

Raphael Ducatez

Curriculum Vitae

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French

Born January 29, 1992 in Paris

Education/Employment

2018-... **Post-doct**, *University of Geneva*, Switzerland.

2015-2018 **PhD**, *University Paris Dauphine*, advisor: Mathieu Lewin.

2011-2015 **Ecole Normale Supérieure Paris:**

- **Master 2** in Probability, Master PMA, University Paris 6.
- **Master 2** in Mathematical logic, Master LMFI, University Paris 7.
- **Bachelor** in Mathematics, ENS Paris.
- **Bachelor** in Physics, ENS Paris.

Publications

In preparation

J Alt, RD and A Knowles, *Localization and delocalization for sparse Erdős-Rényi graphs*, 2020+.

Pre-print

J Alt, RD and A Knowles, *Extremal eigenvalues of critical Erdős-Rényi graphs* arXiv:1905.03243, 2019.

RD, *Analysis of the one dimensional inhomogeneous Jellium model with the Birkhoff-Hopf Theorem* (under revision in *Journal of Functional Analysis*) arXiv:1806.07681, 2018.

Published

RD, *Foward Backward process for one dimension Anderson model*, *Electronic Communication of Probability*, arXiv:1711.11302, 2017.

RD and F Huveneers, *Periodically driven Anderson model*, *Annales Henri Poincare*, arXiv:1607.07353, 2017.

RD, *Anderson localization for infinitely many interacting particles under Hartree Fock theory*, *Journal of Spectral Theory*, arXiv:1602.02896, 2016.

PhD Thesis

RD, *Analyse mathématique de divers systèmes de particules en milieu désordonné*.
tel-01886142

Research Experiences before the PhD

- 2014 **5 month internship**, *University Paris Diderot*, advisor: T. Tsankov.
- 2013 **5 month internship**, *University of Warwick*, United Kindom, advisor: D. Ueltschi.
- 2012 **2 month internship, experimental physics**, *Laboratoire LKB, ENS Paris*, advisor: F. Chevy.

Oral presentations

International Conferences

- 2019
 - **Aug**, QMath14 (Aarhus, Danemark).
 - **May**, Spectral Theory and Probability in mathematical physics (Strasbourg).
- 2018
 - **Nov**, Theorie spectral des operateurs quasi-periodiques et aleatoires (Montreal).
 - **Jul**, International Congress of Mathematical Physics (Montreal).
- 2017
 - **Jun**, Mathematical aspects of disordered quantum systems (Zurich).
- 2016
 - **Oct**, QMath13 (Atlanta, USA).

Seminars

- 2019
 - **Nov**, Informal pizza seminar on probability (Geneva).
 - **Oct**, PhD Seminar in University of Zurich (Zurich).
 - **May**, PhD Seminar in University of Geneva (Geneva).
- 2018
 - **Oct**, Seminar of mathematical physics at University of Geneva (Geneva).
 - **June**, Seminar of random matrices and graphs (MEGA), (Paris).
 - **May**, Les probabilités de demains (Paris).
- 2017
 - **Oct**, PhD summer school of Paris Dauphine.
 - **Apr**, PhD seminar at University Pierre et Marie Curie (Paris).
- 2016
 - **Mars**, PhD seminar at University Paris Dauphine (Paris).

Teaching Experiences

In academia

- 2018-2019 **Lecturer**, *University of Geneva*, Martingale and Brownian motion, 1st year Master.
- 2018-2019 **Teaching assistant**, *University of Geneva*, Brownian motion and Finance, 1st year Master.
- 2015-2018 **Teaching assistant**, *University Paris Dauphine*.
 - Linear Algebra, 1st year Bachelor
 - Analysis, 2nd year Bachelor
 - Python Langage, 2nd year Bachelor

In the Préparation Olympique Française de Mathématiques (POFM), Animath association

- 2019-... **Director of POFM interships for high school students.**
 - Oct 2019, Cachan, 40 students.
 - Aug 2019, Valbonne, 80 students.
 - Feb 2019, Cachan, 40 students.
- 2018-... **Member of the board of the POFM.**
- 2019 **Deputy Team Leader of the French team, Junior Balkanic Mathematics Olympiads, Cyprus.**
- 2017 **Teacher, POFM high school interships and Parimath association.**

Distinctions

- 2013 **First Price in International Mathematic Competition for university students (IMC), Bulgaria, (ranked 9th out of 320 participants).**

Miscellaneous

- 2016-2019 **Participant in the Semaine Math Entreprise (SEME).**
 - 2019, Bordeaux.
 - 2017, Clermont Ferand.
 - 2016, Marseille
- 2017 **Organizer of the PhD summer school, Paris Dauphine.**
- 2016 **Organizer of the Chinese Cultural week, Ecole Normale Supérieure Paris.**
- Jul-Aug 2014 **Teacher, High school and in a child prison, Natitingou, Benin.**
- 2016-... **Involved on the website Mathoverflow, pseudo RaphaelB4, \approx 3000 pts.**