

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.
- o Department of Mathematics
 - o Unit: geometry
- Aug 2018 – May 2024 **PhD in Mathematics**, *UIUC*, Urbana, USA.
- o Advisor: Rui Loja Fernandes
 - o 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.
- o Cum Laude, GPA 4.00
 - o Specialisation: Differential Geometry and Topology.
 - o Participant in the Utrecht Geometry Centre (UGC) selective honours programme.
 - o 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.
- o Cum Laude, GPA 4.00
 - o 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.
- o Cum Laude, GPA 4.00

Papers

- 2023 **Duistermaat-Heckman measures for Hamiltonian groupoid actions.**
- o Preprint arXiv:2311.02491
- 2021 **Poisson manifolds of strong compact type over 2-tori.**
- o Pacific J. Math. 325 (2023), no.2, 353–374.
 - o <https://msp.org/pjm/2023/325-2/p08.xhtml>

Talks

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

- 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 **"Differentialtopologie"**, *KU Leuven*, Leuven, Belgium.
- A Dutch-language course in differential topology in the Master program in mathematics.

As teaching assistant:

- Fall 2025 **“Differentialvergelijkingen”**, *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**
Mandarin **Very basic**

TOEFL iBT 119/120

Last updated on December 14, 2025.