

# Morris Ang

## EMPLOYMENT

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**University of California, San Diego**

Assistant Professor

*July 2024 – present*

**Columbia University**

Simons Junior Fellow

*2022 – 2024*

## EDUCATION

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**Massachusetts Institute of Technology**

Ph.D., Mathematics. Advised by Scott Sheffield.

*2017 – 2022*

**Stanford University**

M.S., Statistics

*2016 – 2017*

B.S., Mathematics with Honors

*2014 – 2017*

## PUBLICATIONS

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**FZZ formula of boundary Liouville CFT via conformal welding**, with G. Remy and X. Sun. Journal of the European Mathematical Society, 2023.

**Integrability of SLE via conformal welding of random surfaces**, with N. Holden and X. Sun. Communications on Pure and Applied Mathematics, 2023.

**The SLE loop via conformal welding of quantum disks**, with N. Holden and X. Sun. Electronic Journal of Probability, 2023.

**Conformal welding of quantum disks**, with N. Holden and X. Sun. Electronic Journal of Probability, 2023.

**Brownian loops and the central charge of a Liouville random surface**, with M. Park, J. Pfeffer and S. Sheffield. Annals of Probability, 2022.

**Volume of metric balls in Liouville quantum gravity**, with H. Falconet and X. Sun. Electronic Journal of Probability, 2020.

**Large deviations of radial  $SLE_\infty$** , with M. Park and Y. Wang. Electronic Journal of Probability, 2020.

**Comparison of discrete and continuum Liouville first passage percolation**. Electronic Communications in Probability, 2019.

**Liouville quantum gravity surfaces with boundary as matings of trees**, with E. Gwynne. Annales de l'Institut Henri Poincaré, 2021.

## PREPRINTS

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**Boundary touching probability and nested-path exponent for non-simple CLE**, with X. Sun, P. Yu and Z. Zhuang. ArXiv e-prints, 2310.20583.

**Conformal welding of quantum disks and multiple SLE: the non-simple case**, with N. Holden, X. Sun and P. Yu. ArXiv e-prints, 2310.20583.

**Cutting  $\gamma$ -Liouville quantum gravity by Schramm-Loewner evolution for  $\kappa \notin \{\gamma^2, 16/\gamma^2\}$** , with E. Gwynne. ArXiv e-prints, 2310.11455.

**Reversibility of whole-plane SLE for  $\kappa > 8$** , with P. Yu. ArXiv e-prints, 2309.05176.

**Supercritical Liouville quantum gravity and  $CLE_4$** , with E. Gwynne. ArXiv e-prints, 2308.11832.

**Critical Liouville quantum gravity and  $CLE_4$** , with E. Gwynne. ArXiv e-prints, 2308.11835.

**Derivation of all structure constants for boundary Liouville CFT**, with G. Remy, X. Sun and T. Zhu. ArXiv e-prints, 2305.18266.

**Liouville conformal field theory and the quantum zipper**. ArXiv e-prints, 2301.13200.

**Quantum triangles and imaginary geometry flow lines**, with X. Sun and P. Yu. ArXiv e-prints, 2211.04580.

**The moduli of annuli in random conformal geometry**, with G. Remy and X. Sun. ArXiv e-prints, 2203.12398.

**Integrability of the conformal loop ensemble**, with X. Sun. ArXiv e-prints, 2107.01788.

## AWARDS

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**Junior Fellow, Simons Society of Fellows** *2022 – 2024*  
**Levinson Fellowship** from MIT *2017*  
**International Mathematical Olympiad** Silver (2010) and Gold, 6th (2011)

## TEACHING

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### Course instructor

I taught an undergraduate class on linear algebra at Columbia University, Spring 2023.

### Teaching Assistant

I taught recitations at MIT for 18.600 (probability). I was a teaching assistant for 18.211 (combinatorial analysis), 18.217 (graph theory and additive combinatorics), 18.675 (graduate probability) and 18.676 (stochastic calculus).

### Mathematics Competitions

I coached the team representing Singapore at the 2014 International Mathematical Olympiad, and taught contest math at the AMC/AIME/USAMO level at several middle and high schools in Singapore.

## EXPERIENCE (NON-ACADEMIC)

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**Jane Street (trading internship)** *Jun. – Aug. 2016*  
I explored and evaluated potential trading strategies, and traded in simulated markets.

**Singapore Armed Forces** *2012 – 2013*  
As a Company Quartermaster Sergeant, I managed supplies at an infantry battalion's headquarters, and directed a team of fifteen supply assistants in supporting battalion exercises.

## TALKS

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Workshop on 2D Random Geometry, Institute for Mathematical and Statistical Innovation	07/24
Oberwolfach, Workshop on Statistical Physics and Random Surfaces	05/24
Mini Course, Workshop on Probability in Conformal Field Theory, EPFL Bernoulli Center	04/24
Workshop on New Directions in Conformal Field Theory, Fields Institute	03/24
Mini Course, Thematic Program on Randomness and Geometry, Fields Institute	03/24
Probability and Mathematical Physics Seminar, Courant Institute	02/24
Workshop in Honour of Takashi Hara, Institute for Mathematical Sciences	12/23
Mathematics Colloquium, Caltech	11/23
Mathematics Colloquium, University of California San Diego	11/23
Probability Seminar, City University of New York	10/23

Probability Seminar, Massachusetts Institute of Technology	10/23
Penn/ Temple Probability Seminar	3/23
Probability seminar, Institute for Advanced Study	2/23
Random Geometry and Statistical Physics Workshop	10/22
Berkeley Probability Seminar	03/22
Geneva University Mathematical Physics Seminar	12/21
Northeast Probability Seminar	11/21
Probability and the City Seminar	11/21
Probability Seminar, University of Chicago	10/21
Integrability in Conformal Probability virtual workshop	10/21
Probability Seminar, University of Cambridge	5/21
Probability Seminar, Massachusetts Institute of Technology	5/21
Probability Seminar, University of Virginia	5/21
Random Geometry and Statistical Physics Seminar	4/21