; TACO (Topology, Algebra, Combinatorics, and Operators) Seminar; Loyola University Chicago 03/2022
  - *Cohomological finite generation for finite supergroup schemes* (two lectures); Learning seminar on the work of Friedlander–Suslin, Massachusetts Institute of Technology (virtual) 09/2021
  - *Some very simple, very explicit examples related to detecting projectivity of modules*; Algebra & Combinatorics Seminar, Department of Mathematics, Loyola University Chicago 04/2019
  - *Cohomology and support varieties for infinitesimal group schemes*; GRTA Young Researchers Seminar, Mathematical Sciences Research Institute (MSRI) 02/2018

- *Some geometric objects associated to representations of Lie (super)algebras*, Algebra & Combinatorics Seminar, Department of Mathematics, Loyola University Chicago 03/2016
- *Support varieties for Lie superalgebras and graded group schemes*; Séminaire de topologie algébrique; Université Lille 1 - Sciences et Technologies 11/2015
- *Examples and results on strict polynomial superfunctors*; Algebra Seminar, Department of Mathematics, University of Virginia 04/2015
- *Cohomology and geometry for groups and related structures*; Colloquium, Department of Mathematics, Northern Illinois University 03/2015
- *Examples and results on strict polynomial superfunctors*, Algebra & Combinatorics Seminar, Department of Mathematics, Loyola University Chicago 11/2014
- *Polynomial functors and cohomology II*; Algebra Seminar, Department of Mathematics and Statistics, University of South Alabama 11/2013
- *Polynomial functors and cohomology*; Colloquium, Department of Mathematics and Statistics, University of South Alabama 10/2013
- *What is a cohomology ring, and why should I care if it's finitely-generated?*; Colloquium, Department of Mathematics, University of Oklahoma 09/2013
- *Cohomological finite generation for restricted Lie algebras and finite supergroup schemes*; Algebra Seminar, Department of Mathematics, University of Virginia 03/2013
- *Finite-generation problems for cohomology rings*; Algebra & Combinatorics Seminar, Department of Mathematics, Loyola University Chicago 09/2012
- *Support varieties for restricted Lie algebras (or, an application of Calculus to Abstract Algebra)*, Colloquium, Department of Mathematics, Ohio University 02/2012
- *Support varieties for restricted Lie algebras (or, an application of Calculus to Abstract Algebra)*; Colloquium, Department of Mathematical Sciences, DePaul University 02/2012
- *Support varieties for restricted Lie algebras (or, an application of Calculus to Abstract Algebra)*; Colloquium, Department of Mathematics and Statistics, Loyola University Chicago 01/2012
- *Comparing low degree cohomology for algebraic groups and finite groups of Lie type*; Algebra Seminar, Department of Mathematics, Christian-Albrechts Universität zu Kiel 06/2011
- *Some quantum analogues of results from Lie algebra cohomology*; Algebra Seminar, Department of Mathematics, Christian-Albrechts Universität zu Kiel 06/2011
- *Comparing low degree cohomology for algebraic groups and finite groups of Lie type*; BIREP Seminar, Department of Mathematics, Universität Bielefeld 06/2011
- *Support varieties for small quantum groups*; Algebra Seminar, Department of Mathematics and Statistics, University of South Alabama 10/2009
- *Cohomology and support varieties*; Colloquium, Department of Mathematics and Statistics, University of South Alabama 10/2009

• Other Presentations

- DePaul Math Club, DePaul University various
- North Central Math Circle, North Central College 02/2014
- Graduate Math Seminar, Department of Mathematics, University of Virginia 03/2013
- Undergraduate Math Club, Department of Mathematics, University of Georgia 01/2011

Service

- University Service, DePaul University
  - Faculty Council Secretary 2023–2026
    - Faculty Council Budget Committee, ex officio member
    - Faculty Council Executive Committee, ex officio member
    - Faculty Council Handbook Committee, ex officio member
    - Promotion and Tenure Policy Committee, ex officio member
  - Faculty Council representative for CSH (Regular Member) 2024–2027; (Alternate Member) 2023–2024; (Regular Member) 2018–2021
  - Faculty Committee on Appeals (FCA) (Chair 2023–2025) 2020–2025
  - Formal Review Committee for CSH Dean Gerry Koocher 2017
  - Library Review Board 2017–2020
  - Academic Integrity Board 2015–2018
  - All-University Judicial Board 2013–2018
- College of Science and Health, DePaul University
  - External member of ENV Promotion Committee 2023
  - CSH Curriculum Committee 2022–2023
  - Premiere and Transition DePaul summer advising (compensated) 2022–
  - New Faculty Seminar, P&T discussion panelist 2021
  - Ad hoc Unit Leader Selection Committee 2020
  - Strategic Planning Committee (First-year Retention Subcommittee) 2018–2022
  - Strategic Planning Retreat participant (2 days) 2018
  - SharePoint Approvers Group 2014–
- Department of Mathematical Sciences, DePaul University
  - Promotion and Tenure Committee (Chair) 2024
  - Hiring Committee (Term Faculty) 2024 (Chair), 2025
  - Advising Committee 2022–2023
  - Personnel Committee (Chair) 2022; (Chair 2018–2020) 2017–2020
  - Committee on Tenure and Promotion to Associate Professor (Chair) 2021–2022
  - Ad hoc Strategic Planning Committee 2018
  - Ad hoc P&T Document Update Committee 2017
  - Colloquium Coordinator 2014–2016
  - Hiring Committee (Assistant Professor) 2014–2015
  - Hiring Committee (Assistant Professor, general search) 2013–2014
  - Hiring Committee (Assistant Professor, targeted search) 2013–2014

- Hiring Committee (Term Faculty) 2013–2014
- Website & Technology Committee 2013–
- Master's in Pure Mathematics Committee 2012–2016
- Undergraduate Curriculum Committee 2022–2023
  2012–2016

Professional Activities

- Ad hoc Reviewer for Scholarly Journals (last 5 years, some with multiplicity)
  - Advances in Mathematics
  - Algebra and Number Theory
  - Algebras and Representation Theory
  - American Mathematical Monthly
  - Annals of Representation Theory
  - Canadian Mathematical Bulletin
  - Compositio Mathematica
  - Communications in Algebra
  - Compositio Mathematica
  - European Journal of Mathematics
  - International Mathematics Research Notices
  - Journal of Algebra
  - Journal of Pure and Applied Algebra
  - Journal of the Australian Mathematical Society
  - Proceedings of the American Mathematical Society
  - Proceedings of the London Mathematical Society
  - Transformation Groups
- Article reviews (post-publication) for *Mathematical Reviews* (list posted on MathSciNet)
- Conference and conference session organizer
  - Co-organizer for the *Special Session on Cohomology, Representation Theory, and Lie Theory*, 2021 AMS Fall Southeastern Sectional Meeting 2021
  - Co-organizer for the *Special Session on Lie Theory in the Representations of Groups and Related Structures*, 2019 AMS Spring Central and Western Joint Sectional Meeting 2019
  - Local organizer for the one-day mini-conference Algebra, Geometry, and Combinatorics Day (ALGECOM 11), held October 18, 2014 at DePaul's Lincoln Park Campus 2014
  - Co-organizer for the *Special Session on Cohomology and Representation Theory of Groups and Related Structures*, 2014 AMS Fall Central Section Meeting 2014
- Professional Affiliations
  - American Mathematical Society (AMS) Periodically since 2004
  - Mathematical Association of America (MAA) Periodically since 2009

  - TeX User's Group (TUG) 2009–2016

- Professional Development
  - The Grading Conference (Higher Ed STEM focus) attendee 2021, 2022
  - AMS Workshop for Department Chairs and Leaders participant 2020
  - TPSE Math Upper-Division Pathways: Southeast Regional Meeting attendee 2019
  - MAA Project NExT (New Experiences in Teaching) Consultant 2016–2017
  - 2016 PRODUCT IBL Workshop at Cal Poly San Luis Obispo participant 2016
  - Mathematicians in Mathematics Education (MIME) workshop 2013
  - MAA Project NExT (New Experiences in Teaching) Fellow 2010–2011

Awards and Recognitions

- Inducted into the Illinois Gamma (DePaul University) chapter of Pi Mu Epsilon 2025
- Nominated for DePaul QIC Excellence in Teaching Award 2015
- Undergraduate awards (while a student at McDaniel College)
  - Phi Beta Kappa, National Liberal Arts & Sciences Honor Society 2004
  - Dr. Clyde A. Spicer Award (outstanding senior in Mathematics) 2004
  - Peter Yedinak Memorial Award (outstanding contribution to the Physics Department) 2004
  - Harry C. Jones Physics Scholarship 2003
  - David Brian Cross Award for Achievement in Mathematics 2002
  - H. Samuel Case and Susan Snodgrass Case Award for Excellence in Scholarly Research 2002
  - Barry M. Goldwater Memorial Scholarship 2002
  - Kappa Mu Epsilon, National Mathematics Honor Society 2002
  - Lowell R. Duren Mathematics Award 2001
  - Sigma Pi Sigma, National Physics Honor Society 2001