

**CeNT-50-2021**

**Director of Centre of New Technologies of the University of Warsaw, with the Project Leader, announce opening of the competition for the position of PhD Student in the Chemical and Biological Systems Simulation Lab– Centre of New Technologies of the University of Warsaw.**

## JOB OFFER

|   |   |
|---|---|
| Position in the project:                      | PhD Student   |
| Laboratory:                                   | Chemical and Biological Systems Simulation Laboratory   |
| Scientific discipline:                        | Chemical sciences   |
| Keywords:                                     | Computational modelling, quantum chemistry, organic chemistry   |
| Job type (employment contract/stipend):       | Stipend   |
| Part-time/full-time:                          | Part-time   |
| Number of job offers:                         | 1   |
| Remuneration/stipend amount/month:            | 2750 PLN gross gross / month  |
| Position starts on:                           | 01.01.2022 or as soon as possible afterwards  |
| Maximum period of contract/stipend agreement: | 6 months  |
| Institution:                                  | Centre of New Technologies, University of Warsaw  |
| Project leader:                               | Dr hab. Bartosz Trzaskowski   |
| Project title:                                | Catenanes as new tools for stereoselective catalysts  |
| Competition type:                             | NCN OPUS 15   |
| Financing institution:                        | NCN   |
| Project description:                          | <p>The main goal of this research project is a systematic study of homogenous catalysts based on mechanically interlocked molecules directed toward better understanding of the fundamental aspects of their action. The main part of this project consists of the design and computational modelling of new mechanically interlocked catalysts incorporating carbenes in their structure. We will focus on the use of such systems in both organocatalysis as well as transition metal catalysis, with particular emphasis on designing candidates for efficient stereoselective metathesis catalysts. Controlling stereoselectivity in metathesis reactions, and cross-metathesis in particular, has long been a goal of research, as there is a pressing need to develop reliable routes to stereopure internal olefin products. In this work we will use a combined molecular dynamics / reactive force-field / quantum chemistry approach to explore both the static and dynamic properties of the newly designed systems.</p> |



|   |  |
|---|--|
| Key responsibilities include:             | <ul style="list-style-type: none"><li>- synthesis of new chemical compounds with focus on carbenes and organometallic systems</li><li>- analysis of the obtained data</li><li>- active participation in lab meetings, scientific seminars and international conferences</li><li>- participation in the data preparation and writing of manuscripts</li></ul>   |
| Profile of candidates/requirements:       | <p>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 Science Centre for OPUS 15 grant.</p> <ul style="list-style-type: none"><li>- MSc degree in chemistry or related discipline. The MSc degree should be obtained before the date of employment in the project.</li><li>- a confirmed status of a PhD student (on the date of employment in the project at the latest)</li><li>- very good knowledge of mechanism of organic reactions</li><li>- very good knowledge of computational methods used to describe small organic / organometallic / catalytic systems</li><li>- very good command of English</li><li>- scientific achievements documented by publications in recognized journals</li><li>- strong analytical and problem-solving skills as well as excellent communication skills</li></ul> |
| Required documents:                       | <ol style="list-style-type: none"><li>1. Cover letter</li><li>2. Current curriculum vitae</li><li>3. Copy of MSc certificate (or, if the MSc certificate has not been obtained yet, a certificate/document about the date of MSc defense);</li><li>4. Document confirming the status of PhD Student (to be provided before the employment in the project);</li><li>5. Signed <a href="#">information on the personal data processing</a>.</li></ol>  |
| We offer:                                 | <ul style="list-style-type: none"><li>- an opportunity to participate in a multidisciplinary project in one of the best scientific institutions in Poland</li><li>- stimulating, young and friendly work environment</li><li>- access to state-of-art equipment</li><li>- opportunities for interdisciplinary and international collaborations</li></ul>   |
| Please submit the following documents to: | <a href="mailto:b.trzaskowski@cent.uw.edu.pl">b.trzaskowski@cent.uw.edu.pl</a> with the title PhD application  |
| Application deadline:                     | 6.12.2021  |
| Date of announcing the results:           | 10.12.2021   |
| Method of notification about the results: | email  |