LENA WURZINGER

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EDUCATION

Mathematics PhD at Institute of Science and Technology Austria (ISTA) *since Sep. 2023*

- Dissertation supervisor: Tim Browning
- Research in analytic number theory: geometry of numbers, rational points on varieties, circle method

Mathematics MSc at Graz University of Technology & University of Graz *Jan. 2022–Jul. 2023*

- Master's thesis: "Sumsets in multiplicatively defined sets", supervised by Christian Elsholtz
- Research in additive combinatorics: sieve methods, sumset bounds, character sum estimates

Mathematics BSc at Graz University of Technology & University of Graz *Oct. 2018–Jan. 2022*

AWARDS

Early Student Award *2022*

- Awarded by the Austrian Mathematical Society (ÖMG) to excellent mathematics students in Austria

Merit Scholarship *2020–2022*

- Awarded by University of Graz (2020, 2021) & TU Graz (2022) for excellent academic achievements

PUBLICATIONS & PREPRINTS

- *Improved bounds in Birch's theorem for forms in many variables,* with Y. Diao, arXiv:2609.00757.
- *The divisor function for matrices,* with T.D. Browning, N.P. Kalinin, A. Ostafe and D. Schindler, arXiv: 2608.25078.
- *Sumset growth in progression-free sets*, with C. Elsholtz and I. Z. Ruzsa, Acta Arith., **220** (2025), no. 3, 289–303.
- *Sumsets in the set of squares*, with C. Elsholtz, Q. J. Math. **75** (2024), no. 4, 1243–1254.

TALKS

- November 2026, Graz University of Technology (Graz, Austria), "School of discrete mathematics seminar": *The divisor function for matrices.*
- September 2026, bifeb (Strobl am Wolfgangsee, Austria), "Analytic methods for rational points on varieties": *The divisor function for matrices.*
- September 2026, Banff International Research Station (Banff, Canada), "Arithmetic, L-functions, and Pseudorandomness": *The divisor function for matrices.*
- August 2026, EPFL Bernoulli center (Lausanne, Switzerland), "Fouvry-73 Summer School": *Lattices of fixed determinant.*
- April 2026, DoubleTree Hotel (Cheltenham, UK), "WINGS 2026": *Towards lattices of fixed determinant.*
- February 2026, bifeb (Strobl am Wolfgangsee, Austria), "ELAZ 2026": *The arithmetic of cyclic covers in many variables* (flash talk).
- July 2025, ISTA (Klosterneuburg, Austria), "Graz ISTA Number Theory Day": *Towards lattices of fixed determinant.*
- June 2025, CIRM (Marseille, France), "Nombres premiers et aléa arithmétique": *Sumset growth in progression-free sets.*
- September 2023, University of Graz (Graz, Austria), "ÖMG Tagung 2023": *Sumsets in the set of squares.*

ACADEMIC SERVICE

Organiser of Graz ISTA Number Theory Days *since 2024*

- Biannual joint seminar of ISTA and TU Graz (with T. Browning, C. Frei, and N. Rome)
- Website: `https://sites.google.com/view/gntd/`

Organiser of Discrete Analysis Days *since 2025*

- Seminar at the intersection of combinatorics and number theory (with T. Browning and M. Kwan)
- Website: `https://discreteanalysis.pages.ist.ac.at/`

Organiser of Mathematics In eXchange (MIX) colloquium *2024 – 2026*

- Monthly colloquium for PhD students at ISTA (with D. Holmes, O. Kolupaiev, and A. Zanoli)
- Biannually joint colloquium with the Vienna School of Mathematics (VSM PhD colloquia)
- Organisation of the ISTern Math Track Session – Flash Talk Competition, an annual event for mathematics summer interns at ISTA
- Website: `https://sites.google.com/view/mixcolloquium/`

Referee for *Acta Arith.*, *Proc. Amer. Math. Soc.*

TEACHING EXPERIENCE

Teaching assistance at ISTA

- Some Applications of p-adic Integration to Geometry and Arithmetics *2025*

Teaching assistance at Erdős Center

- Recitation at the Summer School: Additive Combinatorics *Jun. 2024*

Teaching assistance at Graz University of Technology

- Introduction to University Mathematics *2022*
- Mathematics for Chemistry I *2021*
- Discrete Mathematics for Computer Science *2021, 2022*
- Numerical Computation and Linear Algebra for Computer Science *2019, 2020, 2022*

LANGUAGES

English (C1), German (native), French (B1), Russian (A2), Spanish (A2), Latin (basic knowledge)