Sonja Maria Farr

Curriculum Vitae *revised: November 14, 2025*

Contact Information

Post Department of Mathematics and Statistics
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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

2017–2020 **B.Sc. in Physics**, *Georg-August University Goettingen*
Thesis Title: The Haag-Łopuszański-Sohnius Theorem
Advisor: Dorothea Bahns

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

December 2025 **Hochschild Cohomology and Higher Centers**, *Algebra/Topology seminar*, University of Copenhagen

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

References

Christopher L. Rogers, *University of Nevada, Reno*

Damien Calaque, *University of Montpellier*

Jonathan Pridham, *University of Edinburgh*

Marc Levine, *University of Essen*