

# Alexandre Perozim de Favari

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CONTACT INFORMATION	EPFL SB MATH CM 1 617 (Centre Midi) Station 10, 1015 Lausanne Switzerland	<a href="mailto:alexandre.defaveri@epfl.ch">alexandre.defaveri@epfl.ch</a> <a href="https://afaveri.github.io">https://afaveri.github.io</a>
RESEARCH INTERESTS	Analytic number theory and its interactions with harmonic analysis, automorphic forms, dynamical systems, spectral theory, and additive combinatorics.	
EMPLOYMENT	<b>École Polytechnique Fédérale de Lausanne (EPFL)</b> Bernoulli Instructor	2025 – Present
	<b>Stanford University</b> Postdoctoral Scholar	2023 – 2025
	<b>Institute for Advanced Study (IAS)</b> Member	2022 – 2023
EDUCATION	<b>California Institute of Technology</b> Ph.D. in Mathematics Advisor: Maksym Radziwiłł	2018 – 2022
	<b>Princeton University</b> A.B. in Mathematics Advisor: Peter Sarnak	2014 – 2018
PREPRINTS AND PUBLICATIONS	<ol style="list-style-type: none"><li>7. <b>Non-vanishing for quartic Hecke <math>L</math>-functions and ranks of elliptic curves</b> Joint with C. Castillo and A. Dunn <i>Submitted</i> (2026), 65 pp.</li><li>6. <b>Mass equidistribution for lifts on hyperbolic 4-manifolds</b> Joint with Z. Shem-Tov <i>Submitted</i> (2026), 31 pp.</li><li>5. <b>Non-vanishing for cubic Hecke <math>L</math>-functions</b> Joint with C. David, A. Dunn, and J. Stucky <i>Submitted</i> (2024), 92 pp.</li><li>4. <b>Non-escape of mass for arithmetic quantum limits on hyperbolic 4-manifolds</b> Joint with Z. Shem-Tov <i>Submitted</i> (2024), 29 pp.</li><li>3. <b>Simple zeros of <math>GL(2)</math> <math>L</math>-functions</b> <i>Journal of the European Mathematical Society (JEMS)</i> 27 (2025), no. 7, 2985–3021</li><li>2. <b>The variance of closed geodesics in balls and annuli on the modular surface</b> <i>Advances in Mathematics</i> 403 (2022), Paper No. 108390, 45 pp.</li><li>1. <b>Möbius disjointness for <math>C^{1+\varepsilon}</math> skew products</b> <i>International Mathematics Research Notices. IMRN</i> (2022), no. 4, 2513–2531</li></ol>	

AWARDS AND  
FELLOWSHIPS

1. Scott Russell Johnson Dissertation Prize (Caltech Math Department) for the best graduate dissertation in mathematics 2022
2. Scott Russell Johnson First-Year Prize (Caltech Math Department) for excellence in first-year graduate studies 2019
3. Phi Beta Kappa 2018
4. Andrew H. Brown Prize (Princeton Math Department) for outstanding juniors in mathematics 2017
5. Shapiro Prize for Academic Excellence (Princeton University) 2016
6. Fellow of Fundação Estudar 2014
7. IMO Bronze Medal 2014

TEACHING

**Instructor at EPFL**

- Math 327 - Topics in Complex Analysis Autumn 2025

**Instructor at Stanford**

- Math 20 - Calculus (Head Instructor) Spring 2025
- Math 152 - Elementary Theory of Numbers Winter 2024
- Math 110 - Number Theory for Cryptography Autumn 2023

**Teaching Assistant at Caltech**

- Math 3 - Probability and Statistics Winter 2022
- Math 17 - Putnam Seminar (Instructor) Fall 2021
- Math 11 - Mathematical Writing Spring 2021
- Math 17 - Putnam Seminar (Instructor) Fall 2020
- Math 3 - Probability and Statistics Winter 2020
- Math 110 - Graduate Real Analysis Fall 2019
- Math 3 - Probability and Statistics Winter 2019
- Math 2 - Differential Equations Fall 2018

**Teaching Assistant/Grader at Princeton**

- MAT 218 - Accelerated Honors Analysis Spring 2018
- MAT 325 - Complex Analysis Fall 2017
- COS 423 - Theory of Algorithms Spring 2017
- COS 226 - Algorithms and Data Structures Fall 2016
- COS 226 - Algorithms and Data Structures Spring 2016
- COS 226 - Algorithms and Data Structures Fall 2015

SERVICE

**Students Supervised**

- ☐ Jan Michal Radominski-Lasek (Bachelor's thesis, École polytechnique) 2026

**Seminars Organized**

- ☐ Organizer of the Stanford Analytic Number Theory Seminar 2023 – 2025
- ☐ Organizer of the Caltech Graduate Student Seminar 2019 – 2020

**Journal Refereeing**

- ☐ Quick opinions: Annals of Mathematics • Journal d'Analyse Mathématique
- ☐ Referee: Forum of Mathematics. Pi • Communications in Mathematical Physics • IMRN • Journal of the London Mathematical Society • Mathematische Zeitschrift • Journal de Théorie des Nombres de Bordeaux • Proceedings of the American Mathematical Society • Acta Arithmetica

- Journal of Number Theory • Forum Mathematicum • Canadian Journal of Mathematics • Bulletin of the Brazilian Mathematical Society • Bulletin of the Australian Mathematical Society • Canadian Mathematical Bulletin
- Reviewer: Mathematical Reviews

**Other**

- Editor of the AIM Problem List on Sarnak's Conjecture
- Problem Coordinator for IMO 2017 (Rio de Janeiro, Brazil)
- Grader for CHMMC and PUMaC

RESEARCH VISITS

1. Centre de Recherches Mathématiques (CRM), April to July 2026
2. Sorbonne Université, April 2026
3. Georgia Tech, November 2024
4. Concordia University, October 2024
5. IAS, October 2024
6. UT Austin, April 2022
7. University of Bristol, November 2021
8. UT Austin, October 2021

INVITED TALKS

1. *The Fourth JNT Biennial Conference*  
Cetraro, July 2026
2. *Recent Perspectives on Moments of L-Functions*  
UT Dallas, June 2026
3. *ETIENE Joint Meeting, Bordeaux*  
Université de Bordeaux, April 2026
4. *University of Virginia Number Theory Seminar*  
University of Virginia (online), November 2025
5. *AMS Spring Eastern Sectional Meeting*  
Hartford, April 2025
6. *CRG Weekly Seminar Series*  
Online, January 2025
7. *Copenhagen Number Theory Seminar*  
University of Copenhagen (online), December 2024
8. *CDSNS Colloquium*  
Georgia Tech, November 2024
9. *Georgia Tech Number Theory Seminar*  
Georgia Tech, November 2024
10. *UC Davis Algebraic Geometry and Number Theory Seminar*  
UC Davis, November 2024
11. *Quebec-Vermont Number Theory Seminar*  
Concordia University, October 2024
12. *Southern California Number Theory Day*  
UC Irvine, October 2024
13. *Purdue Analytic Number Theory and Harmonic Analysis Seminar*  
Purdue University, October 2024

14. *Joint IAS/PU Groups and Dynamics Seminar*  
Institute for Advanced Study, October 2024
15. *Shanks Conference Series*  
Vanderbilt University, May 2024
16. *Stanford Number Theory Seminar*  
Stanford University, April 2024
17. *FRG Grad Seminar*  
Online, February 2024
18. *Around Frobenius distributions and related topics IV*  
Online, October 2023
19. *IAS Members' Colloquium*  
Institute for Advanced Study, April 2023
20. *Crosscurrents in number theory, analysis and geometry*  
Université Sorbonne Paris Nord (online), December 2022
21. *UCLA Number Theory Seminar*  
University of California, Los Angeles, April 2022
22. *First International Workshop in ANT at UNIST*  
Ulsan National Institute of Science and Technology (online), April 2022
23. *Heilbronn Number Theory Seminar*  
University of Bristol, November 2021
24. *Number Theory Seminar*  
University of Mississippi (online), October 2021

PERSONAL

Age: 29

Citizenship: Brazilian