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Stefan Dawydiak

Education

- 2022 **Ph.D. Mathematics**, *University of Toronto*
Advisor: Alexander Braverman
- 2017 **M.Sc. Mathematics**, *University of Toronto*
- 2016 **B.Sc. (Hons.) Mathematics, Minor in Russian**, *University of British Columbia, With Distinction*

Employment

- 2023– **Postdoctoral Fellow**, *Mathematical Institute, University of Bonn*
- 2022–2023 **Postdoctoral Fellow**, *Max Planck Institute for Mathematics, Bonn*

Publications and preprints

5. **S. Dawydiak**, *The asymptotic Hecke algebra and rigidity* (2023), available at <https://arxiv.org/abs/2312.11092>.
4. **S. Dawydiak**, *A coherent categorification of the based ring of the lowest two-sided cell* (2021), available at <https://arxiv.org/abs/2111.15648>. Submitted.
3. **S. Dawydiak**, *Denominators in Lusztig's asymptotic Hecke algebra via the Plancherel formula* (2023), available at <https://arxiv.org/abs/2110.07148>. Submitted.
2. R. Bezrukavnikov, **S. Dawydiak**, G. Dobrovolska, *On the structure of the affine asymptotic Hecke algebras*. *Transform. Groups* **28** (2023) 1059–1079.
1. **S. Dawydiak**, *On Lusztig's asymptotic Hecke algebra for SL_2* , *Proc. Amer. Math. Soc.* **149** (2021), no. 1, 71–88.

Research Interests

Representation theory of p -adic groups; affine Hecke algebras; geometric representation theory, the Langlands program

Awards and Fellowships

- 2022 NSERC Postdoctoral Fellowship—\$115,000
- 2020 Program Level Fellowship, University of Toronto Mathematics Department—\$6,000
- 2020 Margaret Isobel Elliott Graduate Scholarship, University of Toronto Mathematics Department—\$3,828
- 2019 NSERC PGS-D Scholarship—\$42,000
- 2019 Ontario Graduate Scholarship—\$15,000 (declined)
- 2018 Blyth Fellowship, University of Toronto Mathematics Department—\$5,000

- 2018 Ontario Graduate Scholarship—\$15,000
- 2018 Skolkovo Institute of Science and Technology, Center for Advanced Studies, visiting student scholarship—\$5,297
- 2016 Ontario Graduate Scholarship—\$15,000
- 2016 NSERC-USRA Award—\$5,852
- 2014 NSERC-CMS Math in Moscow Scholarship—\$9,000

Talks

- 2024 Representation Theory and Related Geometry: Progress and Prospects, University of Georgia, Athens, *Central extensions in Lusztig’s asymptotic Hecke algebra, lower modifications, and tempered representations* (Contributed)
- 2024 BIREP Seminar, University of Bielefeld, *Central extensions in Lusztig’s asymptotic Hecke algebra, lower modifications, and tempered representations*
- 2024 Oberseminar Algebra and representation theory, University of Bonn, *Tensor categories, central extensions, and tempered representations*
- 2023 Algebra seminar, University of Edinburgh, *Tensor categories, central extensions, and tempered representations*
- 2023 5th Nisyros Conference on Automorphic Representations & Related Topics, *The asymptotic Hecke algebra and rigidity.*
- 2023 Minicourse on p -Kazhdan-Lusztig bases, Ghent University, *Towards a coherent categorification of the based ring of the lowest two-sided cell*
- 2023 Institute Oberseminar, MPIM Bonn, *Analytic and algebraic aspects of p -adic groups*
- 2023 Arbeitsgemeinschaft Arithmetische Geometrie, MPIM Bonn, *Denominators in the asymptotic Hecke algebra and parahoric-fixed vectors*
- 2023 Representation theory and number theory seminar, National University of Singapore, *Towards a coherent categorification of the based ring of the lowest two-sided cell*
- 2022 Non-commutative algebras, representation theory, and special functions, Centre de Recherches Mathématiques, Montreal *Denominators in Lusztig’s asymptotic Hecke algebra* (Contributed)
- 2022 Representation theory and number theory seminar, National University of Singapore *Denominators in Lusztig’s asymptotic Hecke algebra* (Online)
- 2021 Geometric Representation Theory seminar, University of Toronto, *Denominators in Lusztig’s asymptotic Hecke algebra*

Teaching

- 2024— **Instructor**, *Mathematisches Institut der Universität Bonn*
 - Graduate credit seminar on Hecke algebras, Winter semester 2024.
 - Graduate credit seminar on perverse sheaves, Summer semester 2024.
- 2022 **Mentor**, *University of Toronto Math+ Mentorship Program*, Student project: Cayley degrees of complex reflection groups

- 2020–2022 **Instructor**, *University of Toronto Mathematics Department*
- MAT 136 Calculus II, approximately 110 students. Served as co-coordinator, Summer 2022.
 - MAT 334 Complex Variables, approximately 200 students. Served as co-coordinator, Winter 2022
 - MAT 235 Multivariable Calculus, approximately 200 students. Fall 2020.
- 2016–2020 **Teaching Assistant**, *University of Toronto Mathematics Department*
 Calculus and Linear Algebra for Commerce, Linear Algebra I, Linear Algebra II, Advanced Calculus, Applied Linear Algebra, Elements of Analysis
- 2013–2016 **Undergraduate Teaching Assistant**, *UBC Mathematics Department*
 MATH 110: Differential Calculus, MATH 100: Differential Calculus, ScienceOne mathematics

Conferences and Workshops attended

- 2023 Representation Theory and Non-Commutative Geometry/ARTIG 3, Paderborn University, December 1–2
- 2023 Automorphic forms, endoscopy and trace formulas, CIRM, Luminy, September 18–22
- 2023 Thematic program: The Arithmetic of the Langlands Program, Hausdorff Research Institute for Mathematics, May 2–August 18
- 2023 Number theory meets p -adic representations, Münster, February 13–17
- 2023 Workshop on interactions between representation theory, combinatorics, and geometry, National University of Singapore, January 3–7
- 2022 Community Building in the Langlands Program, 2 (CLAP), Hausdorff Research Institute for Mathematics, August 14–19.
- 2022 Workshop on Algebra and Representation Theory, Held on Oregonian Grounds, University of Oregon, June 26–30.
- 2022 L.A. Workshop in Representation Theory and Geometry, University of Southern California, June 5–10.
- 2022 Conference “On the the crossroads of algebra, geometry, and physics” dedicated to Alexander Goncharov, Yale University, May 16–20.
- 2022 Midwestern Representation Theory Conference, University of Michigan, March 11–13.
- 2021 Summer School - Enumerative Geometry, Physics and Representation Theory, IHES, Online, July 5–16.
- 2021 75th+1 CMS Summer Meeting, Online, June 7–1.
- 2020 Paul J. Sally, Jr. Midwest Representation Theory Conference, Online, October 16–18.
- 2020 Conference on Representation Theory and Algebraic Analysis in honour of Joseph Bernstein on the occasion of his 75th birthday, Online, May 11–14.
- 2020 Thematic trimester program on Representation theory, Institut Henri Poincaré, Paris, January 24–March 31.
- 2019 Quantum Structures in Algebra and Geometry, Northeastern University, Boston, USA, August 26–30.

- 2019 Thematic Program: Quiver Varieties and Representation Theory, Centre de Recherches Mathématiques, Montreal, Canada, August 1–31.
- 2019 International Summer School on Mathematical Physics, Skolkovo Institute of Science and Technology, Center for Advanced Studies, Moscow, Russia, July 1–12.
- 2019 Workshop Groups and Group Rings, St. Petersburg State University, St. Petersburg, Russia, June 3–8.
- 2019 Hot Topics Workshop: Recent Progress in the Langlands program, MSRI, Berkeley, USA, April 8–12.
- 2018 Summer School on Geometric Representation Theory, IST Austria, Klosterneuburg, Austria, July 9–13.
- 2018 CIME School on Geometric Representation Theory and Gauge Theory, Cetraro, Italy, June 25–29.
- 2018 Algebraic Geometry and its Applications, PDMI, St. Petersburg, Russia, May 28–June 2.

Service

Seminars

- 2022 **Organizer**, *Learning Seminar: Quantum groups*, University of Toronto
- 2019 **Organizer**, *Learning Seminar: Beilinson-Bernstein localization, the Riemann-Hilbert correspondence, perverse sheaves, and a proof of the Kazhdan-Lusztig conjectures*, Fields Institute
- 2018 **Organizer**, *Learning Seminar: Harmonic analysis on p -adic groups*, University of Toronto
- 2017–2019 **Organizer**, *Graduate Student Seminar*, University of Toronto

Refereeing

Referee, Pure and Applied Mathematics Quarterly, Journal of Pure and Applied Algebra

Reviewing

- 2021– **Reviewer**, zbMATH Open

Committees

- 2020–2022 **Member**, *Graduate Course Committee*, University of Toronto

Personal Information

- Citizenship Canadian
- Languages English, French, Russian, very basic German

Professional Memberships

- Canadian Mathematical Society (CMS): member since 2017
- American Mathematical Society (AMS): member since 2016