

## Kirsti D. Biggs

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CONTACT INFORMATION	Department of Mathematical Sciences, Chalmers and University of Gothenburg, Sweden. <a href="http://www.math.chalmers.se/~biggs/">http://www.math.chalmers.se/~biggs/</a>	biggs@chalmers.se
RESEARCH INTERESTS	Analytic number theory and arithmetic harmonic analysis, specifically using the Hardy–Littlewood circle method and efficient congruencing to count solutions to Diophantine equations. My recent focus has been on sparse subsets of the natural numbers, such as those with digital restrictions, known as ellipsephic sets. Also interested in applying such techniques to related problems in additive combinatorics.	
EDUCATION AND EMPLOYMENT	Guest Teacher, University of Gothenburg / Chalmers	Jan–Jul 2022
	Postdoctoral Researcher, University of Gothenburg / Chalmers	Jan 2020–2022
	Heilbronn Research Fellow, University of Bristol	Oct–Dec 2019
	PhD in Mathematics, University of Bristol <i>On additive problems involving shifted integers and ellipsephic sets</i> Supervisor: Trevor D. Wooley	2015–2019
	Auditor, PwC and Manchester Growth Company—ACA-qualified	2011–2015
	MMath in Mathematics, University of Oxford—First Class Honours	2007–2011
AWARDS AND PRIZES	Heilbronn Focused Research Workshop Grant (£7,500)	Oct 2018
	EPSRC Doctoral Training Partnership	2015–2019
	Two ICAEW prizes and International Order of Merit	2012–2013
	Magdalen College Demyship, Years 2, 3 and 4	2008–2010
PREPRINTS AND PUBLICATIONS	Efficient congruencing in ellipsephic sets: the general case, submitted, arXiv: 1912.04351	
	Efficient congruencing in ellipsephic sets: the quadratic case, <i>Acta Arith.</i> <b>200</b> (2021), no. 4, 331–348	
	Almost equal summands in Waring’s problem with shifts, <i>Monatsh. Math.</i> <b>188</b> (2019), no. 1, 31–35	
	On the asymptotic formula in Waring’s problem with shifts, <i>J. Number Theory</i> <b>189</b> (2018), 353–379	
	Lower bounds for heights in relative Galois extensions, (with S. Akhtari, K. Aktaş, A. Hamieh, K. Petersen, L. Thompson), in <i>WINE II: Contributions to Number Theory and Arithmetic Geometry</i> (2018)	
TEACHING EXPERIENCE	Applied Mathematical Statistics—undergraduate course (in Swedish)	Nov 2021
	The Hardy–Littlewood Circle Method—graduate course	Nov–Dec 2020
	Teaching assistant at CMI-LMS Research School, Exeter	Aug 2018
	Substitute lecturer for 3rd year Number Theory (two lectures)	Apr 2018
	Teaching Support Assistant—Foundations & Proof, Analysis, Group Theory	2015–2016

WORKSHOPS AND VISITS	Arithmetic and Harmonic Analysis, Institut Mittag-Leffler (Zoom)	June 2021	
	Hausdorff School on The Circle Method (Zoom)	May 2021	
	Arithmetic Statistics, Discrete Restriction, and Fourier Analysis, AIM (Zoom)	Feb 2021	
	Analytic Number Theory, Oberwolfach	Nov 2019	
	Summer Research for Women in Mathematics, MSRI	July–Aug 2019	
	Efficient Congruencing and Decoupling, Bristol	June 2019	
	Height Functions and Lehmer-type Problems, Bristol	Oct 2018	
	New Developments on Oscillatory Integrals, Rhode Island	June 2018	
	Arbeitsgemeinschaft in Additive Combinatorics, Entropy, and Fractal Geometry, Oberwolfach	Oct 2017	
	Thematic Program on Unlikely Intersections, Heights, and Efficient Congruencing, Fields Institute, Toronto	Feb–Mar 2017	
	Arbeitsgemeinschaft in Diophantine Approximation, Fractal Geometry and Dynamics, Oberwolfach	Oct 2016	
	Women in Numbers Europe II, Leiden	Sept 2016	
	INVITED TALKS	Number theory seminar, Kansas State University (Zoom) “Ellipsephic efficient congruencing for the Vinogradov system”	Nov 2021
		Arithmetic and Harmonic Analysis, Institut Mittag-Leffler (Zoom) “Ellipsephic efficient congruencing for the Vinogradov system”	June 2021
Northern Number Theory Seminar, UK (Zoom) “Ellipsephic efficient congruencing for the Vinogradov system”		May 2021	
Hausdorff School on The Circle Method (Zoom) “Ellipsephic applications of the circle method”		May 2021	
PANTHA seminar, Purdue University (Zoom) “Ellipsephic efficient congruencing for the Vinogradov system”		Apr 2021	
Number theory seminar, University of Warwick (Zoom) “Ellipsephic efficient congruencing for the Vinogradov system”		Mar 2021	
Linfoot number theory seminar, University of Bristol (Zoom) “Ellipsephic efficient congruencing for the Vinogradov system”		Mar 2021	
Arithmetic Statistics, Discrete Restriction, and Fourier Analysis, AIM (Zoom) “Ellipsephic efficient congruencing”		Feb 2021	
N-cubed Days XIII, Copenhagen (Zoom) “Efficient congruencing in ellipsephic sets”		Nov 2020	
Analysis and PDE seminar, UCLA (Zoom) “Ellipsephic efficient congruencing for the moment curve”		May 2020	
Efficient Congruencing and Decoupling Focused Research Workshop “Efficient congruencing in ellipsephic sets”		June 2019	
Number theory seminar, University of Warwick “Heights of algebraic numbers and Lehmer’s conjecture”		May 2019	
Joint Mathematics Meetings, Baltimore—Invited Paper Session “Efficient congruencing in ellipsephic sets”		Jan 2019	
CMS Winter Meeting, Vancouver—Special Session “Efficient congruencing in ellipsephic sets”		Dec 2018	

	Linfoot number theory seminar, University of Bristol “Efficient congruencing in ellipseptic sets”	May 2018
	BOWL 1-day meeting in Additive Combinatorics, Warwick “Waring’s problem with shifts”	Sept 2017
	Number theory seminar, University of Manchester “Waring’s problem with shifts”	Mar 2017
SELECTED OTHER TALKS	Discrete Analysis Working Group (Zoom) “Ellipseptic efficient congruencing (parts 1–4)”	Sept 2020
	Canadian Number Theory Association XV, Québec “Efficient congruencing in ellipseptic sets”	July 2018
	Postgraduate Two-Minute Talks, University of Bristol “Treasure Hunting in Bedford County”—Best Presented Talk	May 2018
	Where Geometry meets Number Theory, Gothenburg “Waring’s problem with shifts”	July 2017
	XXX <sup>th</sup> Journées Arithmétiques, Caen “Waring’s problem with shifts”	July 2017
OTHER ACTIVITIES	Organiser (with K. Hughes), Discrete Analysis Working Group	Sept 2020–present
	Reviewer, Mathematical Reviews	2018–present
	Organiser, Linfoot number theory seminar, Bristol	Oct–Dec 2019
	Event Manager, Pint of Science 2017	May 2017
	Organiser, MINGLE 2016 postgraduate student conference	Sept 2016
LANGUAGES	English—native speaker	
	Swedish—strong intermediate level	