

Romain Laurent Aimino

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Personal data

Full name: Romain Laurent Aimino

Name in bibliographic citations: Romain Aimino

Birth date and place: 5th November 1988, Toulon (France)

Nationality: French

Identification in academic databases:

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ResearcherID: AAC-1296-2020

Scopus: 5623107240

Google Scholar: g8GhY1MAAAAJ

CiênciaVitae: E218-18C2-71BB

Academic degrees:

- 2014 PhD in Mathematics *University of Toulon (France)*.
Supervisor: Sandro Vaienti
Thesis title: Vitesse de mélange et théorèmes limites pour les systèmes dynamiques aléatoires et non-autonomes (Rates of mixing and limit theorems for random and non-autonomous dynamical systems)
- 2011 MSc in Mathematics *University of Toulon (France)*.
Supervisor: Sandro Vaienti
Thesis title: Grandes déviations pour les systèmes dynamiques (Large deviations for dynamical systems)
- 2009 BSc in Mathematics *University of Toulon (France)*.

Scientific domain: Mathematics

Current research interests: Probability Theory, Ergodic Theory, Dynamical systems

Current academic position: Invited Assistant Professor (Part-Time) at the University of Porto, Associate member of CMUP

Employment:

- 09/2026 – University of Porto, Portugal, *Invited Assistant Professor (Part-Time)*.
12/2016 – 02/2025 University of Porto, Portugal, *Post-doctoral position, Assistant researcher*.
11/2014 – 10/2016 University Tor Vergata, Rome, Italy, *Post-doctoral position*.

Scientific activity

My research sits at the crossroads of **Probability Theory**, Ergodic Theory, and Dynamical Systems. I am particularly interested in probabilistic limit theorems (central limit theorems, stable laws, large deviations, extreme-value theory) for deterministic and random systems.

Key journals. My work has appeared in the leading international journals of Probability and Dynamical Systems, including:

- **Annals of Probability**
- **Probability Theory and Related Fields**
- *Annales de l'Institut Henri Poincaré (B) – Probabilités et Statistiques*
- *Ergodic Theory and Dynamical Systems*
- *Discrete and Continuous Dynamical Systems*
- *Nonlinearity*

Citation indicators (as of September 2026):

- *Scopus*: 128 citations in 96 documents, h-index 5.
- *Web of Science*: 136 citations (128 after excluding self-citations), h-index 5.
- *MathSciNet*: 125 citations by 110 authors.
- *zbMATH*: 123 citations in 94 documents, by 104 authors, 35 journals and 15 fields.
- *Google Scholar*: 244 citations, h-index 7, i10-index 7.

Publications in scientific journals

1. R. Aimino, M. Nicol, S. Vaienti, Annealed and quenched limit theorems for random expanding dynamical systems, *Probability Theory and Related Fields*, 162(1), 233-274, (2015)
2. R. Aimino, H. Hu, M. Nicol, A. Török, S. Vaienti, Polynomial loss of memory for maps of the interval with a neutral fixed point, *Discrete and Continuous Dynamical Systems -A*, 35(3), 793-806, (2015)

3. R. Aimino, J. Rousseau, Concentration inequalities for sequential dynamical systems of the unit interval, *Ergodic Theory and Dynamical Systems*, 36(8), 2384-2407, (2016)
4. M. Abdelkader, R. Aimino, On the quenched central limit theorem for random dynamical systems, *Journal of Physics A: Mathematical and Theoretical*, 49(24), 13 pp, (2016)
5. R. Aimino, M. Nicol, M. Todd, Recurrence statistics for the space of Interval Exchange maps and the Teichmüller flow on the space of translation surfaces, *Annales de l'Institut Henri Poincaré (B) Probabilités et Statistiques*, 53(3), 1371-1401, (2017)
6. R. Aimino, J. M. Freitas, Large deviations for dynamical systems with stretched exponential decay of correlations, *Portugaliae Mathematica*, 76(2), 143-152, (2019)
7. R. Aimino, C. Liverani, Deterministic walks in random environment, *Annals of Probability*, 48(5), 2212-2257, (2020)
8. R. Aimino, M. Nicol, A. Török, Stable laws for random dynamical systems, *Ergodic Theory and Dynamical Systems*, 44(11), 3041-3090, (2024)
9. R. Aimino, A. C. M. Freitas, J. M. Freitas, M. Todd, Multivariate extreme values for dynamical systems, *Nonlinearity*, 39, 015023, (2026)

Other publications

1. R. Aimino, S. Vaienti, A note on the large deviations for piecewise expanding multidimensional maps, *Nonlinear Dynamics, New Directions: Theoretical Aspects*, Nonlinear Systems and Complexity, 11, González-Aguilar, H. and Ugalde, E (eds.), New York, Springer 2015
2. R. Aimino, M. Pollicott, Statistical properties of the Rauzy-Veech-Zorich map, *Thermodynamic Formalism, Lectures Notes in Mathematics, CIRM Jean-Morlet subseries*, 2290, 317-349, Pollicott M., Vaienti S. (eds.), Springer, Cham., (2021)

Articles submitted for publication

1. R. Aimino, T. Caby, J. M. Freitas, D. S. Pinho, Distributional results for the shortest distance between trajectories of different dynamics, submitted, (2026), https://www.cmup.pt/sites/default/files/2026-05/Sync-ACFP-v3_0.pdf

Research Projects

1. 2022 - 2025 **Means and Extremes in Dynamical Systems**.
FCT reference: PTDC/MAT-PUR/4048/2021.
Principal Investigator: José Ferreira Alves; Co-PI: Jorge Milhazes Freitas.
Role: *Hired researcher*.
2. 2018 - 2022 **Limiting Laws Ruling Dynamical Systems**.
FCT reference :PTDC/MAT-PUR/28177/2017.
Principal Investigator: Jorge Milhazes Freitas; Co-PI: Ana Cristina Moreira Freitas.
Role: *Post-doctoral researcher*.

3. 2017 - 2022 **Statistical properties for random and non-autonomous dynamical systems**.
FCT reference: SFRH/BPD/123630/2016.
Role: *Research Post-doctoral fellowship*.
4. 2016 - 2019 **Probabilistic Methods in Chaotic Dynamics**.
FCT reference: PTDC/MAT-CAL/3884/2014.
Principal Investigator: José Ferreira Alves.
Role: *Postdoctoral researcher*.
5. 2014 - 2016 **Macroscopic Laws and Dynamical Systems**.
ERC reference: ERC AdG MALADY 246953.
Principal investigator: Carlangelo Liverani.
Role: *Postdoctoral researcher*.
6. 2011 - 2015 **ANR Perturbations**.
ANR reference: ANR-10-BLAN 0106.
Principal Investigator: Sandro Vaienti.
Role: *PhD Student*.
7. Researcher on the **CMUP strategic project** team with reference: UID/MAT/00144/2013.
Role: *Integrated member*.
8. Researcher on the **CMUP strategic project** team with reference: UID/MAT/00144/2019.
Role: *Integrated member*.
9. Researcher on the **CMUP strategic project** team with reference: UIDB/00144/2020.
Role: *Integrated member*.
10. Researcher on the **CMUP strategic project** team with reference: UID/00144/2025.
Role: *Associate member*.

Scientific Teams and Supervision

MSc students:

- Bianca Gomes Silva – *Clustering of rare events and limiting properties of chaotic dynamics*. Co-supervisor, with J. M. Freitas. Completed 2023.
- Duarte Sá Pinho – *Extreme synchronization for product dynamical systems*. Co-supervisor with T. Caby and J. M. Freitas. Completed 2025.

PhD students:

- Agostino Pigozzi – *Spectral methods in dynamical systems*. Co-supervisor with P. Varandas. Started October 2025.
This PhD project has been awarded a grant by the FCT in July 2026 through a highly competitive national call.
- Paolo Flavoni – *Stochastic properties of non-uniformly hyperbolic dynamics*. Co-supervisor with A. C. M. Freitas and J. M. Freitas. Started January 2026.
This PhD project has been awarded a grant by the FCT in July 2026 through a highly competitive national call.

Undergraduate and graduate mentoring:

- Duarte Sá Pinho – Co-supervised with Théophile Caby within the **Gulbenkian New Talents** programme (2023-24).
- Pedro Amorim Moreira – Supervised within the **Gulbenkian New Talents** programme (2024-25).

Scientific recognition

I have been awarded a postdoctoral fellowship from FCT with reference SFRH/BPD/123630/2016, in a **highly competitive national call** in 2017 for a duration of 3+3 years.

I have been invited to deliver talks at high-profile venues including **CIRM** (Marseille, France, 4 times), the **Isaac Newton Institute for Mathematical Sciences** (Cambridge, 2013), the **Centro di Ricerca Matematica Ennio De Giorgi** – Scuola Normale Superiore di Pisa (DinAmicI VI, 2019), and the **Laboratoire de Probabilités et Modèles Aléatoires** (Jussieu, Paris, 2018).

- **Communications in international and national meetings by invitation**

1. Extreme values theory and laws of rare events, Marseille (France), July 2014.
2. Recurrence, mixing and fluctuations: statistics of dynamical systems, Session of the AMS-EMS-SPM International Meeting in Porto, Porto (Portugal), June 2015;
3. DinAmicI IV: Fourth workshop of the italian dynamicists, Corinaldo (Italy), June 2015.
4. Non Uniformly Hyperbolic Dynamical Systems. Coupling and Renewal Theory, Marseille (France), February 2017.
5. Ergodic Theory and Dynamical Systems, Session of Dynamics Days Europe 2018, Loughborough (UK), September 2018.
6. Probabilistic Limit Theorems in Dynamical Systems, Marseille (France), November 2018.
7. DinAmicI VI: Sixth workshop of the italian dynamicists, Pisa (Italy), June 2019.
8. Dynamical systems, Session at the National Meeting of the Portuguese Mathematical Society, Tomar (Portugal), July 2022.
9. Probabilistic techniques for random and time-varying dynamical systems, Marseille (France), October 2022.
10. 9th Iberian Mathematical Meeting, Ponta Delgada, Azores, (Portugal), October 2024.
11. Differential Equations, Optimization Techniques, and their Industrial Applications, Aveiro (Portugal), June 2026
12. Dynamical Systems and Applications, Session at the National Meeting of the Portuguese Mathematical Society, Oeiras (Portugal), September 2026

• **Other selected seminars and talks**

1. Combinatorial, arithmetic and geometric aspects of tilings, Porquerolles (France), June 2012.
2. Discrete aspects of dynamical systems, Porquerolles (France), June 2013.
3. One day ergodic theory meeting, Loughborough (UK), November 2013.
4. Newton Institute of Mathematics, Cambridge (UK), November 2013.
5. University Tor Vergata, Rome (Italy), February 2014.
6. Institut de Mathématiques, Luminy, Marseille (France), May 2014.
7. University Tor Vergata, Rome (Italy), November 2014.
8. Séminaire de l'équipe de théorie ergodique, Rennes (France), December 2014.
9. Seminario di fisica matematica, Bologna (Italy), April 2015.
10. Seminar of Mathematical Physics, University of Helsinki (Finland), September 2015.
11. Working group on probability, ergodic theory and dynamical systems, University of Rouen (France), November 2015.
12. Seminar of Dynamical systems, University of Pise (Italy), December 2015.
13. Seminar of dynamical systems, probability and statistics, Brest (France), December 2017.
14. Seminar of ergodic theory of the LPMA, Jussieu, Paris (France), April 2018.
15. Seminar of the department of Mathematics, Universidade de Beira Interior, Covilha (Portugal), June 2019.
16. CEMAPRE Seminar, Lisbon (Portugal), October 2019.
17. Seminar of dynamical systems, CMAFcIO, Lisbon (Portugal), November 2023.
18. Seminar of functional analysis, University of Aveiro, March 2026.

Editorial work and referee

1. Referee of scientific articles for the journals Communications in Mathematical Physics, Nonlinearity, Ergodic Theory and Dynamical Systems, Discrete and Continuous Dynamical Systems, Bulletin of the LMS, Journal of Physics A: mathematical and theoretical, Stochastic Processes and their Applications, Annales de l'Institut Henri Poincaré: Analyse non linéaire, Studia Mathematica, ...

IOP Trusted Reviewer (recognized among IOP Publishing's top reviewers)

Web of Science profile: <https://www.webofscience.com/wos/author/record/AAC-1296-2020>

2. I am a reviewer for Mathematical Reviews (AMS) : <https://mathscinet.ams.org/mathscinet/search/publications.html?pg1=RVRI&sl=1084513&pg3=authreviews>

Pedagogical activities

Teaching activities

Spring 2012	Geometry Exercises classes	BSc in Mathematics (Second year) University of Toulon
Spring 2012	Linear Algebra Exercises classes	BSc in Mathematics applied to Social Science (First year) University of Toulon
Fall 2012	Probability Exercises classes	Master in Mathematics (First year) University of Toulon
Spring 2013	Geometry Exercises classes	BSc in Mathematics (Second year) University of Toulon
Fall 2013	Probability Exercises classes	Master in Mathematics (First year) University of Toulon
Spring 2014	Geometry Exercises classes	BSc in Mathematics (Second year) University of Toulon
April 2015	Statistical Properties of Dynamical Systems Exercises classes	LMS-CMI Research School organized by Wael Bahsoun University of Loughborough
Fall 2022	Probability Theory and Stochastic Processes Lectures	Joint PhD Program Porto-Coimbra University of Coimbra
Fall 2023	Probability Theory and Stochastic Processes Lectures	Joint PhD Program Porto-Coimbra University of Porto
Fall 2024	Probability Theory and Stochastic Processes Lectures	Joint PhD Program Porto-Coimbra University of Coimbra
Fall 2026	Probability Theory and Stochastic Processes Lectures	Joint PhD Program Porto-Coimbra University of Coimbra

Other relevant activities

Organized scientific meetings

1. I co-organised with Jérôme Rousseau two sessions *Ergodic theory and chaotic dynamical systems* at the National Meeting of the Portuguese Mathematical Society, online, 12-16 July 2021, (Portugal), <https://enspm2021.spm.pt/parallel-sessions-programme/>;
2. I was part of the organizing committee of the *Workshop on Probabilistic methods in dynamics* at the University of Porto, 11-15 December 2023, <https://sites.google.com/view/oporto2023dynamics/probabilistic-methods-in-dynamics>.
3. I first co-organize and then organize on my own the seminar of dynamical systems of the CMUP since March 2023.