Curriculum Vitae

Harald Andrés HELFGOTT

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Personal data

Name:	Harald Andrés HELFGOTT
Date/place of birth:	November 25, 1977 in Lima, Peru
Degrees/certificates:	PhD in Mathematics, Princeton, 2003
	Habilitation (HDR), Paris-Sud (Orsay), 2011
Citizenship:	Peruvian, French

Education

1998–2003 PhD student at Princeton University. Advisors: H. Iwaniec and P. Sarnak. Thesis jury: H. Iwaniec, N. Katz, P. Sarnak, A. Wiles. Thesis title:

Root numbers and the parity problem

1994–1998 Undergraduate student at Brandeis University. Graduated summa cum laude, with highest honours in mathematics and computer science.

Professional activity

2014–	Directeur de Recherche 2ème classe (Senior Researcher, 2nd class) CNRS, Université de Paris VI/VII (on leave)
2015–2022	Alexander von Humboldt Professor, Georg-August Universität Göttingen
2010–2014	Chargé de Recherche 1ère classe, CNRS, École Normale Supérieure
2009–2011	Reader, University of Bristol (on leave 2010–2011)
2006–2009	Lecturer, then Senior Lecturer (2008–2009), University of Bristol
2004–2006	Post-doctoral fellow, CRM-ISM-Université de Montréal
2003–2004	Gibbs Assistant Professor (post-doctoral position), Yale University
1998–2003	Research and Teaching Assistant, Princeton University
1995–1997	Undergraduate teaching assistant, Brandeis University

Invited professor at Universidad Autónoma de Madrid (Oct-Nov 2012) and Saint Petersburg State University (Sep-Dec 2014). Invited researcher at IMPA (Rio) (Feb 2007, Jul-Sep 2015), IAS (Princeton) (Sept-Dec 2007), MSRI (Berkeley) (Sept-Dec 2008, Feb 2017), EPFL (Lausanne) (Apr 2009, Jan-Feb 2011, Oct 2015), Hausdorff Center (Bonn) (Oct 2018, May 2021) and Max Planck Institute (Bonn) (Feb-Apr 2020).

Research subjects

Analytic number theory, asymptotic group theory, additive combinatorics, Diophantine geometry, probabilistic number theory.

Prizes and recognition

2021	Member of the Göttingen Academy of Sciences
2019	Fellow of the American Mathematical Society
2018	Honorary member of the Société Philomatique de Paris
2016	Doctor honoris causa (Universidad Nacional de Córdoba, Argentina)
2015	Alexander von Humboldt Professorship (Humboldt Foundation)
2014	Gabriel Lamé Chair (France/Russia: Saint Petersburg State University)
2014	Invited Speaker at ICM 2014 (Korea)
2013	Honorary Professor (Universidad Nacional Mayor de San Marcos, Lima, Peru)
	Corresponding member of the Peruvian Academy of Sciences
2011	Adams Prize (Cambridge University)
2010	Whitehead Prize (London Mathematical Society)
2008	Philip Leverhulme Prize

Academic responsibilities

2020–23	Member of the administrative council of the French Mathematical Society
2017/19	Member of hiring committees at Göttingen
2016–	Member of the editorial board at *Journal of Combinatorial Algebra*
2016	Member of a French higher-education evaluation committee (HCERES)
2015	Member of a hiring committee at St. Étienne
2013–	Member of the editorial board at *Revista Matemática Iberoamericana*
2012–	Founder and organizer of a series of winter schools in Latin America (AGRA)
2012/13	Directed the student seminar on analytic number theory at ENS
2008/09	Coorganised working groups on number theory and ergodic theory at Bristol
2005	Organised an additive-combinatorics working group at Montréal
2005/06	Coorganised an analytic number theory working group at Montréal
2004/05	Organised the number-theory seminar at Yale University

Member of doctoral, habilitation and hiring committees in France and Germany. External reader of a doctoral thesis at UBA (Argentina). External research evaluator for PUCP (Perú). Referee for several mathematical journals (including *Ann. of Math.* and *Invent. Math.*), for *Engineering and Physical Sciences Research Council (EPSRC)* (project evaluation) and for *Mathematical reviews*.

Supervision of graduate students and post-docs

2021	Priyamvad Srivastav (postdoc), Göttingen
2019	Antoine Commaret (*élève de l'ENS*, visiting master's student)
2018–	Subham Bhakta (doctoral student), Göttingen
2018–	Lifan Guan, Zhipeng Lu, Xianchang Meng (postdocs), Göttingen
2018–	Farzad Aryan (postdoc), Göttingen
2017–2018	Sneha Chaubey (postdoc), Göttingen
2017–	Vladimir Finkelshtein (postdoc), Göttingen
2017–2021	Katharina Müller (PhD student, joint with P. Mihailescu), Göttingen
2016–2020	Henry Bradford and Jitendra Bajpai (postdocs), Göttingen
	Daniele Dona (doctoral student), Göttingen
2016–2017	Renan Henrique Finder (postdoc), Göttingen
2015–	Sebastian Zúñiga (doctoral student), Paris VII and Göttingen
2013–2017	Alisa Sedunova (doctoral student), Paris-Sud (Orsay) and Göttingen
2012–2014	Pablo Candela (postdoc), Paris (FSM/ENS)
2010–2014	Supervision of master's level students, École Normale Supérieure, Paris
2006–2010	Nick Gill (postdoc), Dave Mendes da Costa (doctoral student), U. of Bristol, UK

I have advised undergraduates on independent study, research projects and bachelor theses since 2004.

Grants

2015–2022	Humboldt Professorship, Principal Investigator
2015–2021	ERC Consolidator Grant (project GRANT), Principal Investigator
2012–2015	Part of ANR project CAESAR
2007–2010	Advanced Research Fellowship (EPSRC), Principal Investigator

Conference organization

2021–22	AGRA 2021 (Aritmética, grupos y análisis), winter school, Cabo Frio, Brazil. Coorganisers (scientific committee): M. Belolipetsky, E. Carneiro, M. Lalín, F. Rodriguez-Villegas, . . . (Virtual school in 2021; conventional school in 2022.)
2019	Growth in finite and infinite groups, Oberwolfach seminar. Coorganizers: L. Bartholdi, M. Tointon.
2019	Summer school: L^2 torsion and symmetric spaces, Göttingen. Coorganizers: J. Bajpai, Th. Schick, E. Suchla.
2019	Number Theory in the Americas, workshop, BIRS-Oaxaca, Méxique. Coorganizers: M. Garaev, L. Thompson.
2018	Problem-solving workshop à la Villa Finaly (Université de Paris), Florence. Coorganizer: L. Bartholdi.
2018	AGRA 2018 (Aritmética, grupos y análisis), winter school, Córdoba, Argentina. Coorganisers (scientific committee): Michael Harris, Roberto Miatello,. . . .
2015	AGRA 2015 (Aritmética, grupos y análisis), winter school, Cusco, Peru. Coorganisers (scientific committee): G. Tornaría, C. G. Moreira.
2015	Growth, symbolic dynamics and combinatorics of words in groups, conférence, ENS, Paris, France. Coorganisers: A. Erschler, K. Juschenko.
2014	Arithmetic and allied subjects on the banks of the Neva, Saint-Petersburg, Russia. Coorganiser (scientific committee): K. Juschenko.
2012	AGRA (Aritmética, grupos y análisis), summer school, Santiago, Chili. Coorganisers: A. Navas, C. G. Moreira.
2010	AQUA (Analytic questions in arithmetic), summer school, Tata Institute, Mumbai, Inde. Coorganisers: A. Gorodnik, J. Sengupta.

Courses taught

Oct 2020 – Feb 2021	Analytic number theory*	postgraduate	Göttingen
Apr 2020 – July 2020	Analytic number theory*	postgraduate	Göttingen
Oct 2019 – Feb 2020	Analytic number theory*	postgraduate	Göttingen
Apr 2019 – July 2019	Analytic number theory*	postgraduate	Göttingen
Oct 2018 – Feb 2019	Number theory and group theory*	postgraduate	Göttingen
Feb 2018 – Jul 2018	Number theory and related topics*	postgraduate	Göttingen
Oct 2017 – Feb 2018	Analytic number theory*	postgraduate	Göttingen
Apr 2017 – Jul 2017	Analytic number theory*	postgraduate	Göttingen
Oct 2016 – Feb 2017	The graph isomorphism problem	postgraduate	Göttingen
Apr 2016 – Jul 2016	The parity problem in number theory	postgraduate	Göttingen
Oct 2015 – Feb 2016	Growth and expasion in groups	postgraduate	Göttingen
Sept–Nov 2014	Анализ и теория чисел	postgraduate	Saint-Petersburg
Oct–Dec 2013	Théorie analytique des nombres*	masters	ENS
Oct–Nov 2012	Teoría de grupos	postgraduate	UAM (Madrid)
Feb 2012	Leçons d'arithmétique	masters	ENS
Nov–Dec 2009	Galois theory	undergraduate	Bristol
Aug–Dec 2006	Group theory	undergraduate	Bristol
Aug–Dec 2005	Ordinary differential equations	undergraduate	Concordia
Aug–Dec 2004	Ordinary differential equations	undergraduate	Concordia
Jan–May 2004	Arithmetic	postgraduate	Yale
Aug–Dec 2003	Introduction to number theory	undergraduate	Yale
Aug–Dec 2003	Multivariable calculus	undergraduate	Yale
Jan–May 2003	Multivariable calculus	undergraduate	Princeton

guided seminars, with some lectures given by myself and some given under my supervision.

Extracurricular/intensive courses taught

Oct 2019	Growth and expansion in algebraic groups	Oberwolfach (Germany)
Aug 2018	Primos, paridad y análisis (with Adrián Ubis)	AGRA (Córdoba, Argentina)
Aug 2017	El problema del isomorfismo de gráfos	IMCA (Lima, Peru)
Sep 2016	El crecimiento en los grupos	USFQ (Quito, Ecuador)
Mar 2016	Growth and expansion in groups of Lie type	AWS (U of Arizona, Tucson)
Aug 2015	Crecimiento y expansión en SL_2	UNSAAC (Cusco, Peru)
Jul 2014	Growth in groups and applications	IHÉS (Bures-sur-Yvette)
Apr 2012	Crecimiento y diámetro en los grupos finitos	USACH (Santiago, Chili)
Mar 2012	Teoría analítica de números	IMCA (Lima, Peru)
Jan 2011	La croissance dans les groupes	EPFL (Lausanne, Suisse)
Oct 2010	Ideas analíticas en la teoría de números	UNMSM (Lima, Peru)
Sep 2010	Ideas analíticas en la teoría de números	UMSA (La Paz, Bolivia)
Aug 2010	Growth in linear algebraic groups	TIFR (Mumbai, India)
Mar–Apr 2008	A brief course in arithmetic combinatorics	IMSc (Chennai, India)
Sep 2007	Azar y aritmética. Combinatoria aditiva	U. de Huamanga (Peru)
Summer 2007	Azar y aritmética	UNMSM (Lima, Peru)
Feb 2007	Probabilidades e Teoria dos Números	IMPA (Brazil)
Jun 2005	Normas, desigualdades y dualidad	U. de la Habana (Cuba)
Mar 2004	Ideas geométricas en la teoría de números	IMCA (Lima, Peru)

Plenary talks and other selected lectures

1/2020	Primzahlen und Parität, Felix Hausdorff memorial public lecture, Alfried Krupp Wissenschaftskollegs Greifswald
10/2018	Growth and expansion in groups of Lie type, Hausdorff Institute for Mathematics (HIM), Bonn, Germany. Series of three talks.
9/2017	Voronoi, Sierpiński, Eratosthenes, plenary speaker, Number Theory Week, Poznan University, Poland.
8/2017	The diameter of the symmetric group: ideas and tools, One-hour talk (semiplenary), Groups St Andrews, Birmingham, UK.
7/2017	Voronoi, Sierpinski, Eratosthenes, Semi-plenary lecture, Mathematical Congress of the Americas, Montréal, Canada.
3/2017	The ternary Goldbach problem revisited, Turán memorial lectures, Rényi Institute, Budapest, Hungary. Series of three talks.
1/2017	Isomorphismes de graphes en temps quasi-polynomial (d'après Babai et Luks, Weisfeiler-Leman. . .), Séminaire Bourbaki, Institut Henri Poincaré, Paris.
8/2016	The diameter of the symmetric group: ideals and tools, 24th Brazilian Algebra Meeting, Diamantina, Minas Gerais, Brasil.
4/2016	The ternary Goldbach problem, Vojtěch Jarník International Mathematical Competition, University of Ostrava, Czech Republic.
10/2015	The ternary Goldbach problem, Oberwolfach Lecture 2015, annual meeting of the GMF, Oberwolfach, Germany.
7/2015	The ternary Goldbach problem, plenary lecture, Journées Arithmétiques 2015, University of Debrecen, Hungary.
8/2014	The ternary Goldbach problem, **invited speaker**, ICM 2014, Seoul, Korea.
8/2014	The ternary Goldbach problem, plenary talk, Eleventh Algorithmic Number Theory Symposium ANTS-XI, GyeongJu, Korea.
6/2014	Conjecture de Goldbach, Colloque Jeunes Chercheurs, Université de Bordeaux 1. Series of three plenary talks.
5/2014	The ternary Goldbach problem, CANT (Combinatorial and Analytic Number Theory) 2014, New York, USA. Series of four plenary talks.
4/2014	The ternary Goldbach conjecture, British Mathematical Colloquium 2014, Queen Mary University London. Morning talk.
5/2013	The ternary Goldbach conjecture, Mathematische Arbeitstagung 2013, Max Planck Institute for Mathematics, Bonn, Germany.
1/2011	Growth and expansion in groups, Group Actions in Analytic Number Theory, Lausanne, Switzerland. Three talks.
4/2010	Growth in linear algebraic groups, Analytic Number Theory, Göttingen, Germany. Series of three plenary talks.

Invited participant at the panel on *Machine-assisted proofs* at ICM 2018.

Online seminars during the COVID-19 pandemic

1/2021	Expander graphs in number theory: the prime divisibility graph, Berlin Mathematical School, MATH+ Friday Colloquium, Berlin.
10/2020	Los grafos expansores y el problema de paridad, Seminario latinoamericano de teoría de números (LATeN).
9/2020	Expansion in a prime divisibility graph, Combinatoire additive, CIRM, Luminy.
9/2020	Expansion in a prime divisibility graph, Combinatoire additive à Marseille 2020, CIRM, Luminy.
6/2020	Optimality of the logarithmic upper-bound sieve, with explicit estimates, Number Theory Web Seminar.
6/2020	Optimality of the logarithmic upper-bound sieve, with explicit estimates, CANT 2020 (Combinatorial and Analytic Number Theory).
5/2020	Optimality of the logarithmic upper-bound sieve, with explicit estimates, Number Theory under Lockdown.

Also 4 local seminars (ENS, New York, Göttingen, Kansas State) held online.

Other talks at conferences and colloquia

2016–19

3/2020	Talk at Interactions between group theory, number theory, combinatorics and geometry, Newton Institute (Cambridge), cancelled due to the pandemic.
8/2019	Cómo sumar $\mu(n)$: un mejor algoritmo elemental, XXIII Coloquio Latinoamericano de Algebra, México DF, Mexico.
8/2019	Paridad y decomposición, Universidad de Costa Rica, Turrialba, Costa Rica.
4/2019	Sumar la funcion de Möbius: un mejor algoritmo elemental, Conferencia de Matemáticos Ecuatorianos en Paris, Institut Henri Poincaré, Paris.
11/2018	Problems in growth in permutation groups and linear algebraic groups, plusieurs exposés, Problem-solving in Florence, Villa Finaly, Florence, Italy.
10/2018	Growth in permutation groups and linear algebraic groups, Logic and algorithms in group theory: international conference, Hausdorff Institute, Bonn, Germany.
9/2018	Growth in permutation groups and linear algebraic groups, SMS-DMV workshop on groups and dynamics : spectra and L^2 invariants, Université de Genève, Syitzerland.
9/2018	Summing $\mu(n)$: a better elementary algorithm, Elementare und Analytische Zahlentheorie, Max Planck Institute for Mathematics, Bonn, Germany.
8/2018	Growth in permutation groups and linear algebraic groups, Algebras, representations and applications, ICM 2018 satellite conference, Cusco, Peru.
6/2018	The natural quadratic sieve, Journée nancéienne de théorie des nombres, combinatoire additive et analyse de Fourier, Université de Lorraine, Nancy.
3/2018	Voronoi, Sierpinski, Eratosthenes, Mathematics Colloquium, University of Georgia, Athens, Georgia, USA.
3/2018	Voronoi, Sierpinski, Eratosthenes, Mathematics Colloquium, Oberlin College, Ohio, USA.
12/2017	Voronoi and Eratosthenes: sieves and the divisor problem, Mathematical Colloquium, University of Jena, Germany.
10/2017	El problema de los grafos isomorfos: el algoritmo de Babai, SINAPSIS, Berlin, Germany.
9/2017	The natural quadratic sieve, The music of the numbers – in honor of Cilleruelo, Universidad Autónoma de Madrid, Spain.
7/2017	Voronoi, Sierpinski, Eratosthenes, Vilnius Conference in Combinatorics and Number Theory, Vilnius, Lithuania.
5/2017	The diameter of the symmetric group: ideas and tools, Approximation, deformation, quasification, Newton Institute, Cambridge, UK.
12/2016	The diameter of the symmetric group: ideas and tools, Ergodic theory and its connections with arithmetic and combinatorics, CIRM, Luminy, France.
7/2016	La criba de Eratóstenes en menos espacio, XXI Coloquio Latinoamericano de Álgebra, Buenos Aires, Argentina.
7/2016	Eratóstenes en menos espacio, SINAPSIS, Paris, France.
4/2016	Soficity, short cycles and the Higman group, Additive Combinatorics in Bordeaux, Institut de Mathématiques de Bordeaux, France.
3/2016	The ternary Goldbach problem, Colloquium, Northwestern University, USA.
3/2016	Crecimiento y expansión en grupos lineales: un enfoque desde las álgebras de Lie, Humboldt Kolleg Colloquium on Algebras and Representations, Universidad Nacional de Córdoba, Argentina.
2/2016	La conjetura ternaria de Goldbach, public lecture at the Universidad Nacional de Córdoba, Argentina.
2/2016	Soficity, recurrence and short cycles of exponential maps, Measured Group Theory, Erwin Schrödinger Institute, Vienna.

Other talks and conferences and colloquia (cont.)

2014–15

12/2015	The ternary Goldbach conjecture, N^3 days III, Chalmers University of Technology, Göteborg, Sweden.
10/2015	The diameter of the symmetric group: ideas and tools, Groups, graphs, action!, Université de Neuchâtel, Switzerland.
10/2015	Soficity, recurrence and short cycles of exponential maps, Conference on statistical physics on transitive graphs, Centre Bernoulli, EPFL, Lausanne, Switzerland.
9/2015	The ternary Goldbach conjecture, Colloque de Mathématiques, Université de Genève, Switzerland.
9/2015	Growth in groups: probabilistic methods, deterministic results. Bernoulli Lecture, Centre Bernoulli, EPFL, Lausanne, Switzerland.
8/2015	Soficity, recurrence and short cycles of exponential maps, IMPA, Rio de Janeiro, Brazil.
5/2015	The ternary Goldbach conjecture, Atkin Memorial Workshop, University of Illinois at Chicago, USA.
4/2015	The ternary Goldbach conjecture, Colloquium, U. Clermont-Ferrand, France.
2/2015	The ternary Goldbach conjecture, BMS Days, Berlin, Germany.
1/2015	The ternary Goldbach conjecture, Mathematical Colloquium, Heidelberg University, Germany.
1/2015	The ternary Goldbach conjecture, Mathematical Colloquium, Darmstadt Technical University, Germany.
12/2014	The ternary Goldbach conjecture, 93rd Mathematical Colloquium, Charles University, Prague, Czech Republic.
12/2014	La conjetura ternaria de Goldbach, XX Coloquio Latinoamericano de Álgebra, Lima, Peru.
12/2014	The ternary Goldbach conjecture, Conference Zeta functions 5 (aussi dans le séminaire Globus), Université Indépendante de Moscou, Russie.
11/2014	Soficity, recurrence and short cycles of exponential maps, Arithmetic and allied subjects on the bank of the Neva, Euler International Mathematical Institute, St. Pétersbourg, Russie.
11/2014	The ternary Goldbach conjecture, Colloquium, Université de Vienne, Autriche.
10/2014	The ternary Goldbach problem, Clay Workshop in Analytic Number Theory, Oxford, Royaume-Uni.
9/2014	The ternary Goldbach problem, Colloquium, Chebyshev Laboratory, Université d'État de Saint-Pétersbourg, Russie.
7/2014	The ternary Goldbach problem, First Joint International Meeting RSME-SCM-SEMA-SIMAI-UMI, Bilbao, Espagne.
6/2014	Growth in groups: ideas and perspectives, Mathematics Colloquium, Göttingen, Allemagne.
6/2014	Die schwache Goldbachsche Vermutung, Marburg-Gießen Kolloquium, Marburg, Allemagne.
5/2014	Random generators of the symmetric group: diameter, mixing time and spectral gap, Workshop: Finding Algebraic Structures in Extremal Combinatorial Configurations, IPAM, UCLA, États-Unis.
5/2014	Growth in groups: ideas and perspectives, MSRI, Berkeley, États-Unis.
5/2014	The ternary Goldbach conjecture, Helvetic Algebraic Geometry, Château Mercier, Sierre, Suisse.
2/2014	La conjetura débil de Goldbach, ICMAT, Madrid, Espagne.
2/2014	The ternary Goldbach problem, Automorphic forms and arithmetic, Göttingen, Allemagne.

Other talks at conferences and colloquia (cont.)

2009–13

10/2013	The ternary Goldbach problem, Analytic number theory, MFO (Mathematisches Forschungsinstitut Oberwolfach), Oberwolfach, Germany.
08/2013	The ternary Goldbach problem, Workshop on Combinatorics, Number Theorys and Dynamical Systems, IMPA, Rio de Janeiro, Brazil.
06/2013	La conjecture ternaire de Goldbach, Etienne Fouvry 60th birthday conference, CIRM, Luminy, France.
11/2012	Towards the ternary Goldbach conjecture, Conference on Zeta functions, Moscow Independent University.
11/2012	Hacia la conjetura ternaria de Goldbach, Coloquio de matématicas, Universidad Autónoma de Madrid, Spain.
10/2012	Higher-dimensional sieves, Arithmetic Geometry, Centro di Ricerca Matematica Ennio de Giorgi, Scuola Normale Superiore, Pisa, Italy.
7/2012	On the diameter of permutation groups, Additive Combinatorics in Paris, Institut Henri Poincaré, Paris.
6/2012	Minor arcs for Goldbach's problem, Analytic methods for diophantine problems, Mathematisches Institut, Göttingen, Germany.
6/2012	Minor arcs for Goldbach's problem, Annual Meeting of the Canadian Number Theory Association, Lethbridge, AB, Canada.
3/2012	The diameter of permutation groups, International Number Theory Conference in Memory of Alf van der Poorten, Newcastle, Australia.
12/2011	Growth in permutation groups, International Meeting on Number Theory, Harish-Chandra Research Institute, Allahabad, India.
6/2011	Growth in groups: an overview, Young workshop in arithmetics and combinatorics, Madrid, Spain.
5/2011	Growth in solvable groups, Resonances in mathematical physics, Peyresq, France.
3/2011	Finding primes deterministically, Discrete analysis, Newton Inst., Cambridge, UK.
3/2011	Finding primes deterministically, Colloquium, Durham University, UK.
2/2011	Growth in solvable groups, Group Actions in Analytic Number Theory, Lausanne, Switzerland.
12/2010	Comment améliorer le théorème de Roth sur les nombres premiers, Arithmétique Lille-Litoral 2010, Lille, France.
8/2010	Improving Roth's theorem in the primes, ICM-Zeta satellite conference, IMSc, Chennai, Inde.
6/2010	Growth in solvable groups, Conference on Zeta functions, Université Indépendante de Moscou, Russie.
5/2010	Growth and expansion : an overview, Expansion in Groups, Imperial College, Londres, Royaume-Uni.
4/2010	Growth in finite simple groups, Number theory days, ETHZ, Zurich, Suisse.
3/2010	Growth in simple groups of Lie type, Conference in honor of Laci Babai's 60th Birthday, OSU, Columbus, Ohio, États-Unis.
3/2010	Growth in simple groups of Lie type, Workshop on graphs and arithmetic, CRM, Montréal, QC, Canada.
11/2009	Growth of small subsets in $SL_n(\mathbb{F}_p)$, Géométrie, dynamique et représentations des groupes, CIRM, Luminy, France.
7/2009	Exponential sums and the large sieve, Activités analytiques et additives à Lille, U. de Lille 1, France.

Other talks at conferences and colloquia (cont.)

2000-08

11/2008	Growth in $SL_3(\mathbb{F}_p)$, Discrete rigidity phenomena in additive combinatorics, MSRI, Berkeley, CA, USA.
4/2008	Growth in $SL_3(\mathbb{F}_p)$, Groups and geometries, Oberwolfach, Germany.
4/2008	Growth in $SL_3(\mathbb{F}_p)$, Clay-Fields conference on additive combinatorics, number theory and harmonic analysis, Fields Institute, Toronto, ON, Canada.
4/2008	Growth in $SL_3(\mathbb{F}_p)$, Analytic number theory, Oberwolfach, Germany
2/2008	Growth in linear algebraic groups: an approach via incidence, Expanders in pure and applied mathematics, IPAM, UCLA, Los Angeles, CA, USA.
7/2007	$p^3 + 2$ is square-free infinitely often, Diophantine equations via /analytic number theory, University of Bristol, UK.
5/2007	$p^3 + 2$ is square-free infinitely often, School and conference on analytic number theory, International Centre for Theoretical Physics, Trieste, Italy.
9/2006	$p^3 + 2$ is square-free infinitely often, India-UK number theory conference, Institute of Mathematical Sciences, Chennai (Madras), India.
4/2006	Growth and generation in $SL_2(\mathbb{Z}/p\mathbb{Z})$, Workshop on additive combinatorics, CRM (Centre de Recherches Mathématiques), Montréal, QC, Canada.
3/2006	Power-free values, points on curves, large deviations and modularity, Anatomy of Integers, CRM (Centre de Recherches Mathématiques), Montréal, QC, Canada.
12/2005	Larger and better sieves?, Workshop on gaps between primes, AIM, Palo Alto, CA, USA.
11/2005	Growth and generation in $SL_2(\mathbb{Z}/p\mathbb{Z})$, Workshop on Lie groups, representations and discrete mathematics, Institute for Advanced Studies, Princeton, NJ, USA.
10/2005	Growth and generation in $SL_2(\mathbb{Z}/p\mathbb{Z})$, Colloque en l'honneur d'Henryk Iwaniec, Bordeaux, France.
7/2005	Growth and generation in $SL_2(\mathbb{Z}/p\mathbb{Z})$, Journées arithmétiques, Marseille, France.
6/2005	Growth and generation in $SL_2(\mathbb{Z}/p\mathbb{Z})$, Canadian Mathematical Society summer meeting, Waterloo, ON, Canada.
5/2005	Growth and generation in $SL_2(\mathbb{Z}/p\mathbb{Z})$, Conférence en théorie analytique des nombres, Université Laval, QC, Canada.
4/2005	Growth and generation in $SL_2(\mathbb{Z}/p\mathbb{Z})$, Conference in Honor of Paul Monsky, Brandeis, Waltham, MA, USA.
12/2004	Power-free values of polynomials with prime arguments, CMS winter meeting, Montréal, QC, Canada.
11/2004	Power-free values of polynomials and integer points on irrational curves, Diophantine approximation and analytic number theory, Banff International Research Station, Banff, AB, Canada.
4/2004	Integral points on elliptic curves and 3-torsion in class groups, AMS sectional meeting, Lawrenceville, NJ, USA.
4/2004	On the behavior of root numbers in families of elliptic curves, Atelier sur la théorie spectrale et les formes automorphes, Montréal, QC, Canada.
12/2003	Elliptic curves, square-free numbers and class groups, Brandeis-Harvard-MIT-Northeastern joint mathematics colloquium, Brandeis U., Waltham, MA, USA.
5/2003	Root numbers, the square-free sieve and elliptic curves, Workshop on automorphic L-functions, Fields Institute, Toronto, ON, Canada.
6/2001	The average of the Moebius function on polynomials and the average root number of a family of elliptic curves, Premières journées du Nord sur les nombres premiers, Lille I, France.
5/2001	The average of μ on integers represented by a polynomial of degree greater than two and its relation to the average root number in families of elliptic curves, Seaway number theory conference, Carleton University, Ottawa, ON, Canada.
7/2000	Curvas elípticas y números primos, XX Coloquio de la Sociedad Matemática Peruana, Lima, Perú.

More than 71 invited talks at seminars. Some talks at learned societies.

Computing experience

Programming: C/C++, Python, Scheme.
Tools: SAGE, PARI, Gnuplot, LaTeX, various mathematical packages.
Usage of interval arithmetic and validated numerics.

Languages

Spanish:	Mother tongue. Used in professional contexts.
English, French, German:	Fluent. Used in professional contexts.
Esperanto:	Fluent.
Russian:	Intermediate. Used in professional contexts.
Classical Greek:	Intermediate.
Quechua, Polish, etc.:	Basic knowledge.