Lida Wang

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https://lidawangpsu.github.io/Lida/

Research Interests

1. Developing models to characterize eQTL architecture at single-cell resolution, enabling a deeper understanding of cell-type/state–specific gene regulation.

2. Leveraging genetic and electronic health record (EHR) data with statistical methods and AI to predict and prevent disease progression.

Appointment

2025- **Dana-Farber Cancer Institute**
PostDoc Research Fellow, Advisor: **Prof. Alexander Gusev**

2025- **Harvard Medical School**
PostDoc Research Fellow, Advisor: **Prof. Alexander Gusev**

Education

2020-2025 **Penn State University**
Ph.D. in Biostatistics, Advisors: **Prof. Dajiang J. Liu**

Summer 2019 **University of Washington**
Statistical Genetics Summer Institute

2018-2019 **Georgetown University**
M.S. in Biostatistics, Advisors: **Prof. Ao Yuan** and **Prof. Ming T. Tan**

Summer 2026 **University of British Columbia**
Mathematics Summer Program

2014-2018 **Southern University of Science and Technology**
B.S. in Mathematics and Applied Mathematics, Advisor: **Prof. Guoliang Tian**

Honors & Awards

2025 Reviewer's choice abstract, American Society of Human Genetics
2025 U.S. Resource Limited Travel Stipend, American Society of Human Genetics
2024 Reviewer's choice abstract, American Society of Human Genetics
2024 Predoctoral Trainee Research Excellence Semi-Finalist, American Society of Human Genetics
2024 Vernon M. Chinchilli, PhD Award for Excellence in Biostatistics, Penn State University
2023 Predoctoral Trainee Research Excellence Finalist, American Society of Human Genetics
2023 Predoctoral Trainee Awardee, Association of Chinese Geneticists in America
2023 Finkelstein Memorial Trainee Research Award, Penn State University
2019 Statistical Genetics Summer Institutes Scholarship, University of Washington
2018 Biomedical Graduate Tuition Scholarship, Georgetown University
2017 Second Prize in China Mathematical Modeling Competition
2016 Third Prize in Chinese College Students Mathematics Competition
2016 International Exchange Scholarship, SUSTech

2014-2018 Foundation Scholarship of Academic Excellence, SUSTech

Publications

† **Co-primary authors,** ∗ **Representative works**

[9] Khunsriraksakul, C., Markus, H., Chen,S., **Wang, L.**, et al. An Atlas of Protein Quantitative Trait Loci in Olink and Somascan Platforms Uncover Genetic Insights into Gastroenterological and Hepatological diseases. medRXiv https://doi.org/10.1101/2025.10.06.25336803 ***ASHG 2024 postdoctoral trainee semi-finalist***

∗[8] **Wang, L.**†, Gao, S.†, et al. Integrating axis quantitative trait loci looks beyond cell types and offers insights into brain-related traits. Nat Commun 16, 10606 (2025). ***ASHG 2025 U.S. Resource Limited Travel Stipend and reviewer's choice abstract***

∗[7] **Wang, L.**†, Markus, H.†, et al. An atlas of single-cell eQTLs dissects autoimmune disease genes and identifies novel drug classes for treatment. Cell Genomics (2025). ***ASHG 2023 plenary oral talk and predoctoral trainee finalist, ACGA 2023 predoctoral trainee awardee.***

[6] Tan, Y., **Wang, L.**, Zhang, H. et al. Interpretable GWAS by linking clinical phenotypes to quantifiable immune repertoire components. Commun Biol 7, 1357 (2024).

∗[5] **Wang, L.**†, Khunsriraksakul, C.†, et al. Integrating single cell expression quantitative trait loci summary statistics to understand complex trait risk genes. Nat Commun 15, 4260 (2024). ***STATGEN 2024: Conference on Statistics in Genomics and Genetics invited talk***

[4] Xu, X., Khunsriraksakul, C., Eales, J., Rubin,S., Scannali, D., Saluja, S., Talavera, D., Markus, H., **Wang, L.**, et al. Genetic imputation of kidney transcriptome, proteome and integrative multi-omics yields new molecular, diagnostic and therapeutic targets for blood pressure and hypertension. Nat Commun 15, 2359 (2024).

[3] Khunsriraksakul, C., Li, Q., Markus, H., Patrick, M., Sauteraud, R., McGuire, D., Wang, X., Wang, C., **Wang, L.**, et al. Multi-ancestry and multi-trait genome-wide association meta-analyses inform clinical risk prediction and drug repurposing for systemic lupus erythematosus. Nat Commun 14, 668 (2023).

[2] Khunsriraksakul, C., McGuire, D., Sauteraud, R., Chen, F., Yang, L., **Wang, L.**, et al. Integrating 3D genomic and epigenomic data to enhance target gene discovery and drug repurposing in transcriptome-wide association studies. Nat Commun 13, 3258 (2022). ***ASHG 2020 reviewer's choice abstract, PQG 2020 conference honorable mention***

∗[1] Yuan, A., **Wang, L.**, Tan, MT. Set-regression with applications to subgroup analysis. Statistics in Medicine. 2022;41(1):180-193.

Presentations

Oct. 2025 **Poster, ASHG 2025, Boston, MA**
Integrating axis quantitative trait loci looks beyond cell types and offers insights into brain-related traits

Jun. 2025 **Seminar, Chinese Genomics Meet-up Online (CGM), Virtual**
An atlas of single-cell eQTLs dissects autoimmune disease genes and identifies novel drug classes for treatment.

Mar. 2025 **Seminar, Genetic Epidemiology Journal Club, Emory University, Virtual**
An atlas of single-cell eQTLs dissects autoimmune disease genes and identifies novel drug classes for treatment.

Feb. 2025 **Seminar, Dana-farber cancer institute, Boston, MA**
An atlas of single-cell eQTLs dissects autoimmune disease genes and identifies novel drug classes for treatment.

Jan. 2025 **Seminar, University of Pennsylvania, Philadelphia, PA**
An atlas of single-cell eQTLs dissects autoimmune disease genes and identifies novel drug classes for treatment.

Nov. 2024 **Poster, ASHG 2024, Denver, CO**
Improved Genetic Association analysis identifies 29 novel loci influencing preclinical to disease Progression in lupus.

Oct. 2024 **Oral talk, Multi-Omics Symposium, Hershey, PA**
An atlas of single-cell eQTLs dissects autoimmune disease genes and identifies novel drug classes for treatment.

Feb. 2024 **Seminar, ACGA Seminar, Virtual**
An atlas of single-cell eQTLs dissects autoimmune disease genes and identifies novel drug classes for treatment.

Nov. 2023 **Oral talk, ASHG 2023, Washington, DC**
An atlas of single-cell eQTLs dissects autoimmune disease genes and identifies novel drug classes for treatment.

Oct. 2023 **Seminar, PSU Student-Led Seminar, Hershey, PA**
An atlas of single-cell eQTLs dissects autoimmune disease genes and identifies novel drug classes for treatment.

Oct. 2023 **Oral talk, Rheumatology Research Day, Hershey, PA**
Dissecting systemic lupus erythematosus associated genetic loci at single cell resolution.

Sep. 2023 **Seminar, PSU Student-Led Seminar, Hershey, PA**
Genetic analysis of image-derived phenotype in kidney substructures.

Aug. 2023 **Oral talk, Calico intern presentation, South San Francisco, CA**
Genetic analysis of image-derived phenotype in kidney substructures.

Oct. 2022 **Poster, ASHG 2022, Los Angeles, CA**
Integrating single cell expression quantitative trait loci summary statistics to understand complex trait risk genes.

Sep. 2022 **Seminar, PSU Student-Led Seminar, Hershey, PA**
Integrating single cell expression quantitative trait loci summary statistics to understand complex trait risk genes.

Aug. 2022 **Oral talk, SUSTech Statistics and Data Science Seminar, Virtual**
Biostatistics PhD application and Introduction to Statistical Genetics.

Dec. 2019 **Poster, Research Practicum Presentation, Washington, DC**
Set-regression with applications to subgroup analysis.

Grants

2023-2024 **Finkelstein Memorial Trainee Research Award**
Dissecting systemic lupus erythematosus associated genetic loci at single cell level($3000)

Teaching Experience

Fall 2019 **Teaching Assistant**, *Statistics Software using R and SAS, Georgetwon University*
- held office hours; graded and wrote solutions for assignments and exams; explained the exams.

Fall 2017 **Teaching Assistant**, *Probability Theory, SUSTech*
- held office hours; graded and wrote solutions for assignments.

Professional Experience

Reviewer
American Journal of Human Genetics, Genome Biology, Genome Research, Nucleic Acids Research, Biostatistics, Scientific Reports, BMC Cancer, Discover Medicine, Archives of Dermatological Research

Membership
ASHG, ASA

Industry Experience

Summer 2023 **Calico Life Sciences LLC**, *Research Intern*
Mentor: Dr. Madeleine Cule

Spring 2017 **Shenzhen VITA-COURSE Technology Company**, *Algorithm Engineer Intern*
Mentor: Prof. Heng Peng

Volunteer Experience

Fall 2019 Student senator, Georgetown University
Summer 2017 Rural education support, Kandy, Sri Lanka
Summer 2017 Marine animal protection, Galle, Sri Lanka
Fall 2017 Rural education support, Guangdong, China

References

Prof. Alexander Gusev (PostDoc advisor)
Associate Professor of Medicine
Lead, Clinical Computational Oncology Group
Harvard Medical School / Dana-Farber Cancer Institute
Principal investigator
alexander_gusev@dfci.harvard.edu

Prof. Dajiang Liu (Doctoral advisor)
University Distinguished Professor
Vice Chair for Research, Dept. of Public Health Sciences
Director, Artificial Intelligence and Biomedical Informatics
Co-Chair, Bioinformatics and Genomics Graduate Program
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