
Education

- 2017 **PhD, Mathematics**, *University of Illinois at Chicago*, Chicago, IL
- 2014 **MS, Mathematics**, *University of Illinois at Chicago*, Chicago, IL
- 2010 **BA, Mathematics with Honors**, *University of Chicago*, Chicago, IL

Academic Positions

- 2020-present **Scientific Assistant**, Albert-Ludwigs-Universität Freiburg
- 2017-2020 **Postdoctoral Fellow**, Universität Wien

Main Areas of Research

Mathematical logic and set theory

Publications

- [1] Raphaël Carroy, Maxwell Levine, and Lorenzo Notaro. Some Questions on Entangled Linear Orders. Submitted.
- [2] Hannes Jakob and Maxwell Levine. Failure of Approachability at the Successor of the First Singular for any Cofinality. Submitted.
- [3] Maxwell Levine and Heike Mildenberger. Good Scales and Non-Compactness of Squares. Submitted.
- [4] Maxwell Levine. On Namba Forcing and Minimal Collapses. To appear in *Forum of Mathematics, Sigma*.
- [5] Hannes Jakob and Maxwell Levine. Distinguishing Internally Club and Approachable on an Infinite Interval. To appear in *Bulletin of the London Mathematical Society*.
- [6] Maxwell Levine. Classical Namba forcing can have the weak countable approximation property. To appear in *Proceedings of the American Mathematical Society*.

- [7] Maxwell Levine. On disjoint stationary sequences. *Pacific Journal of Mathematics*, 332(1): 147-165, 2024.
- [8] Maxwell Levine. Unthreadability with small conditions. Submitted.
- [9] Maxwell Levine. On compactness of weak square at singular cardinals of uncountable cofinality. To appear in *Journal of Symbolic Logic*.
- [10] Maxwell Levine and Heike Mildenberger. Distributivity and Minimality in Perfect Tree Forcings for Singular Cardinals. *Israel Journal of Mathematics*, 261:549–588, 2024.
- [11] Thomas Gilton, Maxwell Levine, and Šárka Stejskalová. Trees and stationary reflection at double successors of regular cardinals. *Journal of Symbolic Logic*, 88(2): 780-810. <https://doi.org/10.1017/jsl.2022.13>.
- [12] Sy-David Friedman and Maxwell Levine. Patterns of stationary reflection. *Israel Journal of Mathematics*, 249(1):1–35, 2022. <https://link.springer.com/article/10.1007/s11856-022-2293-7>
- [13] Maxwell Levine and Dima Sinapova. Squares and uncountably singularized cardinals. *Fundamenta Mathematicae*. 253: 277-296, 2021. <https://doi.org/10.4064/fm955-9-2020>.
- [14] Maxwell Levine and Assaf Rinot. Partitioning a reflecting stationary set. *Proceedings of the American Mathematical Society*. 148(8): 3551-3565, 2020. <https://doi.org/10.1090/proc/14783>.
- [15] Maxwell Levine. The semi-weak square principle. *Annals of Pure and Applied Logic*. 170(11):8pp, 2019. doi: <https://doi.org/10.1016/j.apal.2019.06.002>.
- [16] Maxwell Levine. Stationary sets added when forcing squares. *Archive of Mathematical Logic*, 57(7):909–916, 2018. doi: <https://doi.org/10.1007/s00153-018-0613-8>.
- [17] Maxwell Levine. Weak squares and very good scales. *Journal of Symbolic Logic*, 83(1):1–12, 2018. doi: <https://doi.org/10.1017/jsl.2017.23>.

Invited Talks

September **Namba Forcing, Approachability, and Singular Cardinals**, Notre Dame
 2025 Logic Seminar
 South Bend, USA

- May 2025 **Namba Forcing, Approachability, and Singular Cardinals**, UCLA Logic Colloquium
Los Angeles, USA
- May 2025 **Namba Forcing and Singular Cardinals**, ASL North American Meeting
Las Cruces, USA
- Jan 2025 **On Namba Forcing and Minimal Collapses**, Oberwolfach Workshop in Set Theory
Oberwolfach, DE
- Nov 2024 **Goodness versus Approachability**, University of Turin Mathematical Logic Seminar
Turin, IT
- Sep 2024 **Namba Forcing, Minimality, and Approximations**, Notre Dame Logic Seminar
South Bend, USA
- Sep 2024 **Namba Forcing, Minimality, and Approximations**, Rutgers Logic Seminar
New Brunswick, USA
- Jul 2024 **Developments in Namba Forcing**, Joint Meeting of the Unione Matematica Italiana and the American Mathematical Society
Palermo, IT
- May 2023 **On Disjoint Stationary Sequences**, Gdansk Logic Seminar
Gdansk, PL
- Apr 2023 **On Disjoint Stationary Sequences**, UIC Logic Seminar
Chicago, USA
- Feb 2023 **On Disjoint Stationary Sequences**, Barcelona Set Theory Seminar
Barcelona, ES
- Sep 2022 **Square Principles and Singular Cardinals**, Annual Meeting of the German Mathematical Society, One of the Main Speakers
Berlin, DE
- Sep 2021 **On the Distributivity of Perfect Tree Forcings for Singular Cardinals**, DMV-ÖMG Annual Conference
Passau, DE

- Apr 2020 **Patterns of Stationary Reflection**, CMU Math. Logic Seminar
Pittsburgh, USA
- Feb 2020 **Patterns of Stationary Reflection**, Univ. of Turin Math. Logic Seminar
Turin, IT
- Oct 2019 **Patterns of Stationary Reflection**, UIC Logic Seminar
Chicago, USA
- May 2019 **Partitioning Reflecting Stationary Sets**, Charles Univ. Set Theory Seminar
Prague, CZ
- Nov 2017 **Forcing Square Sequences**, KGRC Research Seminar
Vienna, AT
- Oct 2016 **Weak Squares and Very Good Scales**, UIC Set Theory Workshop
Chicago, USA
- Sep 2016 **Weak Squares and Very Good Scales**, UCI Logic Seminar
Irvine, USA
- Apr 2016 **Weak Squares and Very Good Scales**, UIC Logic Seminar
Chicago, USA

Teaching

- 2021-2026 **Lecturer**, Albert-Ludwigs-Universität Freiburg
Lectured the following courses: large cardinals and forcing, models of Peano arithmetic, descriptive set theory, applications of set theory, an introduction to set theory and independence proofs, and machine learning and mathematical logic
- 2020-2026 **Seminar Supervisor**, Albert-Ludwigs-Universität Freiburg
Tutored seminars in Ramsey theory, knot theory, cryptography, representation theory, algebraic topology, and others
- 2020 **Proseminar Supervisor**, Universität Wien
Graded for a class in model theory
- 2014, 2015 **Lecturer**, University of Illinois at Chicago
Taught algebra at the Summer Enrichment Workshop and Calculus III
- 2011–2017 **Teaching Assistant**, University of Illinois at Chicago
Taught introductory and intermediate algebra, linear algebra, first- and second-semester calculus, and calculus for business applications

2010–2016 **Freelance Math Tutor**, Self-employed

Assisted high school and graduate students in a wide variety of topics, including geometry, trigonometry, single-variable calculus, real analysis, and linear algebra

2010 **Collegiate Scholars Teaching Assistant**, University of Chicago

Taught foundational concepts in algebra, number theory, and analytic geometry to academically gifted high school students

2009 **SESAME Counselor**, University of Chicago

Taught mathematical concepts to middle-school math instructors. Led group-study sessions in History of Mathematics and Introductory Geometry courses.

Service, Outreach, and Mentoring

2025-present **Jule Herrmann's Thesis**, *Bachelor's Thesis Mentor*, University of Freiburg

Currently in the process of mentoring a bachelor's thesis in mathematical logic

2025-present **Simon Klemm's Thesis**, *Master's Thesis Mentor*, University of Freiburg

Currently in the process of mentoring a master's thesis in set theory

2025 **Outreach Talk on Higher Mathematics**, *Invited Speaker*, Michigan State University

Give a talk explaining simple proofs to students in the humanities

2022 **Hannes Jakob's Master's Thesis**, *Thesis Committee Member*, University of Freiburg

2021–2024 **MathSciNet**, *Reviewer*

Reviews articles for MathSciNet

2021 **Carl Tom Dean's Thesis**, *Thesis Committee Member*, University of Illinois at Chicago

2020–present **Journals**, *Referee*

Refereed articles for *Periodica Mathematica Hungarica*, *Annals of Pure and Applied Logic*, and *Israel Journal of Mathematics*

2019 **Nikolai Patzak's Thesis**, *Bachelor's Thesis Mentor*, University of Vienna

Mentored a student for his bachelor's thesis on models of Peano arithmetic

2017–2022 **Outreach in High School Classes**, *Guest Mathematician*, Swiss School of Mexico, A.C.

Made guest appearances in an International Baccalaureate class in Theory of Knowledge

2015-2017 **Louise Hay Logic Seminar**, *Organizer*, University of Illinois at Chicago
Co-organized graduate student logic seminar at UIC

2016 **ComSciCon-Chicago**, *Participant*

Participated in a science communication expo

2015 **Graduate Student Conference in Logic**, *Organizer*, University of Illinois at Chicago

Was on the organizing committee for the annual GSCL