Farhad Babaee

Curriculum Vitae

Peronal Information

Full name	Farhad Babaee Ghasemabadi
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Nationality	Iranian–British

Present Appointment

2018 – Present	**Lecturer** $\simeq$ **US Assistant Professor**, *School of Mathematics, University of Bristol*, Bristol, UK
2020 – 2022	**Extenuating Circumstances**

Previous Appointments

2016 – 2018	**Postdoctoral Research Fellow**, *Département de Mathématiques, Université de Fribourg*, Fribourg, Switzerland
2015 – 2016	**Postdoctoral Research Fellow**, *Département de Mathématiques et applications, Ecole Normale Supérieure*, Paris, France.
2014 – 2015	**Postdoc / Research Assistant Professor**, *Department of Mathematics and Statistics, Concordia University*, Montréal, Canada

Academic Qualifications

2011 – 2014	**Ph.D. in Pure Mathematics**, *Université de Bordeaux, France – Università di Padova, Italy*
	○ Dissertation Title: Complex Tropical Currents
	○ Supervisors: Prof. Alain Yger (Bordeaux), Prof. Andrea D'Agnolo (Padova)
	○ Note: Très Honorable
2008 – 2010	**M.Sc. in Mathematics**, *Universiteit Leiden, Holland – Università di Padova, Italy*,
	○ Thesis Title: Integral Transforms of Constructible Functions
	○ Note: 110/110 cum laude
2004 – 2007	**M.Sc. in Mathematics**, *Sharif University of Technology, Iran*
	Thesis Title: Global Dynamics of Certain ODE Models in Population Biology
2000 – 2004	**Bachelor of Mathematics**, *University of Tehran, Iran*

Diplomas & Certificates

06-06-2023	**CREATE HEA Fellowship (FHEA)**, *Advance HE*, Fellowship reference PR264648

October 2021	**MIT Schwarzman College of Computing**, *Online certificate on* Data Science and Machine Learning: Making Data-Driven decisions
Fall 2017	**InnoSuisse (CTI) Entrepreneurship & Start-Up Training**, *Fribourg, Switzerland* Organized by Ecole Polytechnique Fédérale de Lausanne (EPFL)

Research Grants and Awards

2024	Heilbronn Focused Research Workshop, Awarded £6,500 (September 2024)
2023	London Mathematical Society, Research in Pairs Grant, Awarded £1200
2021	Heilbronn Focused Research Workshop, Awarded £4,500
2019	Heilbronn Focused Research Workshop, Awarded £10,000
2015–2016	Postdoctoral Exellence Grant from the Laboratory of of Paris Sciences & Lettres
2008–2010	ALGANT Masters Scholarship, Erasmus Mundus Scholarship, Awarded 42,000 EUR
August 2003	Honorable Mention, International Mathematics Competitions, Cluj-Napoca, Romania. (IMC 2003)

Publications and Preprints

2025	*Continuity of Slices of Currents and Applications in Tropical Geometry* (with Tien Cuong Dinh). arXiv:2506.09828. [arXiv]
2025	*Extremal Decompositions of Tropical Varieties and Relations with Rigidity Theory* (with Sean Dewar and James Maxwell). *Journal of Symbolic Computation*. [arXiv], [journal]
2023	*Dynamical Tropicalisation*. *Journal of Geometric Analysis*, Special Issue in Memory of Nessim Sibony. [arXiv], [journal]
2018	*Convexity of Complements of Tropical Varieties and Approximations of Currents* (with Karim Adiprasito). **Mathematische Annalen**, 1–15. [arXiv], [journal]
2017	*A Tropical Approach to a Generalized Hodge Conjecture for Positive Currents* (with June Huh). **Duke Mathematical Journal**, **166** (14): 2749–2813. [arXiv], [journal]
2014	*Complex Tropical Currents, Extremality and Approximations*. arXiv:1403.7456. *Never submitted.* [arXiv]

Theses

2014	*Complex Tropical Currents*. PhD Thesis, Universities of Bordeaux and Padova, July 2014. Supervisors: Alain Yger, Andrea D'Agnolo. [link]
2010	*Integral Transforms of Constructible Functions*. Master's Thesis, University of Padova, September 2010. Supervisor: Andrea D'Agnolo. [link]

Professional Activities

Referee	Transactions of AMS, Proc. of the London Mathematical Society, Math. Zeitschrift, Commentarii Mathematici Helvetici
Reviewer	zbMATH, Mathematical Reviews (MathSciNet)
Grant Revewer	The Dutch Research Council (NWO)
	UKRI: Future Leaders Fellowships, Round 9

Ongoing projects

2024-	Leading a Focused Research Group with Drs. Enrica Mazzon (Paris), Nguyen-Bac Dang (Paris), Roberto Gualdi (Barcelona), and Danielle Turchetti (Durham). The group aims to extend my work with Prof. Tien-Cuong Dinh to the setting of Berkovich spaces. The project is expected to yield significant advances in Algebraic Geometry.
2025-	Collaboration with Prof. Karim Adiprasito (University of Copenhagen & CNRS) Matroid Theory and the Theory of Currents.
2024-	Collaboration with Tien Cuong Dinh (National University of Singapore), Tropical Geometry and Dynamics

Co-organizer	with James Maxwell, Tropical Days in Bristol (LMS meeting)
	Cohomology of toric arrangement complement III, Heilbronn Focused Research Workshop, July 2022
	Cohomology of toric arrangement complement II, Focused Research Workshop, Queen Mary University of London
	with Kevin Grace, Cohomology of toric arrangement complements I, Heilbronn Focused Research Workshop (September 2019)
	Mini-course on Combinatorial Hodge Theory, Lectures by Omid Amini, University of Fribourg

Supervision

PhD	Daniel Green Tripp — started September 2022, expected completion 2026.
MSc in Data Science	Shashwat Upadhyay — *Empirical Analysis of Forecasting Techniques for Prices of Tradable Financial Assets*. Department of Mathematical Engineering. Co-supervised with Tobias Kley (University of Göttingen), Summer 2022.
	Sneha Ramesh — *COVID-19 Spread: Comparative Study of Forecasting Techniques from Traditional Time Series Models to Machine Learning Models*. Department of Mathematical Engineering. Co-supervised with Tobias Kley (University of Göttingen), Summer 2022.

Administative Duties

2024 –	PhD Admission Tutor
2019 –	Library Representative for the School of Mathematics

Teaching Experience

2025 –	**Unit Co-Director**, *Topics in Geometry and Discrete Mathematics*, Third and Fourth Year Unit, University of Bristol
2022–2025	**Designer, Unit Director and Lecturer**, *Algebraic Geometry*, Fourth Year Unit
2018–2022	**Lecturer** , *Linear Algebra TB2*, First Year Unit, University of Bristol
2018–2025	Subject Tutor, Linear Algebra, Analysis, Intro. to Proofs, University of Bristol. Total of $\approx$ 440 students.
2020–2022	Lecturer of Mathematical Investigations, University of Bristol
2016–2018	Teaching Assistant (in English and French) Analysis III, IV Université de Fribourg, Switzerland. Course content included Complex Analysis, Analysis in several variables, Integration on Manifolds, Total of $\approx$60 students.

2014–2015	Instructor of Math 208: An introductory course on Linear Algebra and Finance, University of Concordia, Montreal, Canada. Total of ≈120 students.

Relevant Skills

Languages:
- ○ Farsi: Native
- ○ English: Fluent
- ○ French: Upper Intermediate, B1-B2 (European Framework)
- ○ Italian: Basic, A1-A2 (European Framework)

Outreach

July 2025	RSA Cryptography for Year 10 students from underrepresented backgrounds
Feb 2025	Active Outreach Staff Training Event, 26 February 2025. Participated in outreach preparation and engagement training
October 2016	(Volunteer) Teaching basic mathematics to refugees, Switzerland.

Recent Talks/Invitations

Sept 2025	*LMS - Tropical Geometry Network*, University of Durham, UK
Sept 2025	*Complex Geometry & Dynamics*, Lille, France
July 2025	*Complex Geometry, Complex Analysis and Dynamics / Géométrie Complexe, Analyse et Dynamique Complexe*, CIRM, Luminy (Marseille).
March 2024	*Dynamical tropicalisation*, Queen Mary University of London, UK
October 2023	*Dynamical tropicalisation*, University of Warwick, UK
August 2023	*Tropical Geometry from Complex Dynamics Standpoint*, Conference on Recent Developments in Algebraic Geometry, Arithmetic and Dynamics, National University of Singapore, Singapore
May 2023	*Dynamical tropicalisation*, University of Bristol, UK
March 2023	*Dynamical tropicalisation*, University of King's College of London, UK
August 2022	*Dynamical tropicalisation*, National University of Singapore, Singapore
May 2022	*Dynamical tropicalisation*, Tropical Mathematics & its Applications/London Mathematical Society meetings, Durham, UK
March 2022	*Dynamical tropicalisation*, Bristol's Ergodic Theory and Dynamical Systems Seminars, Bristol, UK
March 2022	*Dynamical tropicalisation*, Latin American Geometria Algebraica Real y TrOpical Seminar (LAGARTOS), Online Seminars, Recording on BlueJeans
October 2021	*Tropical currents*, Quantitative aspects in complex analysis, geometry and dynamics, University of Lille (Hybrid), France