

David Miyamoto

Current position

2023– **Postdoctoral researcher**, *Max Planck Institute for Mathematics*, Bonn, Germany
Working group: Christian Blohmann

Education

- 2018–2023 **PhD Mathematics**, *University of Toronto*, Toronto, Canada
Supervisor: Yael Karshon
Thesis: Geometry of leaf spaces of singular foliations
- 2017–2018 **MSc Mathematics**, *University of Toronto*, Toronto, Canada
Supervisor: Dmitry Faifman
Thesis: Characterizing $U(1, 1)$ and translation-invariant generalized convex valuations on \mathbb{C}^2
- 2013–2017 **BSc Mathematics (Minor in History)**, *University of Toronto*, Toronto, Canada

Publications and Preprints

Yi Li and David Miyamoto, *Riemannian foliations and quasifolds*, 2023, Submitted preprint, 33 pages. [arXiv:2309.15166](https://arxiv.org/abs/2309.15166).

David Miyamoto, *Singular foliations through diffeology*, 2023, Accepted preprint, 22 pages. [arXiv:2303.07494](https://arxiv.org/abs/2303.07494). To appear in Contemporary Mathematics (proceedings) for the special session “Recent advances on diffeologies and their applications” held at the AMS-SMF-EMS Joint International Meeting in Grenoble, July 2022, published by the American Mathematical Society.

Yael Karshon and David Miyamoto, *Quasifold groupoids and diffeological quasifolds*, 2022, Submitted preprint, 41 pages. [arXiv:2206.14776](https://arxiv.org/abs/2206.14776).

Yael Karshon, David Miyamoto, and Jordan Watts, *Diffeological submanifolds and their friends*, 2022, Submitted preprint, 15 pages. [arXiv:2204.10381](https://arxiv.org/abs/2204.10381).

David Miyamoto, *The basic de Rham complex of a singular foliation*, Int. Math. Res. Not. IMRN (2023), no. 8, 6364–6401. [MR4574377](https://arxiv.org/abs/2303.07494). [arXiv version here](https://arxiv.org/abs/2303.07494).

Research Presentations

- 2023 Jan. “The basic complex of a singular foliation”, Workshop on Lie Groups, Singular Spaces, and Higher Structures, Fields Institute
- 2022 July “Quasifolds as groupoids and as diffeological spaces”, Poisson 2022, ICMAT
- 2022 July “Quasifold groupoids and diffeological quasifolds”, AMS-EMS-SMF Joint International Meeting, Diffeology session, Université Grenoble Alpes
- 2022 June “Quasifold groupoids and diffeological quasifolds”, Geometry and Dynamics seminar, Tel Aviv University
- 2022 Apr. “Quasifold groupoids and diffeological quasifolds”, Symplectic geometry and Poisson geometry seminar, University of Illinois at Urbana-Champaign

- 2022 Apr. “Basic forms on foliated manifolds”, Gone Fishing, Georgia Southern University
- 2022 Feb. “Diffeology and singular foliations”, Local Poisson mini-conference, University of Toronto
- 2021 Sept. “The basic forms of a singular foliation”, Diffeology seminar series, online
- 2019 Dec. “Basic forms on foliated manifolds”, poster at CMS Winter Meeting, Toronto

Awards and Grants

- 2022–2023 Queen Elizabeth II/Lloyd George Elliott Graduate Scholarship in Science and Technology – for academic achievement
- 2022 Ida Bulat Memorial Graduate Fellowship – for academic achievement
- 2021 Daniel B. DeLury Teaching Assistant Award – for teaching
- 2019 Coxeter Graduate Scholarship – for academic achievement
- 2019 AARMS Award – for poster presented at the 2019 CMS winter meeting
- 2017 NSERC USRA – undergraduate research on a Radon transform in Minkowski space, supervised by Dmitry Faifman
- 2014–2016 Isabel Bader In Course Scholarship; William Ewart Staples Scholarship; William Crichton Webster Scholarship – yearly in-course scholarships for academic achievement
- 2013 University of Toronto Scholar – for academic achievement

Teaching

- 2021–2022 **Instructor**, *University of Toronto*, Toronto
Multivariable Calculus
- 2015–2023 **Teaching Assistant**, *University of Toronto*, Toronto
Linear Algebra II, Calculus!, Differential Topology, Multivariable Calculus with Proofs, Calculus II, Introduction to Ordinary Differential Equations, Introduction to Topology, Analysis I, Introduction to Proofs, Control Theory, Introduction to Differential Geometry, Classical Geometries, Hamiltonian Mechanics

Conferences Attended

- 2023 Jan. Workshop on Lie Groups, Singular Spaces, and Higher Structures, Fields Institute
- 2022 July Poisson 2022, ICMAT
- 2022 July AMS-SMF-EMS Joint International Meeting, Université de Grenoble Alpes
- 2022 June VI International Conference on Finite Dimensional Integrable Systems in Geometry and Mathematical Physics, Tel Aviv University
- 2022 Apr. Gone Fishing, Georgia Southern University
- 2022 Jan. Lie Theory and Poisson Geometry, online
- 2019 July SMS Summer School: Current Trends in Symplectic Topology, Université de Montréal
- 2016 Aug. PIMS Undergraduate Supersymmetry Workshop, University of British Columbia

Service

Journal Referee

- 2023 Israel Journal of Mathematics
- 2022 Advances in Geometry
- 2022 Pure and Applied Mathematics Quarterly

Community

- 2022–2023 Organizer of the Symplectic Seminar at the University of Toronto
- 2022–2023 Organizer of the Graduate Student Seminar at the University of Toronto

2021-2022 Mathematics representative to Graduate Student Union at the University of Toronto
2021-2022 Facilitator of a graduate student social form