

David Miyamoto

Queen's University
48 University Avenue
Kingston, Canada K7L 3N8
 d.miyamoto@queensu.ca
 ian-david-miyamoto.github.io
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

- 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 [*Quasifold groupoids and diffeological quasifolds*](#)
Yael Karshon and David Miyamoto
Transform. Groups (2023), 35 pages
- [*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

- 2025 *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
 - Introduction to Diffeology 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
 - Sino-Russian Mathematics Center-JLU Colloquium
Jilin University
 - Global Diffeology Seminar
Online
 - Geometry Seminar
KU Leuven
- 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– **Instructor**, Queen's University, Kingston, Canada
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