Alexander Elzenaar

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RESEARCH AND TEACHING POSITIONS	**Max-Planck-Institut für Mathematik in den Naturwissenschaften**, Leipzig, Germany	2022 – 2023
	The University of Auckland, New Zealand	

- Research assistant (Professional Casual Staff) — 2020 – 2021
  - Construction and symmetry properties of spherical (t, t)-designs
  - Supervisor: Dr. Shayne Waldron
- Graduate Teaching Assistant (GTA) in the Dept. of Mathematics 2019 (Sem. 2) – 2022 (Summer sem.)
  - Tutoring and marking: single- and multi-variate calculus; complex calculus; linear algebra; logic and proofwriting; mathematics for computer science; computational mathematics; mathematics for non-mathematicians (infinities, topology, fractals); real analysis

EDUCATION

The University of Auckland, New Zealand

- Master of Science with First Class Honours in mathematics — 2021 – 2022
  - Thesis: *Deformation spaces of Kleinian groups* (https://aelzenaar.github.io/msc_thesis.pdf)
  - Advisors: Dist. Prof. Gaven Martin (NZ Inst. of Adv. Study, Massey Uni.), Dr. Jeroen Schillewaert
- Bachelor of Science (Hons) with First Class Honours in mathematics — 2020
  - Dissertation: *Toric varieties* (https://aelzenaar.github.io/hons/dissertation.pdf)
  - Advisor: Dr. Jeroen Schillewaert
- Certificate in Languages — awarded 2020
  - Russian and Ancient Egyptian
- Bachelor of Science, major in mathematics — 2017 – 2019
  - Between 2016 and early 2019, I was enrolled in a conjoint Mathematics (BA)/Physics (BSc) degree
  - Exchange student at the University of Toronto, 2018 fall semester

The University of Canterbury, New Zealand

- STAR programme — 2016
  - First year university mathematics program for secondary school students

AWARDS & SCHOLARSHIPS

- Clay Mathematics Institute Early Career Researcher Support — 2023
  - for attendance of NZMRI Summer School on Groups and Dynamics in Nelson
- University of Auckland Department of Mathematics Student Research Conference prize — 2021
- University of Auckland Postgraduate Honours / PG Diploma Scholarship — 2020
- University of Auckland Summer Research Scholarship — 2019 – 2020
  - Project: Numerical construction of spherical (t, t)-designs
  - Advisor: Dr. Shayne Waldron
- University of Auckland Faculty of Arts Deans List — 2017
- NZQA Outstanding Scholar Award — 2016
  Limited to top 40–60 secondary school students in New Zealand

PUBLICATIONS AND PREPRINTS

[3] A. Elzenaar, G. Martin, and J. Schillewaert, "Concrete one complex dimensional moduli spaces of hyperbolic manifolds and orbifolds". In: *2021-22 MATRIX annals*. Ed. by David R. Wood, Jan de Gier, Cheryl E. Prager, and Terrence Tao. MATRIX Book Series 5. Springer, to appear. arXiv: 2204.11422 [math.GT], 2022.

[2] A. Elzenaar, G. Martin, and J. Schillewaert, "The combinatorics of the Farey words and their traces" (preprint), arXiv: 2204.08076 [math.GT], 2022.

[1] A. Elzenaar, G. Martin, and J. Schillewaert, "Approximations of the Riley slice". In: *Expositiones Mathematicae* **41**.1 (2023), pp.20–54. DOI: 10.1016/j.exmath.2022.12.002. arXiv: 2111.03230 [math.GT], 2021

PROFESSIONAL AFFILIATIONS

New Zealand Mathematical Society, Student member

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