

Curriculum Vitae

Dimitrios Chatzakos

Personal Details

Date of birth: May 30th, 1988
Place of birth: Athens, Greece
Nationality: Greek
Family status: Married, two children

Contact Information

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Research Interests

Automorphic forms and functions, Analytic number theory, L -functions, Arithmetic quantum chaos, Spectral theory, Harmonic analysis, Hyperbolic manifolds, Lattice counting problems, Prime geodesic theorems

Academic positions

10/2021 – now Assistant Professor, Department of Mathematics, University of Patras, Greece
10/2019 – 09/2021 Postdoctoral fellow, IdEx Université de Bordeaux, France
10/2017 – 09/2019 Postdoctoral fellow, CEMPI, Lille and Université de Lille, France
04/2017 – 07/2017 Research visitor, Department of Mathematics, King's College London, UK
10/2016 – 03/2017 Research visitor, School of Mathematics, University of Bristol, UK

Short Research visits

1. Mathematical Institute, Utrecht University, 12th – 14th June 2019
2. Alfréd Rényi Institute of Mathematics, Budapest, 2nd – 7th March 2019
3. School of Mathematics, University of Bristol, 14th – 17th November 2017

Education

- 09/2012 – 10/2016 PhD Mathematics, University College of London, UK
Dissertation advisor: Yiannis Petridis
PhD Thesis: “Lattice point problems in the hyperbolic plane.”
- 10/2010 – 09/2012 MSc Mathematics (with distinction, 8.56/10), University of Athens, Greece
Thesis advisor: Aristides Kontogeorgis
Thesis: “Modular forms and Elliptic curves.”
- 09/2006 – 10/2010 BSc Mathematics (with distinction, 8.56/10), University of Athens, Greece

List of publications

1. *On the distribution of lattice points on hyperbolic circles.* (with P. Kurlberg, St. Lester and I. Wigman), Algebra & Number Theory 15-9 (2021), 2357–2380. (arXiv:2009.10546)
2. *Quantum ergodicity for shrinking balls in arithmetic hyperbolic manifolds.* (with R. Frot and N. Raulf, submitted for publication, arXiv:2007.11473)
3. *Second Moment of the Prime Geodesic Theorem for $PSL(2, Z[i])$.* (with G. Cherubini and N. Laaksonen), Math. Zeitschr. 300 (2022), 791–806. (arXiv:1812.11916)
4. *CM-points and lattice counting on arithmetic compact Riemann surfaces.* (with M. Alsina), J. Number Theory 212 (2020), 339–353. (arXiv:1808.01318)
5. *Prime Geodesic Theorem in the 3-dimensional hyperbolic space.* (with O. Balkanova, G. Cherubini, D. Frolenkov and N. Laaksonen), Trans. Amer. Math. Soc. 372 (2019), no. 8, 5355–5374. (arXiv:1712.00880)
6. *Mean-value and Ω -results for the hyperbolic lattice point problem in conjugacy classes.* Rev. Mat. Iberoam. 35 (2019), no. 4, 1123–1152. (arXiv:1610.01462)
7. *Ω -results for the hyperbolic lattice point problem.* Proc. Amer. Math. Soc., vol. 145 (2017), no. 4, 1421–1437. (arXiv:1512.04137)
8. *The hyperbolic lattice point problem in conjugacy classes.* (with Y. Petridis), Forum Math. 28 (2016), no. 5, 981–1003. (arXiv:1504.01307)

Honours and Awards

1. ELKE funding for new MoS (MEDIKOS Program) 2022-2024 (5000 euros)
2. LMS 150th Anniversary Postdoctoral Mobility Grants 2016 – 2017 (Six months visit to University of Bristol)
3. Best talk Award, LMS Graduate Meeting, November 2015
4. Davenport Prize for PhD students in Pure Mathematics, UCL, 2013 (300 euros)
5. EPSRC DTA Scholarship, 2012 – 2016
6. Scholarship of Lilian Voudouri Foundation, 2011 – 2012 (3000 euros)
7. IMC 2010, Third Prize
8. SEEMOUS 2008, Bronze Medal

Teaching experience

1. University of Patras:

Undergraduate courses:

1. PM207 Algebra I : Spring term 2021–22
2. PM434 Algebra II : Winter term 2022–23
3. PM265 Number theory : Spring term 2021–22

Graduate courses:

4. PAM11 Algebra : Winter terms 2021–22, 2022–23

Other teaching duties:

5. Problem solving seminar (undergraduate): Preparation Seminar for the SEEMOUS and IMC competitions: Winter and Spring terms 2021–22 (with N. Roidos), 2022 – 23

6. Graduate level seminar on "An introduction to analytic number theory and automorphic forms": Winter and Spring term 2022 – 23

2. Université de Bordeaux:

1. Spectral theory of automorphic forms and related problems, Special training course for postgraduate students, Second term 2019–20

3. University College of London:

1. Problem solving seminar, Preparation Seminar for the SEEMOUS 2016 and IMC 2016, First and Second terms 2015–16
2. Math 3703 Prime numbers and their distribution (Problem Class), First term 2015–16
3. Math 3703 Prime numbers and their distribution (Problem Class), First term 2014–15

4. University of Athens:

1. Math 201 Calculus 2, Teaching assistance, Winter term 2011–12
2. Math 101 Calculus 1, Teaching assistance, Winter term 2010–11

Students

1. MSc Thesis Supervision:

1. Styliani Lymperi (in progress), Thesis title: "The Selberg trace formula on compact Riemann surfaces."

2. BSc Thesis Supervision:

1. Michail Lolis (in progress), Thesis title: "L-functions of Dirichlet characters."
2. Dimitrios Nikolakopoulos, 2022, Thesis title: "Integral points on curves."

Lecture Notes

1. 'Spectral theory of automorphic forms and related problems,' Lecture Notes for a short course, Université de Bordeaux, 2019–2020 (available online at <http://dimitrioschatzakos.com/wp-content/uploads/2020/02/Notes-for-the-course.pdf>)
2. 'Graduate algebra notes (in progress),' Lecture Notes written for the graduate course of Algebra at the University of Patras, 2022–23 (soon will be available online)

Conference and Workshop talks

1. "*Quantum ergodicity on 3-manifolds*", Winter Meeting in Analysis, Thessaloniki, Greece, 23rd December 2019
2. "*Quantum ergodicity and the Prime geodesic theorem on 3-manifolds*", Zeta Functions, CIRM, France, 2nd – 6th December 2019
3. "*Spectral theory of automorphic forms on the 3-dimensional hyperbolic space*", First Congress of Greek Mathematicians, Athens, Greece, 25th – 30th June 2018
4. "*The Prime Geodesic Theorem in the 3-dimensional hyperbolic space*", 16th Panhellenic Conference on Analysis, Karlovassi, Samos, Greece, 25th – 27th May 2018
5. "*The Prime Geodesic Theorem in the 3-dimensional hyperbolic space*", The fourth mini symposium of the Roman Number Theory Association, Rome, 19th – 20th April 2018
6. "*Prime Geodesic Theorem in the 3-dimensional hyperbolic space*", Arithmétique en Plat Pays: Journée Automnale Louvain-la-Neuve, 22nd meeting, 11th December 2017
7. "*Lattice counting problems in the hyperbolic plane*", Workshop on Spectral Theory, Automorphic Forms and Arithmetic, Copenhagen, 14th – 18th November 2016
8. "*Automorphic forms for $SL(2, R)$ and lattice counting problems*", 2nd Nisyros Conference on automorphic representations and related topics, Nisyros, 13th – 18th June 2016

9. “*Harmonic analysis in the hyperbolic plane and lattice counting in conjugacy classes*”, 15th Panhellenic Conference of Mathematical Analysis, University of Crete, 27th – 29th May, 2016
10. “*The Gauss circle problem in the hyperbolic plane*”, Graduate Student Meeting of London Mathematical Society, London, 13th November 2015 (awarded as the best talk of the meeting)
11. “*Spectral theory in hyperbolic spaces and counting in discrete subgroups of $SL(2, R)$* ”, Workshop on Analysis, Athens, 6th – 10th July 2015
12. “*Hyperbolic lattice point problems*”, Taught Course Centre Event Day in Number Theory, Imperial College London, 13th April 2015
13. “*The hyperbolic lattice point problem in conjugacy classes*”, Building Bridges: 2nd EU/US Summer School + Workshop on Automorphic Forms and Related Topics, 30th June – 11th July 2014

Seminar talks

1. “*Distribution of lattice points on hyperbolic circles*”, Number Theory seminar, Institute of Mathematics, Bordeaux, 27th September 2021
2. “*Refined equidistribution results for lattice points on the hyperbolic plane*”, Number Theory Seminar (online), Charles University, Prague, 18th May 2021
3. “*The quantum unique ergodicity conjecture and modifications*”, Arithmetic Geometry Seminar (online), University of Athens, 26th March 2021
4. “*An introduction to the analytic theory of automorphic forms with a glimpse to some recent discoveries*”, Seminario Interdisciplinare (online), Università di Bologna, 3rd December 2020
5. “*Quantum ergodicity on thin sets and closed geodesics on arithmetic 3-manifolds*”, Harmonic Analysis seminar (online), Aarhus, 29th April 2020
6. “*Quantum ergodicity and the Prime geodesic theorem on 3-manifolds*”, Number Theory seminar, Institute of Mathematics, Bordeaux, 13th December 2019
7. “*Quantum unique ergodicity on arithmetic hyperbolic manifolds*”, Seminar of number theory, Department of Mathematics, Utrecht University, 14th June 2019
8. “*Quantum ergodicity in shrinking balls of arithmetic hyperbolic manifolds*”, Seminar of number theory, Renyi Institute, 5th March 2019
9. “*The Prime Geodesic Theorem in the 3-dimensional hyperbolic space*”, Séminaire Arithmétique, Université de Lille 1, 30th November 2017
10. “*The Lindelöf hypothesis*”, ‘My favourite conjecture’ number theory study group, King’s College London, 14th June 2017
11. “*The analytic large sieve*”, Study group on ‘Sieve theory’, King’s College London, 24th May 2017

12. “*Hyperbolic lattice point counting in conjugacy classes*”, Linfoot seminar, School of Mathematics, Bristol, 23rd November 2016
13. “*Hyperbolic lattice point counting in conjugacy classes*”, Oberseminar Algebra, Ulm Universität, 10th November 2016
14. “*Lattice counting problems in the hyperbolic plane*”, AG-Seminar Algebra, TU Darmstadt, 8th November 2016
15. “*Hyperbolic lattice point counting in conjugacy classes*”, Geometry and Algebra, Geometry and Analysis seminar, Department of Mathematics, Utrecht University, 22nd March, 2016
16. “*Hyperbolic lattice point counting in conjugacy classes*”, Algebra, geometry and number theory seminar, Mathematical Institute, Universiteit Leiden, 21st March, 2016
17. “*Lattice point problems in the hyperbolic plane*”, Analytic Number Theory Seminar, UCL, 25th November 2015
18. “*What kind of arithmetic objects live on the hyperbolic plane? (or, how to explain Prime Number Theorem to a geometer)*”, Postgraduate Seminar, University College of London, 4th December 2014
19. “*The hyperbolic lattice point problem in conjugacy classes*”, Analysis Seminar, University of Copenhagen, 28th March 2014
20. “*From Diophantine equations to Hyperbolic geometry*”, Postgraduate Seminar, University College of London, 6th February 2014
21. “*The hyperbolic lattice point problem in conjugacy classes*”, Postgraduate Seminar, University College of London, 17th October 2013
22. “*Sums of Kloosterman sums*”, Number Theory Seminar, University of Athens, 18th December 2012

Conferences, Workshops and Summer schools attended

1. 20th annual Workshop on Combinatorial and Additive Number Theory (CANT 2022) (online), 24th - 27th May 2022
2. Workshop in Dimitris Gatzoura’s memory, Department of Mathematics, National and Kapodistrian University of Athens, 12th – 13th March 2022
3. Egham-Reading-London Arithmetic Statistics Seminar (online), 5th Seminar, 18th December 2021
4. Rencontres de théorie analytique et élémentaire des nombres, Institut Henri Poincaré, 27th September 2021
5. SSANT 2021 Summer School in analytic number theory (online), Paris, 28th June – 2nd July 2021

6. Ninth Bucharest Number Theory Days – In honor of Alexandru Zaharescu’s 60th Birthday, (online), 1st – 3rd June 2021
7. Trimester Program on Harmonic Analysis and Analytic Number Theory (online), 3rd May – 20th August 2021
8. Egham-Reading-London Arithmetic Statistics Seminar (online), 3rd Seminar, 22nd April 2021
9. Number Theory Online 2021, 4th March 2021
10. Egham-Reading-London Arithmetic Statistics Seminar (online), 2nd Seminar, 18th December 2020
11. London-Paris Number Theory Seminar (online), 28th Meeting, Paris, 23rd – 25th November 2020
12. Online Conference in Automorphic Forms via Zoom, 1st June – 5th June 2020
13. N^3 -days XII (online), 28th-29th May 2020
14. Rencontres de théorie analytique et élémentaire des nombres, Institut Henri Poincaré, 13th January 2020
15. Rencontres de théorie analytique et élémentaire des nombres, Institut Henri Poincaré, 9th December 2019
16. Inaugural France-Korea Conference on Algebraic Geometry, Number Theory, and Partial Differential Equations, Institute of Mathematics, University of Bordeaux, 24th – 27th November 2019
17. Rencontres de théorie analytique et élémentaire des nombres, Institut Henri Poincaré, 18th November 2019
18. Journée en l’honneur de Jacques Martinet, 15th November 2019, Université de Bordeaux
19. Arithmétique en Plat Pays: Journée Estivale, Mons, 23rd September 2019
20. Second Symposium on Analytic Number Theory, Cetraro, Italy, 8th – 12th July 2019
21. Arithmetic, geometry, and modular forms: a conference in honour of Bill Duke, Zurich, ETH, 17th – 21st June 2019
22. Rencontres de théorie analytique et élémentaire des nombres, Institut Henri Poincaré, 3rd June 2019
23. Analytic Aspects of Automorphic Forms, Lille, 3rd – 5th April, 2019
24. Crosscurrents in number theory, analysis and geometry, Paris, 21st – 22nd March 2019
25. Arithmétique en Plat Pays: Journée Hivernale Lille, 11th March 2019
26. Workshop and Winter School on Local Statistics of Point Sequences, 25th February – 1st March 2019, University of Linz, Austria

27. Integrable systems and automorphic forms, Lille, Laboratoire Paul Painlevé, 19th – 22nd February 2019
28. Rencontres de théorie analytique et élémentaire des nombres, Institut Henri Poincaré, 14th January 2019
29. Arithmétique en Plat Pays: Journée automnale, Antwerp, 10th December 2018
30. London-Paris Number Theory Seminar, 25th Meeting, Paris, 26th – 27th November 2018
31. Arithmétique en Plat Pays: Journée printanière, Lille, 18th June 2018
32. Perspectives on the Riemann Hypothesis, Bristol, 4th – 7th June 2018
33. Rencontres de théorie analytique et élémentaire des nombres, Institut Henri Poincaré, 19th March 2018
34. Tenth meeting of the GDR Quantum Dynamics, Lille, 21st – 23rd February 2018
35. Rencontres de théorie analytique et élémentaire des nombres, Institut Henri Poincaré, 5th February 2018
36. Mathematical Analysis in Athens – Katavolos and Nestoridis, Athens, 15th – 19th December 2017
37. London-Paris Number Theory Seminar, 23rd Meeting, Paris, 27th – 28th November 2017
38. 3rd Japanese-German Number Theory Workshop, Max Planck Institute for Mathematics, Bonn, 20th – 24th November 2017
39. 30th Journée arithmétique, Caen, 4th – 8th July 2017
40. London-Paris Number Theory Seminar, 22nd Meeting, London, 5th – 6th June 2017
41. Fonctions Zeta Franco-Japonaises, Lille, 13th-17th March 2017
42. Random Waves in London Workshop, King's College London, 3rd – 5th May 2016
43. Intercity Number Theory Seminar, Leiden, 24th March 2016
44. L -functions and Automorphic Forms, Heidelberg, 22nd – 26th February 2016
45. London-Paris Number Theory Seminar, 19th Meeting, Paris, 8th – 9th November 2015
46. 1st Nisyros Conference on Automorphic Representations and Related Topics, Nisyros, 12th – 17th July 2015
47. Summer School on Operator Theory and Applications and Workshop on Analysis, Athens, 6th–10th July 2015
48. London-Paris Number Theory Seminar, 18th meeting, London, 4th – 5th June 2015
49. Analytic aspects of number theory, ETH Zürich, 18th – 22nd May 2015

50. Taught Course Centre Event Day in Number Theory, Imperial College London, 13th April 2015
51. The Joint British Mathematical Colloquium and British Applied Mathematics Colloquium, Cambridge, 30th March – 2nd April 2015
52. Analytic Number Theory Workshop, Oxford, 29th September – 3rd October 2014
53. Bounded Gaps between Primes, LMS – CMI Research School, Oxford, 22nd – 26th September 2014
54. Building Bridges: 2nd EU/US Summer School + Workshop on Automorphic Forms and Related Topics, Bristol, 30th June – 11th July 2014
55. London-Paris Number Theory Seminar, 16th meeting, London, 9th June 2014
56. British Mathematical Colloquium, London, 4th – 9th April 2014
57. Young Researchers in Mathematics 2013, Edinburgh, 17th – 20th June 2013
58. London-Paris Number Theory Seminar, 14th meeting, London, 3rd – 4th June 2013
59. Taught Course Centre Graduate Event Day on Number Theory, Bristol, 21st May 2013

Popular science talks

1. ‘The notion of symmetry in modern mathematics’, 2nd Experimental High School of Athens, 7th November 2014

Study groups

1. ‘Analytic Number theory and Automorphic Forms’, University of Patras, October 2021 – now
2. ‘Geometric Representation theory’, Online study group, January 2021 – June 2021
3. ‘Additive Number theory’, Université de Lille, February 2019 – May 2019
4. ‘Quantum ergodicity on thin sets’, Université de Lille, October 2018 – December 2018
5. ‘Geometric invariants for real quadratic fields’, Université de Lille, October 2017 – June 2018
6. ‘Sieve theory’, King’s College London, April 2017 – June 2017

Organizational activities

1. Coorganizer of the Colloquium of the Mathematics department of Patras, September 2022 – now
2. Coorganizer of the G.A.N.T. (Greek Algebra & Number Theory) seminar, October 2021 – now
3. Coorganizer of Séminaire Théorie des Nombres, Bordeaux, October 2020 – September 2021

4. Coorganizer of the conference ‘Analytic aspects of automorphic forms’, Lille, 3rd – 5th April 2019

Community service

Reviewer for Mathematical Reviews/MathSciNet,
Ex-reviewer for Zentralblatt MATH

Referee for the journals:

Int. Math. Res. Not. IMRN,
Algebra and Number theory,
Math. Proc. of the Cambridge Phil. Soc.,
Journal of Applied Analysis,
Bullet. of the Malaysian Math. Sciences Soc.,
Bullet. of the Hellenic Math. Soc.,
Symmetry

Languages

English (fluent), Greek (native), French (basic)

Other interests

Poetry