

Maxwell Levine

Curriculum Vitæ

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, specifically set theory—especially questions around singular cardinals, large cardinals, and compactness principles.

Publications

- [1] Maxwell Levine. Namba forcing can have the weak countable approximation property. Preprint.
- [2] Maxwell Levine. On disjoint stationary sequences. Preprint.
- [3] Maxwell Levine. On compactness of weak square at singular cardinals of uncountable cofinality. To appear in *Journal of Symbolic Logic*.
- [4] Maxwell Levine. Unthreadability with small conditions. Submitted.
- [5] Maxwell Levine and Heike Mildenerger. Distributivity and Minimality in Perfect Tree Forcings for Singular Cardinals. *Israel Journal of Mathematics*. To appear.
- [6] 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>.

- [7] 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>
- [8] Maxwell Levine and Dima Sinapova. Squares and uncountably singularized cardinals. *Fundamenta Mathematicae*. 253: 277-296, 2021. <https://doi.org/10.4064/fm955-9-2020>.
- [9] 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>.
- [10] 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>.
- [11] 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>.
- [12] 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

- July 2024 **TBA**, 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
- April 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

- 2021-2023 **Lecturer**, Albert-Ludwigs-Universität Freiburg.
Gave lectures courses in combinatorial forcing and in models of Peano arithmetic, plus a planned course for 2023 in descriptive set theory
- 2020-2023 **Seminar Supervisor**, Albert-Ludwigs-Universität Freiburg.
Assisted students with a seminar on Ramsey theory and another in knot theory, plus upcoming seminars in representation theory and cryptography
- 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 and Outreach

- 2022 **Hannes Jakob's Thesis**, *Thesis Committee Member*, University of Freiburg.
- 2021-present **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
- 2017-2020 **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