

# Thibaut Lemoine

## Education

- 2016–2020 **PhD in Mathematics**, Sorbonne Université, Paris (France), Subject: *Asymptotic representation theory and applications to Yang–Mills theory*.  
Advisor: Thierry Lévy, LPSM
- 2014–2016 **MSc in Mathematics**, Sorbonne Université, Paris (France), *Probability and random models*  
With honors
- 2013–2014 **MSc in Financial markets**, EDHEC Business School, Lille/Nice (France)
- 2012–2014 **BSc in Mathematics**, Sorbonne Université, Paris (France)
- 2010–2014 **Master in Management**, EDHEC Business School, Lille/Nice (France), *Financial Economics*
- 2008–2010 **Preparatory class to engineering schools (CPGE)**, Lycée Janson de Sailly, Paris (France), *MPSI–MP*
- 2008 **Baccalauréat Scientifique**, Lycée Galilée, Cergy (France)  
With high honors

## Articles

- 2022 Thibaut Lemoine, *Universality of determinantal point processes associated with Bergman kernels*, arXiv:2211.06955
- 2022 Antoine Dahlqvist, Thibaut Lemoine, *Large  $N$  limit of the Yang–Mills measure on compact surfaces II: Makeenko–Migdal equations and planar master field*, arXiv:2201.05886
- 2022 Antoine Dahlqvist, Thibaut Lemoine, *Large  $N$  limit of Yang–Mills partition function and Wilson loops on compact surfaces*, arXiv:2201.05882, To appear in Probability and Mathematical Physics
- 2021 Thibaut Lemoine, *Large  $N$  behaviour of the two-dimensional Yang–Mills partition function*, Combinatorics, Probability and Computing, 1-22, doi:10.1017/S0963548321000262

## Talks

- 2022 Quantum Hall effect, a probabilistic approach, Workshop “determinantal processes”, Laboratoire Painlevé, Lille (France)
- 2022 Large deviations of empirical measures of Gibbs measures on a compact Riemann surface, Workshop “a probabilistic approach to Kähler–Einstein metrics”, IRMA, Strasbourg (France)
- 2022 Large  $N$  Limit of Yang–Mills partition function, *Spectra/moduli seminar*, Durham (UK)
- 2022 The master field on the torus, *14th meeting of the DynQua GDR*, IMT, Toulouse (France)

- 2021 Introduction to noncommutative probability, *Stochastic calculus seminar*, IRMA, Strasbourg (France)
- 2020 Noncommutative harmonic analysis of  $U(N)$  and application to 2D Yang–Mills theory, *Séminaire d’analyse*, IRMA, Strasbourg (France)
- 2020 Asymptotics of two-dimensional Yang–Mills partition function, *Bernoulli-IMS One World Symposium*, Online video seminar
- 2018 Free stochastic calculus with respect to  $q$ -Brownian motion, *Worskshop “noncommutative probability and rough paths”*, LPSM, Sorbonne Université, Paris (France)
- 2017 RSK algorithm applied to random permutations, *Workshop “Combinatorics and random matrix theory”*, Université Paris 7, Paris (France)

## Seminars

- 2021 Physics and Mathematics colloquium: many-body localization, IRMA, Strasbourg (France)
- 2018 Scaling limits & SPDEs: recent developments and future directions, Isaac Newton Institute, Cambridge (UK)
- 2018 Randomness and symmetry, University College, Dublin (Irlande)
- 2017 Workshop on stochastic analysis and random fields, Technion, Haifa (Israël)
- 2017 Distributional symmetries and independences, Institut mathématique de Bordeaux, Bordeaux (France)
- 2017 Integrable random systems, representation theory and geometry of Lie groups, NCCR, Les Diablerets (Suisse)

## Scientific duties

- 2022 Co-organisation of the conference “Quantum Hall effect and topological phases” and creation of the website (<https://irma-web1.math.unistra.fr/QHETPS/>), Université de Strasbourg, Strasbourg (France)

## Teaching

- 2019–2020 **Tutorials in probability**, *L3*, Sorbonne Université, Paris (France)
- 2019–2020 **Tutorials in probability**, *1st year*, ISUP, Paris (France)
- 2019–2020 **Tutorials in general mathematics**, *L1*, Sorbonne Université, Paris (France)
- 2016–2019 **Tutorials in C++ programing for mathematicians**, *M1*, Sorbonne Université, Paris (France)
- 2016–2018 **Tutorials in multivariable analysis**, *L2*, Sorbonne Université, Paris (France)

## Work experience

- 2022–2023 **Postdoctoral contract**, *CRISAL*, CNRS, Lille (France)
- 2020–2022 **Postdoctoral fellowship on the project “Geometry of quantum Hall states”**, IRMA, Université de Strasbourg, Strasbourg (France)
- 2019–2020 **Attaché temporaire d’enseignement et de recherche**, *LPSM*, Sorbonne Université, Paris (France)

- 2016–2019 **PhD scholarship**, *Ecole Doctorale Paris-Centre*, Sorbonne Université, Paris (France)
- 2015–En cours **Volunteer firefighter**, *Centre de Secours de Magny-en-Vexin*, Magny-en-Vexin (France)  
Grade : sergent
- 2012–2013 **Equity Finance Middle-Office internship**, *Société Générale CIB*, La Défense (France)

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## Skills

- Languages French (native), English (fluent), German (read and written)
- Computer skills C++, L<sup>A</sup>T<sub>E</sub>X, Python, Excel/VBA, Matlab/Scilab, Maple