

# Jonathan HUSSON

---

## Curriculum Vitae

---

### Education and Positions

- 2012–2013 **Bachelor's degree in Mathematics**, *ENS de Lyon*.
- 2013–2014 **First year of Master's degree in Mathematics**, *ENS de Lyon*.
- 2014–2015 **Preparation for the agregation (French teaching competitive exam)**, *ENS de Lyon*, Passed with rank 4.
- 2015–2016 **Second year of Master's degree in Mathematics**, *ENS de Lyon*.
- 2016–2019 **PhD supervised by Alice Guionnet**, *ENS Lyon*, Title : Large Deviations and Convergence of the Spectrum of Random Matrices, PhD defended in December 2019.
- 2019–2020 **A.T.E.R. Position (Postdoctoral position with teaching duties)**, *ENS de Lyon*.
- 2020–2021 **CNRS Postdoc**, *ENS de Lyon*, Position funded by the ERC LDRaM.
- 2021 **MSRI Postdoc**, *MSRI*, August 2021 to December 2021.
- 2022–2024 **Donald J. Lewis Research Assistant Professor (Postdoc)**, *University of Michigan*, Mentored by Mark Rudelson.
- 2024–present **Maître de conférence en mathématiques (Assistant professor in Mathematics)**, *Université Clermont Auvergne*.

---

### Research internships

- 2013 **Internship supervised by Aurélien Djament**, *Université de Nantes*, Subject : Group (Co)homology.
- 2014 **Internship supervised by Pierre Matthieu**, *Université d'Aix-Marseille*, Subject : Random walks on groups.
- 2016 **Internship supervised by Alice Guionnet**, *ENS de Lyon*, Subject : Large deviations of laws of random matrices.

---

### Publications

- 2018 **Large deviations for the largest eigenvalue of Rademacher matrices**, *Annals of Probability*, Volume 48, Number 3 (2020), 1436-1465, avec with Alice Guionnet.
- 2019 **Large deviations for the largest eigenvalue of sub-Gaussian matrices**, *Communications in mathematical physics*, 383 : 997-1050, 2021, avec Alice Guionnet et Fanny Augeri.
- 2020 **Large deviations for the largest eigenvalue of matrices with variance profile**, *Electronic Journal of Probability*, 27: 1–44, 2022.

- 2020 **Spectrum and pseudospectrum for quadratic polynomials in Ginibre matrices**, avec Alice Guionnet and Nicholas Cook, *Annales de l'Institut Henri Poincaré, Probabilités et Statistiques*, 58(4) :2284–2320, 2022.
- 2020 **Asymptotics of  $k$ -dimensional spherical integrals and applications**, *ALEA*, 9: 769-797, 2022, avec Alice Guionnet.
- 2021 **Asymptotic Behavior of multiplicative spherical integrals and S-transform**, *Accepted in Random Matrices: Theory and Applications*, Preprint, arXiv:2108.11842.
- 2022 **Spherical integrals of sublinear Rank**, *In revision for Probability Theory and Related Fields*, arXiv:2208.03642 , with Justin Ko.
- 2022 **Large deviations for the largest eigenvalue of generalized sample covariance matrices**, *Electronic Journal of Probability*, 29: 1-48 (2024), with Ben McKenna.
- 2024 **Large deviation principle for the largest eigenvalue of random matrices with a variance profile**, *Preprint*, arXiv:2403.05413, with Alice Guionnet and Raphael Ducatez.

## Teaching

- 2016–2020 **Probability course for the preparation to the agrégation**, *ENS de Lyon*.
- 2016–2020 **Tutorial session at Bachelor level for the integration course**, *ENS de Lyon*.
- 2019–2020 **Tutorial session at Bachelor level for the differential calculus course**, *ENS de Lyon*.
- Fall semester 2022 **logM : Laboratory of Geometry at Michigan**, *Faculty mentor for the project Eigenvalues and Random Matrices*.
- 2022–2024 **Course 425: Introduction to Probability**, *University of Michigan*.

## Seminar organization and others

- 2017-2018 **Organization of the PhD student seminar of the ENS de Lyon and the Camille Jordan Institute**.