

Sarah Timhadjelt

PERSONAL DETAILS

Birth August 17, 1995
Address Institut für Angewandte Mathematik, Endenicher Allee 60 53115 Bonn
E-Mail timhadjelt@iam.uni-bonn.de

OCCUPATION AND EDUCATION

Postdoc 2024-
Institute for Applied Mathematics of the University of Bonn. Team: Stochastic. Group: Johannes Alt

PHD student position 2020-2024
Institut de Mathématiques de Marseille. Supervisors : Charles Bordenave and Guillaume Aubrun
Free probability applied to Non-Hermitian operator expansion

ENS Lyon/ 4th year ENS Rennes 2019-2020
ENS Lyon and Université Lyon 1, Lyon
Master student at ENS Lyon, Applied Mathematics and Probability

Undergraduate studies 2016-2019
ENS Rennes, Bruz and Université Rennes 1, Rennes

- 2016-2019 Normalienne at ENS Rennes
- 2018-2019 Preparation to the agrégation of mathematics. Rank : 78

Classe préparatoire 2013-2016
Lycée Thiers, Marseille

- 2013- 2014 First year in MPSI (Mathematics, Physics and Engineering Sciences)
- 2014-2016 MP* (Mathematics and Physics)

INTERNSHIP EXPERIENCE

First year internship May 2017
University of Paris 8, Supervisor : David Gérard-Varet
Study of partial differential equations, especially Navier-Stokes and Euler equations. Initiation to the Vortex method. Duration : 4 weeks

Second year internship May 2018
Universidad autonoma de Madrid, Supervisor : Antonio Cuevas
Study of density estimation. Initiation to non-parametric estimations. Duration : 9 weeks

Fourth year internship April 2020
Luminy Institute of Mathematics, Marseilles. Supervisors : Charles Bordenave
Asymptotic freeness of random permutations. Duration : 18 weeks

PREPRINT

Spectral gap for the sum of a random permutation and a bistochastic matrix 2023
arXiv preprint arXiv:2310.16434, 2023

Non-Hermitian expander obtained with Haar distributed unitaries 2024
arXiv preprint arXiv:2406.10029, 2024

TEACHING

1st Semester "Introduction à l'Analyse", Lecture and tutorial for 1st years of classes préparatoires intégrées, Polytech Marseille, Saint-Jérôme.	2020-2021
Stage Hippocampe 3 days supervising middle school students around ludic mathematic problems, IREM d'Aix-Marseille, Luminy	2020-2021
2nd Semester "Analyse complexe", tutorial, 1st year of Master "Mathématiques et Applications". Lecture by Nizar Demni. Chateau-Gombert, Aix-Marseille University	2021-2022
2nd Semester "Analyse 3", tutorial, 2nd year of Licence "Mathématiques et Informatiques" Saint-Charles, Aix-Marseille University	2021-2022
1st Semester "Mathématiques 1", tutorial and lecture, 1st year of Licence. Saint-Charles, Aix-Marseille University	2022-2023
2nd Semester "Analyse complexe", tutorial, 1st year of Master "Mathématiques et Applications". Lecture by Nizar Demni. Chateau-Gombert, Aix-Marseille University	2022-2023
1st Semester "Mathématiques 1", tutorial and lecture, 1st year of Licence. Saint-Charles, Aix-Marseille University	2023-2024
2nd Semester "Analyse complexe", tutorial, 1st year of Master "Mathématiques et Applications". Lecture by Daniel Disegni. Chateau-Gombert, Aix-Marseille University	2023-2024

TALK IN SEMINAR AS INVITED SPEAKER

Institut de Mathématiques de Bordeaux Spectral gap of the convex combination of a random permutation and a deterministic matrix, Seminar: "Images, Optimisations et Probabilités".	Nov. 2023
Institut Fourier, Grenoble Spectral gap of the convex combination of a random permutation and a deterministic matrix, Seminar: "Probabilités".	Feb. 2023
ETH Zürich Spectral gap of the convex combination of a random permutation and a deterministic matrix, Seminar: "DACO".	Feb. 2023
Institut de Mathématiques de Toulouse Spectral gap of quantum channel obtained with Haar distributed unit matrices, Seminar: "Probabilités".	Janv. 2025
Institut Henri Poincaré Spectral gap of quantum channel obtained with Haar distributed unit matrices, GDR MEGA monthly seminar.	Janv. 2025

TALK IN AUTUMN SCHOOL

Aussois, Centre Paul Langevin Spectral gap of the convex combination of a random permutation and a deterministic matrix, Workshop for Phd and Postdoc: "École d'Automne du GDR MEGA 2022".	Oct. 2022
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TALK IN WINTER SCHOOL

Aussois, Centre Paul Langevin Introduction to free probability applications in random graph spectral study, Dynamic systems winter school "Sixième École d'Hiver en dynamiques d'Aussois".	Dec. 2023
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CONTRIBUTED TALK IN CONFERENCE

Lille, Paul Painlevé Laboratory

Spectral gap of the convex combination of a random permutation and a deterministic matrix,

GDR MEGA workshop: "Random matrices meet random permutations".

April 2023

Institut Henri Poincaré

Spectral gap of quantum channel obtained with Haar distributed unit matrices,

Conference "Random tensors".

Oct. 2024

PARTICIPATION IN POSTER SESSION

Kyoto, RIMS Kyoto university

Spectral gap of the convex combination of a random permutation and a deterministic matrix,

Conference: "Random matrices and Applications".

June 2023

REFEREES

Charles Bordenave

Camille Male

Guillaume Aubrun

charles.bordenave@univ-amu.fr

camille.male@math.u-bordeaux.fr

aubrun@math.univ-lyon1.fr

SKILLS

Languages French (mother tongue)
English (fluent, TOEIC 900)
Spanish (advanced)

Software PYTHON, L^AT_EX, SCILAB, R