

Ramon M. Nunes

Universidade Federal do Ceará
Departamento de Matemática
Av. HumbertoMonte, s/n
Campus do Pici - Bloco 914
60440-900 Fortaleza-CE, Brasil

Phone: (+55)85986686871
Email: ramonmnunes@gmail.com

Personal

Citizenship: Brazilian.

Date and Place of Birth: November 7 1990, Fortaleza, Brazil.

Education

Bachelor Degree in mathematics. March 2008 - July 2011. Universidade Federal do Ceará, Brazil.

Masters in mathematics. September 2011 - September 2012. Université Paris Sud - Orsay, France

Ph.D. in mathematics under the guidance of Prof. Étienne Fouvry - September 2012 - June 2015.
Université Paris Sud - Orsay, France

Positions held

Postdoctoral fellow in mathematics. September 2015 - March 2019.
École Polytechnique Fédérale de Lausanne. Mentor: Philippe Michel

Visiting Professor. April 2019 - March 2021.
Universidade Federal do Ceará.

Postdoctoral fellow. October 2021 - October 2022.
Max Planck Institute for Mathematics. Mentor: Valentin Blomer.

Associate Professor. October 2021 - present.
Universidade Federal do Ceará.

Interests

Number Theory.

Analytic Number Theory.

L -functions.

Automorphic forms.

Fellowships, Awards and Honors

Brazilian National Mathematics Olympiad - Gold medalist - 2006, 2007, 2008, 2009, 2010.
Brazilian National Physics Olympiad - Bronze Medal - 2007.
International Mathematical Olympiad (IMO) - Bronze Medal (Vietnam 2007).
Iberoamerican Mathematical Olympiad - Two Gold medals (Portugal 2007 and Brazil 2008).
IMPA Summer Fellowship - 2010.
CNPq "Initiation on Research" Undergraduate Fellowship, Brazil - April 2008 - July 2010.
CNPq Fellowship for Masters Degree in mathematics, Brazil - August 2010-August 2011.
FMJH Fellowship for Masters Degree in mathematics, France - September 2011-September 2012.
LabeX-LMH Fellowship for Ph.D. in mathematics, France - September 2012-September 2015.

Invited Talks

Prime Numbers: New Perspectives (Marseille, February 2014)
Number Theory and Applications (Marseille, March 2014)
Rencontres de théorie analytiques et élémentaires des nombres (Paris, March 2014)
Séminaire de théorie des nombres (Clermont Ferrand, May 2015)
EPFL's Algebra and Number Theory Seminar (Lausanne, June 2015)
Séminaire de Théorie des Nombres de Nancy-Metz (Nancy, June 2015)
2nd Workshop on Combinatorics, Number Theory and Dynamical Systems (Rio de Janeiro, August 2015)
Rencontres de théorie analytiques et élémentaires des nombres (Paris, June 2016)
Geometric and Analytic Number Theory (Zurich, September 2016)
Quebec-Vermont Number Theory Seminar (Montreal, November 2016)
Conference Zeta Functions 6 (Moscow, December 2016)
A. A. Karatsuba's 80th Birthday Conference in Number Theory and Applications (Moscow, May 2017)
Seminario da PGMAT-UFC (Fortaleza, December 2017)
Rencontres de théorie analytiques et élémentaires des nombres (Paris, March 2018)
Seminario di Teoria dei numeri (Genova, June 2018)
Séminaire de Théorie des Nombres de Nancy-Metz (Nancy, November 2018)
Geometric and Analytic Number Theory (Goettingen, November 2018)
Number Theory Seminar (Basel, December 2018)
1st Joint Meeting Brazil-France in Mathematics (Rio de Janeiro, July 2019)

Automorphic forms and Arithmetic at Oberwolfach (remotely, September 2020)
 Quebec-Maine Number Theory Conference (remotely, September 2020)
 Number Theory Lunch Seminar (Bonn, December 2021)
 Rencontres de théorie analytiques et élémentaires des nombres (Paris, May 2012)
 Séminaire “Arithmétique” (Lille, June 2022)
 EPFL’s Groups, Arithmetic and Algebraic Geometry Seminar (Lausanne, July 2022)
 Rencontres de théorie analytiques et élémentaires des nombres (Paris, September 2023)
 Séminaire d’arithmétique et Géométrie Algébrique (Paris, September 2023)
 V Congresso Brasileiro de Jovens Matemáticos e Estatísticos (Belo Horizonte, July 2024)
 Escola Brasileira de Álgebra (São Paulo, July 2024)

Articles and Preprints

1. *Equidistribution problems of squarefree numbers (thesis)*, Université Paris Sud (2015) <https://tel.archives-ouvertes.fr/tel-01201663>.
2. *Squarefree numbers in arithmetic progressions*, J. Number Theory, **153**, (2015) 1–36.
3. *On Bourgain’s bound for short exponential sums and squarefree numbers*, Acta Arith., 172(2) (2016) 99–116.
4. *On the least squarefree number in an arithmetic progression*, Mathematika, 63 (2017), no 1, 483–498.
5. *The twelfth moment of Dirichlet L -functions with smooth moduli*, International Mathematics Research Notices, rnz089.
6. *Spectral reciprocity via integral representations*, accepted, Algebra and Number Theory.
7. *Moments of the distribution of k -free numbers in short intervals and arithmetic progressions*, Bull. London Math. Soc. 54 (2022), 1282–1298.
8. *Spectral reciprocity for $GL(n)$* (joint with Subhajit Jana), submitted, arXiv:2111.02297.
9. *Subconvexity for self-dual $GL(3) \times GL(2)$ L -functions* (joint with Yongxiao Lin and Zhi Qi), accepted, International Mathematics Research Notices.

Not intended for publication:

Subconvexity for $GL(3)$ L -functions, preprint, ArXiv:1703.04424 (superseeded by the results in 9).
On two conjectures concerning squarefree numbers in arithmetic progressions, preprint, ArXiv:1512.03648 (superseeded by the results in 4).
Squarefree numbers in large arithmetic progressions, preprint, ArXiv:1602.00311 (superseeded by the results in 4).

Teaching Experience

Farias Brito High School - Fortaleza, Brazil.

2009-2010 - Lecturer - Math Olympiad Training.

OBMEP's Special Program for International Competitions (PECI)

2010 - Teaching Assistant - Math Olympiad Training.

Polytech Paris Sud - Orsay, France

2012-2015 - Teaching Assistant - several courses - undergraduate level.

EPFL - Lausanne, Switzerland

2015-2018 - Teaching Assistant - several courses - undergraduate level

EPFL - Lausanne, Switzerland

2018-2019 - Main Teacher - Introduction to analytic number theory - undergraduate level.

Universidade Federal do Ceará

2019 - Main Teacher - Introduction to analytic number theory - masters level

Universidade Federal do Ceará

2020 - Main Teacher - Introduction to algebraic number theory - masters level.

Organization of Events

Seminar on Analytic and Probabilistic Number Theory

June 2020-July 2021 (co-organized with M. Aymone, A. Contiero, C. Moreira) October 2022-present
(co-organized with M. Aymone, F. Gonçalves)

Referee Work

I served as referee for scientific work for several journals, including

Journal of Number Theory,

Acta Arithmetica,

Mathematika,

Journal of Mathematical Analysis and Applications,

Internation Mathematical Research Notices,

Geometric and Analytic Functional Analysis,

Journal of the European Mathematical Society,

Journal für die Reine und Angewandte Mathematik.

Acta Mathematica Hungarica.

Outreach

Member of the Organizing comitee of State of Cear  Math Olympiad.
April 2019 - present.

Member of the Junior comitee of the Brazilian Math Olympiad.
January 2020 - present.

Languages

Portuguese (Native), English (Good), French (Fluent).

Last updated: April 16, 2024