

Work offer for PhD candidates

A work offer for PhD student in the project OPUS „Chemical transformations, absorption of solar radiation, and toxicity of the atmospheric brown carbon in the context of climate change and threats to public health” funded by the Polish National Science Centre.

PI: prof. dr hab. Tomasz Gierczak (email: Gierczak@chem.uw.edu.pl),
University of Warsaw, Faculty of Chemistry, Warsaw, Poland.

Terms of employment

A monthly stipend of 5000 PLN (gross, low tax-rate) for 3 years, which can be increased by an additional 2600 PLN after successfully getting into the Doctoral School of Exact and Natural Sciences at the University of Warsaw (registration closes June 19th 2023). We offer participation in an interesting research project related to climate change and atmospheric chemistry, the opportunity to be a part of a productive and dynamic research team, including participation in domestic and international conferences.

The project is focused on studying the properties transformation of the light-absorbing, harmful organic compounds generated by burning and combustion of biomass (brown carbon, BrC). Planned research tasks include operating a small laboratory combustor, studying the BrC mixtures with gas and liquid chromatography coupled to mass spectrometry, *in-vitro* biotoxicity studies, kinetic and mechanistic studies of the aqueous reactions of BrC with inorganic radicals, and the development of kinetic, structure-activity relationship and atmospheric models. An overarching goal of this project study the formation and processing of biomass-burning-related pollution from wildfires and from the energy sector.

Requirements

- Master's degree in analytical, organic chemistry or physical chemistry or related
- Practical experience working in a chemical laboratory
- Good command of English or Polish language
- Self-reliance, ability to quickly acquire new skills, and strong motivation for professional development

Additional skills that will be greatly appreciated

- Experience with the identification of organic compounds using instrumental analysis methods, particularly with the chromatography and mass spectrometric techniques
- Basic knowledge about the kinetics box models, deriving structure-activity parameters for chemical reactions, predicting and utilizing air-water partitioning coefficients, and studying interactions of organic molecules with electromagnetic irradiation
- Experience with numerical methods (kinetic and atmospheric chemical modeling-Experience with analyzing mechanisms of chemical reactions of organic compounds

Required documents

-Curriculum Vitae (CV), motivation letter, list of publications in peer-reviewed journals, list of conference presentations and the most important professional achievements, copy of the master's degree diploma. Sent the required documents to the email address: Gierczak@chem.uw.edu.pl before the 10th of May 2023.