Sonja Maria Farr

Curriculum Vitae

Contact Information

Post	Department of Mathematics and Statistics
	University of Nevada, Reno
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Research Interests

Application of categorical homotopy theory to algebraic geometry, higher algebra, and study of the combinatorial objects arising in these areas.

Education

2022–present	**Ph.D in Mathematics**, *University of Nevada, Reno* Advisor: Christopher Rogers
2021–2022	**M.Sc. in Mathematics**, *University of Muenster* Without degree.
2017–2021	**B.Sc. in Mathematics**, *Georg-August University Goettingen* **Thesis Title:** Duality of Tensor Categories and Affine Supergroups and its Implications for Quantum Field Theory Advisor: Victor Pidstrygach
20017–2020	**B.Sc. in Physics**, *Georg-August University Goettingen* **Thesis Title:** The Haag-Łopuszański-Sohnius Theorem Advisor: Dorothea Bahns

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Grants and Awards

August 2024	**Selected participant: Oberwolfach Workshop Homotopical Algebra and Higher Structures**, *Mathematisches Forschungsinstitut Oberwolfach (MFO)* Funded by MFO via the "US Junior Oberwolfach Fellows" program
July 2024	**Selected participant: PCMI Graduate Summer School on Motivic Homotopy Theory**, *Park City Mathematics Institute* Partially funded by PCMI

June 2023	**Selected participant: Summer Graduate School Introduction to Derived Algebraic Geometry**, *Simons Laufer Mathematical Sciences Institute* Funded by SLMath
2023-present	**Graduate Research Assistant** supported by Dr. Chris Rogers' NSF grant DMS-2305407
2022	**Graduate Dean's Merit Scholarship** University of Nevada, Reno
2017–2022	**Studenstiftung des Deutschen Volkes** scholarship for Bachelor in Physics and Mathematics, Scholarship for Master in Mathematics

Submitted for Publication

S. Farr, "$\mathbb{E}_2$-algebra structures on the derived center of an algebraic scheme", 55 pages, arXiv:2506.14069 (Submitted to Advances in Mathematics)

Invited Talks

September 2025	**Hochschild Cohomology and Higher Centers**, *LAGA Séminaire de l'équipe topologie algébrique*, Sorbonne Paris North University (Paris 13)
May 2025	**Geometric Actions on Formality Morphisms in Deformation Quantization**, *Seminar for Algebraic Geometry and Arithmetic*, University of Essen
April 2025	**Hochschild Cohomology and Higher Centers**, *Geometry and Topology Seminar*, UC Irvine
December 2024	**Geometric GRT actions and Deligne's conjecture on Hochschild cochains**, *YoungHom seminar*, Online seminar hosted by University of Warwick

Conferences Attended

September 2025	**Higher Structures: Recent developments and applications**, *University of Hamburg*
August 2025	**Masterclass: Infinity Operads and Applications to Geometry**, *University of Copenhagen*
September 2024	**An Invitation to Derived Geometry**, *University of Padova*
May 2024	**Higher Algebra, Geometry, and Topology**, *Centre International de Rencontres Mathématiques (CIRM)* Partially funded by CIRM
June 2023	**Arbeitstagung 2023 on Condensed Mathematics**, *Max Planck Institute For Mathematics* Partially funded by the MPI for mathematics
March 2023	**Homotopy theory in honor of Paul Goerss**, *Northwestern University*

Teaching

University of Nevada, Reno

Spring 2023	Math 182: Calculus II (as TA)

Fall 2022	Math 182: Calculus II (as TA)
	University of Münster
Summer 2022	Linear Algebra II (as TA)
	University of Goettingen
Winter 2021	Seminar "How to prove it"

Service

2024-present	Co-organizer UNR Mathematics Graduate Student Seminar
Spring 2024	Co-organizer Gradventure recruiting event
2023–2024	Co-organizer UNR Homological Algebra Seminar