

Curriculum Vitae for Maiken Gravgaard

EDUCATION:

2022-2026 PhD in Mathematics, supervised by Prof. Simon Kristensen, Aarhus Universitet. Project title: "Metric Diophantine Approximation on Algebraic Varieties".

2021-2024 MSc in Mathematics, Aarhus Universitet.

2018-2021 BSc in Mathematics (minor in statistics), Aarhus Universitet. Bachelors project: "Diophantine Approximation on the Parabola".

RESEARCH INTERESTS

Number theory, metric Diophantine approximation, Diophantine approximation on varieties, rational points, fractal geometry

PUBLICATIONS

1. *Decomposition of real numbers into sums of Lüroth sets*, **Maiken Gravgaard** and Ying Wai Lee, International Journal of Number Theory (submitted 14/06-2025, accepted 01/02-2026)

GRANTS

2025 GSNS Mobility Grant, 20000 DKK

SELECTED TALKS AND CONFERENCES

14/05-2025 "Sums of Lüroth Sets" in Number Theory Seminar at University of York

30/11-2024 "Quantitative Khintchine on the Parabola with Non-monotonic Approximation Functions" at \mathbb{N}^3 -Days X in Kiel (Invited talk)

12/11-2024 "Dirichlet Non-improvability" seminar at Institut de Mathématiques de Bordeaux (Invited talk)

16/04-2024 "Quantitative Khintchine on the Parabola with Non-monotonic Approximation Functions" Aarhus Diophantine Approximation Symposium

21/03-2024 "Quantitative Khintchine on the Parabola with Non-monotonic Approximation Functions" at the Göttingen Spring School

12/05-2023 and 28/04-2022 "Dirichlet Improvability" and "Diophantine Approximation on the Parabola" at the Danish National Women in Maths Conferences 2023 and 2022

Conferences Attended a total of 19 conferences on Diophantine approximation, dynamical systems, analytic number theory, fractals and related topics.

RESEARCH VISITS

November 2024 1 week research visit in Bordeaux, France

Spring semester 2025 4,5 month research visit at University of York, UK

TEACHING EXPERIENCE

2019-2025 Teaching assistant, tutorials and marking undergraduate level at Aarhus Universitet 10 times in various courses as well as 2 times at Syddansk Universitet.

2022-2025 Question and answer session (known as Mathematical Laboratory, Matlab for short) (Undergraduate level, Aarhus Universitet) in Mathematical Analysis 1 and 2 as well as Introduction to Probability Theory.

GRADUATE COURSES AND SUMMER SCHOOLS

2021-2023 Advanced Algebra, Advanced Topics in Complex Analysis, Partial Differential Equations, Stochastic Calculus, Advanced Analysis, Fractal Geometry, Algebraic Curves, Homological Algebra, Harmonic Analysis and Geometry of Locally Compact Groups, Statistical Inference, Introduction to Representation Theory of Linear Groups.

2023-2024 Science Teaching.

Summer Schools "Zürich Dynamics School" (Summer 2023), "Zeta functions, dynamics and analytic number theory" (Göttingen Spring 2024), "Aarhus Automorphic Forms Summer School (Summer 2025)", "CANT2025" school and conference at CIRM (Luminy Autumn 2025)

COLLABORATORS AND NETWORK

- Collaborators (recent and current) Ying Wai Lee (York), Jaroslav Hancl (Ostrava), Simon Kristensen (Aarhus)
- The Number Theory Group in York from my research semester spent there.
- I am part of the Nordic Number Theory Network

INSTITUTIONAL RESPONSIBILITIES AND ORGANISATION OF SCIENTIFIC MEETINGS

Organised "Diophantine Approximation Symposium" at Aarhus University (April 2024)

Coorganised Conference " \mathbb{N}^3 -Days XVIII" at Aarhus Universitet with Simon Kristensen and Mathias Løkkegaard Laursen (July 2023)

Coorganised "Women's networking at NCM29" in Aalborg (July 2023)

Boardmemberships "Women in Mathematics Aarhus University" (2023+2024+2025), Eulers Venner (2020+2021), and Mat/Fys-Tutorgruppen (2020)

Departmental Held presentations at workshop for the new TA's 5 times in total. Coorganised internal PhD seminar,

Comitees "Advisory committee" for hiring head of department, "alumne- og formidlingsudvalget", "ArbejdsMiljøGruppe" and "LokaleArbejdsMiljøUdvalg"

Outreach 2 talks for potential new undergraduate students, 2 lessons on "PhD" and "continued fractions" to a class of 7th graders and starring in an Instragram reel aimed at potential new undergraduate students on Aarhus University's official faculty of natural sciences account (currently 92500 views)