

Zhifeng Wei

CONTACT INFORMATION

Department of Mathematics
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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, August 2018 – May 2024 (expected)

- Advisor: Prof. Russell Lyons
- Minor in Statistics

School of Mathematical Sciences, Beijing Normal University (BNU)

M.S. in Mathematics, September 2015 – June 2018

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

Beijing International Center for Mathematical Research, Peking University

Visiting Student, 7th 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, September 2011 – 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 Shiping Liu, University of Science and Technology of China, 2023 Fall.
- (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*, 20th Northeast Probability Seminar, CUNY (Zoom talk), Nov 2021.

EMPLOYMENT

Oak Ridge National Laboratory, United States of America**Research Intern**, October 2023 – March 2024 and May 2023 – July 2023

- Mentor: Dr. Pablo Moriano
- Supported by the Graduate Research Program at ORNL (GRO)
- Supported by NSF-MSGI program

Department of Mathematics, Indiana University**Research Assistant/Associate Instructor**, August 2018 – present

TEACHING

2023 Fall **Recitation**, Math-M211: Calculus I
 2023 Spring **Assisting**, Math-M118: Finite Mathematics
 2022 Fall **Teaching**, Math-M018: Basic Algebra for Finite Math
 2022 Summer Preparation Session for Math PhD Qualifying Exam in Analysis
 2021 Fall **Recitation**, Math-M211: Calculus I
 2021 Summer Preparation Session for Math PhD Qualifying Exam in Analysis
 2021 Spring **Recitation**, Math-M106: Mathematics of Decision and Beauty
 2020 Fall **Grading**, Math-M463: Intro to Probability Theory I
 2020 Spring **Grading**, Math-M464: Intro to Probability Theory II
 2019 Fall **Grading**, Math-M463: Intro to Probability Theory I
 2019 Summer **Assisting**, Math-M106: Mathematics of Decision and Beauty
 2018 Fall **Grading**, Math-M365: Intro to Probability and Statistics
 2016 Fall **Assisting**, Linear Algebra (BNU)

AWARDS

2023 **Mathematical Sciences Grad Intern Fellowship, NSF**
 Awarded by the National Science Foundation to support my intern at Oak Ridge National Lab during the summer of 2023.

2023 **Lawrence M. Blatt Biotech Internship Fund, IU**

2019 **James Williams Memorial Award, IU Math Department**
 Recognizing excellence in academic performance among top 1st-year graduate students in the IU Math Department.

2018 **Anna L. Homquest Fellowship, IU**

2016 **National Merit Scholarship of China for Grad Students**

2016 **Excellent Teaching Assistant Award, BNU**

2014 **Cuiying Student Innovation Fund, LZU**
 Supporting undergraduate research for honors students at LZU.

2014 **Outstanding Student Scholarship, LZU**

2012 **Outstanding Student Scholarship, LZU**

2012 **Scholarship for Outstanding Mathematics Majors, LZU**

LANGUAGES

Chinese (Native), English (Fluent), French (Elementary)

SKILLS

C++, Python, T_EX, High-Performance Computing (HPC), Mathematica, R

(Updated: October 9, 2023)