

# **ADAM MICKIEWICZ UNIVERSITY, POZNAN**

**ANNOUNCES**

**A COMPETITION**

**for the position of Postdoctoral Researcher**

**at the Faculty of Physics and Astronomy**

within the project titled:

Electric-field-assisted method for single-particle deposition and formation of out-of-plane structures from microparticles" (Agreement number: DEC-2022/45/B/STS/03529).

**Basic information**

1. **Research discipline (research field):**

Physics

1. **Number of work hours per week including a task-based work schedule (if applicable):**

Full-time, 40 hours per week in a task-based work time system.

1. **Type of an employment contract and expected duration of employment,**

12 months

1. **Anticipated job starting date:**

24.02.2025

1. **Salary:**

~9.000 zł/month brutto, (~7.000 zł/month netto, after tax)

1. **Workplace location:**

Faculty of Physics and Astronomy, Uniwersytetu Poznańskiego 2, 61-614 Poznań.

1. **Application deadline and process:**

Electronic submission to [zbiroz@amu.edu.pl](mailto:zbiroz@amu.edu.pl). Application deadline: 15.02.2025.

1. **Required documents**

* Application form/letter of the candidate (email);
* *Curriculum Vitae* (max. 5 pages A4);
* Diplomas or certificates issued by colleges and universities attesting to education and degrees or titles held (in case of academic degrees obtained abroad - the documents must meet the equivalence criteria set out in Article 328 of the Act of 20 July 2018 Law on Higher Education and Science (Journal of Laws of 2021, item 478 i.e. as amended; Polish: Dziennik Ustaw 2021 poz.478);
* Information on the Applicant's research (publication record and list of conferences attended), teaching and organizational achievements,
* Two reference letters (not older than 3 months).
* Consent to the processing of personal data as follows: *In accordance with Article 6 (1) (a) of the General Data Protection Regulation of 27 April 2016. (OJ EU L 119/1 of 4 May 2016) I consent to the processing of personal data other than: first name, (first names) and surname; parents' first names; date of birth; place of residence (mailing address); education; previous employment history, included in my job offer for the purpose of the current recruitment.".*

**Conditions of the competition determined by the competition** **committee**

1. **Determination of qualifications: (researcher profile) according to the Euraxess guidelines**

**(R2)** **Recognised Researcher** (PhD holders or equivalent who are not yet fully independent)

definition of qualification level and professional experience according to Euraxess guidelines

<https://euraxess.ec.europa.eu/europe/career-development/training-researchers/research-profiles-descriptors>

1. **Job Offer description**

The job offer pertains to the position of a postdoctoral researcher in the NCN OPUS project (National Science Centre) titled "Electric-field-assisted method for single-particle deposition and formation of out-of-plane structures from microparticles" (Agreement number: DEC-2022/45/B/STS/03529).

Creating systems of individual microparticles on substrates remains a significant challenge. Existing methods are either complex, expensive, and time-consuming, or imprecise and limited to objects with specific properties, such as magnetic particles. These shortcomings hinder the development of new materials and devices. Therefore, the main objective of the project is to develop an efficient and precise method for depositing single particles onto various substrates. Ideally, the method should be as universal as possible, enabling the use of diverse microparticles of any size and allowing these particles to be deposited onto substrates with different physical properties.

The most critical task in the project is to understand and explain the physical mechanisms associated with the process of depositing single-particle systems on various substrates. Achieving this will allow optimization of the method to ensure maximum accuracy and efficiency. Simultaneously, we will conduct research to characterize both in-plane and out-of-plane structures (e.g., pillars composed of individual particles) in terms of their physical properties. In the final phase of the project, we will demonstrate the applicability of the method in manufacturing chip connections and porous materials. We anticipate that the proposed technique will enable the deposition of single particles with different shapes (spherical, elongated, etc.); structures (e.g., solid core, core-shell); sizes (from 1 µm to 1 mm); and electrical properties onto a variety of substrates, including smooth surfaces (e.g., glass), irregular surfaces (e.g., fabrics), and liquid-absorbing materials (e.g., porous materials).

Responsibilities of the postdoctoral researcher will include:

* Optimization of the particle deposition method to achieve maximum accuracy and efficiency.
* Further development of the method focused on the fabrication of out-of-plane structures (pillars composed of microparticles arranged at specific intervals).
* Collaboration with project partners and participation in short-term international research internships.

1. **Requirments and qualifications**

The competition is open to individuals who meet the requirements specified in Article 113 of the Law on Higher Education and Science of 20 July 2018 (Journal of Laws of 2021, item 478, i.e. Article 113 as amended) and who meet the following requirements:

1. PhD in physical sciences or materials engineering.

2. Fulfilled formal requirements regarding the date of obtaining the doctoral degree in accordance with the regulations of the National Science Center

https://www.ncn.gov.pl/sites/default/files/pliki/uchwaly-rady/2021/uchwala81\_2021-zal1.pdf.

3. Proven experience in writing scientific publications.

1. **Required languages**

English, advanced level

1. **Required research, teaching or mixed experience**

* Experience in the field of soft matter or condensed matter is highly desirable.
* Proficiency in building experimental setups.
* Experience in electronics, automation, robotics, or 2D/3D printing is an asset.
* Independence, strong organizational skills, and the ability to work in a team.
* Experience in writing scientific publications and delivering conference presentations.

1. **Benefits**

* financial bonuses for high impact publications
* an atmosphere of respect and cooperation
* supporting employees with disabilities
* flexible working hours
* remote work applicable
* funding for language learning
* co-financing of training and courses
* additional days off for education
* life insurance
* pension plan
* savings and investment fund
* preferential loans
* additional social benefits

1. **Qualification Criteria**
2. **Candidate's Scientific Output (50%)**:  
   a. 4 points – outstanding;  
   b. 3 points – very good;  
   c. 2 points – good;  
   d. 1 point – weak;  
   e. 0 points – no scientific output.
3. **Achievements Resulting from Scientific Research, Scholarships, Awards, and Scientific Experience Gained Domestically or Abroad, Workshops and Scientific Training, Participation in Research Projects (20%)**:  
   a. 4 points – exceptional (including scholarships, internships at leading international institutions, prestigious international awards or distinctions, workshops or training at top scientific centers, participation in international or foreign projects);  
   b. 3 points – significant (scholarships, internships at reputable national and international institutions, national-level awards or distinctions, international or national workshops or training, participation in national or foreign projects);  
   c. 2 points – moderate (local awards or distinctions, workshops or training, participation in university-level projects);  
   d. 1 point – weak achievements;  
   e. 0 points – no achievements.
4. **Competence for Implementing Specific Tasks in the Research Project (30%)**:  
   a. 3 points – very good;  
   b. 2 points – good;  
   c. 1 point – weak;  
   d. 0 points – lack of competence.
5. **The selection process** 
   * + 1. The competition committee begins its work no later than 14 days after the deadline for document submission.
       2. Formal evaluation of submitted proposals.
       3. Request for additional or missing documents, if necessary.
       4. Selection of candidates for the interview stage.
       5. Interviews with candidates who meet the formal requirements.
       6. The chair of the competition committee announces the results and informs the candidates. The results will include a justification referencing the candidates' strengths and weaknesses. Submitted documents will be returned to the candidates.
6. **Prospects for professional development**

* supervision in building a scientific profile through the publication in high-impact scientific journals,
* assistance in writing grant applications in domestic (FNP, NCN) and foreign (MSCA, Humboldt) research projects,
* establishing cooperation with renowned research centers in the world.

**RODO Information Clause:** Pursuant to Article 13 of the General Data Protection Regulation of 27 April 2016. (Official Journal of the EU L 119 of 04.05.2016) we inform that:

1. The controller of your personal data is Adam Mickiewicz University, Poznań with the official seat: ul. Henryka Wieniawskiego 1, 61 - 712 Poznań.
2. The personal data controller has appointed a Data Protection Officer overseeing the correctness of the processing of personal data, who can be contacted via e-mail: iod@amu.edu.pl.
3. The purpose of processing your personal data is to carry out the recruitment process for the indicated job position.
4. The legal basis for the processing of your personal data is Article 6(1)(a) of the General Data Protection Regulation of 27 April 2016 and the Labour Code of 26 June 1974. (Journal of Laws of 1998 N21, item 94 as amended).
5. Your personal data will be stored for a period of 6 months from the end of the recruitment process.
6. Your personal data will not be made available to other entities, with the exception of entities authorized by law. Access to your data will be given to persons authorized by the Controller to process them in the performance of their duties.
7. You have the right to access your data and, subject to the law, the right to rectification, erasure, restriction of processing, the right to data portability, the right to object to processing, the right to withdraw consent at any time.
8. You have the right to lodge a complaint to the supervisory authority - the Chairman of the Office for Personal Data Protection, ul.Stawki 2, 00 - 193 Warsaw.
9. Providing personal data is mandatory under the law, otherwise it is voluntary.
10. Your personal data will not be processed by automated means and will not be subject to profiling.