

Curriculum Vitae
Dimitrios Chatzakos
20th July 2024

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. Institut Mittag-Leffler (as a participant of the Thematic Semester "Analytic Number Theory"), Stockholm, 10th – 18th February 2024
2. Istituto Nazionale di Alta Matematica "Francesco Severi", Rome, 10th – 16th December 2023
3. Mathematical Institute, Utrecht University, 12th – 14th June 2019
4. Alfréd Rényi Institute of Mathematics, Budapest, 2nd – 7th March 2019
5. 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. *Mean Values and Quantum Variance for Degenerate Eisenstein Series of Higher Rank.* (with C. Darreya and I. Kaneko, submitted for publication, arXiv:2311.14184)
2. *The Prime Geodesic Theorem in Arithmetic Progressions.* (with G. Harcos and I. Kaneko, submitted for publication, arXiv:2309.04186)
3. *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)
4. *Quantum ergodicity for shrinking balls in arithmetic hyperbolic manifolds.* (with R. Frot and N. Raulf, submitted for publication, arXiv:2007.11473)
5. *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)
6. *CM-points and lattice counting on arithmetic compact Riemann surfaces.* (with M. Alsina), *J. Number Theory* 212 (2020), 339–353. (arXiv:1808.01318)
7. *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)

8. *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)
9. *Ω -results for the hyperbolic lattice point problem.* Proc. Amer. Math. Soc., vol. 145 (2017), no. 4, 1421–1437. (arXiv:1512.04137)
10. *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 the University of Bristol)
3. Best talk Award, London Mathematical Society Graduate Meeting, November 2015 (50 euros)
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 terms 2021–22, 2022–23, 2023–24
2. PM434 Algebra II : Winter terms 2022–23, 2023–24
3. PM265 Number theory : Spring terms 2021–22, 2023–24

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, 2023–24
6. Graduate level seminar on "An introduction to analytic number theory and automorphic forms": Winter and Spring terms 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. PhD Supervision:

1. Christos Katsivelos, December 2023 - now

1. MSc Thesis Supervision:

1. Styliani Lymperi, July 2023, Thesis title: "The Selberg trace formula on compact Riemann surfaces."

2. BSc Thesis Supervision:

1. Iakovos Makkas, (expected September 2024), Thesis title: "Algebraic number fields and Counting of ideals."
2. Konstantinos Triamatakis, July 2024, Thesis title: "Harmonic analysis and lattice counting problems."
3. Michail Lolis, July 2023, Thesis title: "L-functions of Dirichlet characters and Prime number theory."
4. Dimitrios Nikolakopoulos, July 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.

Conference and Workshop talks

1. “*An introduction to Quantum Ergodicity*”, Second Workshop of Greek Women in Mathematics, Department of Mathematics, Athens, 4th July 2024
2. “*Mean values and quantum variance for degenerate Eisenstein series of higher rank*”, Thematic Semester ”Analytic Number Theory”, Institut Mittag-Leffler, Stockholm, 14th February 2024
3. “*The QUE problem for degenerate Eisenstein series of higher rank*”, 9th Greek Algebra and Number Theory Conference, 12th – 13th May 2023, Aristotle University of Thessaloniki, Thessaloniki
4. “*Estimates for Degenerate Eisenstein series*”, Speed talk at the Event for early career mathematicians, Arithmetic Statistics, Automorphic Forms and Ergodic Methods, Max Planck, Bonn, 24th April 2023
5. “*Quantum ergodicity on 3-manifolds*”, Winter Meeting in Analysis, Thessaloniki, Greece, 23rd December 2019
6. “*Quantum ergodicity and the Prime geodesic theorem on 3-manifolds*”, Zeta Functions, CIRM, France, 2nd – 6th December 2019
7. “*Spectral theory of automorphic forms on the 3-dimensional hyperbolic space*”, First Congress of Greek Mathematicians, Athens, Greece, 25th – 30th June 2018
8. “*The Prime Geodesic Theorem in the 3-dimensional hyperbolic space*”, 16th Panhellenic Conference on Analysis, Karlovassi, Samos, Greece, 25th – 27th May 2018
9. “*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
10. “*Prime Geodesic Theorem in the 3-dimensional hyperbolic space*”, Arithmétique en Plat Pays: Journée Automnale Louvain-la-Neuve, 22nd meeting, 11th December 2017
11. “*Lattice counting problems in the hyperbolic plane*”, Workshop on Spectral Theory, Automorphic Forms and Arithmetic, Copenhagen, 14th – 18th November 2016
12. “*Automorphic forms for $SL(2, R)$ and lattice counting problems*”, 2nd Nisyros Conference on automorphic representations and related topics, Nisyros, 13th – 18th June 2016
13. “*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
14. “*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)
15. “*Spectral theory in hyperbolic spaces and counting in discrete subgroups of $SL(2, R)$* ”, Workshop on Analysis, Athens, 6th – 10th July 2015
16. “*Hyperbolic lattice point problems*”, Taught Course Centre Event Day in Number Theory, Imperial College London, 13th April 2015

17. “*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. “*Prime numbers and geodesics on Riemann surfaces*”, Department’s Seminar, Department of Mathematics, University of Ioannina, 22nd May 2024
2. “*Prime numbers and geodesics on Riemann surfaces*”, Colloquium, Department of Mathematics, University of Patras, 7th December 2023
3. “*Prime numbers and geodesics on Riemann surfaces*”, Colloquium, Department of Mathematics, University of Crete, 8th November 2023
4. “*The Prime geodesic theorem in arithmetic progressions*”, Analysis Seminar, University of Athens, 3rd November 2023
5. “*Distribution of lattice points on hyperbolic circles*”, Number Theory seminar, Institute of Mathematics, Bordeaux, 27th September 2021
6. “*Refined equidistribution results for lattice points on the hyperbolic plane*”, Number Theory Seminar (online), Charles University, Prague, 18th May 2021
7. “*The quantum unique ergodicity conjecture and modifications*”, Arithmetic Geometry Seminar (online), University of Athens, 26th March 2021
8. “*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
9. “*Quantum ergodicity on thin sets and closed geodesics on arithmetic 3-manifolds*”, Harmonic Analysis seminar (online), Aarhus, 29th April 2020
10. “*Quantum ergodicity and the Prime geodesic theorem on 3-manifolds*”, Number Theory seminar, Institute of Mathematics, Bordeaux, 13th December 2019
11. “*Quantum unique ergodicity on arithmetic hyperbolic manifolds*”, Seminar of number theory, Department of Mathematics, Utrecht University, 14th June 2019
12. “*Quantum ergodicity in shrinking balls of arithmetic hyperbolic manifolds*”, Seminar of number theory, Renyi Institute, 5th March 2019
13. “*The Prime Geodesic Theorem in the 3-dimensional hyperbolic space*”, Séminaire Arithmétique, Université de Lille 1, 30th November 2017
14. “*The Lindelöf hypothesis*”, ‘My favourite conjecture’ number theory study group, King’s College London, 14th June 2017
15. “*The analytic large sieve*”, Study group on ‘Sieve theory’, King’s College London, 24th May 2017

16. “*Hyperbolic lattice point counting in conjugacy classes*”, Linfoot seminar, School of Mathematics, Bristol, 23rd November 2016
17. “*Hyperbolic lattice point counting in conjugacy classes*”, Oberseminar Algebra, Ulm Universität, 10th November 2016
18. “*Lattice counting problems in the hyperbolic plane*”, AG-Seminar Algebra, TU Darmstadt, 8th November 2016
19. “*Hyperbolic lattice point counting in conjugacy classes*”, Geometry and Algebra, Geometry and Analysis seminar, Department of Mathematics, Utrecht University, 22nd March, 2016
20. “*Hyperbolic lattice point counting in conjugacy classes*”, Algebra, geometry and number theory seminar, Mathematical Institute, Universiteit Leiden, 21st March, 2016
21. “*Lattice point problems in the hyperbolic plane*”, Analytic Number Theory Seminar, UCL, 25th November 2015
22. “*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
23. “*The hyperbolic lattice point problem in conjugacy classes*”, Analysis Seminar, University of Copenhagen, 28th March 2014
24. “*From Diophantine equations to Hyperbolic geometry*”, Postgraduate Seminar, University College of London, 6th February 2014
25. “*The hyperbolic lattice point problem in conjugacy classes*”, Postgraduate Seminar, University College of London, 17th October 2013
26. “*Sums of Kloosterman sums*”, Number Theory Seminar, University of Athens, 18th December 2012

Other Conferences, Workshops and Summer schools attended

1. Giornate INdAM di Teoria dei Numeri, 14th – 15th December, 2023, Sapienza University of Rome
2. Automorphic Forms and L-functions of higher rank, September 11th – 15th, 2023, Queen Mary University of London
3. Partial Differential Equations in Applied Mathematics: a hybrid conference in honour of Ioannis Stratis, July 4th – 5th, 2023, Athens
4. Arithmetic Statistics, Automorphic Forms and Ergodic Methods, Max Planck, Bonn, 24th – 28th April 2023
5. Noncommutative Geometry and Representation Theory, Athens, Greece, 6th – 10th March 2023
6. Second Congress of Greek Mathematicians, Athens, Greece, 4th – 8th July 2022

7. 20th annual Workshop on Combinatorial and Additive Number Theory (CANT 2022) (online), 24th – 27th May 2022
8. Workshop in Dimitris Gatzoura’s memory, Department of Mathematics, National and Kapodistrian University of Athens, 12th – 13th March 2022
9. Egham-Reading-London Arithmetic Statistics Seminar (online), 5th Seminar, 18th December 2021
10. Rencontres de théorie analytique et élémentaire des nombres, Institut Henri Poincaré, 27th September 2021
11. SSANT 2021 Summer School in analytic number theory (online), Paris, 28th June – 2nd July 2021
12. Ninth Bucharest Number Theory Days – In honor of Alexandru Zaharescu’s 60th Birthday, (online), 1st – 3rd June 2021
13. Trimester Program on Harmonic Analysis and Analytic Number Theory (online), 3rd May – 20th August 2021
14. Egham-Reading-London Arithmetic Statistics Seminar (online), 3rd Seminar, 22nd April 2021
15. Number Theory Online 2021, 4th March 2021
16. Egham-Reading-London Arithmetic Statistics Seminar (online), 2nd Seminar, 18th December 2020
17. London-Paris Number Theory Seminar (online), 28th Meeting, Paris, 23rd – 25th November 2020
18. Online Conference in Automorphic Forms via Zoom, 1st June – 5th June 2020
19. N^3 -days XII (online), 28th-29th May 2020
20. Rencontres de théorie analytique et élémentaire des nombres, Institut Henri Poincaré, 13th January 2020
21. Rencontres de théorie analytique et élémentaire des nombres, Institut Henri Poincaré, 9th December 2019
22. Inaugural France-Korea Conference on Algebraic Geometry, Number Theory, and Partial Differential Equations, Institute of Mathematics, University of Bordeaux, 24th – 27th November 2019
23. Rencontres de théorie analytique et élémentaire des nombres, Institut Henri Poincaré, 18th November 2019
24. Journée en l’honneur de Jacques Martinet, 15th November 2019, Université de Bordeaux
25. Arithmétique en Plat Pays: Journée Estivale, Mons, 23rd September 2019
26. Second Symposium on Analytic Number Theory, Cetraro, Italy, 8th – 12th July 2019

27. Arithmetic, geometry, and modular forms: a conference in honour of Bill Duke, Zurich, ETH, 17th – 21st June 2019
28. Rencontres de théorie analytique et élémentaire des nombres, Institut Henri Poincaré, 3rd June 2019
29. Analytic Aspects of Automorphic Forms, Lille, 3rd – 5th April, 2019
30. Crosscurrents in number theory, analysis and geometry, Paris, 21st – 22nd March 2019
31. Arithmétique en Plat Pays: Journée Hivernale Lille, 11th March 2019
32. Workshop and Winter School on Local Statistics of Point Sequences, 25th February – 1st March 2019, University of Linz, Austria
33. Integrable systems and automorphic forms, Lille, Laboratoire Paul Painlevé, 19th – 22nd February 2019
34. Rencontres de théorie analytique et élémentaire des nombres, Institut Henri Poincaré, 14th January 2019
35. Arithmétique en Plat Pays: Journée automnale, Antwerp, 10th December 2018
36. London-Paris Number Theory Seminar, 25th Meeting, Paris, 26th – 27th November 2018
37. Arithmétique en Plat Pays: Journée printanière, Lille, 18th June 2018
38. Perspectives on the Riemann Hypothesis, Bristol, 4th – 7th June 2018
39. Rencontres de théorie analytique et élémentaire des nombres, Institut Henri Poincaré, 19th March 2018
40. Tenth meeting of the GDR Quantum Dynamics, Lille, 21st – 23rd February 2018
41. Rencontres de théorie analytique et élémentaire des nombres, Institut Henri Poincaré, 5th February 2018
42. Mathematical Analysis in Athens – Katavolos and Nestoridis, Athens, 15th – 19th December 2017
43. London-Paris Number Theory Seminar, 23rd Meeting, Paris, 27th – 28th November 2017
44. 3rd Japanese-German Number Theory Workshop, Max Planck Institute for Mathematics, Bonn, 20th – 24th November 2017
45. 30th Journée arithmétique, Caen, 4th – 8th July 2017
46. London-Paris Number Theory Seminar, 22nd Meeting, London, 5th – 6th June 2017
47. Fonctions Zeta Franco-Japonaises, Lille, 13th-17th March 2017
48. Random Waves in London Workshop, King's College London, 3rd – 5th May 2016

49. Intercity Number Theory Seminar, Leiden, 24th March 2016
50. L -functions and Automorphic Forms, Heidelberg, 22nd – 26th February 2016
51. London-Paris Number Theory Seminar, 19th Meeting, Paris, 8th – 9th November 2015
52. 1st Nisyros Conference on Automorphic Representations and Related Topics, Nisyros, 12th – 17th July 2015
53. Summer School on Operator Theory and Applications and Workshop on Analysis, Athens, 6th–10th July 2015
54. London-Paris Number Theory Seminar, 18th meeting, London, 4th – 5th June 2015
55. Analytic aspects of number theory, ETH Zürich, 18th – 22nd May 2015
56. Taught Course Centre Event Day in Number Theory, Imperial College London, 13th April 2015
57. The Joint British Mathematical Colloquium and British Applied Mathematics Colloquium, Cambridge, 30th March – 2nd April 2015
58. Analytic Number Theory Workshop, Oxford, 29th September – 3rd October 2014
59. Bounded Gaps between Primes, LMS – CMI Research School, Oxford, 22nd – 26th September 2014
60. Building Bridges: 2nd EU/US Summer School + Workshop on Automorphic Forms and Related Topics, Bristol, 30th June – 11th July 2014
61. London-Paris Number Theory Seminar, 16th meeting, London, 9th June 2014
62. British Mathematical Colloquium, London, 4th – 9th April 2014
63. Young Researchers in Mathematics 2013, Edinburgh, 17th – 20th June 2013
64. London-Paris Number Theory Seminar, 14th meeting, London, 3rd – 4th June 2013
65. Taught Course Centre Graduate Event Day on Number Theory, Bristol, 21st May 2013

Popular science talks

1. ‘The amazing history of natural numbers’, University of Patras (for High School students), 3rd April 2024
2. ‘The life of a Mathematician nowadays’, 2nd High School of Patras, 1st December 2023
3. ‘What is (modern) Mathematics’, 2nd Experimental High School of Athens, 7th March 2023
4. ‘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 2022 – May 2023
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 (with A. Kontogeorgis and A. Koutsianas) of the ‘1st Greek Number Theory Meeting’, National and Kapodistrian University of Athens, 21st – 22nd December 2023
2. Organizer of the conference ‘1st Patras Conference on Analytic Number theory and Automorphic Forms’, Patras, 17th – 21st July 2023
3. Coorganizer of the Colloquium of the Mathematics department of Patras, September 2022 – now
4. Coorganizer of the G.A.N.T. (Greek Algebra & Number Theory) seminar, October 2021 – now
5. Coorganizer of Séminaire Théorie des Nombres, Bordeaux, October 2020 – September 2021
6. 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:

Forum Mathematicum,
Int. Math. Res. Not. IMRN,
Algebra and Number theory,
Michigan Mathematical Journal,
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, History, Philosophy