HR EXCELLENCE IN RESEARCH

ADAM MICKIEWICZ UNIVERSITY, POZNAN

ANNOUNCES

A COMPETITION

for the position of Postdoctoral Researcher

at the Faculty of Physics

Basic information

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

2. **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.

3. **Type of an employment contract and expected duration of employment,**
   Fixed-term contract for **2 years 6 months** with possible extension for **next 6 months** (max. total 3 years).

4. **Anticipated job starting date:**
   01.01.2023.

5. **Salary:**
   Gros with the employer's cost: 10 000 PLN/month (approx. 7 800 PLN/month).

6. **Workplace location:**
   Faculty of Physics, Uniwersytetu Poznanskiego 2, 61-614 Poznan.

7. **Application deadline and process:**
   Electronic submission to bartlomiej.graczykowski@amu.edu.pl. Application deadline: 11.12.2022.
   Please note that the job reference number should be quoted in the application.

8. **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);

- Candidates who do not yet have a doctoral degree may apply if they plan to obtain it by the date of signing the employment contract.
- 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

I) 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)

II) Job Offer description

The job offer refers to the position in the NCN OPUS project (National Science Center) entitled *Light-to-motion conversion in nature-inspired polymer nanomembranes* (Contract number: UMO-2021/41 / B / ST5 / 03038).

In this project, we aim to investigate light-to-motion conversion, mechanical and thermal properties of nanomembranes made of nature-inspired polymers. We will use polydopamine and other poly-catecholamines (polydopamine, poly-levodopa, poly-epinephrine, and poly-norepinephrine), known for their excellent photothermal properties over a broad spectrum of light, as the building blocks for the membranes. We want to verify the following research hypothesizes: (i) poly-catecholamine membranes can contract when exposed to visible light illumination, (ii) the subsequent membrane's expansion is spontaneous and driven by its mechanical and thermal properties, and (iii) the membranes are multi-responsive: the contraction can be triggered by light, temperature, and moisture.

To verify the above, we will employ state-of-the are fabrication and experimental tools. In particular, we will: (i) fabricate few-nanometer thick photoresponsive membranes, employ contactless and nondestructive techniques to (ii) evaluate membranes' mechanical properties under varied external conditions, and (iii) investigate heat dissipation via conduction and convection. Finally, we will investigate the light-to-motion conversion in the membranes with a particular focus on the dynamics and efficiency of the photoactuation for different light sources and varied ambient conditions.

In particular, the postdoctoral researcher will be responsible for:

- Development of the experimental setup for Brillouin light scattering (BLS) experiments under varying moisture, temperature, and ambient pressure.
- Preparation of poly-catechol films and their transfer on Si_3N_4 pre-fabricated substrates.
- Measurements of thermal properties utilizing (FDTR) frequency-domain thermoreflectance.
- BLS evaluation of elastic properties of samples under varied external conditions.
- Evaluation of light-driven actuation of samples, dynamics, fatigue, and efficiency.
- Day-to-day reporting, manuscript writing public dissemination of results.
- Collaboration with the project partners, short-term internships in Barcelona and Mainz.

III) 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 accordancewith the regulations of the National Science Center https://www.ncn.gov.pl/sites/default/files/pliki/uchwaly-rady/2021/uchwala81_2021-zal1.pdf. Persons who do not have a doctoral degree may apply, provided they plan their defense no later than the date of signing the employment contract.
3. Proven experience in writing scientific publications.

IV) Required languages

4. Language: English
5. Level: fluent or native

V) Required research, teaching or mixed experience

- Proven experience in the field of laser spectroscopy.
- Experience in building optical systems.
- Independence, good organization of work, ability to work in a team.
- Experience in writing scientific publications and conference presentations.
- Very good knowledge of software such as: Matlab (or LabView), OriginLab, COMSOL, CorelDraw, LaTex.
- Knowledge of solid state mechanics, polymer physics, heat transport and nanofabrication will be an additional advantage.

VI) 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
- ✓ leisure-time funding
- ✓ subsidizing children's vacations
- ✓ "13th" salary

VII) Eligibility criteria

1. Matching of the candidate's scientific profile with the advertisement.
2. Number, scientific level of the candidate's scientific publications.
3. Number, scientific level and of the candidate's scientific conference presentations.
4. Grade on the diploma.
5. Internships and participation in research projects.

VIII) The selection process

1. Competition committee begins working no later than 14 days after the deadline for submission of documents.
2. Formal evaluation of submitted proposals.
3. Call to provide additional or missing documents if necessary.
4. Selection of candidates for the interview stage.
5. Interviews for candidates who meet the formal requirements.
6. The chair of the competition committee announces the results and informs the candidates. This information will include justification with a reference to candidates' strengths and weaknesses. Submitted documents will be sent back to candidates.

IX) 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.