

Xiaolu Guo

Female | Born in Jilin, China

Institute for Quantitative and Computational Biosciences

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Department of Microbiology, Immunology, and Molecular Genetics

University of California, Los Angeles

CURRENT POSITION

Postdoctoral Position (2021 – present) at Prof. Alexander Hoffmann's Lab,

Institute for Quantitative and Computational Biosciences & Department of Microbiology, Immunology, and Molecular Genetics, University of California, Los Angeles

EDUCATION

2010 - 2014 B. Sc. in Computational Mathematics, School of Mathematical Sciences, Nankai University

2014 - 2020 Ph.D. in Computational Mathematics, School of Mathematical Sciences, Peking University

2016 - 2017 Visiting Scholar in Prof. Qing Nie's Lab, Department of Mathematics, University of California, Irvine

2020 - 2021 Visiting Scholar at Prof. Lei Zhang's group, Beijing International Center for Mathematical Research, Peking University

PUBLICATIONS & MANUSCRIPTS

- [1] SHI, B. #, **GUO, X. #**, WANG, Y., XIONG, Y., WANG, J., HAYASHI, K.-I., LEI, J., ZHANG, L. * & JIAO, Y. * 2018. [Feedback from lateral organs controls shoot apical meristem growth by modulating auxin transport.](#) *Developmental cell*.
- [2] **GUO, X.**, TANG, T., DUAN, M., ZHANG, L. & GE, H. 2022. [The Nonequilibrium Mechanism of Noise Enhancer synergizing with Activator in HIV Latency Reactivation.](#) *iScience*.
- [3] HU, Y., LI, M., LIU, H., **GUO, X.**, WANG, X. & LI, T. 2016. [City traffic forecasting using taxi GPS data: A coarse-grained cellular automata model.](#) *arXiv preprint arXiv:1612.02540*.
- [4] XIONG, Y. #, WU, B. #, DD, F. #, **GUO, X.**, TIAN, C., HU, J., LÜ, S., LONG, M., ZHANG, L. * & JIAO, Y. * 2021. [A crosstalk between auxin and brassinosteroid regulates leaf shape by modulating growth anisotropy.](#) *Molecular Plant*.
- [5] Shen, J., **GUO, X.**, Wang, Y. * 2021. [Identifying and setting the natural spaces priority based on the multi-ecosystem services capacity index.](#) *Ecological Indicators*.
- [6] Shen, J., Wang, Y. *, **GUO, X.** 2021. [Identifying and Setting Linear Water Space Priorities in Co-Urbanized Area Based on Multiple Levels and Multiple Ecosystem Services.](#) *Land*.
- [7] Luecke, S. #, Adelaja, A. #, **GUO, X.**, Sen, S., Spreafico, R., Singh, A., Liu, Y., Taylor, B., Diaz, J., Cheng, Q., Hoffmann, A. * 2023. [Tonic TNF conditioning of macrophages safeguards stimulus-specific inflammatory responses.](#) *EMBO reports*.
- [8] Luecke, S., Singh, A. #, Sheu, K. #, **GUO, X. #**, Han, M., Diaz, J., Lopes, F., Wollman, R., Hoffmann, A. * 2023. [Combinatorial and temporal coding by MAPK p38 and NFκB in the inflammatory response of macrophages.](#)

submitted.

- [9] GUO, X., Adelaja, A., Sen, S., Hoffmann, A. * 2023. [Modeling the heterogenous NF \$\kappa\$ B dynamics of single immune cells](#). *Final stage before submission.*

#These authors contributed equally; *Corresponding authors.

TEACHING EXPERIENCE

- 2017 fall semester, **Teaching Assistant**, Differential and Integral Calculus (~100 undergrad students), Peking University
 - Lecturing tutorial session for the class (~40 students)
- 2015 fall semester, **Teaching Assistant**, Applied Partial Differential Equations (~40 undergrad & PhD students), Peking University
 - Grading homework, mid-term, & final-term exams, give feedbacks & explanations weekly
 - Offering office hours for questions & discussion
- 2015 spring semester, **Teaching Assistant**, General Statistics (~70 undergrad students), Peking University
 - Grading homework, mid-term, & final-term exams, give feedbacks & explanations weekly
 - Offering office hours for questions & discussion

MENTORING & ADVISING EXPERIENCE

Zhaoyi You, SJTU Biology Master student (2023 -now)

Project: Develop neural stochastic differential equation to learn the dynamics in biochemical systems

Mark Xiang, UCLA Bioinformatics PhD student (2023 April)

Project: From B-cell fate decisions in the germinal center to an antibody repertoire: the impact of non-genetic cell state heterogeneity and its heritability

Emily Bozich, UCLA Bioengineering PhD student (2022 – now)

Project: Quantifying the confusion/specificity of NF κ B dynamics under different in-silico pharmacological perturbation

Yijia Chen, UCLA Math undergraduate (2021 – now)

Project: Multiple gene regulatory strategies enable decoding of transcription factor dynamics

Tao Tang, PKU Life Science undergraduate (2015 – 2019)

Project: The Nonequilibrium Mechanism of Noise Enhancer synergizing with Activator in HIV Latency Reactivation

Minxuan Duan, PKU Statistics undergraduate (2017 – 2019)

Project: The Nonequilibrium Mechanism of Noise Enhancer synergizing with Activator in HIV Latency Reactivation

Xiaoou Cheng, PKU Math undergraduate, (2017 – 2018)

Project: Quantifying the epithelial-to-mesenchymal transition (EMT)

OUTREACH ACTIVITIES

1. **Organizing committee member, QBio-EDGE UCLA**
2. **Class Design and Teaching** : I co-designed the GWAS class for high school students, especially the coding part. The class consisted of three steps with corresponding case studies.
3. **Mentoring** : Acted as a mentor for four high school students at Synergy Academies High School (Arlene, Kaelie, Casandra, and Daniel), offering emotional support, career guidance, and academic advice.

SELECTED PRESENTATIONS

- 11/2023 RSGDREAM 2023 Conference, 2023, Los Angeles, California, US (**Selected Talk**)
<https://www.iscb.org/rsgdream2023-schedule/programme>
- 11/2023 QCBio Research-in-Progress (RIP) Seminar, Fall 2023, Los Angeles, California, US (**Invited Talk**)
<https://qcb.ucla.edu/event/research-in-progress-rip-seminar-xiaolu-guo-hoffmann-postdoc-in-microbiology-immunology-molecular-genetics/>
- 10/2023 The 22st International Conference on Systems Biology, 2023, Harford, US (**Selected Talk & Poster**)
<https://icsb2023.bioscience-ct.net/>
- 09/2023 Department of Microbiology, Immunology & Molecular Genetics Retreat at UCLA, 2022, Los Angeles, California, US (**Poster**)
- 09/2023 9th Annual QCBio Retreat at UCLA, 2023, Los Angeles, California (**Poster**) <https://qcb.ucla.edu/wp-content/uploads/sites/14/2023/09/PROGRAM-2023.pdf>
- 04/2023 12th Annual Southern California Systems Biology Symposium, 2023, Los Angeles, California, US (**Poster**) <https://socalsysbio.github.io/SoCalSysBio2023/>
- 10/2022 CMCf 2022 Annual Symposium on Multiscale Cell Fate, 2022, Irvine, California, US (**Poster**)
<https://cellfate.uci.edu/symposium-2022/>
- 10/2022 The 21st International Conference on Systems Biology, 2022, Berlin, Germany (**Selected Talk & Poster**) <https://www.icsb2022.berlin/home>
- 09/2022 Department of Microbiology, Immunology & Molecular Genetics Retreat at UCLA, 2022, Los Angeles, California, US (**Selected talk**)
- 09/2022 8th Annual QCBio Retreat at UCLA, 2022, Los Angeles, California (**Selected talk**)
<https://qcb.ucla.edu/wp-content/uploads/sites/14/2022/09/Program-2022-1.pdf>
- 04/2022 11th Annual Southern California Systems Biology Symposium, 2022, Los Angeles, California, US (**Poster**) <https://socalsysbio.qcb.ucla.edu/>
- 06/2019 Quantitative Biology 2019: Dynamic Signaling in Cells and Embryos, Yantai, China (**Poster**)
<http://qbio.pku.edu.cn/overview/index.htm>
- 05/2019 A3 Workshop on Mathematical Life Science, Beijing, China (**Selected Talk**)
<http://conference.bicmr.pku.edu.cn/meeting/index?id=78>
- 03/2019 Student Seminar Series of Computational and Applied Mathematics, Beijing, China (**Invited Talk**)
<http://www.math.pku.edu.cn/kxyj/xsbg/tlb/computationaandappliedmath/91902.htm>
- 01/2019 The Gordon Research Conference of Stochastic Physics in Biology, Ventura, CA, United States (**Poster**) <https://www.grc.org/stochastic-physics-in-biology-conference/2019/>

08/2015 The 8th International Congress on Industrial and Applied Mathematics, Beijing, China (**Poster**)
<http://www.iciam2015.cn/>

HONORS AND AWARDS

2023	Outstanding Mentorship Award, B.I.G. Summer, UCLA
2020	Outstanding Ph.D. Graduates of Beijing City, Beijing, China
2020	Outstanding Ph.D. Graduates of Peking University, Beijing, China
2019	Yixin Internet Finance Scholarship of School of Mathematical Sciences, Peking University, Beijing, China (¥10,000)
2017-2019	Peking University Second Scholarship, Beijing, China (¥41,800/year for 2 years)
2018	Minglve Innovation Scholarship of School of Mathematical Sciences, Peking University, Beijing, China (¥10,000)
2018	Postgraduate Special Academic Scholarship of School of Mathematical Sciences, Peking University, Beijing, China (¥10,000)
2017	Postgraduate Student Second Scholarship of Center For Quantitative Biology, Peking University, Beijing, China (¥6,000)
2016-2017	China Scholarship (\$19,200/year awarded to the selected visit scholar through a rigid academia evaluation process organized by China Scholarship Council)
2014-2016	Peking University Scholarship, Beijing, China (¥58,000/year for 2 years)
2014	Mathematical Contest In Modeling, Honorable Mention
2014	Outstanding Graduates, Nankai University, Tianjin, China
2013	Honorable Class Representative, Nankai University, Tianjin, China
2013	Nankai University Second Scholarship, Tianjin, China (¥1500)
2012, 2014	Honorable Student, Nankai University, Tianjin, China
2012	Samsung Industrial Scholarship, Nankai University, Tianjin, China (¥5000 awarded annually to the top science and engineering graduate/undergraduate students)
2011	Nankai University Scholarship, Tianjin, China (¥3000)

COMMUNITY SERVICES

- Organizing committee members at QBio-EDGE UCLA, 2021-now
- Invited Reviewer for Undergraduate Research Scholars Program (URSP) 2022-2023 and 2023-2024 Selection Committee, UCLA.
- Invited Selection Committee for [Undergraduate Research Fellows Program](#) (URFP) Scholarship 2022-2023, UCLA
- Mentor for Bruins-In-Genomics (B.I.G.) Summer Program 2023, awarded as “Outstanding Mentor”.
- Invited Judge for 2023 BioHackathon Competition, UCLA.
(<https://intranscriptionatucla.org/biohackathon/>)
- Moderator of two panels at the Undergraduate Research & Creativity Showcase, for UCLA undergraduate research week 2023