

Curriculum vitae

Andreas Holmstrom

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PERSONAL INFORMATION

Andreas Holmstrom
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EDUCATION

- 2010 PhD in Pure Mathematics. Disputation date: December 3, 2010
Department of Pure Mathematics and Mathematical Statistics
University of Cambridge, United Kingdom
PhD supervisor: Prof. Anthony J. Scholl
Thesis title: *Arakelov motivic cohomology*
- 2006 Certificate of Advanced Study in Mathematics
Department of Pure Mathematics and Mathematical Statistics
University of Cambridge, United Kingdom
Graduated with Distinction
- 2005 MSc in Engineering Physics
Royal Institute of Technology (KTH), Stockholm, Sweden
Includes an ERASMUS exchange year at École Polytechnique Fédérale de
Lausanne, Switzerland
MSc thesis title: *Harmonic analysis on number fields*

CURRENT AND PREVIOUS POSITIONS

- 2017-2019 Researcher, Stockholm University, Sweden
- 2012-2017 Teacher, Fagerlia Upper Secondary School, Ålesund, Norway
(*Teaching position held continuously since January 2012 with shorter research breaks as indicated below*)
- 2017 Invited visitor to the Mittag-Leffler Institute (Stockholm), for the Program on
Algebro-Geometric and Homotopical Methods (February 8-11)
- 2014-2016 Several shorter stays as visiting researcher, Uppsala University, Sweden
- 2014-2015 Postdoc, Institut des Hautes Études Scientifiques, Bures-sur-Yvette, France
(6 months)
- 2013 Visiting researcher, Max Planck Institute for Mathematics, Bonn, Germany
(1 month)

- 2012-2013 Visiting researcher, University of Oslo (part-time position for 8 months, supported by the Royal Swedish Academy of Sciences)
- 2011 Postdoc, Institut des Hautes Études Scientifiques (Hodge Fellowship, 5 months)
- 2011 Visiting researcher, California Institute of Technology, Pasadena, USA (1 month)
- 2010-2011 Postdoc, Université Bordeaux 1, Bordeaux, France (10 months)
- 2007-2008 Marie Curie Early Stage Researcher, University of Cambridge, United Kingdom (as part of the PhD program, 13 months)
- 2006 Lecturer, University of Nairobi, Kenya (3 months)
- 2003 Summer internship, UNICEF, Nairobi, Kenya (1 month)

FELLOWSHIPS AND AWARDS

- 2011 Hodge Fellowship, Institut des Hautes Études Scientifiques
- 2010-current Fellow of the Cambridge Philosophical Society
- 2007 Marie Curie Fellowship within the EU Arithmetic Algebraic Geometry Research Training Network, University of Cambridge
- 2007-2010 Numerous scholarships for PhD studies, including major grants from the Royal Swedish Academy of Sciences, the Sixten Gemzeus Foundation, the Cambridge European Trusts, and the Johan and Jakob Söderberg Foundation
- 2001-2005 Numerous scholarships for undergraduate studies in Sweden and at EPFL (Switzerland), including the Oscar Ekman Foundation for Sweden Abroad, the KTH General Funds, Söderman's Extra, The C E Wikström Foundation, Ahlner's grant, Österby's grant, ERASMUS support, Sandviken foundation for excellence in studies at KTH, and The Swedish Association for Graduate Engineers
- 2000 Honourable mention at the IMO (International Mathematical Olympiad) in Daejeon, South Korea
- 1999 Contestant at the IMO in Bucharest, Romania

TALKS

- March 2017 Invited speaker at the 2nd Conference on Artificial Intelligence and Theorem Proving, Obergurgl, Austria.
Talk: *Zeta types and Tannakian symbols*
- July 2016 Speaker at the Conference for Intelligent Computer Mathematics.
Talk: *Towards automated conjecture-making in higher arithmetic geometry*
- June 2016 Speaker at the Representation Theory 2016 Conference in Uppsala, Sweden
Talk: *Motivic representation rings*
- 2006-current Numerous talks given at research seminars around the world, most recently at the University of Regensburg, at the Transpennine Topology Triangle day (organised by the universities of Sheffield, Manchester and Leicester), and at the Royal Institute of Technology, Stockholm

TEACHING ACTIVITIES

- 2016 Mentor of high-school students Ane Espeseth and Torstein Vik, who won 1st prize both in the Norwegian Contest for Young Scientists and in the European Contest for Young Scientists (EUCYS 2016)
- 2012-current Teaching at Fagerlia Upper Secondary School, Ålesund, Norway, in regular mathematics courses from Year 1 to Year 3, and also in various enrichment programs on subjects ranging from general problem-solving techniques to abstract algebra and zeta functions
- 2013-2014 Teacher at the Norwegian Virtual School of Mathematics, an national online program for talented 15-year-old students
- 2012 Informal supervisor, Bachelor's thesis of Magnus Carlson:
The étale homotopy type and hints of a generalization
Stockholm University
- 2007-2010 Undergraduate small-group tutorials at University of Cambridge on Riemann surfaces, Groups, rings and modules, Number theory, and Algebraic geometry
- 2006 Lecturer in Introduction to abstract algebra and in Linear algebra, University of Nairobi, Kenya

OTHER RESPONSIBILITIES

- 2014 External examiner, Master's thesis of Therese Hagdal:
Pursuing a polynomial invariant of 2-knots
Norwegian University of Science and Technology (NTNU), Norway
- 2014-current Reviewer for Zentrablatt MATH
- 2014 Consulted by the Norwegian government in connection with their development of a new STEM education strategy
- 2007 Initiated and organised a graduate student conference on homotopy theory in Cambridge, with 30 participants from more than 10 different countries

MEMBERSHIPS OF SCIENTIFIC SOCIETIES

Member of the American Mathematical Society
Member of the London Mathematical Society
Fellow of the Cambridge Philosophical Society

PUBLICATIONS

- [1] Arakelov motivic cohomology and zeta values. In *Motives and Homotopy Theory of Schemes. Abstracts from the workshop held 16-22 May, 2009*. Oberwolfach Reports 7, Issue 2 (2010).
- [2] Arakelov motivic cohomology I (joint with Jakob Scholbach). *Journal of Algebraic Geometry* 24, 719-754 (2015).
- [3] Towards automated conjecture-making in higher arithmetic geometry. *CEUR Workshop Proceedings*, Volume 1785, pp. 204--218 (2016).
- [4] Zeta types and Tannakian symbols as a method for representing mathematical knowledge (joint with Torstein Vik). Submitted to the proceedings of the Conference on Intelligent Computer Mathematics 2017 (in Springer Lecture Notes on Artificial Intelligence).
- [5] New perspectives on multiplicative functions: Lambda-rings and Tannakian symbols (joint with Ane Espeseth and Torstein Vik). In preparation; draft available on request.