### Lennart Obster

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Born 17–04–97 in Venlo, Netherlands · Dutch & German nationality

### References

The following contacts are available to provide references for me: Ioan Mărcuţ (imarcut at uni-koeln.de), João Nuno Mestre (jnmestre at mat.uc.pt), Luca Vitagliano (lvitagliano at unisa.it).

## **EDUCATION**

PhD at University of Coimbra (joint program with University of Porto). 2021–April 2026 (provisional)

Master's in Mathematics at Radboud University (cum laude; English). 2019–2021

Bachelor's in Mathematics at Radboud University with minor in Physics & Astronomy (Dutch). 2015–2019

# Oral presentations (2023 - present)

Invited speaker at *GEMS* at the University of Coimbra (title: *Representation theory for Lie groupoids revisited: VB-groupoids, representations up to homotopy, and fat extensions*). Fall 2025

Poster at Around Singularities in Poisson Geometry at the Institute for Advanced Study in Mathematics (title: A cohomology theory for (infinitesimally) multiplicative tensors).

Summer 2025

Invited speaker (for a ten-minute talk) at *Around Singularities in Poisson Geometry* at the Institute for Advanced Study in Mathematics in Hangzhou (title: *Linearising Lie algebroids*). Summer 2025

Poster at the *Interactions of Poisson Geometry, Lie Theory and Symmetry* at the University of Lisbon (title: A cohomology theory for (infinitesimally) multiplicative tensors). Summer 2025

Invited speaker at the *Higher Geometric Structures along the Lower Rhine XVIII* at Radboud University (title: A cohomology theory for multiplicative tensors).

Spring 2025

Poster at the XXXII International fall workshop on geometry and physics at the University of Coimbra (title: Representations up to homotopy of Lie groupoids and Morita invariance). Fall 2024

Speaker at the Seminar Sophus Lie at the University of Würzburg (title: On the rigidity (conjecture) of a class of Lie algebroids).

Spring 2024

Poster at the Summer School of the UC | UP joint PhD program at the University of Coimbra (title: Explicit homotopy operators for the Van Est map for representations up to homotopy). Fall 2023

Poster at the *Dias de Geometria, Topologia e Aplicações* at the University of Minho (title: *Explicit homotopy operators for the Van Est map for representations up to homotopy*). Fall 2023

Invited speaker at the *Poisson aan de Waal 3 meeting* at Radboud University Nijmegen (title: *Deformation cohomology and the rigidity/linearization problem for Lie groupoids and Lie algebroids*). Spring 2023

Invited speaker at the *PhD colloquium* at Radboud University Nijmegen (title: *Proving normal form results using Euler-like vector fields*).

Spring 2023

Invited speaker at *Thursday Tuna* (before and after known as *Friday Fish*) at Utrecht University (title: *Van Est maps for Lie groupoids*). Spring 2023

Invited Speaker at the *Informal Geometry seminar* at the University of Coimbra (title: Van Est theorems for Lie groupoids).

Spring 2023

## Preprints

My Master's thesis entitled Blow-ups of Lie groupoids and Lie algebroids is on the arxiv (2110.12247). Moreover, a preprint entitled Fat Lie theory will appear soon on the arxiv as well. Other works out of my PhD thesis that will appear as preprints in the near future have the following provisional titles: Explicit homotopy operators for representations up to homotopy and A cohomology theory for multiplicative tensors. My PhD thesis has the provisional title: Revisiting representation theory of Lie algebroids and Lie groupoids.

## Grants

COST grant to visit University of Salerno (title: A Van Est map for multiplicative tensors). Fall 2024

COST grant (ITC conference grant) to attend and orally present at the Seminar Sophus Lie. Spring 2024

COST grant to visit Radboud University Nijmegen (title: Homotopy inverse of the Van Est map for representations up to homotopy). Fall 2023

Doctoral research grant of the foundation for science and technology (FCT).

2021 - 2025

#### ORGANISATION

Co-organizer of a learning seminar on the Nash-Moser inverse function theorem at the University of Coimbra. 2024-2025

Co-organizer of the Spring and Fall editions of the Research Seminar Program (RSP) of the UC | UP joint PhD program at the University of Coimbra and the University of Porto. 2022-2023 and 2023-2024

Co-organizer (and regular speaker) of a remote weekly learning seminar on integrability of Lie algebroids.

Spring 2024

Organizer of problem sessions (and regular speaker) for *Symplectic Geometry* at the University of Coimbra. Spring 2023

Co-organizer (and regular speaker) of a weekly learning seminar on deformation theory of Lie groupoids and Lie algebroids at the University of Porto and the University of Coimbra. 2022–2023

## OTHER

Student representative of the PhD students at the University of Coimbra.

2022-2023 and 2023-2024

Teaching assistant (TA) at Radboud University Nijmegen.

2019 – 2021