

Maxim Sølund Kirsebom

[alt. sp.: Maxim Solund Kirsebom, Maxim Soelund Kirsebom]

Curriculum vitae

Department of Mathematics
University of Hamburg
Bundesstraße 55
20146 Hamburg, Germany

E-mail: maxim.kirsebom@uni-hamburg.de
www.math.uni-hamburg.de/home/kirsebom
Office: Geomatikum 204
Office phone: +49 40 42838-8373

Danish citizen, born in Norway.

Education & Academic Degrees

PhD in Mathematics, University of Bristol, UK, finished 06/2014.
Supervisor: Prof. Dr. Alexander Gorodnik.
Thesis title: *Extreme value theory for group actions on homogeneous spaces*.
137 pages, ungraded.

MSc in Mathematics, Aarhus University, Denmark, finished 09/2010.
Supervisor: Dr. Simon Kristensen
Thesis title: *The Set of Exceptions to Littlewood's Conjecture*.
93 pages, grade 12.

BSc in Mathematics, Aarhus University, Denmark, finished 12/2008.
Supervisor: Dr. Simon Kristensen
Thesis title: *Zeros of Polynomials with Restricted Coefficients*.
53 pages, grade 12.

Academic appointments

Postdoctoral Fellow, 01/11/2017–Present.
University of Hamburg, Germany.
DFG Postdoctoral Fellow, 01/01/2016–31/10/2017.
University of Bremen, Germany and University of Aarhus, Denmark.
Postdoctoral Fellow, 03/09/2014–01/12/2015.
University of Bremen, Germany.

Research Grants

DFG & Marie Curie Foundation, 01.2016-12.2017, DKK 1.573.449 (~ €211.669)
Postdoc research grant.
Project title: Extremes in Homogeneous Dynamics with Number Theoretic Perspectives.

Research Interests

Dynamical Systems, Random Walks, Ergodic Theory, Number Theory, Extreme Value Theory,
Lie groups and Homogeneous Spaces, Diophantine Approximation, Fractal Geometry.

Supervision & Mentoring

Ph.D. Students:
Wafa Ben Saad, 2016-present (joint with Prof. Dr. Marc Keßeböhmer).

Mentoring:
Joakim Færgemann, 2016, 3rd year high school student.
Mentoring his project in the "Forskerspirer" ("Aspiring Researcher") competition.
Project title: "Largest collection of cards in the game SET without a valid set".

Events organised

Hanseatic Dynamical Systems Days (HANDSDays), 06/2018.

Regional one-day workshop on dynamical systems and ergodic theory.

Co-initiator of "HANDSDays" and co-organiser of the 1st workshop (with Philipp Kunde).

University of Hamburg, Germany.

Dynamics, Chaos and Applications, 03/2016.

4th Bremen Winter School and Symposium.

Main Organiser (with Marc Keßeböhmer, Jens Rademacher and Ivan Ovsyannikov).

University of Bremen, Germany.

Publications & preprints

- [1] M. Kirsebom, "Extreme value distributions for one-parameter actions on homogeneous spaces".
Preprint, arXiv:1503.09191, submitted, 2015.

- [2] M. Kirsebom, "Extreme value theory for random walks on homogeneous spaces".
Discrete and Continuous Dynamical Systems - Series A, **34** (2014), 4689 - 4717.

Invited talks and lectures

Dynamical Systems, 12/2017.

Research Seminar.

University of Hamburg, Germany.

Dynamical Systems and Mathematical Physics, 11/2017.

Research Seminar.

University of Jena, Germany.

Research Seminar, 10/2017.

Seoul National University, Republic of Korea.

Homogeneous dynamics -and its applications to number theory, 05/2017.

One-day workshop.

Seoul National University, Republic of Korea.

Mini-course: Extreme Value Theory in Dynamical Systems, 05/2017.

2 x 90 min lectures. On invitation by Professor Seonhee Lim. All costs covered.

Seoul National University, Republic of Korea.

Dynamical Systems and Geometry Seminar, 02/2017.

University of Bremen, Germany.

Dynamical Systems and Geometry Seminar, 02/2017.

University of Bremen, Germany.

Dynamical Systems and Geometry Seminar, 11/2014.

University of Bremen, Germany.

Dynamical Systems and Geometry Seminar, 05/2014.

University of Bremen, Germany.

Analysis Seminar, 08/2013.

Aarhus University, Denmark.

Ergodic Theory and Dynamical Systems Seminar, 05/2013.

University of Bristol, UK.

Pure Postgraduate Seminar, 10/2012.

University of Bristol, UK.

YRM conference, 04/2012.

University of Bristol, UK.

"Friends of Euler" - Student Organised Seminar, 12/2008.

Aarhus University, Denmark.

Teaching

Analysis 3 and Differential Equations 1, 2017-2018.

Second year courses at TUHH, tutorial instructor, 4h per week. In German.

Measure and Probability Theory 2 (Mass- und Wahrscheinlichkeitstheorie 2), 2015.

B.Sc/M.Sc.-level lecture course, 4h lectures + 2h tutorial per week. In German.

University of Bremen, Germany.
Joint with Prof. Dr. M. Keßeböhmer.

Inequalities and Proofs by Induction (Ungleichungen und Induktionsbeweise), 2015.
Lecture in "Brückenkurs", course bridging gap between high school and university. In German.
University of Bremen, Germany.

Analysis 1, 2014-2015.

First year analysis course, tutorial instructor, 2h per week + grading homeworks. In German.
University of Bremen, Germany.

Analysis and Calculus, 2011-2012

First year analysis course, tutorial instructor, 2h per week + grading homeworks. In English.
University of Bristol, UK.

Dynamical Systems & Ergodic Theory + Algebraic Number Theory, 2010-2012

3rd/4th years course, grading homeworks.

University of Bristol, UK.

Refereeing

Peer reviewed for: *Nonlinearity* and *Stochastics and Dynamics*.

Membership of scientific networks

- \mathbb{N}^3 , Nordic Number theory Network.

Outreach activities

"Nature in the Tent" ("Natur i Teltet"), 2007-2008.

Science outreach for general public.

Developing teaching materials, interacting with interested members of the public. In Danish.
Aarhus University, Denmark.

Conferences, Workshops and Schools attended

Denmark Australia Diophantine Approximation Day, 12/2017.

\mathbb{N}^3 -one-day workshop.

University of Aarhus, Denmark.

Ergodic Theory: Numbers, Fractals, and Geometry, 09/2017.

Conference.

Clay Mathematics Institute, University of Oxford, UK.

Random walks on algebraic structures, 06/2017.

Conference - In honour of Yves Guivarc'h.

Universite de Rennes 1, France.

Homogeneous dynamics -and its applications to number theory, 05/2017.

One-day workshop.

Seoul National University, Republic of Korea.

Distinguished Lectures in Dynamics, 04/2017.

Lecture Series.

TIFR, Mumbai, India.

Homogeneous Spaces, Diophantine Approximation and Stationary Measures, 02/2017.

CNRS Research School.

CIRM, Marseille, France.

Ergodic Theory and its Connections with Arithmetic and Combinatorics, 12/2016.

Jean Morlet Chair Conference.

CIRM, Marseille, France.

Diophantine Approximation, Fractal Geometry and Dynamics, 10/2016.

Arbeitsgemeinschaft/Working group.

Mathematisches Forschungsinstitut Oberwolfach, Germany.

School on Algebraic, Geometric

- and Probabilistic Aspect of Dynamical Systems and Control Theory, 07/2016.

Summer school.

ICTP Trieste, Italy.

Dynamics, Geometry and Number Theory, 06/2016.
 A conference in honor of Gregory Margulis' 70th birthday.
 Institut Henri Poincaré (Paris), France.

Dynamics, Chaos and Applications, 03/2016.
 4th Bremen winter school and symposium.
 University of Bremen, Germany.

Diffusion on Fractals and Non-linear Dynamics, 03/2015.
 3rd Bremen winter school and symposium.
 University of Bremen, Germany.

Extreme Value Theory and Laws of Rare Events, 07/2014.
 Workshop/conference.
 CIRM, Marseille, France

Groups, Numbers, and Dynamics, 06/2014.
 Workshop/conference.
 University of Cambridge, UK.

**Non-equilibrium Statistical Mechanics
 - and the Theory of Extreme Events in Earth Science**, 10/2013.
 Workshop/conference.
 University of Cambridge, UK.

Homogeneous Dynamics, Unipotent Flows and Applications, 10/2013.
 Conference in honor of Marina Ratner and her work.
 The Hebrew University of Jerusalem, Israel.

Geometrie et Dynamique, 09/2013.
 Workshop/conference.
 University of Bordeaux, France.

Advances in Number Theory and Dynamical Systems, 04/2013.
 Workshop/conference.
 University of Bristol, UK.

Equidistribution in Number Theory and Dynamics, 03/2013.
 Workshop/conference.
 ETH Zürich, Switzerland.

Statistical Mechanics and Extreme Events in Earth Sciences, 01/2013.
 Workshop/conference.
 University of Reading, UK.

Flows on Homogeneous Spaces, Summer School, 09/2012.
 Summer school.
 Technion, Haifa, Israel.

Ergodic Theory & Dynamical Systems: Perspectives & Prospects, 04/2012.
 Workshop/conference.
 University of Warwick, UK.

Young Researchers in Mathematics, 04/2012.
 Workshop/conference.
 University of Bristol, UK.

**Modern Dynamics
 - and its Interaction with Analysis, Geometry and Number Theory**, 07/2011.
 Summer school and conference.
 Bedlewo, Poland.

Ergodic Theory and Number Theory, 04/2011.
 Workshop/conference.
 University of Warwick, UK.

Group Actions in Number Theory, 01/2011.
 Winter school.
 EPFL, Switzerland.

Danish Mathematical Society, 08/2008.
 Summer school.
 Aalborg University, Denmark.

Administrative Responsibilities

Secretary of "Friends of Euler", 2007-2009.

A student organization arranging talks, events and excursions.
Department of Mathematics, Aarhus University, Denmark.

"Natur i Teltet", 2007-2009

A science outreach for primary/high school.

Responsible for organizing and creating content for the mathematics part.
Department of Mathematics, Aarhus University, Denmark.

Committee for the Allocation of Student Offices, 2007-2009.

Member of committee, responsible for allocation of math students.
Department of Mathematics, Aarhus University, Denmark.

Editor in Chief of "Mads Føk", 2006-2009.

The faculty student paper.

Faculty of Natural Sciences, Aarhus University, Denmark.

Programming skills

Latex: Advanced.

HTML: Working knowledge.

Python: Basic.

Language skills

Danish: Mother tongue.

English: Fluent.

German: Fluent.

Italian: Conversational.