



Kiel University  
Christian-Albrechts-Universität zu Kiel

## PhD Position in Laser Spectroscopy / Plasma Chemistry

A PhD position at the Institute of Physical Chemistry is available at **Kiel University**, Germany

### **Detection and reaction kinetics of reactive species in particle-forming environments using IR modulation spectroscopy by the example of dusty plasmas**

Funded by the German Science Foundation (DFG), this new project aims at the development and testing of highly sensitive absorption spectroscopic modulation techniques for time-resolved detection of transient species in particle forming environments. Measurements will be performed with a tunable IR-cw-OPO laser system combined with state-of-the-art digital lock-in detection schemes. Infrared detection will allow us to quantify multiple gas phase species in dusty methane and acetylene plasmas, where the required rf plasma chamber is currently setup in collaboration with a plasma dynamics group at the Institute of Experimental and Applied Physics. Monitoring and modeling the concentration profiles of transient hydrocarbon radicals such as  $\text{CH}_3$ ,  $\text{C}_2\text{H}$  and  $\text{C}_2\text{H}_3$  during ongoing particle formation helps to better assess the role of surface reactions for particle formation and their feedbacks on the overall gas phase chemistry.

If you are interested, please send your CV and motivation letter before January 15, 2019, to Prof. Gernot Friedrichs ([gfriedr@phc.uni-kiel.de](mailto:gfriedr@phc.uni-kiel.de)). The successful applicant has a strong background in (physical) chemistry or physics and can offer experiences with plasma chemistry/physics and/or laser spectroscopy and/or reaction kinetics modeling. The starting date of this (2+1) years half-time PhD position is negotiable (earliest Feb/Mar 2019), but should be not later than June 2019. Salary level is according to the civil service level TVL-E13 (50%).