

David Miyamoto

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Citizenship: Canadian

Current position

- 2025– **Coleman Postdoctoral Fellow**, Queen's University, Kingston, Canada
Working group: Andrew Lewis

Employment

- 2023–2025 **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

Published

- 2025 [*Quasifold groupoids and diffeological quasifolds*](#)
Yael Karshon and David Miyamoto
Transform. Groups 30 (2025), no. 3, 1333–1367
- 2024 [*Riemannian foliations and quasifolds*](#)
Yi Lin and David Miyamoto
Math. Z. 308 (2024), no. 49, 32 pages
- [*Diffeological submanifolds and their friends*](#)
Yael Karshon, David Miyamoto, and Jordan Watts
Differential Geom. Appl. 96 (2024), 14 pages
 - [*Singular foliations through diffeology*](#)
David Miyamoto
Recent advances in diffeologies and their applications, 139–160, Contemporary Mathematics vol. 794, published by the American Mathematical Society (2024). MR4712602
- 2023 [*The basic de Rham complex of a singular foliation*](#)
David Miyamoto
Int. Math. Res. Not. IMRN (2023), no. 8, 6364–6401. MR4574377
- ### Submitted
- 2025 [*A singular Serre-Swan theorem via tepui fibrations*](#)
Alfonso Garmendia, David Miyamoto, and Leonid Ryvkin
Preprint, 33 pages. arXiv:2510.20936

- [*Lie algebras of quotient groups*](#)
 David Miyamoto
 Preprint, 44 pages. arXiv:2502.10260
- 2023 [*Lie groupoids determined by their orbit spaces*](#)
 David Miyamoto
 Preprint, 31 pages. arXiv:2310.11968
- [**In Preparation**](#)
- 2025 [*Lie algebras of diffeomorphism groups of non-compact manifolds*](#)
 Christian Blohmann and David Miyamoto

Research Presentations

Conference talks

- 2025 Jan. “Lie algebras of diffeomorphism groups of non-compact manifolds (part 2)”
 Infinite-dimensional Geometry: Theory and Applications
 Erwin Schrödinger International Institute for Mathematics and Physics, Vienna, Austria
- 2024 Oct. “A diffeological approach to integrating Lie algebras”
 Exploring new arrows in the BGW groupoid
 Retreat in Bielefeld, Germany
- 2024 July “Lie groupoids determined by their orbit spaces”
 Workshop on Hamiltonian Geometry and Quantization
 Fields Institute, Toronto, Canada
- 2024 Mar. “Lie groupoids determined by their orbit spaces”
 Higher Geometric Structures Along the Lower Rhine XVII
 Max Planck Institute for Mathematics, Bonn, Germany
- 2024 Mar. “Lie groupoids determined by their orbit spaces”
 Building-up Differential Homotopy Theory
 Osaka Metropolitan University, Osaka, Japan
- 2023 Nov. “Leaf spaces of Killing foliations”
 Atelier on Higher Structures in Differential Geometry (poster)
 Institut Camille Jordan, Lyon, France
- 2023 Jan. “The basic complex of a singular foliation”
 Workshop on Lie Groups, Singular Spaces, and Higher Structures
 Fields Institute, Toronto, Canada
- 2022 July “Quasifolds as groupoids and as diffeological spaces”
 Poisson 2022 (poster)
 Instituto de Ciencias Matematicas, Madrid, Spain
- 2022 July “Quasifold groupoids and diffeological quasifolds”
 AMS-EMS-SMF Joint International Meeting, Diffeology session
 Université Grenoble Alpes, Grenoble, France
- 2022 Apr. “Basic forms on foliated manifolds”
 Gone Fishing 2022
 Georgia Southern University, Savannah, United States
- 2019 Dec. “Basic forms on foliated manifolds”
 CMS Winter Meeting (poster)
 Toronto, Canada

Seminar talks

In reverse chronological order

- 2025
 - Algebra and Geometry Seminar
Queen's University, Kingston, Canada
 - Geometry Seminar
Central Michigan University, Mount Pleasant, United States
 - Departmental Colloquium
Central Michigan University, Mount Pleasant, United States
 - Introduction to Diffeology / Introduction to Higher Structures in Geometry Seminar
Queen's University, Kingston, Canada
 - A series of talks
 - Dynamics, Geometry and Groups Seminar
Queen's University, Kingston, Canada
 - Oberseminar Geometrie, Topologie und Analysis
Universität zu Köln, Köln, Germany
 - Sino-Russian Mathematics Center-JLU Colloquium
Jilin University, Jilin, China
 - Three talks
 - Global Diffeology Seminar
Online
 - Geometry Seminar
KU Leuven, Leuven, Belgium
- 2024
 - Higher Differential Geometry Seminar
Max Planck Institute for Mathematics, Bonn Germany
 - Oberseminar Deformationsquantisierung und Geometrie
Universität Würzburg
 - Special Seminar
Université de Lorainne
- 2023
 - Global Diffeology Seminar
Online
 - Symplectic Geometry Seminar
University of Toronto, Toronto, Canada
 - MPI–Oberseminar
Max Planck Institute for Mathematics, Bonn, Germany
 - MPIM Topology Seminar
Max Planck Institute for Mathematics, Bonn, Germany
 - Higher Differential Geometry Seminar
Max Planck Institute for Mathematics, Bonn Germany
 - Symplectic and Poisson Geometry Seminar
University of Illinois Urbana-Champaign, Urbana-Champaign, United States
- 2022
 - Graduate Student Seminar
University of Toronto, Toronto, Canada
 - Symplectic Geometry Seminar
University of Toronto, Toronto, Canada
 - Geometry and Dynamics Seminar
Tel Aviv University, Tel Aviv, Israel
 - Symplectic and Poisson Geometry Seminar
University of Illinois Urbana-Champaign, Urbana-Champaign, United States
 - Local Poisson Mini-Conference
University of Toronto, Toronto, Canada

- 2021
 - Global Diffeology Seminar
Online
 - Graduate Student Seminar
University of Toronto, Toronto, Canada
- 2020
 - Graduate Student Seminar
University of Toronto, Toronto, Canada

Awards and Grants

- 2025 Fields Sponsored Postdoctoral Fellowship at Queen's University
- 2023 Queen Elizabeth II/Lloyd George Elliott Graduate Scholarship in Science and Technology
For academic excellence
- 2022 Ida Bulat Memorial Graduate Fellowship
For academic excellence
- 2021 Daniel B. DeLury Teaching Assistant Award
For excellence in teaching
- 2019 Coxeter Graduate Scholarship
For academic excellence
- 2019 AARMS Award
First prize for a poster presented at the 2019 Canadian Mathematical Society winter meeting
- 2017 NSERC USRA
Undergraduate research on a Radon transform in Minkowski space, supervised by Dmitry Faifman
- 2013–2016 In-course scholarships
 - For academic excellence
 - Isabel Bader In Course Scholarship
 - William Ewart Staples Scholarship
 - William Crichton Webster Scholarship
 - University of Toronto Scholar

Teaching

- 2025–2026 **Instructor**, Queen's University, Kingston, Canada
In reverse chronological order
 - APSC 172: Calculus II
 - MATH/MTHE 225: Ordinary Differential Equations
- 2021–2022 **Instructor**, University of Toronto, Toronto, Canada
MAT235: Multivariable Calculus

2015–2023 **Teaching Assistant**, University of Toronto, Toronto, Canada

In reverse chronological order

- Hamiltonian Mechanics (graduate)
- Classical Geometries
- Differential Geometry
- Control Theory (graduate)
- Analysis I
- Calculus II
- Introduction to Proofs
- Introduction to Topology
- Introduction to Ordinary Differential Equations
- Calculus II
- Multivariable Calculus
- Calculus II
- Differential Topology (graduate)
- Calculus!
- Linear Algebra II

Service

Journal Referee or Reviewer

Proceedings of the Royal Society of Edinburgh, Section A: Mathematics

Transactions of the American Mathematical Society

Israel Journal of Mathematics

Advances in Geometry

Pure and Applied Mathematics Quarterly

zbMATH Open

Mathematical Reviews

Community

2025 Organizer of the workshop “[Exploring new arrows in the BCWK groupoid II](#),” a second-instalment of a retreat for early career researchers

March 7–10, 2025 in Burbach, Germany

2024 Organizer of the workshop “[Exploring new arrows in the BGW groupoid](#),” a retreat for early career researchers

October 25–28, 2024 in Bielefeld, Germany

2022–2023 Organizer of the Symplectic Seminar at the University of Toronto
Weekly

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

2021–2022 Mathematics representative to Graduate Student Union at the University of Toronto

2021–2022 Facilitator of a graduate student social form