

Laura Monk

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Research experience

- 2021 – 22 **Postdoctoral fellow at the Max Planck Institute for Mathematics** mentored by Ursula Hamenstädt, Bonn (Germany).
- 2018 – 21 **PhD in Mathematics** under the supervision of Nalini Anantharaman, Institut de Recherche Mathématique Avancée, Strasbourg (France).

Education

- 2018 – 21 **PhD in Mathematics** under the supervision of Nalini Anantharaman, Université de Strasbourg (France).
- 2014 – 18 **École Normale Supérieure** in Mathematics with minor in Physics, Paris.
- 2017 – 18 **Master's degree in Mathematics** (with honours), Paris-Sud University.
- 2017 **Agrégation of Mathematics** (7th place).
Secondary-school and University Teaching degree
- 2014 – 15 **Bachelor's degree in Mathematics** (with honours), Paris-Sud University.
- 2014 – 15 **Bachelor's degree in Physics** (with honours), Paris-Sud University.
- 2012 – 14 **Preparatory class**, Lycée Privé Sainte Geneviève, Versailles (France).

Publications and preprints

- 2021 Anantharaman N., Monk L., *A high-genus asymptotic expansion of Weil-Petersson volume polynomials*, submitted.
- 2021 Monk L., Thomas J., *The tangle-free hypothesis on random hyperbolic surfaces*, International Mathematics Research Notices, rnab160.
- 2021 Monk L., *Benjamini-Schramm convergence and spectrum of random hyperbolic surfaces of high genus*, Analysis & PDE (In Press).
- 2017 Fouvry J.B., Pichon C., Chavanis P., Monk L., *Resonant thickening of self-gravitating discs: imposed or self-induced orbital diffusion in the tightly wound limit*, Monthly Notices of the Royal Astronomical Society.

Awards and grants

- 2021 Prize L'Oréal-UNESCO Young Talents France for Women in Science.
- 2021 Post-doctoral funding at the Max Planck Institute for Mathematics.
- 2019 Best poster in Mathematics prize from the Doctoral School.
- 2018 – 21 PhD grant from the ENS (Paris).
- 2014 – 18 Full scholarship at the ENS (Paris).

Invited talks

International conferences.

- May 2022 Laplacians on random hyperbolic surfaces and on random graphs, *North-western University (USA)*.
- Feb 2022 Spectra and Dynamics on (Locally) Symmetric Spaces, *Paderborn (Germany)*.
- Nov 2021 ANR “Aléatoire, Dynamique et Spectre” meeting, *Nantes (France)*.
- Sept 2021 Hyperbolic dynamical systems and resonances, *Porquerolles (France)*.
- Mars 2021 Young researchers in spectral geometry II, *Spectral geometry in the clouds*.
- Dec 2020 Jeunes géomètres dynamiques, *GdR Platon, Rennes (France)*.
- Oct 2020 Billiards and Surfaces à la Teichmüller and Riemann Online.
- Nov 2019 8th Strasbourg / Zurich Meeting: Frontiers in Analysis and Probability, *Zurich (Switzerland)*.
- May 2019 STORM: Spectral Theory and pRObability in Mathematical physics, *Strasbourg (France)*.
- Apr 2019 Dynamics of geodesic flows and applications to PDEs, *Palaiseau (France)*.

Seminars.

- 2021 Probability and Statistics, *Marseille (France)*.
Geometry and Topology, *Jussieu (France)*.
Algebra, Geometry and Physics, *Bonn (Germany)*.
Number theory, *Tel-Aviv (Israël)*.
Probability and Mathematical Statistics, *Milan-Pavia (Italy)*.
Groups and Geometry, GdR Platon, *online seminar (France)*
Geometry and Topology, *Toulouse (France)*
Dynamical systems and ergodic theory, *Zurich (Switzerland)*.
- 2020 Analysis, *Cardiff (UK)*
Geometry, *Leeds (UK)*
Dynamical systems, *Bremen-Oldenburg (Germany)*
Oberseminar Differentialgeometrie, *Bonn (Germany)*
Probabilities, *Orsay (France)*
Geometrical Analysis by Frédéric Naud, *online (France)*.
- 2019 Spectral theory and Geometry, *Grenoble (France)*
Reading seminar *with Federica Fanoni and Yohann Bouilly (co-organisation and two talks)*, *Strasbourg (France)*.
- 2018 Analysis, *Strasbourg (France)*.

Teaching

- 2020 – 21 **Lecturer**, *University of Strasbourg (France)*, analysis - 2nd year.
- 2018 – 21 **Teaching assistant**, *University of Strasbourg (France)*.
2nd and 3rd year exercise sessions, preparation of the agrégation, mathematical circle (math club for high-school students), 1st and 2nd year oral exams.
- 2014 – 18 **Oral examiner in preparatory schools**.

Other activities

- 2018 and 19 **Organisation of the RJM**, *University of Strasbourg*.
Three-day meeting for high school girls to conduct mathematical group activities, meet female researchers and engineers and speak about gender issues.
- 2017 and 21 **Jury for the TFJM²**.
Conference-like mathematical competition for high-school students.
- 2017 **Outreach talk** for undergraduates, *Lycée Privé Sainte-Geneviève*.

Skills

- Languages French (mother tongue), English (fluent), Spanish (basic).
- Programming C, Caml, L^AT_EX, Maple, Mathematica, Python.