

# Jaehun Lee

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## CONTACT INFORMATION

Department of Mathematical Sciences  
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## RESEARCH INTERESTS

**Probability and Random Matrix Theory:**  
sparse random matrices and random graphs.

## EDUCATION

### **Korea Advanced Institute of Science and Technology (KAIST)**

Ph.D. Candidate, Mathematical Sciences (expected Aug 2022)

- Dissertation Topic: Eigenvalues and eigenvectors of sparse random matrices
- Advisor: Paul Jung

M.S. in Mathematical Sciences, Aug 2018

### **Gwangju Institute of Science and Technology (GIST)**

B.A. in Physics, Aug 2015

## PUBLICATIONS

*Higher order fluctuations of extremal eigenvalues of sparse random matrices,*  
submitted.

Preprint – arXiv:2108.11634

*Noise sensitivity for the top eigenvector of a sparse random matrix,*  
with Charles Bordenave, under minor revision for Electron. J. Probab.

Preprint – arXiv:2106.09570

*Delocalization and limiting spectral distribution of Erdős-Rényi graphs with constant  
expected degree,*

with Paul Jung, Electron. Commun. Probab. 23: 1-13, 2018.

Preprint – arXiv:1710.07002

## TALKS

*Higher order fluctuations of extremal eigenvalues of sparse random matrices*

Contributed talk, Annual meeting of the Korean Mathematical Society, Online.  
(Oct 2021)

*Higher order fluctuations of extremal eigenvalues of sparse random matrices*

Participant presentation session, Connections and introductory workshop: universality  
and integrability in random matrix theory and interacting particle systems Part 2,  
MSRI, Berkeley, Online. (Sept 2021)

*Noise sensitivity of the top eigenvector of a sparse random matrix*

Invited talk, KL-SNU-KAIST workshop on stochastics, Online. (Dec 2020)

*Eigenvalue density of non-Hermitian Levy-Khintchine matrix on macroscopic scales*

Contributed talk, Annual meeting of the Korean Mathematical Society, Online.  
(Oct 2020)

*Eigenvectors of sparse random matrices and their variation through resampling*  
Contributed talk, Annual meeting of the Korean Mathematical Society. (Oct 2019)

*Delocalization and limiting spectral distribution of Erdős-Rényi graphs with constant expected degree*

Contributed talk, Spring meeting of the Korean Mathematical Society. (Apr 2018)

## TEACHING EXPERIENCE

### Teaching assistant

Fall	2020	Functional analysis
Spring	2019	Differential equations and applications, Analysis 1
Fall	2018	Introduction to linear algebra, Analysis 2.
Spring	2018	Calculus 2
Fall	2017	Calculus 2, Functional analysis
Spring	2017	Introduction to linear algebra, Analysis 1
Fall	2016	Introduction to linear algebra
Spring	2016	Introduction to linear algebra, Linear algebra

### Teaching award for Teaching Assistants

Spring 2019, Fall 2018, Spring 2017, Fall 2016

## HONORS

2017–2018	Kim Yeonghan Global Leader Scholarship, KAIST
2014	Silver medal (2nd field), Undergraduate mathematics competition, Korean Mathematical Society
2011–2015	The National Scholarship for Science and Engineering, Korea Student Aid Foundation

## SERVICE

Reviewer for Electron. Commun. Probab.

## ACADEMIC TRAVEL

January	2020	Conference ( <i>Spectra, algorithms and random walks on random networks</i> ) and research stay, Centre International de Rencontres Mathématiques (CIRM), Marseille, France
June	2018	<i>Summer School on Random Matrices</i> , University of Michigan, Ann Arbor, US