

ZHENGQING ZHOU

Department of Biomedical Engineering, Duke University, NC, USA
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EDUCATION

Duke University Doctor of Philosophy, Biomedical Engineering (ongoing)	NC, USA Aug 2022 – Present
Peking University Bachelor of Science, Physics	Beijing, China Sep 2017 – Jul 2021
University of California, Los Angeles Exchange student at the Physics and Astronomy Department	CA, USA Sep 2019 – Dec 2019

PROFESSIONAL EXPERIENCE

Duke University Visiting Scholar, Department of Biomedical Engineering	NC, USA Sep 2021 – Mar 2022
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PUBLICATIONS

Z. Zhou, D. Li, Z. Zhao, S. Shi, J. Wu, J. Li, J. Zhang, K. Gui, Y. Zhang, Q. Ouyang, H. Mei, Y. Hu, and F. Li. *Dynamical modelling of viral infection and cooperative immune protection in COVID-19 patients. In Press.*

TALKS & PRESENTATIONS

4. Z. Zhou, A. Weiss, and L. You, *Population Ghost Effect Explains Long-term Plasmid Persistence Following Antibiotic Misuse*, contributed talk, **BMES Annual Meeting**, Seattle, WA. October, 2023. (Accepted)
3. Z. Zhou, G. Hamrick, Z. Holmes, D. Chaulagain, D. Karig, and L. You, *Reconstructing Subpopulation Dynamics within Complex Microbiome*, poster & lightening talk, **DARPA Arcadia Project Review Meeting**, Arlington, VA. July, 2023.
2. Z. Zhou, A. Weiss, and L. You, *Population Ghost Effect Explains Long-term Plasmid Persistence Following Antibiotic Misuse*, poster & lightening talk, **BME Retreat, Duke University**, Wilmington, NC. May, 2023.
1. Z. Zhou, and L. You, *Microbiome Spatial Partitioning Promotes Plasmid Maintenance*, poster, **Quantitative Biodesign Symposium**, Durham, NC. September, 2022.

RESEARCH EXPERIENCE

Graduate Student Researcher , Department of Biomedical Engineering, Duke University Projects: 1. Plasmid temporal dynamics upon antibiotic misuse. 2. Machine learning of complex microbiome dynamics. Advisor: Lingchong You	Aug 2022 – Present
Visiting Scholar , Department of Biomedical Engineering, Duke University Projects: 1. Impact of spatial partitioning on horizontal gene transfer in microbial communities. 2. Construction of a plasmid trait database. Advisor: Lingchong You	Sep 2021 – Feb 2022
Research Assistant , School of Physics, Peking University Projects: 1. Nonlinear dynamics of robust yeast cell cycle regulation. 2. Mathematical modelling of SARS-CoV-2 infection and host immune response. Advisor: Fangting Li	Oct 2018 – Sep 2021, Mar 2022 – June 2022

MENTORING AND OUTREACHING EXPERIENCES

- Research mentor. You Lab, Duke University
Mentees:
3. Margaret Wilson, NCSU microbiology undergraduate. Summer Internship. Achievements: Python coding for bioinformatic pipelines; biophysical modeling. Nov 2022 - Present
2. Anokh Ambadipudi, Duke biophysics undergraduate. Achievements: microbiology wet lab skills; Python & Matlab coding; a co-authored paper in preparation. Dec 2022 – Present
1. Zhixiang (Carl) Yao, Duke biomedical engineering master. Achievements: microbiology wet lab skills. Nov 2022 – Mar 2023

- Biophysics modeling of cell cycle. Biophysics Seminar, Peking University Aug 2020
- Organizer. Immunology of COVID-19 workshop. Peking University, Peking University Health Science Center, Wuhan Union Hospital. Apr - Aug 2020
- Reverse engineer the dynamics in biology. Physics Frontiers Seminar Series, Peking University May 2019

SELECTED AWARDS AND HONORS

- Honorable Mention Award in ICM Contest in Modeling 2021
- Outstanding Award, Challenge Cup academic contest, Peking University 2020
- Beijing Innovation Research Training Fellowship 2020
- Wanglaoji Overseas Exchange Scholarship 2019
- Outstanding Research Award, Peking University 2018