



SELECTION PROCEDURE “NTC MEBIOSYS 01”



HR EXCELLENCE IN RESEARCH

Director of the New Technologies-Research Centre of the University of West Bohemia in Pilsen (hereinafter referred to as the “Announcer”) announces the opening of a selection procedure for **scientific workers** for the following position:

Ph.D. student (Experimental and Theory Researcher)

Research focus of the Ph.D. student position:

Advancing Alloy Design through Molecular Simulations

The New Technology – Research Centre (NTC) of the University of West Bohemia (UWB, Plzen, Czech Republic) is looking for a **PhD candidate**.

Research Area: Computational Materials Science and Molecular Dynamics Simulations

The successful candidate will be at the forefront of cutting-edge research in Computational Materials Science, employing advanced molecular dynamics computer simulations (using LAMMPS software) to delve into the intricacies of metallic single crystals and concentrated alloys. The primary focus will encompass the investigation of specific material properties, with a particular emphasis on understanding phenomena such as surface resistance to defect nucleation, dislocation interactions or twinning formation. The candidate will also contribute to the development of accurate interatomic potentials for novel alloys and collaborate in utilizing ab initio methods to develop new or refine existing interatomic potentials.

Collaborative Opportunities:

The selected candidate may actively participate in interdisciplinary collaborations, working alongside experts in materials science, computational physics, and ab initio physics. This research initiative offers a unique opportunity to contribute to the forefront of materials research and shape the understanding of fundamental material behaviours.



Qualifications and Skills:

- A strong background in Computational Materials Science, Physics, or a related field.
- Proficiency in molecular dynamics simulations.
- Basic programming skills in languages such as Python.
- Excellent analytical and problem-solving skills.

Research Group:

The Research of Advanced Materials (RAM) group at New Technologies Research Center, develops methods and theory for the state of the art computational approaches devoted to the study of spectroscopic phenomena. In particular, the group is at the fore-front of the development of electronic structure method based on the Green's function formalism. This method is applicable to crystals, surfaces and clusters. It is capable of handling not only periodic systems, but also chemically disordered alloys. NTC is a center of expertise for theory and experiments in the area of chemical disorder engineering for the manipulation of the material functionalities.

Description of the work position:

Selected researchers will strengthen an existing top-quality research team of the University of West Bohemia in Pilsen. Their main tasks will be to engage in the activities of the team of experts under the guidance of a mentor and to fulfill tasks specified by the R&D activity plan. Their own scientific work will include publication of R&D results in prestigious foreign impact journals, participation in major conferences, obtaining applied results, involvement in national and international research projects, and organization of the professional life at the workplace (seminars, conferences).

The mentor of the position is Professor Dr. Jan Minár, e-mail: jminar@ntc.zcu.cz
<https://www.zcu.cz/en/Employees/person.html?personId=115388>

Qualification Requirements:

- A properly completed Masters Study Programme (on topics related with Physics, Chemistry and Materials Science or related field) at university or higher education institution in the Czech Republic or a properly completed similar Study Programme abroad recognized in accordance with Act No. 111/1998 Coll., on Higher Education Institutions and on the Amendment and Supplementation of Other Acts (Higher Education Act), as amended.
- A strong background in condensed matter physics / materials theory is highly desirable.
- Experimental skills on any spectroscopic techniques will be advantageous.



The position can be held by a candidate working full-time or part-time.

Salary proposed: 45 000 CZK (~ 1800 EUR or 1950 \$) gross monthly wage.

Workload 1.0 – 40 hours/week.

Expected commencement of work: April 2024

Reception of applications: until 10 March 2024.

Requested form of a candidate's application:

- structured curriculum vitae
- motivation letter
- list of subject and grades from Bachelor's and Master's Studies
- copies of the documents proving achieved education (Master diploma or its equivalent),
- copies of documents proving the achieved level of the English language (if applicable)
- name and abstract of Master's thesis
- contact information of at least one professional reference

Candidates should send all the above mentioned details as a single pdf file to:

Ing. Jan Očenášek, Ph.D., e-mail: ocenasek@ntc.zcu.cz, phone: +420 377 634 741

<https://www.zcu.cz/cs/Employees/person.html?personId=31708>

Prof. Dr. Jan Minár, e-mail: jminar@ntc.zcu.cz, phone: +420 735 713 958

<https://www.zcu.cz/en/Employees/person.html?personId=115388>

The application form, together with all the required documents, is to be submitted electronically. If you have any technical questions, please contact the mentor of this position.