



## New Master Thesis Topic

### **Title:**

**Temperature and pressure effect on the peroxy radical determination during the ROxCOMP-22 campaign**

### **Short description:**

Peroxy radicals are very reactive and consequently short lived trace gases involved in most of the reactions of atmospheric interest. They play a crucial role in the ozone tropospheric chemistry and in particular in the formation of smog episodes.

Within the present master thesis laboratory experiments at different temperature and pressures are proposed for further interpretation of the data sets obtained during the international campaign ROxCOMP22 in the SAPHIR chamber. ROxCOMP22 aimed at improving the quality of the peroxy radical detection by bringing together instruments using different techniques to measure organic peroxy radicals worldwide. The TROLAS group participated with the **Peroxy Radical Chemical Enhancement and Absorption Spectrometer: PerCEAS**. The analysis of the 16 chamber experiments made is still on-going and requires further experiments in the lab with an special focus on the effect on the temperature and pressure in the chemical performance of PerCEAS

### **Skills needed:**

Interest and desire to work experimentally in a team (previous experimental experience appreciated)

Python basic skills appreciated

Basic knowledge of atmospheric chemistry

### **IUP research group and research area**

The IUP group **Tropospheric Radical Observations and Laser Absorption Spectroscopy: TROLAS** (<http://www.iup.uni-bremen.de/troposphere/>) has long standing experience in the optimization and characterization of measurement techniques for the determination of peroxy radicals in different environments and platforms (ground based, ship- and airborne).

### **Topic for students of**

- M.Sc. Environmental Physics
- M.Sc. Space Sciences and Technologies

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