

Luka Zwaan

Curriculum Vitae

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Born June 24, 1997 in London, United Kingdom

Education

Sep 2024 – today **Postdoctoral scholarship holder, KU Leuven**, Leuven, Belgium.

- Department of Mathematics
- Unit: geometry

Aug 2018 – May 2024 **PhD in Mathematics, UIUC**, Urbana, USA.

- Advisor: Rui Loja Fernandes
- Thesis: *Duistermaat-Heckman measures for Hamiltonian groupoid actions*
<https://www.ideals.illinois.edu/items/131465>

Sept 2016 – Aug 2018 **MSc. in Mathematical Sciences, Utrecht University**, Utrecht, The Netherlands.

- Cum Laude, GPA 4.00
- Specialisation: Differential Geometry and Topology.
- Participant in the Utrecht Geometry Centre (UGC) selective honours programme.
- Master thesis: *Poisson Manifolds of Compact Types*, supervised by prof. dr. Marius Crainic, second reader dr. Gil Cavalcanti.
<https://studenttheses.uu.nl/handle/20.500.12932/30792>

Sept 2013 – July 2016 **BSc. in Mathematics, Utrecht University**, Utrecht, The Netherlands.

- Cum Laude, GPA 4.00
- Bachelor thesis: *The Conley-Zehnder Theorem*, supervised by dr. Fabian Ziltener.
<https://studenttheses.uu.nl/handle/20.500.12932/23394>

Sept 2013 – July 2016 **BSc. in Physics & Astronomy, Utrecht University**, Utrecht, The Netherlands.

- Cum Laude, GPA 4.00

Papers

2025 **Duistermaat-Heckman measures for Hamiltonian groupoid actions.**

- Preprint arXiv:2311.02491

2023 **Poisson manifolds of strong compact type over 2-tori.**

- Pacific J. Math. 325 (2023), no.2, 353–374.
- <https://msp.org/pjm/2023/325-2/p08.xhtml>

Talks

Nov 2025 **Poisson seminar, KU Leuven**, Leuven, Belgium.

- I gave a talk about my ongoing research on Poisson orbifolds.

Apr 2025 **Poisson seminar**, *KU Leuven*, Leuven, Belgium.

- I gave an introductory talk on equivariant cohomology and localisation.

Mar 2025 **Analysis & Geometry seminar**, *University of Antwerp*, Antwerp, Belgium.

- I gave a talk about my PhD thesis.

Dec 2024 **Poisson seminar**, *KU Leuven*, Leuven, Belgium.

- An elaboration of the talk below to a more expert audience.

Oct 2024 **Geometry seminar**, *KU Leuven*, Leuven, Belgium.

- I gave an accessible talk about my PhD thesis.

Dec 2023 **UIUC-WUSTL Joint Seminar in Symplectic and Poisson Geometry**, *WUSTL*, St. Louis, USA.

- I gave a talk about one of the main results of my PhD thesis on Duistermaat-Heckman measures for Hamiltonian groupoid actions.

Nov 2023 **Conference “GroupoidFest 2023”**, *Arizona State University*, Tempe, USA.

- I gave an expository talk on the role of (symplectic) groupoids in Poisson geometry and discussed my results on Duistermaat-Heckman measures in this context.

Mar 2023 **Conference “Gone Fishing 2023”**, *Amherst College*, Amherst, USA.

- An updated version of the talk below.

Jan 2023 **Workshop on Lie Groups, Singular Spaces, and Higher Structures**, *The Fields Institute*, Toronto, Canada.

- I talked about my research on Duistermaat-Heckman results for Hamiltonian groupoid actions.

Jan 2022 **Conference “Lie theory and Poisson geometry”**, *CIRM*, Marseille, France.

- A revamped version of the talk below.

May 2021 **Seminar “Friday Fish” (online)**, *Utrecht University*, Utrecht, The Netherlands.

- A half-hour version of the talk below.

Mar 2021 **Symplectic & Poisson Geometry Seminar (online)**, *UIUC*, Urbana, USA.

- I talked about my paper on the construction of Poisson manifolds of strong compact type over 2-tori.

Sep 2019 **Graduate Geometry/Topology Seminar**, *UIUC*, Urbana, USA.

- I gave a short introduction to Poisson geometry and talked about Poisson manifolds of strong compact type.

Feb 2019 **Graduate Geometry/Topology Seminar**, *UIUC*, Urbana, USA.

- I gave an introductory talk on Hamiltonian Lie algebroids.

Mar 2018 **Seminar “Friday Fish”**, *Utrecht University*, Utrecht, The Netherlands.

- I gave two talks about K3 surfaces and their use in constructing Poisson manifolds of strong compact type.

Feb – June 2018 **Seminar “Algebraic Topology: K-theory”**, *Utrecht University*, Utrecht, The Netherlands.

- A one-semester seminar on K-theory and characteristic classes. I gave talks about the product theorem in K-theory, and the (complex) Bott periodicity theorem as a corollary, and about Euler and Pontryagin classes of vector bundles.

Mar – June 2017 **Seminar “Geometric Analysis”, Utrecht University, Utrecht, The Netherlands.**

- o A one-semester seminar on (pseudo-)differential operators. I gave talks about Sobolev spaces, the adjoint of a pseudo-differential operator and parametrices of elliptic operators.

Service

Conferences co-organised:

August 10-14, 2026 **Poisson 2026 conference, KU Leuven, Leuven, Belgium.**

Funding applications:

December 2025 **Arenberg Doctoral School OJO funding, KU Leuven, Leuven, Belgium.**

- o For the Poisson 2026 Summer School in Antwerp.

Attended conferences, workshops and schools

September 25-26, 2025 **Higher Geometric Structures along the Lower Rhine XIX, University of Cologne, Cologne, Germany.**

August 3-8, 2025 **Around Singularities in Poisson Geometry, Institute for Advanced Study in Mathematics, Hangzhou, China.**

June 30 – July 4, 2025 **Interactions of Poisson Geometry, Lie Theory and Symmetry, Instituto Superior Técnico, Lisbon, Portugal.**

March 14, 2025 **EoS miniworkshop “Beyond Symplectic Geometry”, KU Leuven, Leuven, Belgium.**

January 16, 2025 **EoS miniworkshop “Beyond Symplectic Geometry”, University of Antwerp, Antwerp, Belgium.**

December 6, 2024 **EoS miniworkshop “Beyond Symplectic Geometry”, ULB, Brussels, Belgium.**

July 8-12, 2024 **Poisson 2024 International Conference, Accademia Pontaniana, Napoli, Italy.**

July 1-5, 2024 **Poisson 2024 Summer School, Accademia Pontaniana, Napoli, Italy.**

April 11-14, 2024 **Gone Fishing 2024, Northwestern University, Evanston, USA.**

November 11-12, 2023 **GroupoidFest 2023, Arizona State University, Tempe, USA.**

March 16-19, 2023 **Gone Fishing 2023, Amherst College, Amherst, USA.**

January 9-13, 2023 **Workshop on Lie Groups, Singular Spaces, and Higher Structures, The Fields Institute, Toronto, Canada.**

July 25-29, 2022 **Poisson 2022 Conference, ICMAT, Madrid, Spain.**

July 18-22, 2022 **Poisson 2022 Advanced School, CRM, Barcelona, Spain.**

April 7-10, 2022 **Gone Fishing 2020-2022, GSU, Savannah, USA.**

January 10-14, 2022 **Lie theory and Poisson geometry, CIRM, Marseille, France.**

December 9-13, 2019 **International Conference on Poisson Geometry, IMPA, Rio de Janeiro, Brazil.**

December 2-6, 2019 **School of Poisson Geometry**, *IMPA*, Rio de Janeiro, Brazil.

October 7-11, 2019 **Autumn School: Deformations and Rigidity in Algebra, Geometry and Analysis**, *Universität Würzburg*, Würzburg, Germany.

March 30-31, 2019 **Graduate Student Geometry and Topology Conference**, *UIUC*, Urbana, USA.

July 16-20, 2018 **Poisson 2018 International Conference**, *The Fields Institute*, Toronto, Canada.

July 9-13, 2018 **Poisson 2018 Summer School**, *The Fields Institute*, Toronto, Canada.

June 4-8, 2018 **GQT Graduate School and Colloquium**, *De Poort*, Groesbeek, The Netherlands.

March 16, 2018 **Mini-Workshop on Symplectic Geometry**, *Utrecht University*, Utrecht, The Netherlands.

Honors & Awards

Spring & Summer 2023 **Campus Research Board - Arnold O. Beckman Award**, *UIUC*, Urbana, USA.

Fall 2022 **On "List of Teachers Ranked as Excellent"**, *UIUC*, Urbana, USA.

Fall 2021 **On "List of Teachers Ranked as Excellent"**, *UIUC*, Urbana, USA.

Spring 2019 **On "List of Teachers Ranked as Excellent"**, *UIUC*, Urbana, USA.

Mentoring

Thesis supervision:

2025/26 **Master thesis supervisor**, *KU Leuven*, Leuven, Belgium.

- Student: Michael Anthony McGloin
- Topic: Classification of integral affine structures on compact surfaces

Fall 2025 **Bachelor thesis supervisor**, *KU Leuven*, Leuven, Belgium.

- Students: Noa Overloop, Miran van Casteren, Cas van Herbruggen, Zoya Lewyckyj, Cyriel Onsia
- Topic: Poisson geometry on \mathbb{R}^n

Miscellaneous:

Fall 2025 **Supervisor for the Master student seminar**, *KU Leuven*, Leuven, Belgium.

- Student: Bruno Minniti
- Topic: The volume of an integral-integral affine manifold

Fall 2024 **Supervisor for the Master student seminar**, *KU Leuven*, Leuven, Belgium.

- Student: Ajay Tiwari
- Topic: Diffeology and submanifolds

Teaching

As lecturer:

Spring 2025 **"Differentiaaltopologie"**, *KU Leuven*, Leuven, Belgium.

- A Dutch-language course in differential topology in the Master program in mathematics.

As teaching assistant:

Fall 2025 **“Differentiaalvergelijkingen”**, *KU Leuven*, Leuven, Belgium.

Spring 2024 **Linear Algebra with Computational Applications**, *UIUC*, Urbana, USA.

Fall 2023 **Calculus III**, *UIUC*, Urbana, USA.

Fall 2022 **“Merit” Differential Equations**, *UIUC*, Urbana, USA.

- (*) Teaching ranked as excellent.

Fall 2021 **“Merit” Differential Equations**, *UIUC*, Urbana, USA.

- Responsibilities: leading a discussion section of about 15 students, tutoring hours, grading.
- Info about the Merit program: merit.illinois.edu.
- (*) Teaching ranked as excellent.

Spring 2019 **Calculus III**, *UIUC*, Urbana, USA.

- (*) Teaching ranked as excellent.

Fall 2018 **Calculus III**, *UIUC*, Urbana, USA.

- Responsibilities: leading two discussion sections of about 30 students each, tutoring hours, grading.

Languages

Dutch	Native speaker	
English	Fluent	TOEFL iBT 119/120
Mandarin	Very basic	

Last updated on February 7, 2026.