Luka Zwaan

Curriculum Vitae

Kerkstraat 30/0101
3010 Kessel-Lo
Belgium
✆ +31651396826
✉ lukakllp@gmail.com
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://dspace.library.uu.nl/handle/1874/368341`

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://dspace.library.uu.nl/handle/1874/336083`

Sept 2013 – July 2016   **BSc. in Physics & Astronomy**, *Utrecht University*, Utrecht, The Netherlands.
- Cum Laude, GPA 4.00

Papers

2023   **Duistermaat-Heckman results for Hamiltonian groupoid actions**.
- Preprint arXiv:2311.02491

2021   **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

Mar 2025   **Analysis & Geometry seminar**, *University of Antwerp*, Antwerp, Belgium.
- I gave a talk about my PhD thesis.

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

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

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, 2022	**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.

Teaching & Mentoring

Winter 2025 **Supervisor for the Master student seminar**, *KU Leuven*, Leuven, Belgium.
- Student: Bruno Minniti
- Topic: The volume of an integral-integral affine manifold

2025 **Master thesis supervisor**, *KU Leuven*, Leuven, Belgium.
- Student: Michael Anthony McGloin
- Topic: Classification of integral affine structures on compact surfaces

Fall 2025 **Supervisor for the bachelor project**, *KU Leuven*, Leuven, Belgium.
- Students: Noa Overloop, Miran van Casteren, Cas van Herbruggen, Zoya Lewyckyj, Cyriel Onsia
- Topic: Poisson geometry on $\mathbb{R}^n$

Spring 2025 **Lecturer for "Differentiaaltopologie"**, *KU Leuven*, Leuven, Belgium.
- A Dutch-language course in differential topology in the Master program in mathematics.

Fall 2024 **Supervisor for the Master student seminar**, *KU Leuven*, Leuven, Belgium.
- Student: Ajay Tiwari
- Topic: Diffeology and submanifolds

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

Fall 2023 **Teaching Assistant for Calculus III**, *UIUC*, Urbana, USA.

Fall 2022 **Teaching Assistant for "Merit" Differential Equations**, *UIUC*, Urbana, USA.
- (*) Teaching ranked as excellent.

Fall 2021 **Teaching Assistant for "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 **Teaching Assistant for Calculus III**, *UIUC*, Urbana, USA.
- (*) Teaching ranked as excellent.

Fall 2018 **Teaching Assistant for 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

Last updated on October 26, 2025.