



University  
of Basel

## PhD project in Atmospheric Sciences

100% / Possible date of entry: May 2023

The Atmospheric Science group at the Department of Environmental Sciences, University of Basel, Switzerland, is looking for a PhD student candidate. Our research focuses on chemical processes in the atmosphere to elucidate the formation and toxicity of atmospheric aerosol particles. A main focus of our work is the development of novel analytical-chemical methods and instruments to characterize organic aerosols and their toxicity.

Atmospheric aerosol particles are the most important and the most toxic component of polluted air. The particle properties causing these negative health effects are not well understood but oxidising particle components are likely playing an important role, by inducing oxidative stress in the lung and ultimately triggering inflammation reactions and disease.

### Your position

A PhD studentship is available to characterize health-relevant properties of aerosol particles. We recently developed and built two novel instruments which measure continuously the oxidising properties of aerosol particles in the ambient atmosphere with unprecedented time resolution and sensitivity (Wragg et al., Atmos. Meas. Tech., 9, 4891, 2016; Campbell et al., Anal. Chem., 91, 13088, 2019). Your project will include further improvements of these instruments and you will participate in field campaigns in polluted urban environments where you characterise these novel particle-toxicity proxies in the context of other air pollution data. In addition, the project aims to further develop the existing instrument to characterise primary biological aerosol particles using biochemical methods.

### Your profile

Applicants must possess an academic qualification (good master degree) in chemistry, biology, environmental sciences or a related field, and should ideally have experience with analytical chemistry and/or biochemical methods.

A good level of English, excellent communication skills and a willingness to collaborate with other team members are essential. You will also need strong motivation, perseverance, initiative and creative problem-solving to tackle some of the most pressing questions in our field.

### We offer you

You will join the Atmospheric Sciences research group (<https://duw.unibas.ch/en/research-groups/atmospheric-sciences/>) at the Department of Environmental Sciences of the University of Basel. This PhD project complements our ongoing work in characterising toxic components in aerosols, and you will join a stimulating multicultural team with broad interdisciplinary experience and interests.

University of Basel has an international reputation of outstanding achievements in research and teaching. It offers excellent support to PhD students in the early stage of their career and for their career advancement.

Salary and social benefits are provided according to Swiss standards and University of Basel rules (<https://www.snf.ch/en/2QbX0vSpcmmYlCYa/page/funding/project-staff>).

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### Application / Contact

Please submit your complete application documents, including a letter stating your motivation, experience and skills, a CV, and contact details of two references via our online recruiting platform.

For further information please contact Prof. Markus Kalberer ([markus.kalberer@unibas.ch](mailto:markus.kalberer@unibas.ch)).

Applications will be reviewed from 1st March 2023, but the advert will remain open until the position is filled. Starting date May or June 2023 (or later subject to agreement).

APPLY

[www.unibas.ch](http://www.unibas.ch)