



HR EXCELLENCE IN RESEARCH

Director

of Institute of Environmental Technology

VSB – Technical University of Ostrava

announces a selection procedure for a post of

PhD student in Programmed Nanoscale Synthesis of Functional Materials via Electron Beam-Induced Fabrication

The position is suitable for both women and men.

The Electron Beam Precision Manufacturing (EBEAM) Centre, led by Prof. Mark H. Rummeli, is seeking a motivated PhD candidate to join our team. This position focuses on utilizing scanning electron microscopy (SEM) systems for the fabrication and analysis of functional materials, with a special emphasis on 2D materials like graphene and related nanostructures.

Position Overview

This PhD project will explore the application of SEM for nanoscale fabrication, supported by the synthesis and integration of 2D materials. The research will combine hands-on work with SEM systems and the synthesis of materials via chemical vapor deposition (CVD) to investigate the properties and applications of these materials in cutting-edge technologies. The ideal candidate will have experience with SEM operations and a strong interest in 2D materials, their synthesis, and characterization.

Research Focus

- **SEM-Driven Fabrication:** Develop advanced methods for the precise synthesis of nanoscale structures using SEM-based techniques.
- **2D Materials:** Synthesize and integrate 2D materials like graphene, exploring their unique properties and potential applications.
- **Characterization:** Perform detailed analysis of materials using SEM and complementary techniques to study their structure and properties at the nanoscale.
- **Applications:** Investigate how SEM-fabricated and 2D materials can be utilized in areas such as energy storage, nanoelectronics, and advanced sensors.

Full time equivalent: as agreed**Type of job contract:** fixed-term employment contract**Anticipated commencement:** September 2025**Number of positions:** 2

What We Offer

- Access to newly acquired dedicated SEM systems and facilities for material synthesis and characterization.
- Collaboration with a dynamic, international research team.
- Opportunities to publish impactful research in high-ranking journals and participate in international conferences.
- A supportive environment for skill development and professional growth.

Who Should Apply

We are looking for candidates with:

- Experience operating SEM systems for material analysis or fabrication.
- A background in materials science, nanotechnology, or related disciplines.
- Interest or experience in working with 2D materials, including their synthesis or characterization.

If you are passionate about advancing nanoscale fabrication and exploring the potential of 2D materials, we encourage you to apply.

Join us in pushing the boundaries of SEM-driven material innovation and contributing to cutting-edge research!

The EBEAM Centre is committed to fostering diversity and inclusion. We encourage applications from candidates of all backgrounds and experiences. The working language is English.

Your personal data will be processed only to the extent necessary for the execution of the selection procedure in accordance with EU Regulation 2016/679: [Informace-pro-uchazece-o-zamestnani-AJ.pdf \(vsb.cz\)](#).

For inquiries or to submit your CV and introductory letter, please reach out to Dr. Veronica Blahuskova (email: veronika.blahuskova@vsb.cz) till **30. 4. 2025**