

CeNT-19-2020

JOB OFFER

Position in the project:	Student
Scientific discipline:	Chemical sciences
Laboratory:	Chemical and Biological Systems Simulation Laboratory
Job type (employment contract/stipend):	Stipend
Number of job offers:	2
Remuneration/stipend amount/month:	1500 PLN
Position starts on:	15.05.2020
Maximum period of contract/stipend agreement:	2 years
Institution:	Centre of New Technologies, University of Warsaw
Project leader:	dr Silvio Osella
Project title:	Rational design of bio-organic systems for biomimetic applications
Project description:	<p>The goal of this project is to expand our knowledge of hybrid, complex protein-graphene interfaces as possible candidates for bio-electronic devices, such as biosensors, bio-organic photovoltaic cells (bio-OPV) and bio-organic transistors (bio-OFET). The research project focuses on the computational study of a new hybrid protein-graphene interfaces in which the proteins under investigation are small light harvesting proteins (SLPH), interacting with a graphene layer as conducting material as well as charge carrier by means of different molecular linkers (SAM). The interaction and stability of the SLHP/SAM/graphene interface are key parameters to investigate the nature of the interface. Through the use of multiscale computational methods, we will investigate on the one hand the conformational stability and the strength of the interactions at the interface, and on the other hand we will use state-of-the-art methods to account for optoelectronic properties and energy and electron transport mechanisms. In this work we will use a combined docking / molecular dynamics / reactive force-field / quantum chemistry approaches to explore both the static and dynamic properties of the newly designed interfaces.</p>
Keywords:	computational chemistry, hybrid interfaces, graphene, light harvesting proteins
Key responsibilities include:	1. Use of computational methods to study complex hybrid interfaces
Profile of candidates/requirements:	<p>1. Enrolled as at least 4th year student of chemistry or related discipline. The candidate needs to have the status of student on the date of starting work in the project.</p> <p>2. Willing to spend 15-20 hours a week (flexible hours) to do fun projects</p>

	<p>3. With good oral/written communication skills in English</p> <p>4. Although not required, any previous experience in molecular modelling would be welcome</p>
Required documents:	<p>1. A letter confirming that the candidate is currently enrolled as a student at the university</p> <p>2. A copy of a BSc certificate (if applicable)</p> <p>3. Short CV (up to two A4 pages), Academic transcript with all degrees</p> <p>4. Reference letter from Bachelor/Master supervisor</p> <p>5. Information on the processing of personal data - the form is available at the University of Warsaw webpage: http://bsp.adm.uw.edu.pl/bsp/druki-i-formularze</p>
We offer:	<p>1. An opportunity to participate in a multidisciplinary project in one of the best scientific institutions in Poland</p> <p>2. Stimulating, young and friendly work environment</p> <p>3. Access to high-end computing equipment (CPU clusters)</p> <p>4. Opportunity of short stays in Belgium (University of Mons)</p>
Please submit the application documents to:	s.osella@cent.uw.edu.pl
Recruitment procedure:	Selected candidates may be invited for an interview at the Centre of New Technologies of the University of Warsaw. Candidates will be selected in accordance with the regulations of the National Science Centre and announced no later than 30.04.2020.
Application deadline:	15.04.2020
Date of announcing the results:	30.04.2020
Method of informing about the results:	e-mail