Wilmer Smilde

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Academic Appointments

- **H.C. Wang Assistant Professor (non-tenure)** *August 2026 –*
  Cornell University

Education

- **University of Illinois Urbana–Champaign** *August 2021 – May 2026*
  PhD in Mathematics
  - Thesis title: On the Lie theory of classification problems in differential geometry
  - Supervisor: Rui Loja Fernandes

- **Utrecht University** *April 2021*
  MSc in Mathematics (Cum Laude)
  - Thesis title: Lie groups of Poisson diffeomorphisms
  - Supervisor: Ioan Mărcuț

- **Utrecht University** *July 2018*
  BSc in Mathematics (Cum Laude) & BSc in Physics (Cum Laude)
  - Thesis title: The Hodge Decomposition – An Alternative Approach
  - Supervisor: Gil Cavalcanti

Publications and Preprints

2025 W. Smilde. **Notes on relative algebroids**. *Accepted for publication in Springer INdAM Series.* ArXiv:2510.21987

2025 W. Smilde. **Relative algebroids and symmetries of Pfaffian fibrations**. ArXiv:2510.01517

2025 R. L Fernandes, W. Smilde. **Relative algebroids and Cartan realization problems**. *To appear in Selecta Mathematica*. ArXiv:2503.19233

2023 W. Smilde. **Lie groups of Poisson diffeomorphisms**. *Journal of Symplectic Geometry*, Vol. 21 (2023), Number 5, pp. 889-937. DOI: 10.4310/JSG.2023.v21.n5.a2.

2022 W. Smilde. **Linearization of Poisson groupoids**. *Indagationes Mathematicae*, Vol. 33, Issue 3, pp. 682-717. DOI: 10.1016/j.indag.2022.02.001.

Refereeing

Referee for the following journals.

- **Proceedings of the American Mathematical Society**

- **SIGMA (Symmetry, Integrability, and Geometry: Methods and Applications**

Awards, Grants and Fellowships

- **William C. Healy Jr. Fellowship and James D. Hogan Memorial Scholarship** *January 2026 – May 2026*
  University of Illinois Urbana–Champaign [🌐]
  - Merit-based fellowship for graduate students at the Department of Mathematics at the University of Illinois Urbana–Champaign

- **UIUC Campus Research Board Award RB25014** *January 2025 – July 2025*
  University of Illinois Urbana–Champaign [🌐]
  - Grant to support a research assistantship for a semester and the summer period

- **Kuo–Tsai Chen Prize** *April 2025*
  University of Illinois Urbana–Champaign [🌐]
  - Monetary prize for outstanding scholastic achievement of graduate student whose research interest lie in the area of the relationship between geometry and analysis or between algebra and analysis

- **Waldemar J., Barbara G., and Juliette Alexandra Trjitzinsky Fellowship** *January 2024 – May 2024*
  University of Illinois Urbana–Champaign [🌐]
  - Competitive fellowship for graduate students in mathematics for a semester of financial support

Research Talks

2026, June	**Minicourse on the Lie theory of classification problems in differential geometry: relative algebroids**, University of Coimbra, Coimbra, Portugal
2025, November	**Mini-course on relative algebroids**, University of Toronto, Toronto, Canadax
2025, June 4	**Relative algebroids, geometric structures and analytic resolutions of profinite algebroids**, *Differential geometry seminar*, Max-Plank Institute for Mathematics, Bonn, Germany
2025, May 6	**Relative algebroids and classification problems for geometric structures**, *Differential geometry seminar*, University of Cologne, Cologne, Germany
2025, April	**Mini-course on classification problems for geometric structures and relative algebroids**. University of São Paulo, São Paulo, Brazil
2025, March 27	**Classification problems for geometric structures and relative algebroids**, *Seminário de Geometria Diferencial*, Instituto de Matemática Pura e Applicada, Rio de Janeiro, Brazil
2025, March 7	**Relative algebroids and classification problems for geometric structures**. *Gone Fishing 2025*, Washington University, St. Louis, MO, USA
2024, December 7	**Relative algebroids and classification problems for geometric structures**. *UIUC-WUSTL Joint seminar*, University of Illinois Urbana-Champaign, Urbana, IL, USA
2024, June 13	**Lie theory and classification problems for geometric structures**. *Mini-workshop on Lie Groupoids, Lie Algebroids and Differentiable Stacks*, University of Napoli Frederico II, Naples, Italy
2024, March 8	**Geometric structures and Lie theory**. *59th Seminar Sophus Lie*, Julius Maximilian University of Würzburg, Würzburg, Germany
2024, February 16	**Classification problems for geometric structures and Bryant algebroids**, *Friday Fish Seminar*, Utrecht University, Utrecht, Netherlands
2024, February 2	**Lie theory & classification of geometric structures: Bryant algebroids**. *Seminar on differential geometry*. Julius Maximilian University of Würzburg, Würzburg, Germany
2023, January 12	**Lie groups of Poisson diffeomorphisms** *Workshop on Lie Groups, Singular Spaces and Higher Structures*, Fields Institute, University of Toronto, Toronto, Canada
2022, June 27	**Linearization of Poisson groupoids**. *Differential geometry seminar*, KU Leuven, Leuven, Belgium
2022, January 12	**Lie groups of Poisson diffeomorphisms**. *Lie theory and Poisson geometry conference*, Centre International de Rencontres Mathématiques, Marseille, France

Teaching Experience

- **Teaching Assistant** *August 2021 – Present*
  University of Illinois Urbana–Champaign
  - Leading discussion sections, grading, and creating worksheets for courses such as calculus, differential equations and linear algebra
  - *Courses:* calculus for biologists, calculus 1, calculus 2, calculus 3, linear algebra, differential equations (2x)
- **Undergraduate research mentor** *August 2023 – December 2023*
  University of Illinois Urbana–Champaign
  - Mentored a group of five undergraduate students on a research project to compute the Poisson cohomology of Poisson structures associated to Lie algebras
- **Teaching Assistant** *September 2015 – July 2021*
  Utrecht University
  - Leading discussion sections and grading for courses covering the entire spectrum of university level mathematics
  - *Undergraduate courses for non-math majors*: mathematical methods for engineers, mathematics for chemists (2x), calculus for engineers
  - *Undergraduate courses for math majors*: linear algebra (3x), real analysis (2x), calculus in several variables, complex analysis (3x), measure theory, functional analysis, introduction to geometry, introduction to groups and rings, topology, topology and geometry, differentiable manifolds
  - *Graduate courses*: symplectic geometry

Organizational Experience

- **Member of the Space Committee of the Department of Mathematics** *August 2022 – August 2023*
  University of Illinois Urbana-Champaign
  - Graduate student representative of the committee responsible for the distribution and state of the office spaces for faculty and graduate students at the Department of Mathematics at UIUC
- **Organizer of the Graduate Geometry and Topology Seminar** *January 2022 – January 2024*
  Organization/Institution Name
  - Organizer of a weekly seminar fo graduate students at UIUC working in fields related to geometry and topology.