



# RONGHAO ZHANG

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## EDUCATION

### Georgia Tech & Emory University

August 2023 – May 2028

Graduate/Professional

Atlanta, GA

- Ph.D. student in Biomedical Engineering, Wallace H. Coulter Department of Biomedical Engineering
- Graduate research assistant in Emanuel Lab, Department of Cell Biology, Emory University School of Medicine

### Case Western Reserve University

August 2019 – May 2023

Undergraduate

Cleveland, OH

- *Summa Cum Laude, Bachelor of Science in Systems Biology, Bachelor of Arts in Computer Science*
- Undergraduate research assistant in Garvin & Gonzalez-Vicente Lab, Department of Physiology and Biophysics

## RESEARCH INTEREST

### Systems and Computational Neuroscience

- Neural basis of sensory signal processing and perception
- Mechanism of sensory dysfunction and potential therapeutics in neurological diseases
- Brain Computer Interface and neuroprosthetics for rehabilitation

## PUBLICATIONS

[Pre-Print] **Zhang, R.**, Shi, S., Jadhav, D.A., Kim, N., Brostek, A., Forester, B.R., Shukla, R., Qu, C., Kramer B., Garvin, J.L., Kleyman, T. R., Gonzalez-Vicente, A. (2024) Abnormal activation of the mineralocorticoid receptor in the aldosterone-sensitive distal nephron contributes to fructose-induced salt-sensitive hypertension. *bioRxiv*, <https://doi.org/10.1101/2024.08.19.608663>.

Forester, B.R., **Zhang, R.**, Schuhler, B., Brostek, A., Gonzalez-Vicente, A., Garvin, J.L. (2024) Knocking Out Sodium Glucose-Linked Transporter 5 Prevents Fructose-Induced Renal Oxidative Stress and Salt-Sensitive Hypertension. *Hypertension*, 81(6), 1296-1307. <https://doi.org/10.1161/HYPERTENSIONAHA.123.22535>.

**Zhang, R.**, Jadhav, D.A., Kim, N., Kramer, B., Gonzalez-Vicente, A., on behalf of the Kidney Precision Medicine Project. (2024) Profiling Cell Heterogeneity and Fructose Transporter Expression in the Rat Nephron by Integrating Single-Cell and Microdissected Tubule Segment Transcriptomes. *Int. J. Mol. Sci.*, 25(5), 3071. <https://doi.org/10.3390/ijms25053071>.

Brostek, A., Hong, N. J., **Zhang, R.**, Forester, B. R., Barmore, L. E., Kaydo, L., Kluge, N., Smith, C., Garvin, J. L., and Gonzalez-Vicente, A.(2022) Independent Effects of Sex and Stress on Fructose-Induced Salt-Sensitive Hypertension. *Physiological Reports*, 10(19), e15489. <https://doi.org/10.14814/phy2.15489>.

## PRESENTATIONS

**April 2023** — Poster presentation *Addition of fructose to a high-salt diet increases the expression of aldosterone-response genes in the kidney* at American Physiology Summit, Long Beach, CA, U.S.

**April 2023** — Poster presentation *Single-cell transcriptional phenotypes linked to anatomical localization of fructose transporters in rat proximal tubule segments* at American Physiology Summit, Long Beach, CA, U.S.

**April 2023** — Oral Presentation *Fructose-induced aldosterone response in distal tubules* at Cleveland Kidney Center Renal Chalk Talks, Cleveland, OH, U.S.

## AWARDS & HONORS

Dean's High Honor | Case Western Reserve University

Latest Award: June 2022

- Awarded for the following semesters: Fall 2019, Spring 2020, Fall 2020, Spring 2021, Fall 2021, and Spring 2022.

Outstanding Junior Award | Case Western Reserve University

April 2022

Phi Beta Kappa Prize | Case Western Reserve University

September 2021

Heartsaver CPR & AED Certificate | American Heart Association

January 2020

## MENTORING EXPERIENCE

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### Mentor, Petit Scholar Research Program

January 2024 - Current

- Supervised Undergraduate scholar, Ruorong Qi, for her independent study in tactile abberations under diseases condions.

### Undergraduate Teaching Assistance

August 2021 - May 2022

- **BIOL373** Introduction to Neurobiology (*Fall 2022*)
- **BIOL300** Dynamics of Biological Systems: A Quantitative Introduction to Biology (*Spring 2022*)
- **ENGR131** Elementary Computer Programming - MATLAB (*Fall 2021*)
- **BIOL214** Genes, Evolution and Ecology (*Fall 2021*)

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### Outstanding Junior Award | *Case Western Reserve University*

April 2022

### Certificate of Completion | *Coursera – Command Line Tools for Genomic Data Science*

March 2022

### Phi Beta Kappa Prize | *Case Western Reserve University*

September 2021

### Heartsaver CPR & AED Certificate | *American Heart Association*

January 2020

## TECHNICAL SKILLS

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- **Programming Languages:** R, MatLab, Unix Command Lines, Java, MySQL
- **Tools:** LaTeX, Unity, GitHub & Git
- **Operating Systems:** Windows, MacOS, Linux with Ubuntu
- **Others:** surgeries on rodents, quantitative biological experiments, mRNA purification