**JOB OFFER**

<table>
<thead>
<tr>
<th>Position in the project:</th>
<th>M.Sc. student</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory:</td>
<td>LTNFM, Project of Piotr J. Leszczynski</td>
</tr>
<tr>
<td>Scientific discipline:</td>
<td>Chemical sciences</td>
</tr>
<tr>
<td>Keywords:</td>
<td>Silver(II), cycloaddition, organic synthesis, catalysis, photochemistry, solid substrate, magnetic substrate</td>
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<tr>
<td>Job type (employment contract/stipend):</td>
<td>Scholarship</td>
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<tr>
<td>Part-time/full-time:</td>
<td>Full-time, 5–15 h/week</td>
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<tr>
<td>Number of job offers:</td>
<td>1</td>
</tr>
<tr>
<td>Remuneration/stipend amount/month:</td>
<td>3000 PLN gross</td>
</tr>
<tr>
<td>Position starts on:</td>
<td>1 October 2022</td>
</tr>
<tr>
<td>Maximum period of stipend agreement:</td>
<td>9 months</td>
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<tr>
<td>Institution:</td>
<td>Centre of New Technologies, University of Warsaw</td>
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<tr>
<td>Project leader:</td>
<td>Piotr J. Leszczynski, PhD, DSc</td>
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<tr>
<td>Competition type:</td>
<td>Opus 18</td>
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<tr>
<td>Financing institution:</td>
<td>NCN</td>
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**Project description:**

CYCLO aims at design of a novel synthetic protocol allowing various organic compounds to undergo DA reactions even when both reactants exhibit very high ionisation potentials, which is unavailable with use of known DA protocols. CYCLO considers a synthetic use of divalent silver compounds as novel, highly reactive redox initiators of [2+2] cycloaddition and/or [4+2] DA reactions driven by radical cation initiation. [https://projekty.ncn.gov.pl/opisy/463083-en.pdf](https://projekty.ncn.gov.pl/opisy/463083-en.pdf)

**Key responsibilities include:**

- participation in the NMR experiments related to heterogeneous Ag(II)-induced [4+2] Diels-Alder and/or [2+2] cycloaddition reactions under shared supervision of the PI and the collaborating NMR specialist;
- determination of reaction products, pathways, mechanisms and yield using 2D NMR (HSQC and HMBC) spectroscopy under guidance of the PI and the collaborating NMR specialist;
- data processing and preliminary analysis of the results obtained;
- writing up scientific reports and learning to write manuscripts of scientific publications.
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 Science Centre for OPUS 18 grant.

Student should participate in an academic course in chemistry, physics, materials science, or in closely related subject. She/he should be experienced in physical chemistry, inorganic chemistry, organic chemistry and chemistry of Ag(II) species. She/he should speak English fluently to ensure proper communication. She/he student should be able to work in a group because she/he will closely collaborate with PI.

Ranking list would be made judging:
– academic achievements, i.e. scientific publications, patents, conference talks and posters, etc.
– research experience, i.e. participation in scientific projects, internships, stipends, awards, etc.
– competence related to the project, i.e. experience in inorganic synthesis, photochemistry, good knowledge of English (minimum B2), organic synthesis, laboratory experience (e.g. analytical chemistry, calculations, basic technical skills) and analytical techniques (e.g. titration, PXRD, FTIR, Raman, EIS, TGA/DCS, MS, EIS, UV-Vis).

The following will be considered an asset:
– knowledge of physical chemistry, inorganic chemistry, material engineering
– knowledge of carbon materials and/or composites materials
– experience in basic laboratory work
– knowledge of organic synthesis
– inventiveness (patents, patent applications)
– knowledge of other languages (apart form mother tongue)

Selected candidates may be invited for an interview (in person or zoom) expected in early September 2022.

Competition may be closed with recommendation of no candidate if all the applicants would not fulfill the requirements or represent insufficient academic level.

Important: Candidates must have a confirmed status of a student at the University of Warsaw during participation in the project.

Required documents:

1. Cover letter
2. Current curriculum vitae
3. List of completed academic courses related to inorganic chemistry and/or electrochemistry
4. List of publications and patents (or patent application)
5. List of scientific projects participated, awards, internships, etc.
6. Copy of BSc diploma (if participating in 2-years MSc course);
7. Copy of a document confirming the student status (to be provided before starting work in the project);
8. Recommendation letter from the prior supervisor(s) (optional)

We offer:
Participation in the project regarding organic synthesis, photochemistry, solid magnetic substrates, possibility to learn unique methods synthesis and chemical analysis, work in friendly environment, possibility for scientific self-development

Please submit the following documents to: piotr.leszczynski@cent.uw.edu.pl

Application deadline: 31 August 2022

Date of announcing the results: 15 September 2022

Method of notification about the results: email, website: https://cent.uw.edu.pl/en/career/