

# JAVIER PLIEGO

## CONTACT INFORMATION

---

**Address:** Dipartimento di Matematica, Università di Genova, via Dodecaneso 35, 16146 Genova, Italy;

**Date/place of birth:** [REDACTED]

**Address of residence:** [REDACTED]

**Codice fiscale:** [REDACTED]

**Phone number:** [REDACTED]

**Email:** [REDACTED] pliegogarcia@dima.unige.it

**Website:** <https://sites.google.com/view/javierpliego>.

## EDUCATION

---

**University of Bristol** *September 2017 - September 2021*

PhD in Mathematics

Thesis title: “Waring’s problem in thin sets and mixed moments of the Riemann zeta function”

Supervisor: Trevor Wooley.

**Universidad Autónoma de Madrid** *September 2016 - July 2017*

MSc in Mathematics and Applications

Thesis title: “Elliptic curves and Galois representations”

Supervisor: Enrique González Jiménez.

**Universidad Autónoma de Madrid** *September 2012 - June 2016*

Bachelor in Mathematics

Thesis title: “Sidon sets”

Supervisor: Javier Cilleruelo.

Overall GPA: 9.87/10

**Real Conservatorio Superior de Música de Madrid** *2012 - 2016*

Bachelor in Music, viola performance.

## ACADEMIC POSITIONS

---

**Università degli Studi di Genova** *August 2023 - Present*

Assegno di ricerca (Postdoct). Supervisor: Sandro Bettin.

**KTH Royal Institute of Technology in Stockholm** *September 2021 - July 2023*

Postdoctoral Fellowship. Supervisor: Lilian Matthiesen.

## VISITING POSITIONS

---

**Purdue University** *September 2019 - July 2021*

Teaching assistant, research assistant, visiting scholar.

## RESEARCH INTERESTS

---

Analytic and additive number theory, applications of the Hardy-Littlewood method to additive problems and diophantine equations, moments of L-functions on the critical line, probabilistic number theory.

## PAPERS

---

- [1] *On squares of sums of three cubes*, Q. J. Math. 71 (2020), no. 4, 1219–1235,
- [2] *On Waring’s problem in sums of three cubes*, Mathematika 67 (2021), no. 1, 235–256,
- [3] *Uniform bounds in Waring’s problem over some diagonal forms*, Math. Z. 300 (2022), no. 3, 3083–3107,
- [4] *On Waring’s problem in sums of three cubes for smaller powers*, J. Aust. Math. Soc. 114 (2023), no. 3, 378–405.
- [5] *Mixed moments of the Riemann zeta function*, accepted, to appear in Ann. Sc. Norm. Super. Pisa Cl. Sci. , arXiv:2210.15321.
- [6] *Estimates for a three-dimensional exponential sum with monomials*, accepted, to appear in Journal de Théorie des Nombres de Bordeaux, arXiv:2211.02096.
- [7] *Twisted mixed moments of the Riemann zeta function*, submitted, arXiv:2211.11450.
- [8] *On bounds for  $B_2[g]$  sequences and the Erdős-Turán Conjecture*, submitted, arXiv:2405.04154.

## SCHOLARSHIPS AND AWARDS

---

- Supported by a grant from the **Göran Gustafsson Foundation Grant** *2021-2023*
- National Award for Excellence in Academic Performance** (Tercer Premio Nacional Fin de Carrera)  
Ministerio de Educación, España; *2020*
- Supported by **European Research Council Advanced Grant** “Exponential sums, translation invariance, and applications”, No. 695223; *2017-2019*
- MSc scholarship** *2016*  
Universidad Autónoma de Madrid;
- Award for Excellence in Academic Career** (Premio Extraordinario Fin de Carrera) *2016*  
Universidad Autónoma de Madrid;
- Becas de Excelencia** *2013, 2014, 2015, 2016*  
Comunidad de Madrid.

## INVITED SPEAKER IN CONFERENCE

---

- “On Vu’s theorem in Waring’s problem”, Italy - France Analytic Number Theory Workshop, Università degli studi di Genova *8-10 July 2024.*

## SEMINAR/CONFERENCE TALKS

---

- “On Vu’s theorem in Waring’s problem”, ELAZ 2024, Rostock *25-30 August 2024.*
- “On Vu’s theorem in Waring’s problem”, Analysis Seminar, Universitat de Valencia *June 2024.*
- “On Vu’s theorem in Waring’s problem”, Number Theory Seminar, University of Turku; *June 2024.*
- “On bounds for  $B_2[g]$  sequences and the Erdős-Turán Conjecture”, Dynamics-Combinatorics-Arithmetics (Séminaire Ernest), Aix-Marseille Université; *April 2024.*
- “On bounds for  $B_2[g]$  sequences and the Erdős-Turán Conjecture”, Journées Arithmétiques 2023, Université de Lorraine, Nancy; *July 2023.*
- “On bounds for  $B_2[g]$  sequences and the Erdős-Turán Conjecture”, Number Theory seminar, KTH, *April 2023.*

“Uniform bounds in Waring’s problem over diagonal forms”,  
Seminar in Algebraic Geometry and Number Theory, University of Gothenburg; *June 2022.*

“Mixed moments of the Riemann zeta-function”,  
Analytic Number Theory and Harmonic Analysis Seminar, Purdue University; *April 2022;*

“Uniform bounds in Waring’s problem over diagonal forms”,  
Number Theory internal seminar, KTH Royal Institute of Technology in Stockholm; *February 2022;*

“Uniform bounds in Waring’s problem over diagonal forms”,  
Combinatorial and Additive Number Theory, CUNY online seminar; *May 2021;*

“Mixed moments of the Riemann zeta-function”,  
FRG on Averages of L-functions and Arithmetic Stratification, AIM; *March 2021*

“On Waring’s problem on sums of three cubes for smaller exponents”,  
Analytic Number Theory and Harmonic Analysis Seminar, Purdue University; *September 2020*

## EXPOSITORY TALKS

---

“The circle method”,  
Valentia Matematica 2024: Summer School in Advanced Mathematics, *June 2024*

“An application of modular forms to additive number theory”,  
Galois representations reading course, Genova *May 2024*

“Introduction to the circle method”,  
Number Theory internal seminar, KTH Royal Institute of Technology in Stockholm; *November 2021;*

“Exponential sums”,  
Transference principle reading group, University of Bristol; *March 2019*

“Croot-Lev-Pach Lemma”,  
Polynomial method reading group, University of Bristol; *October 2018*

“Reciprocity laws”,  
Class field theory reading group, University of Bristol; *May 2018*

ESTIA study group, University of Bristol; *December 2017*

“Algebraic number theory and Mordell-Weil theorem”,  
Elliptic curves Workshop, Universidad Autónoma de Madrid. *April 2017*

## RESEARCH VISITS

---

University of Turku *9-16 June 2024*

University of Gothenburg/Chalmers University *8-11 June 2022*

## INVITATION TO CONFERENCES/WORKSHOPS

---

Oberwolfach Workshop: ”Analytic Number Theory” *6-12 November 2022*

## CONFERENCES ATTENDED

---

Journées Arithmétiques 2023, Université de Lorraine, Nancy; *3-7 July, 2023*

A celebration of analytic number theory, in honor of Andrew Granville,  
Université de Montréal *5-9 September, 2022*

The Crafoord Prize Symposium in Mathematics: Number Theory  
Lunds Tekniska Högskola *26 April 2022*

Arithmetic (and) Harmonic analysis, Virtual workshop, *31 May - 4 June, 2021*  
Mittag-Leffler Institute;

Combinatorial and Additive Number Theory (CANT), Virtual conference, *24 - 28 May, 2021*  
City University of New York;

FRG Workshop on Averages of L-functions and Arithmetic Stratification, *July 2020*  
American Institute of Mathematics;

Second Symposium on Analytic Number Theory, *8-12 July 2019*  
Cetraro;

Efficient Congruencing and Decoupling Focused Research Workshop, *17-21 June 2019*  
Bristol;

BOWL, 1-day meeting in Additive Combinatorics, *26 September 2018*  
University of Oxford;

Arithmetic Ramsey Theory, *10-13 September 2018*  
Manchester;

CMI-LMS Research School: “New Trends in Analytic Number Theory 2018”, *13 - 17 August 2018*  
Exeter;

Perspectives on Riemann Hypothesis, *4-7 June 2018*  
Bristol;

Combinatorial and Additive Number Theory, *22-25 May 2018*  
Cuny Graduate Center, New York;

Georgia Discrete Analysis, *14-17 May 2018*  
Athens, Georgia;

BOWL, one-day meeting in additive combinatorics and analytic number theory, *8 February 2018*  
Bristol;

Clay Workshop on Harmonic Analysis and related areas, *September 2017*  
Oxford;

BOWL, 1-day meeting in additive combinatorics, *20 September 2017*  
Warwick;

---

## TEACHING

**“Topics in complex analysis” (Complementi di Analisi Complessa)** (Teaching assistant, master course, 8-10 students). Università degli studi di Genova. *Fall 2023*

**Math MA16500, “Introduction to calculus of one variable”** (first year undergraduate course, three groups,  $\approx$  35-40 students).  
Recitation class, Purdue University; *Fall 2019*

**“Introduction to Group Theory”** (first year undergraduate course,  $\approx$  10-12 students).  
Tutorial, University of Bristol. *Spring 2019*

**“Introduction to Proofs”** (first year undergraduate course,  $\approx$  10-12 students).  
Tutorial, University of Bristol. *Fall 2018*

---

## ORGANISER

## LANGUAGES

---

**Spanish:** Mother tongue,  
**English:** Fluent, C1 (Cambridge Advance Exam),  
**French:** Good command,  
**Swedish:** Very basic knowledge, A1,  
**Catalán:** Basic knowledge.  
**Italian:** Basic knowledge.

## SERVICE

---

Math tutor to Year 10 students (14-15 years old) with “Action Tutoring” (NGO), *May-June 2019*

Bedminster Down School, Bristol, UK;

Math tutor to Year 5 students (9-10 years old) with “Action Tutoring” (NGO), *May-June 2019*  
Hareclive E-Act Academy, Bristol, UK;

Math tutor to “2º de Bachillerato” students (17-18 years old) with “Asociación La Torre de Hortaleza” (NGO),

IES Rosa Chacel, Madrid, Spain.

*November-December 2016*

