

Zhou Feng

Faculty of Mathematics
Technion - Israel Institute of Technology
Rm 558, Amado Building, Technion, Haifa, Israel

Email: zfeng@campus.technion.ac.il
Homepage: <https://zfengg.github.io>
Nationality: China

ACADEMIC WORK EXPERIENCE

Postdoctoral Research Fellow 2024–present
Technion - Israel Institute of Technology. Mentor: Ariel Rapaport

EDUCATION

Ph.D. in Mathematics 2019–2024
The Chinese University of Hong Kong. Supervisor: De-Jun Feng

B.Sc. in Mathematics and Applied Mathematics 2015–2019
Huazhong University of Science and Technology (honors program)

RESEARCH INTERESTS

My current research interests lie in geometric measure theory, ergodic theory and dynamical systems, with a focus on studying the dimension theory and geometry of sets and measures with dynamical origins.

PUBLICATIONS AND PREPRINTS

1. Dimension of diagonal self-affine measures with exponentially separated projections
Preprint. arXiv:2501.17378
2. On the coincidence of the Hausdorff and box dimensions for some affine-invariant sets
Preprint. arXiv:2405.03213.
3. Dimension of homogeneous iterated function systems with algebraic translations (with De-Jun Feng)
Preprint. arXiv:2405.03124.
4. Intermediate dimensions under self-affine codings
Math. Z. (2024), 307, 21. DOI:10.1007/s00209-024-03490-z.
5. Typical self-affine sets with non-empty interior (with De-Jun Feng)
Asian J. Math. (2023), 27, 5. DOI:10.4310/AJM.2023.v27.n5.a1.
6. Estimates on the dimension of self-similar measures with overlaps (with De-Jun Feng)
J. London Math. Soc. (2022), 105: 2104-2135. DOI:10.1112/jlms.12555.

CONFERENCES AND TALKS

- Pizza Seminar, Technion Jan 2025
Talk: Dimension of self-similar fractals on the line
- CSU Workshop, Online Sep 2024
Talk: Dimension of homogeneous iterated function systems with algebraic translations
- SUSTech Analysis Workshop, Shenzhen, China Jul 2024
Talk: Dimension of self-similar measures on the line
- International Conference on Fractal Geometry and Related Topics, Hong Kong Dec 2023
Attend as a helper for organizing the conference
- Fractal Geometry, ICMS Edinburgh, UK Jul 2023
Lightning talk: Typical self-affine sets with non-empty interior
- Oulu Analysis Seminar, University of Oulu, Finland May 2023
Talk: Intermediate dimensions under self-affine codings
- Workshop on Fractal and Dynamical Systems, Anhui University (online) Aug 2022
Talk: Estimates on the dimension of self-similar measures with overlaps

- CUHK Student Seminar 2021–2024
Discuss results and problems in the selected topics; Co-organizer; Maintainer of the webpage
- CUHK Analysis Seminar 2019–2024
Present multiple selected works of research interests

ACADEMIC VISITS

- Nanjing University, Nanjing, China Jul 2024
Attend the summer school on the dimension theory of self-affine fractals
- South China University of Technology, Guangzhou, China Dec 2023
Attend the short course entitled “The dimension of self-similar set and Fourier transforms”
- University of Oulu, Finland May–Jul 2023
Visit the research group led by Prof. Meng Wu

HONORS AND AWARDS

- Professor Ka-Sing Lau Scholarship for Mathematics Dec 2023
Department of Mathematics, The Chinese University of Hong Kong
- Best Lightning Talk Jul 2023
Fractal Geometry, ICMS Edinburgh
- Best Teaching Assistant Award Mar 2023
Department of Mathematics, The Chinese University of Hong Kong
- Outstanding Graduate Jun 2019
Huazhong University of Science and Technology
- Meritorious Winner in Mathematical Contest in Modeling Apr 2018
The Consortium for Mathematics and Its Applications
- The First Award in Mathematics Competition of Chinese College Students Nov 2017
Chinese Mathematical Society
- National Endeavor Scholarship Oct 2017 & Sep 2018
Central Government of the People’s Republic of China
- National Scholarship Oct 2016
Ministry of Education of the People’s Republic of China

TEACHING EXPERIENCE

The Chinese University of Hong Kong (as teaching assistants)

- MATH4010 Functional Analysis Falls 2021 & 2022
- MATH3280 Introductory Probability Falls 2020, 2021 & 2022
- MATH2060 Mathematical Analysis II Spring 2021
- MATH1050 Foundation of Modern Mathematics Fall 2019

SKILLS AND CERTIFICATES

Language: Chinese: native; English: fluent.

Programming and technologies (GitHub profile: @zfbeng)

- Having strong maturity in programming, especially in languages: Julia, Python, C++, and TypeScript;
- Proficient in scientific computation via MATLAB and Julia;
- Experienced in document preparation by L^AT_EX;
- National Computer Rank Examination—Level Four of Database Engineer.

Others

- Swimming Lifeguard and Instructor (certificated by General Administration of Sport of China);