

# Yunlin Zhou

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## EDUCATION

**Mailman School of Public Health, Columbia University**

**New York, New York**

**Master of Science in Biostatistics**

**05/2023**

- Courses: Probability, Statistical Inference, Data Science I & II (R programming), Biostatistical Methods I & II, Relational databases and SQL programming, Analysis of Longitudinal Data, Statistical Methods for Casual Inference, Statistical Computing With SAS, Deep Learning in Biomedical Imaging
- **Thesis:** *Impact of Amazon Fulfillment Centers on PM2.5 Levels in Surrounding Areas.*

**College of Biological Sciences and Technology, Beijing Forestry University**

**Beijing, China**

**Bachelor of Science in Biological Sciences**

**07/2021**

- Core Courses: Biotechnology, Advanced Mathematics, Cell Biology, Molecular Biology, Animal Physiology A
- **Thesis:** *Molecular mechanism research of the effect of leaf on chloroplast division in woody plants.*

**UC Berkeley Summer Sessions**

**07/2019-08/2019**

- Courses: Introduction to Probability and Statistics in Biology and Public Health, Introduction to Human Physiology Laboratory

## DATA ANALYSIS PROJECT

**Biostatistics Department, Data Science I**

**Fall 2021**

- Explain World Happiness project
- Collaborated with a team of 3 to conduct analysis of World Happiness data set, created data visualization and built a website using R.

**Biostatistics Department, Biostatistical Methods I**

**Fall 2021**

- Compared (name variables) in collaboration with 4 students to examine the marginal distributions and pairwise relationships between variables, then built the final model of crime rate data set using R.

**Biostatistics Department, Data Science II**

**Spring 2022**

- Conducted analysis of CVD data set, used logistic, GAM, MARS, LDA and QDA models.

**Biostatistics Department, Relational databases and SQL programming**

**Spring 2022**

- Trained with Access and MySQL to process database with immune disease data analysis project.

**Columbia Biostatistics Department, Statistical Computing with SAS**

**Fall 2022**

- SAS analysis of the 'weight\_loss' data set explores factors influencing overall weight change in patients receiving weight loss treatments, utilizing linear and logistic regression, and descriptive statistics.

**Biomedical Engineering Department, Deep Learning in Biomedical Imaging**

**Spring 2023**

- Developed a U-Net neural network based on the TABS model for automatic segmentation of the human inner ear in micro-CT scans, enhancing treatment strategies for inner ear diseases.

## **SKILLS**

- Data analysis Skills: R, Python, SQL, MySQL, SAS, Access
- Lab skills: Proficiency in molecular biology techniques
- Language: Chinese (native), English (fluent)

## **RESEARCH EXPERIENCE**

**Research Assistant, Beijing Forestry University**

10/2017-07/2021

**Advisor: Prof. Hongbo Gao & Prof. Xiaomin Liu**

***The Putative Smallest Introns in The Arabidopsis Genome***

- Conducted research on DNA in plants using molecular biology techniques, including assessment of functions of introns, resulting in a research publication.
- Accurately followed research protocols to ensure accuracy and validity of data collection.
- There is a limit to how small introns in *A.thaliana* can be, which is useful for the understanding of the evolution of small introns.

***Molecular Basis of The Effects of Leaf Development on Chloroplast Division in Woody Plants***

- Review previously written articles on topic, to provide information for future research.

**Research Assistant, Columbia University**

01/2023-04/2023

**Advisor: Prof. Kara Rudolph**

***Impact of Amazon Fulfillment Centers on PM2.5 Levels in Surrounding Areas***

- Investigated the impact of Amazon's fulfillment centers on surrounding areas' PM2.5 levels through the implementation of synthetic controls with staggered adoption, complemented by the incorporation of Rural-Urban Commuting Area Codes (RUCC) score as an auxiliary covariate.

## **PUBLICATIONS**

- Cheng W, **Zhou Y**, Miao X, et al. The putative smallest introns in the *Arabidopsis* genome. *Genome biology and evolution*, 2018.
- Liu X, **Zhou Y**, Xiao J, et al. Effects of chilling on the structure, function and development of chloroplasts. *Frontiers in Plant Science*, 2018.

## **HONORS & AWARDS**

- Outstanding Academic Scholarship of Beijing Forestry University (for 2017-2018 / 2018-2019 academic years)
- Excellent Student Cadre (for 2017-2018/2018-2019/2019-2020 academic years)
- Outstanding Cadres of Student Association (for 2017-2018 academic year)
- Outstanding Individuals in Social Practice (for 2018-2019 academic year)
- Prize for The Best Organization (for 2018-2019 academic year)
- The fifth biology competition Beijing China Knowledge competition Second prize (2019)
- The sixth biology competition Beijing China Experimental skills competition Third prize (2020)