**JOB OFFER**

- **Position in the project:** PhD student
- **Laboratory:** Chemical and Biological Systems Simulation Laboratory
- **Scientific discipline:** Chemical sciences
- **Keywords:** Carbenes, catalysis, synthesis, metathesis
- **Job type (employment contract/stipend):** Stipend
- **Part-time/full-time:** Part-time
- **Number of job offers:** 1
- **Remuneration/stipend amount/month:** 3000 gross PLN / month
- **Position starts on:** 01.08.2020 or as soon as possible afterwards
- **Maximum period of contract/stipend agreement:** 9 months
- **Institution:** Centre of New Technologies, University of Warsaw
- **Project leader:** Dr hab. Bartosz Trzaskowski
- **Project title:** Anionic, cationic and mesoionic analogues of N-heterocyclic carbenes in homogenous catalysis
- **Competition type:** NCN SONATA BIS 6
- **Financing institution:** NCN

**Project description:**

The main part of this project consists of the design and modelling of new anionic, cationic and mesoionic N-heterocyclic carbene derivatives, which can be used as transition metal complexing agents to produce new catalysts. We will focus on ruthenium-based complexes as candidates for efficient metathesis, hydrogenation, transfer hydrogenation and hydrosilylation catalytic reactions. For these complexes we will computationally explore all possible catalytic reactions paths and degradation paths and select the best candidates for efficient catalysts for the synthesis. The second theme of this proposal is the development of new computational methods to accurately describe newly designed complexes not only at the atomic level but also at the nano/mesoscale level. This task will be carried out in an interdisciplinary team consisting of scientists, experts in rational design and modeling of transition metal complexes, organometallic chemistry and physics.
### Key responsibilities include:

- synthesis of new chemical compounds with focus on carbenes and organometallic systems
- analysis of the obtained data
- active participation in lab meetings, scientific seminars and international conferences
- participation in the data preparation and writing of manuscripts

### Profile of candidates/requirements:

- The competition is open for persons who meet the conditions specified in the regulations on the allocation of resources for the implementation of tasks financed by the National Centre of Science for SONATA BIS 6 grant;
- MSc/BSc in chemistry or related discipline, obtained at the latest on the day of employment in the project
- status of a PhD student of a Polish university, obtained at the latest on the day of employment in the project
- very good knowledge of organic/inorganic synthesis
- very good knowledge of mechanism of organic reactions
- very good command of English
- scientific achievements documented by publications in recognized journals
- strong analytical and problem-solving skills as well as excellent communication skills
- knowledge of databases (Reaxys, SciFinder) and analytical techniques utilized in organic chemistry (NMR, MS, IR, HPLC),

### Required documents:

1. Cover letter
2. Current curriculum vitae
3. Cope of MSc/BSc degree (or, if the degree has not been obtained yet, a certificate/document about the date of MSc defense)

### We offer:

- an opportunity to participate in a multidisciplinary project in one of the best scientific institutions in Poland
- stimulating, young and friendly work environment
- access to state-of-art equipment
- opportunities for interdisciplinary and international collaborations

Please submit the following documents to: b.trzaskowski@cent.uw.edu.pl with the title PhD Student application

**Application deadline:** 15.07.2020

**Date of announcing the results:** 25.07.2020

**Method of notification about the results:** email

To allow us to process your data, please include in your application the signed information on the personal data processing, available at: [http://bsp.adm.uw.edu.pl/bsp/druki-i-formularze/](http://bsp.adm.uw.edu.pl/bsp/druki-i-formularze/)