

Zhijian Hu

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EDUCATION

- University of Michigan
PhD Candidate, Department of Biophysics **Expected April. 2025**
- Chongqing University
Bachelor of Science, Department of Physics **Sept. 2014 – Jun. 2018**

RESEARCH DIRECTION

Investigating fundamental responses of bacteria growth dynamics and resistance evolution under spatially heterogeneous environment, with theoretical tools and high-throughput experimental screening.

PUBLICATION

6. **Zhijian Hu**, Yuzhen Wu, Kevin B Wood, "Migration modulates antibiotic evolution under spatial heterogeneity", In Preparation.
5. **Zhijian Hu**, Yuzhen Wu, Tomas Freire, Erida Gjini, Kevin B Wood, " Spatial drug heterogeneity changes growth dynamics in a deleterious environment", In Preparation.
4. Tomas Freire, **Zhijian Hu**, Erida Gjini, Kevin B Wood, "Modeling multi-drug antibiotic resistance evolution in space. Submitted to *Plos Computational Biology*
3. R. Liu, K. Song, **Z. Hu**, W. Cao, J. Shuai, S. Chen, H. Nan, Y. Zhen, X. Jiang, H. Zhang, W. Han, Y. Liao, J. Qu, Y. Jiao, Jing Fan, L. Liu, "Diversity of collective migration patterns of invasive breast cancer cells emerging during microtrack invasion", *Physical Review E* 99, 062403, (2019)
2. H. Xie, Y. Jiao, Q. Fan, M. Hai, J. Yang, **Z. Hu**, Y. Yang, J. Shuai, G. Chen, R. Liu, L. Liu, "Modeling three-dimensional invasive solid tumor growth in heterogeneous microenvironment under chemotherapy", *PloS one*, 13, No. 10, e0206292, (2018)
1. Y. Xie, **Z. Hu**, W. Ding, X. Lü, H. Xie, "One-dimensional method of investigating the localized states in armchair graphene-like nanoribbons with defects", *Chinese Physics B*, 26, No. 12, 127310, (2017)

CONFERENCE PRESENTATIONS

2. Biophysics Retreat at University of Michigan, Ann Arbor, Michigan, October 20, 2023, invited poster
1. March Meeting of the American Physical Society, Las Vegas, Nevada, March 6-10, 2023, contributed talk

WORK EXPERIENCE

- Graduate Student Instructor, Physics 250, 01.2024 – 04.2024
- Graduate Student Instructor, Biophysics 521, 01.2023 – 04.2023
- Graduate Student Instructor, Physics 290, 01.2020 – 04.2020
- Machine Learning Research Intern, iCarbonX, 04.2018 – 06. 2018
- Undergraduate Research Intern in Physics, McMaster University, 06.2017 – 09.2017

HONORS & AWARDS

- Rackham Graduate Student Travel Grant, 03.2023
- Aspen Winter Conference Travel Award, 01.2020
- First Honor Bachelor Degree in Physics, 06.2018
- Canada Mitacs Fellowship, 08.2017
- Tanglixin Academic Fellowship (60/30000 per year, **youngest** winner in Physics Department), 10.2015

OUTREACH ACTIVITY

- Graduate Student Mentor for undergraduate thesis, 03.2023-04.2023
- Graduate Student Mentor for undergraduate summer research, 06.2022 – 09.2022
- Teaching elementary school students Math in Egypt as an AIESEC volunteer, 06.2015 – 08.2015