

# Rui Wang

PHD STUDENT · UW BIOSTATISTICS

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## Education

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### University of Washington

PHD STUDENT IN BIOSTATISTICS

Seattle, WA, USA

2022.9 - present

- Current RA Advisor: Dr. Fei Gao
- Dissertation Advisor: Dr. Gary Chan

### Peking University

MS IN EPIDEMIOLOGY AND HEALTH STATISTICS

Beijing, China

2020.9 - 2022.7

- Advisor: Dr. Xiao-Hua Zhou

### Peking University

BS IN ECONOMICS

Beijing, China

2016.9 - 2020.7

### Peking University

BS IN MEDICINE

Beijing, China

2015.9 - 2020.7

## Publications and working papers

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### STATISTICAL THEORY & METHODOLOGY

1. Deng, Y., Chen, F., Li, Y., Qian, K., **Wang, R.**, Zhou, X.-H. (2021). A powerful test for the maximum treatment effect in thorough QT/QTc studies. *Statistics in Medicine*. 40(8), 1947-1959.
2. Deng, Y., **Wang, R.** (2025+) Adjusted Nelson–Aalen estimators by inverse treatment probability weighting with an estimated propensity score. Accepted in *Statistics in Medicine*. <https://arxiv.org/abs/2410.00338>.

### COLLABORATIONS & APPLICATIONS

1. **Wang, R.**, Wang, J., Hu, T., Zhou, X.-H. (2022). Population-Level Effectiveness of COVID-19 Vaccination Program in the United States: Causal Analysis Based on Structural Nested Mean Model. *Vaccines*.
2. Barforoshi, S., Manubolu, V. S., **Wang, R.**, McClelland, R. L., Budoff, M. J. (2024). Incremental value of ABI and CAC beyond traditional risk markers in long-term prediction of cardiovascular disease incidence in participants with diabetes and impaired fasting glucose: Multi-Ethnic Study of Atherosclerosis. *Atherosclerosis*, 117186.
3. Ichikawa, K., **Wang, R.**, McClelland, R. L., Manubolu, V. S., Susarla, S., Lee, D., Pourafkari, L., Fazlalizadeh, H., Aldana-Bitar, J., Robin, R.; Kinninger, A., Roy, S.K., Post, W.S., Budoff, M. J. (2024) The prognostic value of thoracic aortic calcification comparison with coronary artery calcification. *Heart*.

### SUBMITTED & UNDER REVIEW

- Deng, Y., **Wang, R.** (2025+) Randomized interventional effects for semicompeting risks, with application to allogeneic stem cell transplantation study. Submitted to *Journal of American Statistical Association*. <https://arxiv.org/abs/2412.06114>
- Joshi, M.A., Manubolu, V. S., Kinninger, A., **Wang, R.**, McClelland, R. L., Roy, R. K., Budoff, M. J. (2025+) Sex Differences in Aortic Arch Calcification with Zero Coronary Artery Calcium. Submitted to *Heart, Lung and Circulation*.

**Wang, R.,** Zhao, Y., Dukes, O., Zhang, B.(2025+) Nested Instrumental Variables Design: Switcher Average Treatment Effect, Identification, Efficient Estimation and Generalizability. Under Reject and Resubmit at *Journal of the Royal Statistical Society: Series B*. <https://arxiv.org/abs/2405.07102>

**Wang, R.,** Heagerty, P., Chan, KCG., Suri, P. (2025+) Estimating controlled direct treatment effects on pain intensity using structural mean models: a general approach for pain randomized controlled trials. Submitted to *Pain*. <https://doi.org/10.1101/2025.04.09.25325306>

## IN PREPARATION

**Wang, R.,** Chan, KCG., Ye, T.(2025+) GMM with Many Weak Moment Conditions and Nuisance Parameters: General Theory and Applications to Causal Inference

Wang, Z., Sourial, N., **Wang, R.,** Bergman, H, Liu, X., Vedel, I.(2025+) Rural older people's experiences of health-seeking in low- and middle-income countries (LMICs): a systematic review and thematic synthesis of qualitative studies

## Awards, Fellowships, & Grants

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2016 **Merit Student**, Peking University

2017 **Merit Student**, Peking University

2016 **Merit Student**, Peking University

## Presentations

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### INVITED TALKS

April 2025. *Nested Instrumental Variables Design: Switcher Average Treatment Effect, Identification, Efficient Estimation and Generalizability*. The Pennsylvania State University.

April 2024. *Nested Instrumental Variables Design: Switcher Average Treatment Effect, Identification, Efficient Estimation and Generalizability*. Invited talk: Econometrics Workshop, Peking University

### CONTRIBUTED PRESENTATIONS

March 2025. *GMM with Many Weak Moment Conditions and Nuisance Parameters: General Theory and Applications to Causal Inference*. ENAR 2025, New Orleans, LA, USA

August 2024. *Nested Instrumental Variables Design: Switcher Average Treatment Effect, Identification, Efficient Estimation and Generalizability*. The 2024 joint statistical meeting, Portland, OR, USA

May 2024. *Nested Instrumental Variables Design: Switcher Average Treatment Effect, Identification, Efficient Estimation and Generalizability*. The 2024 American Causal Inference Conference, Seattle, WA, USA

## Teaching Experience

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Fall 2023 **Categorical Data Analysis in Epidemiology**, Teaching Assistant, University of Washington

Spring 2022 **Probability and Statistics**, Teaching Assistant, Peking University

Spring 2021 **Probability and Statistics**, Teaching Assistant, Peking University

Spring 2019 **Special Topics in China Economic Research**, Teaching Assistant, Peking University

Fall 2018 **Intermediate Macroeconomics**, Teaching Assistant, Peking University

Spring 2018 **Economics Field Research**, Teaching Assistant, Peking University

## Service

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2024-now **Referee**, Journal of the American Statistical Association, Biostatistics, Vaccine, Journal of Statistical Planning and Inference

2024-2025 **Admission committee**, Department of Biostatistics, University of Washington