
Education

- 2023 – ongoing **Max Planck Institute for Mathematics, Bonn**
Ph.D. Mathematics
Supervisor: Markus Hausmann
- 2020 – 2023 **University of Bonn, Bonn**
M.Sc. Mathematics
Grade: 1.1 (Best possible grade: 1.0)
- 2017 – 2020 **Technical University of Munich, Munich**
B.Sc. Mathematics, Minor in Computer Science
Grade: 1.0 (Best possible grade: 1.0)
- Fall 2019 **University of Minnesota, Minneapolis**
Exchange Semester
Grade: 4.0 (Best possible grade: 4.0)

Academic Work

- 2023 **Master's Thesis, University of Bonn**
Thesis title: Fractured Structure on Condensed Anima
Supervisor: Nima Rasekh
- 2020 **Project Thesis, Technical University of Munich**
Thesis title: Tannakian Formalism
Supervisor: Claudia Scheimbauer
- 2020 **Bachelor's Thesis, Technical University of Munich**
Thesis title: Die p -adischen komplexen Zahlen als Periodenring
Supervisor: Eva Viehmann

Selected Awards

- 2018 Silver Medal at the International Mathematics Competition (IMC)
- 2018 Medal at the Vojtěch Jarník International Mathematical Competition (VJIMC)
- 2018 Special Prize at the final round of the Bundeswettbewerb Mathematik (3 of 1142)
- 2017 DMV Abiturpreis (1 of 107)
- 2017 First Prize at the Bundeswettbewerb Mathematik, Round 2 (44 of 1142)
- 2016 First Prize at the Bundeswettbewerb Mathematik, Round 2 (59 of 1426)
- 2015 First Prize at the Bundeswettbewerb Informatik

Selected Scholarships

- 2022/23 Deutschlandstipendium Bonn (3600€)
- 2019/20 Deutschlandstipendium TUM (3600€)
- 2018/19 Deutschlandstipendium TUM (3600€)
- 2019 TUMExchange (exchange semester at the University of Minnesota, tuition waiver)

Teaching Experience

Seminars

- 2025 **University of Bonn, Bonn**
Reading seminar in Six Functor Formalisms (joint with Kaif Hilman and Lucas Piessevaux)
- 2025 **University of Bonn, Bonn**
Reading seminar in Motivic Homotopy Theory (joint with Fabio Neugebauer and Lucas Piessevaux)

Courses

- 2025 **University of Bonn, Bonn**
Teaching assistant in *Einführung in die Geometrie und Topologie*
- 2024/25 **University of Bonn, Bonn**
Tutor in *Algebraic Topology 1*
- 2024 **University of Bonn, Bonn**
Teaching assistant in *Einführung in die Geometrie und Topologie*
- 2023/24 **University of Bonn, Bonn**
Tutor in *Topology 1*
- 2023 **University of Bonn, Bonn**
Tutor in *Einführung in die Geometrie und Topologie*
- 2018/19 **Technical University of Munich, Munich**
Homework grading in *Analysis 1*
- 2018 **Technical University of Munich, Munich**
Tutor in a precourse for mathematics

Supervision

- 2025 **Twoples, International**
Mentor of Khai Bin Chan in the Twoples project *Universal Properties of Semidirect Products*

Work Experience

- 2015 **ReliaTec GmbH, Garching**
System and Software – Development, Electrical Engineering, Computer Science

Talks and Presentations

Invited Talks

- December 2024 **Topology Seminar, EPFL**
Title: Condensed Anima as a Fractured Topos

Selected List of Talks

- November 2025 **Six Functor Formalisms Seminar, Bonn**
Title: Applications to Representation Theory
- October 2025 **Motivic Homotopy Theory Seminar, Bonn**
Title: Slice Filtration and K-Theory
- October 2025 **Kleine AT, Bonn**
Title: Evenness 1
- September 2025 **European Autumn School in Topology 2025 (EAST), Den Dolder**
Title: Spectral Sequences
- July 2025 **European Talbot, Kolding**
Title: Equivariant Multiplicative Thom Spectra
- May 2025 **IMPRS Seminar, Max Planck Institute for Mathematics**
Title: The Hopf Invariant One Problem and the Adams Spectral Sequence
- September 2024 **European Autumn School in Topology 2024 (EAST), Den Dolder**
Title: Equivariant Highly Commutative Orientations

- September 2024 **European Autumn School in Topology 2024 (EAST)**, *Den Dolder*
Title: Equivariant Homotopy Theory
- September 2024 **Yatsugatake Workshop**, *Kobuchizawa*
Title: Thick Subcategories and v_n -Self Maps
- February 2024 **WIQI**, *Max Planck Institute for Mathematics*
Title: What is a Fractured Topos?
- November 2023 **Young-HOM**, *Online Seminar*
Title: Fractured Structure on Condensed Anima.
Video: youtube.com/watch?v=V-I0IscWim4
- November 2023 **Category Theory Seminar**, *University of Bonn*
Title: Kan Extensions: Kan You Extend?
- October 2023 **IMPRS Theme Day**, *Max Planck Institute for Mathematics*
Title: Fractured Structure on Condensed Anima.
- October 2023 **Homotopy Theory Seminar**, *University of Bonn*
Title: Fractured Structure on Condensed Anima.
- May 2023 **Infinity Category Seminar**, *University of Bonn*
Title: A Trip to Higher Topoi.
- April 2023 **Master Thesis Seminar**, *University of Bonn*
Title: Generalizations of Topology – Fractured Structure on Condensed Spaces.
- February 2023 **Seminar on Abstract Homotopy Theory**, *Max Planck Institute for Mathematics*
Title: When Homotopy Theory meets Topos Theory... Amazing!
- November 2022 **Graduate Seminar on Topology: Enhancements of Triangulated Categories**, *University of Bonn*
Title: Derivators.
- July 2020 **Project Thesis Talk**, *Technical University of Munich*
Title: Tannakian Formalism.
- June 2020 **Advanced Seminar Course: From Homotopical Algebra towards Higher Categories**, *Technical University of Munich*
Title: First Steps Into the Realm of Infinity Categories.
- December 2019 **Directed Reading Program (DRP)**, *University of Minnesota*
Title: On the beach of algebraic geometry.

Poster Presentations

- July 2025 **IMPRS Poster Session**, *MPIM*
Title: Multiplicative Equivariant Thom Spectra
- June 2024 **IMPRS Poster Session**, *MPIM*
Title: Global Equivariant Ultracommutative Orientations: An Obstruction Theory
- July 2023 **Young Topologists Meeting 2023 (YTM)**, *EPFL*
Title: Fractured Structure on Condensed Anima

Conference Attendance

- November 2025 **NRW Topology Meeting**, *Bonn*
- October 2025 **Kleine AT**, *Bonn*
- September 2025 **European Autumn School in Topology**, *Den Dolder*
- June, July 2025 **European Talbot**, *Kolding*
- May 2025 **35th NRW Topology Meeting**, *Osnabrück*
- May 2025 **New Horizons for Equivariance in Homotopy Theory**, *Cambridge*
- January 2025 **Introductory Workshop for Equivariant Homotopy Theory in Context**, *Cambridge*
- November 2024 **34th NRW Topology Meeting**, *Bielefeld*

November 2024 **Workshop on Unstable Homotopy Theory**, *Bonn*
September 2024 **European Autumn School in Topology**, *Den Dolder*
September 2024 **Yatsugatake Workshop: Chromatic Homotopy Theory**, *Kobuchizawa*
June 2024 **Interactions between Algebra, Equivariance and Homotopy Theory**, *Regensburg*
July 2023 **Young Topologists Meeting (YTM)**, *Lausanne*
March 2023 **Masterclass on Higher Representation Theory**, *Copenhagen*
September 2018 **TopMath Summer School**, *Munich*

Bonn, September 23, 2025

 Q. Zhu