

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.

- 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.

- 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.
o Student: Michael Anthony McGloin
o Topic: Classification of integral affine structures on compact surfaces
- Fall 2025 **Bachelor thesis supervisor**, KU Leuven, Leuven, Belgium.
o Students: Noa Overloop, Miran van Casteren, Cas van Herbruggen, Zoya Lewyckyj, Cyriel Onsia
o Topic: Poisson geometry on \mathbb{R}^n

Miscellaneous:

- Fall 2025 **Supervisor for the Master student seminar**, KU Leuven, Leuven, Belgium.
o Student: Bruno Minniti
o Topic: The volume of an integral-integral affine manifold
- Fall 2024 **Supervisor for the Master student seminar**, KU Leuven, Leuven, Belgium.
o Student: Ajay Tiwari
o Topic: Diffeology and submanifolds

Teaching

As lecturer:

- Spring 2025 **"Differentiaaltopologie"**, KU Leuven, Leuven, Belgium.
o 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.
o (*) Teaching ranked as excellent.
- Fall 2021 **“Merit” Differential Equations**, *UIUC*, Urbana, USA.
o Responsibilities: leading a discussion section of about 15 students, tutoring hours, grading.
o Info about the Merit program: merit.illinois.edu.
o (*) Teaching ranked as excellent.
- Spring 2019 **Calculus III**, *UIUC*, Urbana, USA.
o (*) Teaching ranked as excellent.
- Fall 2018 **Calculus III**, *UIUC*, Urbana, USA.
o Responsibilities: leading two discussion sections of about 30 students each, tutoring hours, grading.

Languages

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

Last updated on February 7, 2026.