# Curriculum Vitae
# Jordan Alan Watts

## Address


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## Personal Details

Citizenship: Canadian (Permanent Resident of USA) Languages: English

## Research Interests

differential topology, generalisations of smooth structures (Sikorski differential spaces, subcartesian spaces, diffeology, Lie groupoids, stacks), Lie group actions, symplectic geometry, Hamiltonian group actions, orbifolds; applications of topological techniques in data analysis

## Appointments

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|---|---|
| 2024- | **Central Michigan University** (Mount Pleasant, MI, USA)<br>— Associate Professor |
| 2018-2024 | **Central Michigan University** (Mount Pleasant, MI, USA)<br>— Assistant Professor |
| 2018 | **University of Nebraska-Lincoln** (Lincoln, NE, USA)<br>— Postdoc at the National Drought Mitigation Center (data scientist) |
| Fall, 2017 | **University of Colorado Boulder** (Boulder, CO, USA)<br>— Lecturer |
| 2015-2017 | **University of Colorado Boulder** (Boulder, CO, USA)<br>— Burnett Meyer Postdoc |
| 2012-2015 | **University of Illinois at Urbana-Champaign** (Champaign-Urbana, IL, USA)<br>— J. J. Uhl Research Assistant Professor |

## Education

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|---|---|
| 2012 | **University of Toronto** (Toronto, ON, Canada)<br>**PhD in Mathematics**<br>— Supervisor: Yael Karshon (University of Toronto) |
| 2007 | **University of Toronto** (Toronto, ON, Canada)<br>**MSc in Mathematics** (Course-based)<br>— Mentor: Yael Karshon (University of Toronto) |

2006 **University of Calgary** (Calgary, AB, Canada)
**MSc in Applied Mathematics** (Thesis-based)
— Supervisor: Jędrzej Śniatycki (University of Calgary)

2004 **University of Calgary** (Calgary, AB, Canada)
**BSc in Pure & Applied Mathematics** (Double Major)

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## Awards and Grants

Michigan Association of State Universities 2025 Distinguished Professor Award CMU Nominee

Faculty Research and Creative Endeavors Award (Fall 2024) "Travel to University of Colorado Boulder"

College of Science & Engineering 2023 Award for Outstanding Teaching

"University-wide data science program", part of the President's and Provost's Fund for Program Innovation and Excellence

NSF Grant DMS 1543812 for the Gone Fishing 2016 Conference (co-PI)

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## Papers and Publications

My Erdös number is 4:

Jordan Watts ⇝ Yael Karshon ⇝ Shlomo Sternberg ⇝ Fan Chung ⇝ Paul Erdös

### Published/Accepted

Carla Farsi, Laura Scull, and Jordan Watts, "Twisted Bredon-Illman cohomology is a Morita invariant", Algebr. Geom. Top. (to appear).

Jordan Watts, "The bicategory of Lie groupoids within diffeological groupoids", *J. Geom. Phys.*, **223** (2026), 105778.

Gabriele Barbieri, Jordan Watts, François Ziegler, "Remarks on diffeological Frobenius reciprocity", *Trans. Amer. Math. Soc.*, **379**(4) (2026), 2887-2917.

Augustin Batubenge, Yael Karshon, and Jordan Watts, "Diffeological, Frölicher, and differential spaces", *Rocky Mt. J. Math.*, **55**(3) (2025), 637–670.

Derek Krepski, Jordan Watts, and Seth Wolbert, "Sheaves, principal bundles, and Čech cohomology for diffeological spaces", *Israel J. of Math.*, **264** (2024), 461–500.

Yael Karshon, David Miyamoto, and Jordan Watts, "Diffeological submanifolds and their friends", *Differ. Geom. Appl.*, **96** (2024), 102170.

Carla Farsi, Laura Scull, and Jordan Watts, "Bicategories of action groupoids", Applied Categorical Structures, **32** (2024), no. 13.

Jordan Watts and Seth Wolbert, "The diffeological coarse moduli space of a stack", *Recent Advances in Diffeologies and their Applications* In: *Contemporary Mathematics*, **794** (2024) American Mathematical Society.

Yael Karshon and Jordan Watts, "Smooth maps on convex sets", *Recent Advances in Diffeologies and their Applications* In: *Contemporary Mathematics*, **794** (2024) American Mathematical Society.

Jordan Watts, "The orbit space and basic forms of a proper Lie groupoid", In: *Current Trends in Analysis, its Applications and Computation: Proceedings of the 12th ISAAC Congress, Aveiro, Portugal, 2019; Trends in Mathematics: Research Perspectives*, Birkhäuser, 2022.

Carla Farsi, Laura Scull, and Jordan Watts, "Classifying spaces and Bredon (co)homology for transitive groupoids", *Proc. Amer. Math. Soc.*, **148** (2020), 2717-2737.

Suzanne Craig, Naiche Downey, Lucas Goad, Michael J. Mahoney, Jordan Watts, "Orbit spaces of linear circle actions", *Involve* **12** (2019), 941–959.

Derek Krepski and Jordan Watts, "Gerbes as Dixmier-Douady bundles and differential characters", *J. Geom. Phys.*, **130** (2018), 168–183.

Jean-Pierre Magnot and Jordan Watts, "The diffeology of Milnor's classifying space", *Topol. Appl.* **232** (2017), 189–213.

Susan Tolman and Jordan Watts, "Tame circle actions", *Trans. Amer. Math. Soc.* **369** (2017), 7443–7467.

Yael Karshon and Jordan Watts, "Basic forms and orbit spaces: a diffeological approach", *SIGMA Symmetry Integrability Geom. Methods Appl.* **12** (2016), 026, 19 pages.

Jordan Watts, "The differential structure of an orbifold", *Rocky Mountain J. Math.* **47** (2017), 289–327.

Jiayong Li and Jordan Watts, "The orientation-preserving diffeomorphism group of $S^2$ deforms to $SO(3)$ smoothly", *Transformation Groups (Springer)* **16** (2011), no. 2, pp. 537–553.

Tsasa Lusala, Jędrzej Śniatycki, and Jordan Watts, "Regular points of a subcartesian space", *Canad. Math. Bull.* **53** (2010), no. 2, pp. 340–346.

## Preprints

Jordan Watts, "Symplectic quotients and representability: the circle action case", 19 pages.

Jordan Watts, "Differential spaces, vector fields, and orbit-type stratifications", 44 pages.

## Theses

Jordan Watts, *Diffeologies, Differential Spaces, and Symplectic Geometry*, Ph.D. Thesis, Department of Mathematics, University of Toronto, 2012, 108 pages.

Jordan Watts, *The Calculus on Subcartesian Spaces*, M.Sc. Thesis, Department of Mathematics and Statistics, University of Calgary, 2006, 116 pages.