

Jaehun Lee

CONTACT INFORMATION

Department of Mathematical Sciences
Korea Advanced Institute of Science and Technology (KAIST)
291, Daehak-ro, Yuseong-gu, Daejeon, 34141, Republic of Korea

jaehun.lee@kaist.ac.kr
<https://jaehunlee.com>

RESEARCH INTERESTS

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

EDUCATION

Korea Advanced Institute of Science and Technology (KAIST)

Ph.D. Candidate, Mathematical Sciences

- 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.
Preprint – arXiv:2108.11634

Noise sensitivity for the top eigenvector of a sparse random matrix,
with Charles Bordenave, submitted to 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
Participant Presentation Session, Connections and Introductory Workshop: Universality and Integrability in Random Matrix Theory and Interacting Particle Systems Part 2, MSRI, Berkeley. (Sept. 2021)

Noise sensitivity of the top eigenvector of a sparse random matrix
Invited talk, KL-SNU-KAIST Workshop on Stochastics. (Dec. 2020)

Eigenvalue density of non-Hermitian Levy-Khintchine matrix on macroscopic scales
Contributed talk, Annual Meeting of the Korean Mathematical Society. (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

ACADEMIC TRAVEL

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

SERVICE

Reviewer for Electron. Commun. Probab.