Xuran Wang

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Applied Mathematics and Computational Science
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Education

- **University of Pennsylvania** — Philadelphia, PA
  PhD Candidate in Mathematics; GPA: 3.89 — *Aug. 2014 – Expected May. 2019*
  - **Thesis topic**: Mendelian Randomization and Single Cell Deconvolution, Two Problems in Statistical Genetics
- **University of Science and Technology of China** — Hefei, China
  B.S. of Statistics; GPA: 3.9/4.3 — *Sept. 2010 – June. 2014*

Selected Graduate Courses

- **Mathematics**: Algebraic techniques I (A)& II (A), Analysis I (A)& II (A-), Topics in mathematical biology (A);
- **Statistics**: Probability (A), Statistical method (A), Bayesian method & computation (A), Mathematical statistics (A+), Observational studies (A), Multivariate analysis: Theory and application (A), Linear statistical method (A);
- **Computer Science**: Machine learning (A);
- **Statistical genetics**: Statistical genetics/Human diseases (A), Causal inference in biomedical reasearch (A+).

Research Experience

- **Allele Specific Information in Mendelian Randomization**
  Advisors: Dylan S. Small, Nancy R. Zhang, Mingyao Li — *Sept. 2015 - 2017*
- **Sensitivity Analysis and Power for Instrumental Variable Studies**
  Advisors: Dylan S. Small, Nancy R. Zhang — *Oct. 2016 - Dec. 2017*
- **Bulk Tissue Cell Type Deconvolution with Multi-subject Single-cell Reference**
  Advisors: Nancy R. Zhang, Mingyao Li — *Mar. 2017 - July. 2018*
- **Continuous Cell Density Deconvolution with Single-cell Expression Reference** (On-going)
  Advisors: Nancy R. Zhang, Mingyao Li — *July. 2018 - present*

Publications

- **Wang, X.**, Jiang, Y., Zhang, N. R., & Small, D. S. (2018). Sensitivity analysis and power for instrumental variable studies. *Biometrics.* doi:10.1111/biom.12873.
- **Wang, X.**, Park, J., Susztak, K., Zhang, N., & Li, M. (2018). Bulk Tissue Cell Type Deconvolution with Multi-Subject Single-Cell Expression Reference. *Nature Communications (accepted). biorxiv:354944.*

Teaching Experiences

- **Recitations in MATH114**: Advanced Calculus II — *Fall 2015*
- **Teaching Assistant of MATH321**: Linear Algebra II — *Spring 2016*
- **Recitations in STAT111**: Introductory of Statistics — *Spring 2017*

Software

- **AllelicMR**: R package: Allele specific Mendelian Randomization — https://github.com/xuranw/AllelicMR
- **MuSiC**: R package: Multi-subject Single-cell deconvolution — https://github.com/xuranw/MuSiC

Presentations

- **ASHG (Oct. 2017)**: Allele Specific Information in Mendelian Randomization (Poster)
- **ASHG (Oct. 2018)**: Bulk Tissue Deconvolution with Multi-subject Single-cell Expression Reference (Poster)

Programming Skills

- **Languages**: R, Matlab, Python, LaTeX

Services

- **Finance Committee Member**: The graduate student government of the school of arts & sciences *Since 2018*

OTHERS

- **Principal Violinist of USTC Western Orchestra** *2011-2014*
- **Penn Chamber Music Member** *2015*

References

Nancy R. Zhang (Advisor)
Professor of Statistics
Department of Statistics
The Wharton School,
University of Pennsylvania
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Walnut St.
Philadelphia, PA 19104
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Mingyao Li (Co-advisor)
Professor of Biostatistics
Department of Biostatistics and Epidemiology
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