CeNT-34-2025

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

JOB OFFER

Position in the project:	Student
Laboratory:	Chemical and Biological Systems Simulation Laboratory
Scientific discipline:	chemical sciences
Keywords:	quantum chemistry, multiscale quantum chemistry calculations, chemical analysis, data science
Job type (employment contract/stipend):	Stipend
Number of job offers:	2
Remuneration/stipend amount/month:	4000 PLN gross gross
Position starts on:	Not later than 01.01.2026
Maximum period of contract/stipend agreement:	4 months
Institution:	Centre of New Technologies, University of Warsaw
Project leader:	Małgorzata Olejniczak
Project title:	Embedding methods in quantum chemistry - pushing the boundaries of modeling molecular properties of complex systems with heavy elements
NCN programme:	SONATA BIS 10
Project description:	The project involves interdisciplinary research on the boundary of computational quantum chemistry, applied mathematics, and data science, aimed at understanding of properties and behaviors of complex systems. The project aims to develop the methodology to calculate and analyze such systems, taking into account the presence of heavy elements and interactions with the environment. This methodology will be tested on a wide range of molecular complexes crucial for modern world applications (e.g., environmental and pharmaceutical research).The project involves interdisciplinary research on the boundary of computational quantum chemistry, applied mathematics, and data science, aimed at understanding of properties and behaviors of complex systems, taking into account the presence of heavy elements and interactions with the environment. The project involves methodology development, software engineering, high-throughput calculations, and data analysis. Tests of these newly-developed strategies on a wide range of molecular complexes crucial for modern world applications (e.g., environmental and pharmaceutical research) are also an invaluable project goal.
Key responsibilities include:	The candidate will be involved in the following tasks:

	- Quantum chemistry calculations of molecular properties in complex molecular systems with heavy elements and their analysis. These studies aim to understand the properties of small molecular moieties with heavy elements in various environments. This task will involve basic scripting and data analysis. - Participation in the preparation of scientific publications. - Preparation of scripts and tutorials, e.g., in a form of Jupyter notebooks. - Preparation of a Master or Bachelor thesis (possible collaborations). We invite interested candidates to contact (**e-mail: malgorzata.olejniczak@cent.uw.edu.pl**) and to work together on the scope and topic of the work.
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 10 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 or computer science or related.**
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:	- the possibility to work in international and interdisciplinary teams in collaboration with the top researchers from the domains of relativistic quantum chemistry and multiscale quantum chemistry - the possibility to gain practical skills essential for the future job market (data analysis, programming) - depending on the candidate's status, the results obtained in the project can be transformed into a complete Bachelor or Master's thesis or become a part of such a thesis - the possibility to shape one's career in academia (both on theoretical - method development, scientific software development - and practical - computational modeling - research questions), as well as outside academia (data science, software engineering)
Please submit the following documents to:	E-mail: malgorzata.olejniczak@cent.uw.edu.pl
Application deadline:	01.11.2025
Date of announcing the results:	01.12.2025
Method of notification about the results:	e-mail, CeNT website: https://cent.uw.edu.pl/en/career/