

## ANNEXB

### UNIVERSITÀ DEGLI STUDI DI MILANO

selezione pubblica per n.1 posto/i di Ricercatore a tempo determinato in tenure track (RTT) per il settore concorsuale 01/A4 - Fisica Matematica , settore scientifico-disciplinare MAT/07 - Fisica Matematica presso il Dipartimento di Matematica "Federigo Enriques", (avviso bando pubblicato sulla G.U. n. 21 del 12/03/2024) Codice concorso 5512

## [Reza Mohammadpour] CURRICULUM VITAE

(N.B. CV MUST BE OF UP TO 30 PAGES AND INCLUDE THE DETAILS CANDIDATES CONSIDER USEFUL FOR THE ASSESSMENT.

ALL THE TITLES INSERTED BELOW ARE JUST EXAMPLES THAT CAN BE REPLACED, CHANGED OR COMPLETED)

### PERSONAL DATA (DO NOT INCLUDE YOUR PERSONAL ADDRESS AND LANDLINE OR MOBILE PHONE NUMBER)

SURNAME	MOHAMMADPOUR BEJARGAFSHEH
NAME	REZA
DATE OF BIRTH	

### QUALIFICATIONS

#### DEGREE

(Specify full degree name, University, date, etc.)

-M.Sc. in Geometry and Dynamical Systems, Ferdowsi University of Mashhad, Iran

B.Sc. in Mathematics and its application, University of Guilan, Rasht, Iran

### DOCTORAL DEGREE OR EQUIVALENT QUALIFICATION EARNED IN ITALY OR ABROAD / MEDICAL SPECIALISATION DIPLOMA OR EQUIVALENT QUALIFICATION, FOR THE RELEVANT SECTORS, EARNED IN ITALY OR ABROAD

(Specify qualification full name, institution, date, etc.)

Ph.D. in Mathematics, Institute of Mathematics of Polish Academy of Sciences (IM PAN), Poland

Ph.D. Thesis: "Thermodynamic formalism and multifractal analysis for matrix cocycles and solenoids," under supervision of Prof. Michal Rams and co-supervision of Prof. Feliks Przytycki

# RESEARCH CONTRACTS, RESEARCH FELLOWSHIP CONTRACTS, POSTDOCTORAL SCHOLARSHIPS OR SIMILAR CONTRACTS

(Specify, for each contract, university/institution, starting and termination date, etc.)

January 2021-September 2021, Postdoctoral position, University of Bordeaux, France

October 2021-present, Postdoctoral position, Uppsala University, Sweden

## TEACHING ACTIVITIES AT ITALIAN OR FOREIGN UNIVERSITIES

(Specify academic year, university, degree course, number of hours etc.)

Time	course	Institution, course level	No. students	Credits	No. hours, (Clock hours)	Teacher responsibility, (role and scope)
October 2022-March 2023	Real Analysis	Uppsala University (Sweden), Bachelor's Programme in Mathematics, Year 2	45	10	50	Full responsibility (including, planning, lecturing, problem sessions, And examination)
January 2021	An introduction to the ergodic optimization Of Birkhoff averages And Lyapunov exponents	University of Bordeaux (France), PhD's Programme	10	5	12	Full responsibility (including, planning, lecturing, problem sessions, And examination)
Winter 2019	Mathematical Analysis 1	University of Warsaw (Poland), Bachelor's Programme for international students	30	10	50	planning, problem sessions, and examination
Winter 2018	Furstenberg's formula for Lyapunov exponents of linear cocycles	IMPAN (Poland), lecture series Aimed at non-experts	10	-	12	Full responsibility (including, planning and lecturing)
Winter 2017	Mathematical Analysis 1	University of Warsaw (Poland), Bachelor's Programme for international students	30	10	50	planning, problem sessions, and examination
Spring 2015	Discrete mathematics	Ferdowsi University of Mashhad (Iran), lecture series aimed at International students	5	-	20	Full responsibility (including, planning and lecturing)
Spring 2015	An introduction to dynamical systems	Ferdowsi University of Mashhad (Iran), Master's programme	25	4	25	planning, problem sessions, and examination
<b>Total hours:</b>					219	

**ATTESTED TRAINING OR RESEARCH ACTIVITIES AT QUALIFIED ITALIAN OR FOREIGN INSTITUTIONS**  
(Specify academic year, institution, course, period, etc.)

Scientific Visits:

8-13 April 2024, Ayreena Bakhtawar and Stefano Marmi, Centro di Ricerca Matematica Ennio De Giorgi, Scuola Normale Superiore, Pisa, Italy

3-9 March 2024, Pedro Duarte Universidade de Lisboa, Portugal

February 28-March 6, 2024, Paulo Varandas, Universidade do Porto, Portugal

June 2023, Philippe Thieullen, Université de Bordeaux, France

May 2023, Simon semester, Institute of Mathematics, Polish Academy of Sciences, Poland

April 2023, Charlene Kalle, Leiden University, Netherlands

May 2022, Martin Leguil, University of Picardie Jules Verne, France

**ORGANISATION, SUPERVISION AND COORDINATION OF NATIONAL AND INTERNATIONAL RESEARCH GROUPS, OR PARTICIPATION IN THEM**

(For each entry, specify year, role, research group, etc.)

-Since January 2022 until the present, I have founded and been running the Dynamical Systems and Number Theory program at Uppsala University.

October 2021-present- I am the part of the project "Dynamics and asymptotics on homogeneous spaces, and applications", which is funded by the Knut and Alice Wallenberg Foundation. The PI is the Prof. Andreas Strömbergsson.

-October 2024-September 2025- I will be the part of a VR project grant of Prof. Anders Karlsson.

**SPEAKING AT NATIONAL AND INTERNATIONAL CONFERENCES AND CONVENTIONS**

(Specify conference/convention title, date, etc.)

-SRB measures for partially hyperbolic systems, Scuola Normale Superiore, Pisa, Italy, April 2024 (invited speaker).

- Restricted variational principle of Lyapunov exponents for typical cocycles, Dynamical systems seminar, University of Lisbon, Portugal, March 2024 (invited speaker).

- Restricted variational principle of Lyapunov exponents for typical cocycles, Dynamical systems seminar, Centro de Matematica da Universidade do Porto, Porto, Portugal, March 2024 (invited speaker).

-Restricted variational principle of Lyapunov exponents for typical cocycles, Séminaire d'Analyse, Université de Bordeaux, France, June 2023 (invited speaker).

- Restricted variational principle of Lyapunov exponents for typical cocycles, Thermodynamic Formalism: Non-additive Aspects and Related Topics, Bedlewo, Poland, May 2023.

- Restricted variational principle of Lyapunov exponents for typical cocycles, Fractals, dynamics and Diophantine approximation workshop, Leiden University, Netherlands, April 2023 (invited speaker).
- SRB measures for partially hyperbolic systems, Institut Mittag-Leffler seminar, Two Dimensional Maps program, Sweden, January 2023 (invited speaker).
- Entropy spectrum of Lyapunov exponents for typical cocycles, Mini workshop at KTH, Sweden, December 2022 (invited speaker).
- On Hausdorff dimension of thin nonlinear solenoids, FARF IV, Porquerolles, France, September 2022.
- SRB measures for partially hyperbolic systems, Dynamical systems and ergodic theory seminar, IMPA, Brazil, June 2022 (invited speaker).
- SRB measures for partially hyperbolic systems, Dynamical systems workshop, Uppsala University, May 2022 (invited speaker).
- SRB measures for partially hyperbolic systems, Seminaire Dynamique et Probabilites, University of Picardie Jules Verne, France, May 2022 (invited speaker).
- Ergodic optimization and multifractal formalism of Lyapunov exponents, CDSNS Colloquium, Georgia Tech, February 2022 (invited speaker).
- SRB measures for partially hyperbolic systems, New trends in Lyapunov exponents, Lisbon, Portugal, February 2022 (invited speaker).
- SRB measures for partially hyperbolic systems, IMPAN Dynamical systems seminar, IMPAN, Warsaw, Poland, January 2022 (invited speaker).
- Lyapunov spectrum properties, KTH Dynamical systems seminar, KTH, Stockholm, Sweden, January 2022 (invited speaker).
- Ergodic optimization and multifractal formalism of Lyapunov exponents, Annual Meeting Mathematical Society of Chile (Topological and Measurable Dynamics session), Rancagua, Chile, December 2021 (invited speaker).
- Ergodic optimization and multifractal formalism of Lyapunov exponents, First Dynamical Systems Summer Meeting, Bedlewo, Poland, August 2021.
- Lyapunov spectrum properties, International Congress on Mathematical Physics (ICMP), Geneva, Switzerland, August 2021.
- Ergodic optimization and multifractal formalism of Lyapunov exponents, Institut für Mathematik webinar, Friedrich-Schiller-Universität Jena, June 2021 (invited speaker).
- Zero temperature limits of equilibrium states for subadditive potentials, The 9th Visegrad Conference "Dynamical Systems" online, Prague, June 14-18, 2021 (online).
- Ergodic optimization and multifractal formalism of Lyapunov exponents, Le seminaire de theorie ergodique du LPSM, Sorbonne Université Paris, France, June 2021 (invited speaker).
- Lyapunov spectrum properties, IPM-GTDS-Youth-Seminar, Tehran, Iran, May 2021 (invited speaker).
- Lyapunov spectrum properties, ANR CODYS, Paris-Bordeaux, France, November 2020 (invited speaker).

- Zero temperature limits of equilibrium states for subadditive potentials, LaBRI seminar, Bordeaux, France, November 2020 (invited speaker).
- Lyapunov spectrum properties and continuity of lower joint spectral radius, Lisbon dynamics webinar, Lisbon, Portugal, July 2020 (invited speaker).
- Lyapunov spectrum properties, Sydney Dynamics group webinar, Sydney, Australia, June 2020.
- Lyapunov spectrum properties, Centro de Matematica da Universidade do Porto webinar, Porto, Portugal, June 2020(online).
- Zero temperature limits of equilibrium states for subadditive potentials, Dynamical systems seminar, IMPAN, Warsaw, Poland, March 2020 (invited speaker).
- Zero temperature limits of equilibrium states for subadditive potentials, Wondering seminar, Gdansk, Poland, February - 01 March 2020.
- Approximation of the maximal Lyapunov exponent by periodic points, Young researcher colloquiums, IMPAN , Warsaw, Poland, December, 2019 (invited speaker).
- On Hausdorff dimension of thin nonlinear solenoids, Conference Dynamics, Equations and Applications, Krakow, Poland, September 2019.
- On Hausdorff dimension of thin nonlinear solenoids, 7th Bremen Summer School and Symposium, University of Bremen, Germany, August 2019.
- On Hausdorff dimension of thin nonlinear solenoids, Conference on Dynamical Systems Celebrating Micha l Misiurewicz's 70th Birthday, Krakow, Poland, June 2019.
- Characterization of uniform hyperbolicity for fiber-bunched cocycles, University of Warsaw, Warsaw, Poland, November, 2018.
- Introduction to Lyapunov exponents of linear cocycles, Young researcher colloquiums, IMPAN ,Warsaw, Poland, June, 2018.
- Zero Lyapunov Exponents, Dynamical systems seminar, IMPAN, Warsaw, Poland, August, 2017.
- Attractors: Fat solenoidal attractors, The 4th Workshop on Dynamical Systems, Ferdowsi University of Mashhad, Mashhad. Iran, November, 2015.

#### NATIONAL AND INTERNATIONAL AWARDS AND ACCOLADES FOR RESEARCH ACTIVITY

(Specify award, date, issuing organisation, etc.)

- January-April 2023, Junior fellowship grant from the Institute Mittag-Leffler, Stockholm, Sweden
- 2021-2024, Einstein International Postdoctoral Fellow (IPF-2021-651) from the Einstein Foundation Berlin, Germany (Declined) ,
- 2023 Carl-Gustav Esseens grant from Uppsala University
- 2022 Carl-Gustav Esseens grant from Uppsala University
- 2019 A grant for young researchers and doctoral students at IMPAN from IMPAN

## SCIENTIFIC PRODUCTION

### SCIENTIFIC PUBLICATIONS

(For each publication, specify the following: authors' names, full title, publisher, date and place of publication, ISBN/ISSN/DOI or equivalent code)

- J. Imbierski, C. Kalle and R. Mohammadpour, Besicovitch-Eggleston sets for redundant GLS number systems with redundancy, Submitted.
- R. Mohammadpour, Restricted variational principle of Lyapunov exponents for typical cocycles, Submitted.
  - R. Mohammadpour, Entropy spectrum of Lyapunov exponents for typical cocycles, Submitted.
  - R. Mohammadpour, On positive Lyapunov exponents along  $E^{\text{cu}}$  and nonuniformly expanding for partially hyperbolic systems, Submitted.
  - R. Mohammadpour, Entropy of Lyapunov maximizing measures of  $SL(2, \mathbb{R})$  typical cocycles, Submitted.
  - R. Mohammadpour and K. Park, Uniform quasi-multiplicativity of locally constant cocycles and applications, To appear in *Studia Mathematica*.
  - R. Mohammadpour, On the multifractal formalism of Lyapunov exponents: a survey of recent results. *Proceedings of the conference New Trends in Lyapunov Exponents*, Springer-Verlag, 119-139, 2023.
  - R. Mohammadpour, F. Przytycki, and M. Rams, Hausdorff and packing dimensions and measures for nonlinear transversally non-conformal thin solenoids. *Ergodic Theory and Dynamical Systems*, 42(11), 3458-3489, 2022.
  - R. Mohammadpour, Thermodynamic formalism and multifractal analysis for matrix cocycles and solenoids, PhD thesis, IMPAN 2021.
  - R. Mohammadpour, Lyapunov spectrum properties and continuity of lower joint spectral radius. *Journal of Statistical Physics*, 187(23), 2022.
  - R. Mohammadpour, Thermodynamic formalism and multifractal analysis for matrix cocycles and solenoids, PhD thesis, IMPAN 2021.
  - R. Mohammadpour, Zero temperature limits of equilibrium states for subadditive potentials and approximation of the maximal Lyapunov exponent. *Topol. Methods Nonlinear Anal.*, 55(2), 697-710, 2020.

Date

04/10/2024

Place

Uppsala, Sweden

A handwritten signature in blue ink, consisting of stylized, overlapping loops and a long horizontal stroke at the bottom.