Yichao HUANG

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Research interest

Probability and mathematical physics, especailly on Gaussian Multiplicative Chaos, Liouville Quantum Gravity and Conformal Field Theory and their interactions with other disciplines.

Work and Education

2018 – 21 | **Post-doctoral researcher at University of Helsinki, Finland.**
Supervisors : **Antti Kupiainen** and **Eero Saksman** under the ERC-grant QFPROBA.

2014 – 17 | **PhD student at University Paris VI and DMA of École Normale Supérieure de Paris.**
Supervisors : **Rémi Rhodes** and **Vincent Vargas**.
PhD thesis in probability on *Gaussian Multiplicative Chaos* and *Liouville Quantum Gravity*.
Defended in Nov 2017 at DMA/ENS. Referees: Nathanaël Berestycki, Christophe Garban.
Jury : J. Barral, N. Curien, C. Garban, A. Kupiainen, R. Rhodes, E. Saksman, Z. Shi, V. Vargas.

2010 – 14 | **Élève normalien at École Normale Supérieure de Paris.**
FIMFA cursus of École Normale Supérieure de Paris. ENS Paris Diploma.
Master "Probabilités et modèles aléatoires" at University Paris VI, grade "Très Bien".
Thesis on *critical Gaussian Multiplicative Chaos.* Supervisors: Rémi Rhodes, Vincent Vargas.

2008 – 10 | **Preparatory Classes MPSI–MP*, Lycée Janson de Sailly.**
Admitted to École Normale Supérieure de Paris through French national entrance exam.

Publications (as of 4 Mar 2022)

[6] *Some elementary properties of Gaussian multiplicative chaos measures as Clark measures*
with Eero Saksman, **in preparation**, 2022+

[5] *Ward identities in the $\mathfrak{sl}_3$ Toda conformal field theory*
with Baptiste Cerclé, **accepted, Communications in Mathematical Physics**, 2021+

[4] *Another probabilistic construction of Φ^{2n} in dimension 2*
Electronic Communications in Probability, 2021

[3] *Analytic continuation of Liouville theory: the probabilistic region*
prerprint, 2019+

[2] *Two perspectives of the 2D unit area quantum sphere and their equivalence*
with Juhan Aru and Xin Sun, **Communications in Mathematical Physics**, 2017

[1] *Liouville Quantum Gravity on the unit disk*
with Rémi Rhodes and Vincent Vargas, **Annales de l'Institut Henri Poincaré (B)**, 2018

Conference talks

2021   First International Conference for Chinese Young Probability Scholars, **Online**
2020+ Spectral Theory and Probability in Mathematical Physics, **Strasbourg, France**, postponed
2018   Stochastic Processes and their Applications (SPA), Invited Session, **Gothenburg, Sweden**
2017   Conference "Fractal geometry and dynamics", **Institut Mittag-Leffler, Sweden**
2016   Conference "Les Probabilités de Demain", **Institut des Hautes Études Scientifiques, France**
       Colloquium "Jeunes Probabilistes et Statisticiens", **École de Physique des Houches, France**
2013   Conference "Des probas de la rue d'Ulm", **École Normale Supérieure de Paris, France**

Seminar talks

2022	Joint Probability Webinar, **THU-PKU-BNU, China**
	Seminar of Applied Mathematics, **Academy of Mathematics and Systems Science, China**
2017	Conference of Mathematical Physics group, **University of Helsinki, Finland**
2016	Conference of Probability/Statistics team, **École Normale Supérieure de Paris, France**
	PhD/Postdoc seminar of ENS Paris, **École Normale Supérieure de Paris, France**
2015	PhD/Postdoc seminar of University Paris XII, **Université Paris-Est, France**

Research visits

Dec 2018	**Tsinghua University, China**
	Yau Mathematical Sciences Center
Fall 2017	**Institut Mittag-Leffler, Sweden**
	IML postdoctoral fellowship grant
Apr 2015	**Isaac Newton Institute, UK**
	Cambridge-PSL French embassy fund

Teaching

2021 – 22	**Lecturer and assistant**, graduate level, **University of Helsinki (75 hours)**
	Probability Theory I (hybrid onsite/online version due to Covid-19)
2020 – 21	**Lecturer**, undergraduate level, **University of Helsinki (60 hours)**
	Analysis Ia: Limits and Differentiation (online version due to Covid-19)
2019 – 20	**Lecturer and assistant**, undergraduate level, **University of Helsinki (75 hours)**
	Analysis Ia: Limits and Differentiation (first English version in the University of Helsinki)
2018 – 19	**Assistant**, undergraduate level, **University of Helsinki (15 hours)**
	Vector Analysis I
2014 – 17	**Assistant**, undergraduate level, **University Paris VI (192 hours)**
	Several courses in Maths, Chemistry, Computer Science
2011 – 12	**Oral examiner in Preparatory Classes (60 hours)**
	Lycée Janson de Sailly, Paris

Scientific duties

Referee	Electronic Journal of Probability
	Journal of Mathematical Analysis and Applications
2013 – 17	**Nominated member of the advisory committee of the laboratory**, DMA, ENS Paris
2016	**(Co)-Supervision of undergraduate thesis**

Scientific vulgarisation

2016 – 17	**Jury, $\mathbb{TFJM}^2$ (Tournoi français des jeunes mathématiciennes et mathématiciens)**
	$\mathbb{TFJM}^2$: team competition by French high school students on open questions
2010 – 11	**Tutor of six high school students**, TalENS association

Languages

Chinese	Native
English	Fluent
French	Fluent