

Postdoctoral Positions in Atmospheric Chemistry, Aerosol Data Science, and Health Effects at Caltech

Multiple postdoctoral positions are available in the Nga Lee (Sally) Ng group (<https://www.eas.caltech.edu/people/nga-lee-sally-ng>) at the California Institute of Technology. Positions are available in the following research areas:

1. Atmospheric Aerosol Sources and Impacts from National-Scale Observations The postdoctoral researcher will work on scientific applications of ASCENT (Atmospheric Science and Chemistry Measurement NeTwork), the first national, comprehensive, real-time aerosol measurement network in the U.S., with opportunities to collaborate with CARB (California Air Resources Board). The position will involve developing and applying advanced data analysis and modeling approaches to identify aerosol sources, track their transformation in the atmosphere, and quantify their effects on air quality, climate, and human health. This position is well suited for researchers from atmospheric science, environmental engineering, chemical engineering, applied mathematics, statistics, or computer science who are interested in applying their quantitative skills to pressing environmental problems.

2. Laboratory Chamber Studies -- SOA Formation and Oxidation Chemistry The postdoctoral researcher will conduct laboratory chamber experiments to investigate the oxidation chemistry and secondary organic aerosol (SOA) formation from a range of emission sources, including anthropogenic, biogenic, biomass burning, and emerging or understudied sources. This work aims to improve mechanistic understanding of how atmospheric aerosols form and evolve under realistic conditions. This position is well suited for researchers from atmospheric chemistry, chemical engineering, or environmental engineering. Experience with laboratory chamber experiments and advanced mass spectrometry instrumentation for gas and aerosol measurements is preferred.

3. Aerosol Toxicology and Inhalation Health Effects The postdoctoral researcher will investigate how chemical composition of airborne particulate matter drives biological and immunological responses. The position integrates air-liquid interface exposure systems, 3D cell culture models, advanced imaging, and multi-omics approaches, to probe how different aerosol components trigger distinct toxicological and immunological outcomes. This position is well suited for researchers from bioengineering, chemical engineering, biology, or related fields who are drawn to complex biological systems and excited by the challenge of linking environmental exposure to human health at the molecular and cellular level.

All postdoctoral researchers will be part of a collaborative and interdisciplinary group environment, with opportunities to engage across all three research areas and the broader activities of the group.

Applicants should hold a Ph.D. in environmental sciences/engineering, chemical engineering, atmospheric sciences, chemistry, bioengineering, biology, computer science, applied mathematics, or a related field. The initial appointment will be for one year, with the expectation of renewal for at least one year upon satisfactory performance. Annual stipend is \$75,268.

Exceptional candidates with extensive experience who would like to be considered for a research scientist position are encouraged to contact Professor Ng (ng@caltech.edu) directly.

To apply, please submit a single PDF file containing a cover letter describing the position(s) you are applying for, a research statement describing future research interests and how they align with one or more of the positions (one page maximum, single-spaced), a CV, and a list of three references to Abbie Norris (anorris@caltech.edu). Please indicate the position(s) of interest (#1, #2, #3) in the email subject line.

Review of applications will begin immediately and continue until the positions are filled. Questions regarding the positions should be directed to Professor Ng.

We are an equal opportunity employer and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin, disability status, protected veteran status, or any other characteristic protected by law.