



**CeNT-33-2020**

**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 Laboratory of Molecular Research for Solar Energy Innovations- Centre of New Technologies of the University of Warsaw.**

## JOB OFFER

Position in the project:	PhD position
Laboratory:	Laboratory of Solar Energy Innovations_SOLEIL
Scientific discipline:	Chemistry
Keywords:	photoelectrochemistry; solar energy conversion; semiconductors;
Job type (employment contract/stipend):	employment contract
Part-time/full-time:	Full-time
Number of job offers:	1
Remuneration/stipend amount/month:	up to 4500 PLN per month (gross)
Position starts on:	2021/03/01
Maximum period of contract/stipend agreement:	28
Institution:	Centre of New Technologies, University of Warsaw
Project leader:	dr hab. Renata Solarzka
Project title:	“HERA -Hydrogen Energy Rechargeable Architectures): Coupling of on-demand hydrogen generation and storage”
Competition type:	open
Financing institution:	NCBiR (POLNOR)
Project description:	The HERA project has an ambition to bring knowledge on the “solar hydrogen” production & storage closer to the users and, via technological optimization, translate it to a product. This goal will be achieved by integrating lab-scale studies with system-oriented experimental examinations, yet unapplied to the compounds/composites proposed in HERA. The current systems for the “solar hydrogen” production consume excessive amount of energy, to overcome the oxygen kinetic-related overpotential, and cannot provide enough power in an economically feasible way. Also, they do not include the storage option for the produced hydrogen. Therefore, the main HERA’s goal is to construct a kinetically enhanced PEC device that will provide the absorption of the produced H <sub>2</sub> in the cathode material. The proposed setup will also allow for the on demand release



	of the absorbed gas. The photooxidation reaction will be the driving force of the planned architecture. It will involve other than water oxidation processes that are expected to provide enough electrons for the water reduction, hydrogen formation and its subsequent absorption by the cathode. The research will go far beyond single case examples and cover systematic investigations of multi-substituted compositions, underlying the relationship between the fundamental material properties and functionalities in the studied photoelectrochemical architectures.
Key responsibilities include:	<ul style="list-style-type: none"> <li>- to commit adequate time and effort to the project;</li> <li>- to display initiative in identifying and resolving problems relating to the research;</li> <li>- to manage their work efficiently and increase the visibility through the publications;</li> </ul>
Profile of candidates/requirements:	<p>The competition is open for persons who meet the conditions:</p> <ul style="list-style-type: none"> <li>- applicants must have a MSc degree in chemistry, physics, chemical engineering, or in the relevant field;</li> <li>- experience in laboratory work;</li> <li>- preference will be given to candidates who have experience in materials synthesis and/ or photoelectrochemistry;</li> <li>- ability to work in a team, and to communicate effectively with team members, will also be an advantage.</li> <li>- confirmed status of a PhD student on the day of starting the work in the project</li> </ul> <p><b>Important:</b> To join the project, the successful candidate needs to have a PhD student status at Polish university either in a PhD programme or in a Doctoral School (e.g., at University of Warsaw - the Doctoral School of Exact and Natural Sciences <a href="https://szkolydoktorskie.uw.edu.pl">https://szkolydoktorskie.uw.edu.pl</a>)</p>
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. List of publications or other scientific achievements</li> <li>5. Letter of recommendation from at least one academic referee</li> <li>6. To allow us to process your data, please include in your application the signed information on the personal data processing, available at: <a href="http://bsp.adm.uw.edu.pl/bsp/druki-i-formularze/">http://bsp.adm.uw.edu.pl/bsp/druki-i-formularze/</a></li> </ol>
We offer:	<ul style="list-style-type: none"> <li>- work in active research team in an excellent scientific environment</li> <li>- comprehensive cross-disciplinary training in chemistry, physics and biology</li> <li>- participation in scientific seminars and conferences</li> </ul>
Please submit the following documents to:	The application should be submitted to CeNT via e-mail on <a href="mailto:r.solarska@cent.uw.edu.pl">r.solarska@cent.uw.edu.pl</a> or alternatively to Centre of New Technologies, University of Warsaw, S. Banacha 2c str., 02-097 Warsaw, Poland (with a note "R. Solarska POLNOR application")
Application deadline:	2021/01/30
Date of announcing the results:	2021/02/10
Method of notification about the results:	email