



University  
of Basel

Department of  
Environmental Sciences

## Master Thesis in Atmospheric Chemistry on the

# Oxidation of gaseous elemental Mercury in the Atmosphere

We offer an interesting master thesis in Atmospheric Chemistry, investigating the oxidation of gaseous elemental mercury (GEM) using laboratory experiments. Mercury is a top-priority pollutant, and each year anthropogenic activities emit 2000 tons of GEM into the atmosphere. The oxidation of GEM to reactive mercury drives the deposition to the Earth's surface. However, the exact mechanism of GEM oxidation remains largely unknown. In this master thesis, we want to investigate several potential GEM oxidants (ozone, halogens, VOCs) and determine the oxidation rate constants in controlled laboratory experiments. The master thesis will combine experimental laboratory work with analytical techniques (GEM and eventually reaction product measurement) and basic modelling.

We are looking for a highly motivated student with a background in Environmental Sciences or Chemistry. The Master thesis will be supervised by Prof. Markus Kalberer, Dr. Steve Campbell and Dr. Martin Jiskra. The start of the Master thesis is envisioned in June/July 2019.

### Contact:

Martin Jiskra: [martin.jiskra@unibas.ch](mailto:martin.jiskra@unibas.ch), Tel: +41612070482

Steve Campbell: [stevenjohn.campbell@unibas.ch](mailto:stevenjohn.campbell@unibas.ch), Tel: +41612070686

Markus Kalberer: [markus.kalberer@unibas.ch](mailto:markus.kalberer@unibas.ch), Tel: +41612070701