

Curriculum Vitae

Personal Data

Name	Paul Schwahn
Date of birth	14. Feb. 1999
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ORCID	0000-0003-0718-3949
Present position	Postdoctoral researcher at LMO (Paris-Saclay)

Education

2014–2017	B.Sc. studies at the University of Stuttgart
October 2017	Graduation with a B.Sc. in Mathematics at the University of Stuttgart. Bachelor's thesis: <i>Scattering theory for automorphic functions</i> Award of the <i>Robert Bosch GmbH</i> for excellent B.Sc. degree
2017–2020	M.Sc. studies at the JLU Gießen and the University of Stuttgart
April 2020	Graduation with a M.Sc. in Mathematics at the University of Stuttgart. Master's thesis: <i>Einstein deformations on homogeneous spaces</i>
January 2021	Award of the <i>Freunde der Mathematik an der Universität Stuttgart</i> (Friends of mathematics at the University of Stuttgart) for best M.Sc. degree
July 2021	Award of the <i>Freunde der Universität Stuttgart</i> (Friends of the University of Stuttgart) for extraordinary scientific accomplishments
2020–2023	Doctoral studies in Mathematics under the supervision of Prof. Uwe Semmelmann

July 2023	Graduation <i>summa cum laude</i> with a Dr.rer.nat. at the University of Stuttgart. Doctoral thesis: <i>Stability of Einstein metrics on homogeneous spaces</i>
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Work experience

2016–2020	Student assistant/tutor for various mathematics courses at the University of Stuttgart
2020–2023	Research associate/teaching assistant at the Institute of Geometry and Topology, University of Stuttgart Assistance for the courses <i>Geometry for teachers</i> , <i>Higher mathematics 2/3</i> for engineering students, <i>Analysis 2/3</i>
2022	Member of <i>SPP 2026 Geometry at Infinity</i>
as of 2023	Postdoctoral researcher at <i>Laboratoire de mathématiques d'Orsay</i> , Université Paris-Saclay

Seminars and talks

September 2016	Participation in <i>Ferienakademie</i> (summer school) of FAU Erlangen-Nürnberg, TU Munich and University of Stuttgart
October 2020	Participation in a working seminar at Philipps-Universität Marburg, Department of Mathematics
July 2021	Poster and online talk at <i>Mathematical Congress of the Americas</i>
July 2021	Participation in the course <i>Riemannian foliations and Lie group actions</i> , Scuola Matematica Interuniversitaria, Cortona
September 2021	Talk at the Differential Geometry Seminar, Universidad Nacional de Córdoba
November 2021	Talk at the <i>Geometry & Topology Seminar</i> , University of Stuttgart
May 2022	Talk at the <i>Geometry Seminar</i> , University of Florence
May 2022	Research stay at CUNY and talk at the <i>CUNY Geometric Analysis Seminar</i>
July 2022	Talk at the <i>London Geometry & Topology Seminar</i>

August 2022	Talk at the conference <i>Spaces, Structures, Symmetries</i> , Università degli Studi di Bari Aldo Moro
September 2022	Participation in the block seminar <i>Construction and de-generation of Einstein 4-manifolds</i> , University of Regensburg
November 2022	Participation in the Oberwolfach Graduate Seminar <i>Geometry and Topology of Compact Homogeneous Spaces</i>
May 2023	Talk at the <i>Riemannian Topology Seminar</i> , University of Stuttgart
May 2023	Online talk at the <i>Virtual Seminar on Geometry with Symmetries</i>
June 2023	Talk at the BRIDGES workshop <i>Special geometries and gauge theories</i> , University of Pau
July 2023	Hybrid talk at the conference <i>Einstein Spaces and Special Geometry</i> , Institut Mittag-Leffler
September 2023	Co-organizer of the <i>Sesquinar</i> , a student seminar about tensors, University of Stuttgart
October 2023	Co-organizer of <i>The Crazy World of Arthur L. Besse: a workshop on Einstein manifolds</i> , University of Stuttgart

Miscellaneous

2015–2020	Commitment in the Faculty Student Group in Stuttgart
2022–2023	Elected representative of doctoral students in the Faculty Council (Mathematics and Physics), Chairman of Faculty Student Council and member of the Student Parliament in Stuttgart

Skills and interests

Languages	English (fluent), German (fluent), French (very basic)
Programming	C++, LiE, Matlab, Python, SageMath
Hobbies/Interests	Climbing, Piano, Pen&Paper RPGs, Game development, Proof assistants such as Lean

Preprints and publications

- November 2021 *Stability of Einstein metrics on symmetric spaces of compact type*, Ann. Glob. Anal. Geom. Vol. 61, pp. 333–357.
DOI: [10.1007/s10455-021-09810-4](https://doi.org/10.1007/s10455-021-09810-4)
- September 2022 *Coindex and Rigidity of Einstein Metrics on Homogeneous Gray Manifolds*, J. Geom. Anal. Vol. 32, no. 302.
DOI: [10.1007/s12220-022-01061-4](https://doi.org/10.1007/s12220-022-01061-4)
- August 2023 *Stability of the Non-Symmetric Space $E_7/\text{PSO}(8)$* , Adv. Math. Vol. 432, 109268, joint with Uwe Semmelmann and Gregor Weingart.
DOI: [10.1016/j.aim.2023.109268](https://doi.org/10.1016/j.aim.2023.109268)
- May 2023 *The Lichnerowicz Laplacian on normal homogeneous spaces* (preprint), [arXiv:2304.10607](https://arxiv.org/abs/2304.10607).
- September 2023 Doctoral thesis: *Stability of Einstein metrics on homogeneous spaces*.
DOI: [10.18419/opus-13515](https://doi.org/10.18419/opus-13515)
- September 2023 *Spinors, Dirac Operators and Metric Variations*, English translation of the article by Jean-Pierre Bourguignon and Paul Gauduchon: *Spineurs, opérateurs de dirac et variations de métriques*, Commun. Math. Phys. Vol. 144, pp. 581–599 (1992)

Stuttgart, November 28, 2023