Laura Monk

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Research experience

2021 – 22 **Postdoctoral guest at the Max Planck Institute for Mathematics** mentored by Ursula Hamenstädt, *Bonn (Germany)*.

2018 – 21 **PhD** 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)*.
The spectrum of random hyperbolic surfaces of high genus

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 degrees** in Mathematics and in Physics (with honours), *Paris-Sud University*.

2012 – 14 **Preparatory class** in Mathematics and Physics, *Lycée Privé Sainte Geneviève, Versailles (France)*.

Publications and preprints

2020 Anantharaman N., Monk L., *A high-genus asymptotic expansion of Weil-Petersson volume polynomials*, submitted.

2020 Monk L., Thomas J., *The tangle-free hypothesis on random hyperbolic surfaces*, submitted.

2020 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 Post-doctoral funding at the Max Planck Institute for Mathematics, *Bonn (Germany)*.

2019 Best Poster in Mathematics prize from the Doctoral School, *École Doctorale MSII, Strasbourg (France)*.

2018 – 21 PhD grant from the ENS Ulm.

2014 – 18 Full scholarship at the ENS Ulm.

Invited talks

International conferences.

03/21 Mini-conference "Young researchers in spectral geometry II", *Spectral geometry in the clouds (Université Laval, University college London).*

12/20 Young researchers conference "Jeunes géomètres dynamiques", *GdR Platon, Institut de recherche mathématique de Rennes (France).*

10/20 "Billiards and Surfaces à la Teichmüller and Riemann Online".

11/19 8th Strasbourg / Zurich Meeting: Frontiers in Analysis and Probability, *University of Zurich (Switzerland).*

05/19 Workshop STROM : Spectral Theory and pRObability in Mathematical physics, *IRMA, Strasbourg (France).*

04/19 Workshop Dynamics of geodesic flows and applications to PDEs, *ANR ISDEEC, École Polytechnique, Palaiseau (France).*

Seminars.

2021 Dynamical systems and ergodic theory in Zurich (Switzerland), Analysis in Strasbourg (France).

2020 Analysis in Cardiff (UK), Geometry in Leeds (UK), Dynamical systems in Bremen-Oldenburg (Germany), Oberseminar Differentialgeometrie in Bonn (Germany), Probabilities in Orsay (France), Geometrical Analysis by Frédéric Naud (France).

2019 Spectral theory and Geometry in Grenoble (France).

2018 Analysis in Strasbourg (France).

Other.

2019 Reading seminar on Weil-Petersson volumes and Mirzakhani's recursion formula, with Federica Fanoni and Yohann Bouilly (organisation + two talks), *IRMA, 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 TFJM^2**.
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, LaTeX, Maple, Mathematica, Python.