

# David Miyamoto

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Citizenship: Canadian

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## Current position

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

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## Employment

2023–2025 **Postdoctoral Researcher**, *Max Planck Institute for Mathematics*, Bonn, Germany  
Working group: Christian Blohmann

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## 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

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## 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 Matemáticas, 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 Lorraine
- 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

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## 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