



UNIVERSITY
OF WARSAW

CeNT Centre Of New
Technologies



CeNT-46-2026

Director of Centre of New Technologies of the University of Warsaw, with the Project Leader, announce opening of the competition for the position of Student in the Materials and Processes Simulation Laboratory – Centre of New Technologies of the University of Warsaw.

JOB OFFER

Position in the project:	Student
Laboratory:	Materials and Processes Simulation Laboratory
Scientific discipline:	Chemical sciences
Keywords:	computation, charge and energy transfer, low dimensional materials, nano assembly, spectroscopy
Job type (employment contract/stipend):	Stipend
Number of job offers:	1
Remuneration/stipend amount/month:	2000 PLN gross
Position starts on:	01.11.2026 or soon after.
Maximum period of contract/stipend agreement:	11 months with possible one additional year extension
Institution:	Centre of New Technologies, University of Warsaw
Project leader:	Prof dr hab. Silvio Osella
Project title:	Low-dimensional materials for solar fuels conversion and valorization (SOLAR2VAL)
NCN programme:	SONATA BIS 13
Project description:	The goal of the project is to design stable and highly efficient hybrid nanomaterials for solar fuels generation, through an heterojunction structure in which absorption of light is followed by transfer of charges to the catalytic sites where the CO₂RR and NRR take place to obtain ethanol, ethylene and ammonia as main products. The interface is based on low dimensional materials, focusing on 0D carbon dots, 2D layered materials and 2D catalysts such as 2D-MOFs and 2D-COFs. In this project we will use 1: multiscale computational methods to describe the chemical and physical properties of interfaces; 2: characterization of the charge transfer at the interfaces; 3: heterogeneous catalysis for CO₂RR and NRR; 4: method development to compute the catalytic cycle in photo(electro)chemical environments.



	The computational part of the project will focus on 1. the rational design of low dimensional materials' building blocks by means of ab initio computation to assess their opto-electronic properties. 2. Detailed study of the interfaces created by assembly of different low dimensional materials, using a multiscale computational approach to fully assess the opto-electronic properties of the different interfaces in order to optimize charge or energy transfer processes. 3. In deep study of the heterogeneous catalytic cycle to obtain the desired products from CO₂RR and NRR.
Key responsibilities include:	1. ab initio computation of absorption/emission properties of light emitting molecules and their assemblies 2. Study of optical, electronic and transport properties from QM/MM calculations
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 SONATA BIS 13 grant. Enrolled as a student of first cycle studies, second cycle studies or uniform Master's studies conducted in a higher education institution on the territory of Poland, in chemistry, physics or related discipline. Willing to spend 25-30 hours a week (flexible hours) to do fun projects With good oral/written communication skills in English Although not required, any previous experience in molecular modelling would be welcome
Required documents:	1. Cover letter 2. Current curriculum vitae 3. Copy of document confirming the student status 4. Signed information on the personal data processing Before entering the competition, candidates are obliged to familiarise themselves with Internal Reporting Procedure.
We offer:	Stimulating and friendly work environment, attractive stipend, opportunity to work in an innovative international project
Please submit the following documents to:	s.osella@cent.uw.edu.pl
Application deadline:	20.10.2026
Date of announcing the results:	22.10.2026
Method of notification about the results:	e-mail, CeNT website: https://cent.uw.edu.pl/job-offers/