

Postdoctoral Scholar Opportunity in Aerosol Dynamics Modeling at UChicago

Description:

Wang Aerosol Lab (PI: Mingyi Wang) at the University of Chicago invites applications for a postdoctoral scholar to lead innovative research on aerosol dynamics in dense aircraft plumes, providing the foundation for assessing the efficacy and environmental risks of stratospheric aerosol injection (SAI). According to the 2024 UNEP Emissions Gap Report, the world is on a trajectory towards 2.6-3.1°C of warming, with the Paris Agreement's 1.5 °C threshold likely to be breached by the early 2030s. This alarming trend has prompted urgent yet controversial discussions about SAI, a climate intervention strategy fraught with uncertainties about its environmental risks.

This project aims to address these uncertainties by resolving the roles of chemistry, microphysics, and wake dynamics in aerosol formation and evolution within the near-field aircraft plumes, using a hierarchical framework that integrates an aerosol microphysical model, a computational fluid-dynamics model, and a Lagrangian plume model. The postdoc will be co-mentored by Prof. Mingyi Wang (UChicago), Prof. Jeff Pierce (CSU), and Prof. Hongwei Sun (UHawaii), fostering interdisciplinary collaboration across atmospheric chemistry, fluid dynamics, and climate modeling.

The initial position is for one year, with the possibility of renewal for an additional two years, contingent on satisfactory progress and funding availability. While the start date can be flexible, the position will be available from March 31, 2025, and will remain open until filled. The starting salary will be \$61K with benefits, and up to \$3K in relocation assistance is available.

Qualifications:

- Ph.D. in Atmospheric Science, Climate Science, or related fields.
- Strong background in aerosol microphysics modeling.
- Experience on chemical transport models or Earth system models is preferred.
- Excellent communication and scientific writing skills.

Applications:

To apply, please email Prof. Mingyi Wang (mingyiw@uchicago.edu) with the following:

- (1) Curriculum vitae.
- (2) Cover letter (maximum 2 pages) describing research interests, plans, and qualifications.
- (3) The names and contact information of three references.

Please use the subject line "Postdoc Position in Aerosol Dynamics". Applications will be reviewed starting on March 19, 2025, on a rolling basis.

Equal Employment Opportunity Statement:

All University departments and institutes are charged with building a faculty from a diversity of backgrounds and with diverse viewpoints; with cultivating an inclusive community that values freedom of expression; and with welcoming and supporting all their members.

We seek a diverse pool of applicants who wish to join an academic community that places the highest value on rigorous inquiry and encourages diverse perspectives, experiences, groups of individuals, and ideas to inform and stimulate intellectual challenge, engagement, and exchange. The University's Statements on Diversity are at <https://provost.uchicago.edu/statements-diversity>.

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Job seekers in need of a reasonable accommodation to complete the application process should call 773-834-3988 or email equalopportunity@uchicago.edu with their request.