The Aerosol Chemistry Department at the
Max Planck Institute for Chemistry invites applications for a

PhD position (m/f/d)

funded within the Transregional Collaborative Research Centre 301

TPChange – The Tropopause Region in a Changing Atmosphere

by the German Research Foundation (DFG, Deutsche Forschungsgemeinschaft).

Within TPChange we aim to improve the understanding of relevant multiscale processes in the tropopause region and to specify their impact on composition, dynamics and ultimately on future climate and climate variability. The PhD candidate will work in project A04:

Composition and transport of aerosol particles in the upper troposphere and lower stratosphere (UTLS) and their interactions with cirrus clouds

The subproject A04 of TPChange is a collaboration between the Max Planck Institute for Chemistry (MPIC), the Goethe University Frankfurt (GUF) and the Research Center Jülich (FZJ). The PhD at MPIC will focus on the chemical composition of UTLS aerosol by using aerosol mass spectrometer data from previous and upcoming aircraft-borne field experiments. These data include results from research aircraft as HALO, Falcon, ATR42, Learjet, but also from a laboratory container flying routinely on a passenger aircraft (IAGOS-CARIBIC). The PhD candidate is expected to participate in aircraft-based research mission (with the research aircraft HALO and Learjet), as well as to take care of the IAGOS-CARIBIC aerosol mass spectrometer. Data evaluation will be done jointly with other group members at MPIC. The obtained data will be summarized in one large data set, spanning various geographical locations and various seasons. The task of the PhD student is to use the data set for statistical analysis of aerosol composition, distribution, sources, and transport pathways in the UTLS.
Together with the FZJ and GUF we will study the influence of aerosol particles on cirrus formation, with a focus on aircraft exhaust particles. The Learjet mission TPEx-II and the HALO mission AEROCLOUD, both scheduled for 2027, will provide excellent opportunity for this task. Additionally, we will conduct laboratory measurements at the AIDA chamber of KIT (Karlsruhe Institute for Technology) to study the ice activation properties of lubrication oil particles before and after photochemical aging.
In project A04, two more PhD students will be employed, one at FZJ and one at GUF. The three PhD students of A04 will closely collaborate on the tasks described above. Furthermore, we collaborate with many other projects of TPChange, especially during the aircraft-based measurements, on data exchange and scientific interpretation of the results.

Requirements

The ideal candidate holds a master degree in physics, chemistry, meteorology, or a comparable degree. We are looking for candidates with a background in aerosol measurements and in handling of complex measurement systems, and with enthusiasm for atmospheric aerosol research. We expect participation in measurement campaigns. Good English language skills are required, and basic programming skills (e.g., LabView, Igor, Python) are desirable.

Employment conditions

The place of employment will be Mainz. The targeted starting date is **1st January 2026** and the project will last until 30th June 2029. The salary will be 75% of group 13 according to the German salary scale TVöD (collective salary scheme for the German public service). Social benefits are in line with the regulations for Civil Servants (federal employees).

Applications and deadline

Please send applications with reference to the code **A04-PHD1-MPIC** as one single pdf file to **tpc_jobs@uni-mainz.de**, including a motivation letter, CV, copies of relevant certificates, preferred starting date, and the names of at minimum two references.
Review of all applications will start on **4th December 2025** and will continue until the position is filled.
For further information, please contact johannes.schneider@mpic.de. Further reading can be found here: https://tpchange.de/ and https://www.mpic.de/3538303/Schneider_Group.

TPChange offers a comprehensive and structured training for early career researchers. At MPIC, Ph.D. students will be integrated into the Paul Crutzen Graduate School (PCGS) (https://www.mpic.de/3538568/pcgs-paul-crutzen-graduate-school). In addition to self-organized activities such as workshops, trainings and a guest program, the successful candidate will have the opportunity, if desired, to pursue international research visits. The consortium conducts an ambitious program to gradually enhance gender equality on all career levels.
The Max Planck Society endeavours to achieve gender equality and diversity. Furthermore, the Max Planck Society seeks to increase the number of women in those areas where they are underrepresented and therefore explicitly encourages women to apply. The Max Planck Society is committed to increasing the number of individuals with disabilities in its workforce and therefore encourages applications from such qualified individuals.

We look forward to your application!

Zertifikat seit 2006
audit berufundfamilie