Zhifeng Wei

CONTACT INFORMATION	Pacific Northwest National Lab 3300 Stevens Drive, Richland, WA 99354, USA	Mobile: (+1) (812) 391-0426 Email:zfwei@pnnl.gov, zfwei93@outlook.com Homepage: zf-wei.github.io

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

EDUCATION

Department of Mathematics, Indiana University (IU)

Ph.D. in Mathematics, August 2018 – June 2024
- 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

Cuiying Honors College, Lanzhou University (LZU)

B.S. Summa Cum Laude in Mathematics, September 2011 – June 2015
- Advisor: Prof. Heping Zhang

EMPLOYMENT

Pacific Northwest National Laboratory (PNNL), United States of America

PNNL Distinguished Postdoctoral Fellow, August 2024 – present
- Mentor: Dr. Panos Stinis
- Supported by a Postdoctoral Fellowship from the DOE Office of Advanced Scientific Computing Research

Oak Ridge National Laboratory (ORNL), United States of America

Research Intern, October 2023 – March 2024 and May 2023 – July 2023
- Mentors: Dr. Pablo Moriano and Dr. Ramakrishnan Kannan
- Supported by the GRO Program and NSF-MSGI program

Department of Mathematics, Indiana University

Research Assistant/Associate Instructor, August 2018 – May 2024

PUBLICATIONS & PREPRINTS

(1) **Zhi-Feng Wei, Pablo Moriano, and Ramakrishnan Kannan**, *Robustness of Graph Embedding Methods for Community Detection*, arXiv:2405.00636

(2) **Zhi-Feng Wei**, *Sharp Bounds on Eigenvalues via Spectral Embedding Based on Signless Laplacians*, **J. Funct. Anal.**, Vol. 284, No. 5 (2023), Article 109799.

(3) **Zhi-Feng Wei**, *Inverse Problems for Ergodicity of Markov Chains*,
J. Math. Anal. Appl., Vol. 505, No. 2 (2022), Article 125483.

(4) **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.

PRESENTATIONS

(1) *Graph Embedding for Community Detection*,
2025 Joint Mathematics Meetings, January 2025.

(2) *Graph Embedding for Community Detection and Random Walks*,
Indiana University Mathematics Graduate Seminar, March 2024.

(3) *Spectral Embedding, Signless Laplacian, and Random Walk Convergence*,
Invited by Shiping Liu, University of Science and Technology of China, Sept 2023.

(4) *Sharp Bound on Return Probabilities via Spectral Embedding Method*,
Grad Student Probability Conference, University of Wisconsin, Sept 2022.

(5) *Bound Return Probabilities via Spectral Embedding Method*,
20th Northeast Probability Seminar, CUNY (Zoom talk), Nov 2021.

AWARDS

2024	**William B. Wilcox Mathematics Award, IU Math Department**
	Awarded to outstanding graduate students in the IU Math Department.
2023	**Mathematical Sciences Graduate Intern Fellowship, NSF**
	Awarded by the National Science Foundation to support my internhsip at Oak Ridge National Laboratory during the summer of 2023.
2023	**Lawrence M. Blatt Biotech Internship Fund, IU**
2019	**James P. Williams Memorial Award, IU Math Department**
	Recognizing excellence in academic performance among top first-year graduate students in the IU Math Department.
2018	**Anna L. Homquest Fellowship, IU**
	Merit-based fellowship in recognition of exceptional academic accomplishments.
2016	**National Merit Scholarship of China for Graduate Students**
2016	**Excellent Teaching Assistant Award, BNU**
2014	**Outstanding Student Scholarship (Grade 3), LZU**
2012	**Outstanding Student Scholarship (Grade 2), LZU**
2012	**Scholarship for Outstanding Mathematics Majors, LZU**

GRANTS

2024	**AMS's Mathematics Research Communities (MRC) program**
	Supporting early-career mathematicians to experience hands-on collaborative research in their field of inquiry.
2014	**Cuiying Student Innovation Fund, LZU**
	Supporting undergraduate research for honors students at LZU.

SERVICES

2024	**Indiana State Mathematics Contest 2024**
	Writing exam for "Pre-Algebra" contest.

TEACHING		
	2024 Spring	**Grading**, Math-M303: Linear Algebra for Undergrad
	2024 Spring	**Recitation**, Math-S311: Honors Calculus III
	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)

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

SKILLS   C++, Python, TeX, Mathematica, R

PROFESSIONAL AFFILIATION

(1) American Mathematical Society
(2) Society for Industrial and Applied Mathematics

(Updated: September 21, 2024)