

# WENJING MA

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## Education and Training

### Postdoctoral Research Fellow, Biostatistics

07/2023 -

Department of Biostatistics, University of Michigan, Ann Arbor, MI, U.S.

Advisor: [Dr. Xiang Zhou](#)

### Ph.D., Computer Science and Informatics (Biomedical Informatics Track)

08/2019 - 05/2023

Department of Computer Science, Emory University, Atlanta, GA, U.S.

GPA: 4.0/4.0

Dissertation Title: *Cell type identification in single-cell genomics and its application*

Advisor: [Dr. Hao Wu](#)

### Visiting Scholar in Bioinformatics

08/2018 - 06/2019

Center for Public Health Genomics, University of Virginia, Charlottesville, VA, U.S.

Advisor: [Dr. Chongzhi Zang](#)

### M.S. and B.S., Computer Science and Technology

09/2010 - 06/2017

Beijing University of Posts and Telecommunications (BUPT), Beijing, China

## Research Interests

- Apply statistical modeling and computational methods in analyzing single-cell genomics data
- Integrate single-cell multi-omics data to reveal cell-type-specific gene regulatory network and explore epigenetic diseases such as neurodegenerative disease, obesity, cancer, etc.

## Publications

(\*: equal contribution)

### Peer-Reviewed Journal

1. **Wenjing Ma**, Jiaying Lu, Hao Wu. Cellcano: supervised cell type identification for single cell ATAC-seq data. *Nature Communications*, (2023). [DOI](#) [[Python package](#)] [[Documentation](#)]
  - 3rd place (out of 47) Student Poster Presentation Award @ GSD 2022 [[News](#)]
  - 2023 ASA Section on Statistics in Genomics and Genetics (SGG) Student Paper Award [[News](#)] [[Inter-view](#), Page 9]
  - 1st place Young Scientist Excellence Award (YESA) for Graduate Student & 1st place Poster Award @ MCBIOS 2023
2. **Wenjing Ma**, Sumeet Sharma, Peng Jin, Shannon L. Gourley, Zhaohui S. Qin. *LRcell*: detecting the source of differential expression at the sub-cell-type level from bulk RNA-seq data. *Briefings in Bioinformatics*, (2022). [DOI](#) [[R package](#)]
  - 20-min talk @ [AWSOM Workshop 2022](#);

3. **Wenjing Ma**, Kenong Su, Hao Wu. Evaluation of some aspects in supervised cell type identification for single-cell RNA-seq: classifier, feature selection, and reference construction. *Genome Biology*, (2021). [DOI](#) [[project link](#)]
- Honorable Mention Poster @ GSD 2021;
  - Best 5-minute presentation award @ Emerging Data Science Methods for Complex Biomedical and Cyber Data 2021
4. Shengen S. Hu, Lin Liu, Qi Li, **Wenjing Ma**, Michael J. Guertin, Clifford A. Meyer, Ke Deng, Tingting Zhang, Chongzhi Zhang. Intrinsic bias estimation for improved analysis of bulk and single-cell chromatin accessibility profiles using SELMA. *Nature Communications*, (2022). [DOI](#), [[package](#)]
5. **Wenjing Ma\***, Zhenjia Wang\*, Yifan Zhang, Neal E. Magee, Yayi Feng, Ruoyao Shi, Yang Chen, Chongzhi Zang. BARTweb: a web server for transcriptional regulator association analysis. *NAR Genomics and Bioinformatics*, (2021). [DOI](#) [[website](#)] [[RECOMB 2019 poster](#)]

#### Book Chapters

6. Ronnie Y. Li, **Wenjing Ma**, Zhaohui S. Qin. Approaches to Marker Gene Identification from Single-Cell RNA-Sequencing Data. In *Handbook of Statistical Bioinformatics* (pp. 71-84). Springer, Berlin, Heidelberg. (2022) [DOI](#)

#### Collaborations

7. Yulin Jin, Kenong Su, Ha Eun Kong, **Wenjing Ma**, Zhiqin Wang, Yujing Li, Ronghua Li, Emily Allen, Hao Wu, Peng Jin. Cell-type specific DNA methylome signatures reveal epigenetic mechanisms for neuronal diversity and neurodevelopment disorder. *Human Molecular Genetics*, (2022) [DOI](#)

#### Under Review

8. Sumeet Sharma\*, **Wenjing Ma\***, Kerry J. Ressler, Thea Anderson, Dan. C. Li, Peng Jin, Shannon L. Gourley, Zhaohui Qin. Dysregulation of prefrontal oligodendrocyte lineage cells across mouse models of adversity and human major depressive disorder. *Under revision*, (2022). [DOI](#)

### **Fellowships and Grants**

#### **Fellowship**

- Women in Natural Sciences Fellowship (@ *Emory University, GA, U.S.*, 2019 - 2023)

#### **Travel Grants**

- 2023 ABGOD (@ *The University of Texas at Dallas*)
- 2022 Grad Cohort for Women (@ *New Orleans*)

### **Professional Activities and Services**

- Invited reviewer for International Journal of Computational Biology and Drug Design (IJCBD).
- Invited reviewer for IEEE BIBM 2022.
- Invited sub-reviewer for ISMB/ECCB 2023.

### **Teaching Experiences**

BIOS 555: High-throughput data analysis using R and Bioconductor - teaching assistant

Fall 2022

QTM 100: Intro to Statistical Inference - lab instructor  
CS 584: Biomedical Image Analysis - teaching assistant  
CS 253: Data Structures and Algorithms - teaching assistant  
CS 224: Foundations of Computer Science - teaching assistant

*Fall 2021*  
*Spring 2021*  
*Fall 2020*  
*Spring 2020*