

# Curriculum Vitae

Frank Trujillo  
15th December 2023

## Personal information

**Name:** Frank Alfonso Trujillo Amézquita  
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## Education

01/02/2016-08/07/2020     **Mathematics Ph.D.** at Université de Paris Cité, Paris, France, under the supervision of Prof. Bassam Fayad and Prof. Hakan Eliasson  
*Thesis title:* Exotic and tame behavior in quasi-periodic dynamics  
*Scholarship from:* Fondation de sciences mathématiques de Paris (FSMP)

01/03/2013-07/04/2015     **Mathematics M.S.** at IMPA, Rio de Janeiro, Brazil  
*Scholarship from:* Conselho nacional de desenvolvimento científico tecnológico (CNPQ) and Fundação de amparo à pesquisa do estado do Rio de Janeiro (FAPERJ)

01/02/2009-13/12/2012     **Mathematics B.S.** at Universidad Nacional de Colombia, Bogotá, Colombia

## Current and previous positions

01/09/2023-ongoing     **Postdoctoral researcher** at University of Zurich, Zurich, Switzerland, under the mentorship of Prof. Corinna Ulcigrai

## Qualifications

2021-2025     **Maître de Conférences qualification**, French Habilitation for Associate Professor, Section 25

# Publications

## Published

- [1] Hausdorff Dimension of Invariant Measures of Multicritical Circle Maps  
*Annales Henri Poincaré*, 2020  
<https://doi.org/10.1007/s00023-020-00940-2>  
Frank Trujillo
- [2] Uniqueness properties of the KAM curve  
*Discrete and Continuous Dynamical Systems*, 2021  
<https://www.aims sciences.org/article/doi/10.3934/dcds.2021072>  
Frank Trujillo
- [3] Smooth, mixing transformations with loosely Bernoulli Cartesian square  
*Ergodic Theory and Dynamical Systems*, 2022  
<https://www.cambridge.org/core/journals/ergodic-theory-and-dynamical-systems/article/abs/smooth-mixing-transformations-with-loosely-bernoulli-cartesian-square/8DC99BBD97B4C2AD5347CB80F5F6A076>  
Frank Trujillo
- [4] Lyapunov instability in KAM stable Hamiltonians with two degrees of freedom  
*Journal of Modern Dynamics*, 2023  
<https://www.aims sciences.org/en/article/doi/10.3934/jmd.2023010>  
Frank Trujillo

## Accepted for publication

- [5] On the Hausdorff dimension of invariant measures of piecewise smooth circle homeomorphisms to appear in *Ergodic Theory and Dynamical Systems*  
<https://arxiv.org/abs/2210.16233v1>  
Frank Trujillo
- [6] Affine IETs with a singular conjugacy to an IET to appear in *Annali Scuola Normale Superiore - Classe di Scienze*  
<http://arxiv.org/abs/2210.14202>  
Frank Trujillo and Corinna Ulcigrai

## Submitted

- [7] Surviving Lower Dimensional Invariant Tori of a Resonant Torus with any Number of Resonances  
<http://arxiv.org/abs/2109.10064>, 2021  
Frank Trujillo
- [8] Rigidity for piece-wise smooth circle maps and certain GIETs  
<http://arxiv.org/abs/2210.14886>, 2022  
Przemysław Berk and Frank Trujillo
- [9] Ergodicity of explicit logarithmic cocycles over IETs  
<http://arxiv.org/abs/2210.16343>, 2023  
Przemysław Berk, Frank Trujillo, and Corinna Ulcigrai
- [10] Ergodicity of infinite extensions of symmetric IETs by the centered indicator of  $(0,1/2)$   
<http://arxiv.org/abs/2304.01868>, 2023  
Przemysław Berk and Frank Trujillo

## Supervising and mentoring

01/09/2022-31/08/2023	<b>Master thesis co-supervisor</b> of Yuliana Noor at University of Zurich
01/09/2021-31/08/2022	<b>Master thesis co-supervisor</b> of Stefan Kurz at University of Zurich

## Teaching experience

Spring semester 2023	<b>Instructor</b> , Qualitative theory of differential equations, University of Zurich
Spring semester 2022	<b>Instructor</b> , Student seminar on Hamiltonian dynamics, University of Zurich
Fall semester 2021/22	<b>Instructor</b> , Foundations of mathematics, University of Zurich
Spring semester 2021	<b>Teaching assistant</b> , Complex analysis, University of Zurich
Fall semester 2020/21	<b>Instructor</b> , Student seminar on circle dynamics, University of Zurich
Spring semester 2020	<b>Teaching assistant</b> , Calculus I, Université Paris Descartes
Fall semester 2019/20	<b>Teaching assistant</b> , Measure theory, Université Paris Descartes
Spring semester 2019	<b>Teaching assistant</b> , Probability, Université Paris Descartes
Fall semester 2018/19	<b>Teaching assistant</b> , Advanced analysis and algebra, Université Paris Diderot
Spring semester 2017	<b>Teaching assistant</b> , Elementary analysis and algebra, Université Paris Diderot
Fall semester 2016/17	<b>Teaching assistant</b> , Advanced analysis and algebra, Université Paris Diderot

## Institutional tasks

Spring 2022 - ongoing	Co-organizer for the Ergodic Theory and Dynamical Systems Seminar, ETHZ/University of Zurich, Switzerland
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## Individual scientific expert activities

*Scientific referee* for various journals: Annales Scientifiques de l'École Normale Supérieure, Advances in Mathematics, Transactions of the American Mathematical Society, Journal of Differential Equations.

## Conferences, talks and presentations

### Mini-courses and lecture series

May-Jun 2023	Workshop on Ergodic theory and parabolic dynamics, Poland, <a href="#">Link to recordings</a>
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### Invited conference talks

Nov 2023	Barcelona Mathematical Days, Institut d'Estudis Catalans, Spain
Apr 2023	Workshop on two-dimensional maps, Institute Mittag-Leffler, Sweden
Dec 2022	Combinatorial and geometric approaches on dynamics, Universidad de Chile, Chile
Oct 2022	2nd Jangada dinâmica workshop on dynamical systems, ergodic theory and related areas, Universidade Federal do Ceará, Brazil
Nov 2021	Paraguayan colloquium on mathematics and related sciences, Universidad Nacional de Asunción, Paraguay

Sep 2021	8th SwissMAP general meeting, SwissMAP research station, Switzerland
Jul 2021	Oberwolfach workshop on dynamical systems, Mathematisches Forschungsinstitut Oberwolfach (MFO), Oberwolfach, Germany. <a href="#">Link to report</a>
Nov 2020	Penn State workshop in dynamical systems and related topics, Pennsylvania State University, USA

## Invited seminar talks

Dec 2023	Toruń ergodic theory and dynamical systems seminar, Uniwersytet Mikołaja Kopernika, Poland
Jun 2023	Dynamics and Group Geometry Early Researchers Seminar (DAGGER), University of Warwick, Warwick, United Kingdom
May 2023	Quasiworld (online) seminar
Mar 2023	UB-UPC (Universitat de Barcelona - Universitat Politècnica de Catalunya) Dynamical Systems Seminar, Spain
Apr 2023	Ergodic theory and dynamical systems seminar, University of Zurich, Switzerland
Nov 2022	Geometry and dynamical systems seminar, Université de Neuchâtel, Switzerland
Jun 2022	Seminar in dynamical systems at IST (DynamIST), IST, Austria
Mar 2022	Inter-institutional seminar on dynamical systems, ergodic theory and related areas (dinâmica arretada), Universidades do Nordeste, Brazil
Apr 2021	Toruń ergodic theory and dynamical systems seminar, Uniwersytet Mikołaja Kopernika, Poland
Fev 2021	Geometry, analysis and dynamical systems seminar, Université Nice Sophia Antipolis, France
Jul 2020	Dynamics and probability seminar, Université de Picardie Jules Verne, France
Oct 2020	Ergodic theory and dynamical systems seminar, University of Zurich, Switzerland
May 2020	Dynamical systems seminar, Institut de Mathématiques de Jussieu, France
Dec 2019	Ergodic theory and dynamical systems seminar, Université Paris Sud, France

## Invitation to international programs and Research visits

Dec 2023	Uniwersytet Mikołaja Kopernika, Poland (2 weeks). Host: Prof. Przemysław Berk
Mar-Jun 2023	Simons Semester: Topological, smooth and holomorphic dynamics, ergodic theory, fractals, IMPAN and MIMUW Warsaw, Poland (1 month)
Jan-Apr 2023	Two Dimensional Maps, Institut Mittag-Leffler, Sweden (3 weeks)
Aug 2022	Uniwersytet Mikołaja Kopernika, Poland (1 month) Host: Prof. Przemysław Berk

## Participation in Academic Events

Additionally, I have attended over 20 academic events (conferences, schools, workshops) without giving talks.

## Public engagement and outreach

Apr 2022	Information and advice panel “Hanging on when your research is stuck,” Zurich Graduate School in Mathematics Forum, ETHZ, Switzerland
May 2021	Public lecture “Dynamical systems: Models and mathematics”, Universidad Manuela Beltrán, Colombia
Dec 2019	Mathematics popularization talk for high school, Collège Jean Jaurès, Saint Ouen, France, <a href="#">Summary</a> (in French)

## Prizes, awards, scholarships

Jan 2016	Scholarship for Ph.D studies in Mathematics, Foundation de sciences mathématiques de Paris, France
Jan 2014	Outstanding performance scholarship (Best first year Master's student), Fundação de Amparo à Pesquisa do Estado do Rio de Janeiro, Brazil
Nov 2012	First place in “Efi-Ciencias” test (Test for last year students), Universidad Nacional de Colombia
Spring 2009 - Fall 2012	Outstanding performance scholarship (Top 10% each semester), Universidad Nacional de Colombia

## Funding and Grants

Sep-Dec 2023	UZH Postdoc Grant, <i>Project Grant</i> , Principal Investigator, Hamiltonians and low-dimensional systems.
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## Programming skills

C/C++, Python.

## Language skills

Spanish (native), English (C1), French (C1), German (A2-B1), Portuguese (C1).