

# Zhi-Feng Wei

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## CONTACT INFORMATION

Department of Mathematics  
Indiana University  
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## INTERESTS

Random Walk on Graphs, Spectral Graph Theory, Network Science.

## EDUCATION

### Department of Mathematics, Indiana University (IU)

**Ph.D. in Mathematics** (expected May 2024)

- Advisor: Prof. Russell Lyons
- Minor in Statistics

### School of Mathematical Sciences, Beijing Normal University (BNU)

**M.S. in Mathematics**, June 2018

- Advisor: Prof. Mu-Fa Chen
- Graduation with Honor: Excellence Award from Beijing City & BNU

### Beijing International Center for Mathematical Research, Peking University

Visiting Student, 7<sup>th</sup> Enhanced Program for Graduate Study, 2015 Spring Semester  
Courses: Spectral Theory of Linear Operators, Differential Manifold

### Cuiying Honors College, Lanzhou University (LZU)

**B.S. Cum Laude in Mathematics**, June 2015

- Advisor: Prof. Heping Zhang

## PUBLICATIONS

- (1) **Zhi-Feng Wei**, *Sharp Bounds on Eigenvalues via Spectral Embedding Based on Signless Laplacians*, **J. Funct. Anal.**, Vol. 284, No. 5 (2023), Article 109799.
- (2) **Zhi-Feng Wei**, *Inverse Problems for Ergodicity of Markov Chains*, **J. Math. Anal. Appl.**, Vol. 505, No. 2 (2022), Article 125483.
- (3) **Zhi-Feng Wei and Heping Zhang**, *Number of Matchings of Low Order in  $(4,6)$ -Fullerene Graphs*, **MATCH Commun. Math. Comput. Chem.**, Vol. 77, No. 3 (2017), 707–724.

## IN PREPARATION

- (1) **Zhi-Feng Wei and Pablo Moriano**, *Recovering Cluster Structure using Graph Embedding in Perturbed Networks*.

## INVITED TALKS

- (1) *Spectral Embedding, Signless Laplacian, and Random Walk Convergence*, Invited by Prof. S. Liu, University of Science and Technology of China, Sept 2023.
- (2) *Sharp Bound on Return Probabilities via Spectral Embedding Method*, Grad Student Probability Conference, University of Wisconsin, Sept 2022.
- (3) *Bound Return Probabilities via Spectral Embedding Method*, 20<sup>th</sup> Northeast Probability Seminar, CUNY (Zoom talk), Nov 2021.

EMPLOYMENT	2023 Summer	Research Intern, <b>Oak Ridge National Lab.</b>
	2018 – present	Teaching/Research Assistant, <b>IU Math Department.</b>
AWARDS	2023	<b>Mathematical Sciences Grad Intern Fellowship, NSF</b> Awarded by the National Science Foundation to support my intern at Oak Ridge National Lab.
	2023	<b>Lawrence M. Blatt Biotech Internship Fund, IU</b>
	2019	<b>James Williams Memorial Award, IU Math Department</b> Recognizing excellence in academic performance for top 1st-year graduate students in IU Math Department.
	2018	<b>Anna L. Homquest Fellowship, IU</b>
	2016	<b>National Merit Scholarship of China for Grad Students</b>
	2016	<b>Excellent Teaching Assistant Award, BNU</b>
	2014	<b>Cuiying Student Innovation Fund, LZU</b> Supporting undergraduate research for honors students at LZU.
	2014	<b>Outstanding Student Scholarship, LZU</b>
	2012	<b>Outstanding Student Scholarship, LZU</b>
	2012	<b>Scholarship for Outstanding Mathematics Majors, LZU</b>
TEACHING	2023 Spring	<b>Assisting</b> , Math-M118: Finite Mathematics
	2022 Fall	<b>Teaching</b> , Math-M018: Basic Algebra for Finite Math
	2022 Summer	Preparation Session for Math PhD Qualifying Exam in Analysis
	2021 Fall	<b>Recitation</b> , Math-M211: Calculus I
	2021 Summer	Preparation Session for Math PhD Qualifying Exam in Analysis
	2021 Spring	<b>Recitation</b> , Math-M106: Mathematics of Decision and Beauty
	2020 Fall	<b>Grading</b> , Math-M463: Intro to Probability Theory I
	2020 Spring	<b>Grading</b> , Math-M464: Intro to Probability Theory II
	2019 Fall	<b>Grading</b> , Math-M463: Intro to Probability Theory I
	2019 Summer	<b>Assisting</b> , Math-M106: Mathematics of Decision and Beauty
	2018 Fall	<b>Grading</b> , Math-M365: Intro to Probability and Statistics
	2016 Fall	<b>Assisting</b> , Linear Algebra (BNU)
LANGUAGES	Chinese (Native), English (Fluent), French (Elementary)	
SKILLS	C++, Python, $\text{\TeX}$ , High-Performance Computing (HPC), Mathematica, R	
PROFESSIONAL AFFILIATION	American Mathematical Society	