# Eric J. Mei

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## EDUCATION

**PhD, University of Washington** *2023 – present*
Atmospheric and Climate Science, Advisors: Alexander J. Turner, Gregory J. Hakim

**MS, Georgia Institute of Technology** *2022 – 2023*
Environmental Engineering, Advisor: Armistead (Ted) G. Russell

**BS, Georgia Institute of Technology** *2018 – 2022*
Environmental Engineering, *highest honors*
Minor: Earth and Atmospheric Sciences (Environmental Chemistry)

## RESEARCH

**Department of Atmospheric and Climate Science, University of Washington** *2023 – present*
Graduate Research Assistant (PI: Alexander Turner and Gregory Hakim)

- Developing computationally efficient surrogate models (emulators) for chemistry-climate system
- Performing coupled data assimilation with trained emulators to jointly infer tropospheric composition and physical atmospheric variables

**School of Civil and Environmental Engineering, Georgia Institute of Technology** *2022 – 2023*
Graduate Research Assistant (PI: Armistead (Ted) Russell)

- Performed thesis research separating impact of natural gas price trends from regulations on air quality
- Sampled ambient mercury at near-road site in joint project with the University of Nevada Reno
- Modeled source contributions to $PM_{2.5}$ composition during Jan-Feb 2022 in Fairbanks, AK

**School of Civil and Environmental Engineering, Georgia Institute of Technology** *2022*
Research Assistant (PI: Jennifer Kaiser)

- Evaluated existing and novel ethylene oxide (EtO) measurement techniques for Georgia Environmental Protection Division
- Communicated scientific analysis to stakeholders with less technical background in a detailed report

**School of Civil and Environmental Engineering, Georgia Institute of Technology** *2021 – 2022*
Undergraduate Research Assistant (PI: Xing Xie)

- Identified ability of superabsorbent polymer (PSAP) beads to isolate analytical targets from wastewater
- Helped develop VirusTrack, a commercial method for the use of PSAP beads in COVID-19 surveillance
- Competed in the CEE Entrepreneurial Impact Competition and presented VirusTrack to industry panel

**School of Earth and Atmospheric Sciences, Georgia Institute of Technology** *2020*
Undergraduate Research Assistant (PI: Yuanzhi Tang)

- Analyzed transformation of contaminants in sewage sludge post-anaerobic digestion
- Obtained N and P concentrations of wastewater samples through spectrophotometry

## PUBLICATIONS

6. **Mei, E. J.**, M. G. Taniguchi-King, D. Stiller, G. J. Hakim, A. J. Turner (in prep). Predicting dynamics of the coupled chemistry-climate system using a linear inverse model. *In preparation for Atmospheric Chemistry and Physics*.

5. Z. Gao, **E. J. Mei**, X. He, P. K. Hopke, S. Ebelt, D. Q. Rich, A. G. Russell (2025). Multicity accountability and uncertainty assessment of the impacts of regulations on air quality in Atlanta,

New York City, and Southern California. *Atmospheric Environment*. doi.org/10.1016/j.atmosenv.2024.120947

4. **Mei, E. J.**, Z. Gao, P. K. Hopke, S. Ebelt, D. Q. Rich, A. G. Russell (2024). Impacts of fuel prices and regulations on electricity generation emissions and urban air quality. *ACS ES&T Air*. doi.org/10.1021/acsestair.3c00034

3. **Mei, E. J.**, A. C. Moore, and J. Kaiser (2023). Suitability of new and existing ambient ethylene oxide measurement techniques for cancer inhalation risk assessment. *Environmental Pollution.* doi.org/10.1016/j.envpol.2023.122481

2. Gustin, M. S., S. M. Dunham-Cheatham, N. Allen, N. Choma, W. Johnson, S. Lopez, A. G. Russell, **E. J. Mei**, O. Magand, A. Dommergue, T. Elgiar (2023). Observations of the chemistry and concentrations of reactive Hg at locations with different ambient air chemistry. *Science of The Total Environment.* doi.org/10.1016/j.scitotenv.2023.166184

1. Chen, W., **E. J. Mei**, and X. Xie (2022). Virus stabilization with enhanced porous superabsorbent polymer (PSAP) beads for diagnostics and surveillance. *ACS ES&T Water.* doi.org/10.1021/acsest water.2c00239

## PRESENTATIONS

2024 AGU Fall Meeting, "Discerning Connections between Lifetimes, Modes, Memory, and Timescales in Coupled Chemistry-Climate Models." **Received OSPA (Outstanding Student Presentation Award).**

2023 AQ ATL23 Symposium, "Impacts of Fuel Prices and Regulations on Electricity Generation Emissions and Urban Air Quality." **Awarded Best Talk.**

## POSTERS

2024 PCC Summer Institute, "Lifetimes and feedbacks in the coupled chemistry-climate system."

2024 CS4Env Symposium, "Development of a linear inverse model to emulate chemistry-climate dynamics."

## SCHOLARSHIPS, FELLOWSHIPS, and AWARDS

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| DOD National Defense Science and Engineering Graduate (NDSEG) Fellowship | *2025 – present* |
| ARCS Foundation Fellowship at University of Washington | *2023 – present* |
| Georgia Power Fellowship at Georgia Institute of Technology | *2022* |
| Environmental Engineering and Science Foundation Master's Degree Scholarship | *2022* |
| Brown & Caldwell LGBTQIA+ Scholarship | *2022* |
| Georgia Engineering Foundation ACEC Scholarship | *2022* |
| ADP Henry Taub National Merit Scholarship | *2018 – 2022* |
| Zell Miller Scholarship | *2018 – 2022* |

## TEACHING

**Department of Atmospheric and Climate Science, University of Washington** *2025*

Teaching Assistant – Climate and Climate Change

- Designed and led weekly 1-hour discussion activity sessions

**Tutoring and Academic Support, Georgia Institute of Technology** *2019 – 2020*

Peer-Led Undergraduate Study Session Leader – Physics 1

- Coordinated with professor to lead study sessions for over 400 students twice a week
- Trained in guiding and facilitating learning for students via CRLA Level II certification

**College of Sciences, Georgia Institute of Technology** *2019*
Undergraduate Teaching Assistant – Physics 1

- Managed and taught the weekly 3-hour lab activities and exercises of three laboratory sections
- Graded weekly laboratory quizzes and reviewed concepts in succinct sessions

## MENTORING

Coco Lipe (University of Washington), *Fall 2024 – present* research intern: mentored in research

Max Taniguchi-King (UC Berkeley), *Summer 2024* research intern: mentored in research, co-author on paper, first presenter in poster at AGU24

## PROFESSIONAL MEMBERSHIPS

American Geophysical Union