



ADAM MICKIEWICZ UNIVERSITY, POZNAN

ANNOUNCES

A COMPETITION

for the position of post-doc

**at the Faculty of Chemistry
in the project SONATA Bis**

“Development of new lanthanide-based optical manometers and thermometers working under extreme conditions of pressure and temperature”

Number 2023/50/E/ST5/00021

Basic information

- 1. Reference number:**
- 2. Research discipline (research field):**
Chemical science
- 3. Number of work hours per week including a task-based work schedule (if applicable):**
full-time (40 hours per week) in a task-based working time system
- 4. Type of an employment contract and expected duration of employment, i.e.:**
fixed-term employment contract for 2 years (01.07.2025-30.06.2027)
- 5. Anticipated job starting date:**
01.07.2025
- 6. Workplace location:**
Faculty of Chemistry, ul. Uniwersytetu Poznańskiego 8, 61-614 Poznań
- 7. Monthly salary:**
Circa. 8987,53 PLN gross
- 8. Application deadline and process:**
Paper version to the following address: Faculty of Chemistry, ul. Uniwersytetu Poznańskiego 8, 61-614 Poznań, Poland; electronic version: przemyslaw.wozny@amu.edu.pl / depchem@amu.edu.pl; deadline: 05/05/2025. Please provide the competition reference number in the application.

9. Required documents

- Application form/letter of the candidate;
- *Curriculum Vitae*;
- 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 2024, item 1571 ; Polish: Dz. U. z 2024 poz. 1571 t.j.);
- Information on the Applicant's research, teaching and organizational achievements:
 - publications,
 - research projects in which the candidate participated,
 - internships, apprenticeships, workshops in which the candidate participated,
 - conferences and seminars in which the candidate participated,
 - national and international awards,
- 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
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I) Determination of qualifications: (researcher profile) according to the Euraxess guidelines

- (R1) First Stage Researcher (up to the point of PhD)
- (R2) Recognised Researcher (PhD holders or equivalent who are not yet fully independent)
- (R3) Established Researcher (researchers who have developed a level of independence)
- (R4) Leading Researcher (researchers leading their research area or field)

II) Job Offer description

Assistant Professor – postdoctoral fellow (post-doc) in a group of research workers employed at the Faculty of Chemistry, Adam Mickiewicz University.

Project SONATA BIS 13, National Science Center, no. 2023/50/E/ST5/00021 "Development of new lanthanide-based optical manometers and thermometers working under extreme conditions of pressure and temperature".

The scientific goal of the project is to research and develop new optical, luminescent high and low pressure (vacuum) and temperature sensors based on luminescence (light emission) of inorganic materials and nanomaterials doped with lanthanide ions. Monitoring of high pressure and temperature will be performed based on compression and heating/cooling of materials, as in the case of commonly used pressure and temperature sensors, i.e. by correlating observed spectroscopic effects with pressure/temperature changes. In contrast, low pressure (vacuum) monitoring will be based on the recently discovered phenomenon of pressure-regulated and light-induced heating-cooling of materials, i.e. conversion of luminescent thermometers into vacuum sensors operating in the low pressure range. In the most desirable case, the developed sensors will operate simultaneously in an unprecedented, very wide pressure range, e.g. from 10⁻⁵ bar (vacuum range) to 105 bar (high pressure range), i.e. in the range of 10 orders of magnitude. An important part of the project will be the selection of new pressure sensors operating at elevated temperatures, as well as finding and characterizing optimal, dual-function pressure/temperature sensors operating simultaneously in extreme conditions of both factors.

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 2024, item 1571 ; Polish: Dz. U. z 2024 poz. 1571 t.j.) and who meet the following requirements:

1. Representing the disciplines: Chemical sciences
2. Conducting international scientific research and having experience in conducting scientific research abroad;
3. Having experience in international and national scientific cooperation documented by joint publications;
4. Knowledge and skills in preparing publications. Having documented productivity and publications in indexed journals.
5. Knowledge and skills in the field of physical chemistry, optical spectroscopy, lanthanide spectroscopy, upconversion phenomena, spectrofluorometry and laser techniques, i.e. recording absorption/excitation/emission spectra and luminescence decay curves, as well as calculating luminescence lifetimes.
6. Knowledge of the principles of luminescence manometry and thermometry, optical sensors, high-pressure compression, laser-induced heat generation, etc.
7. Knowledge and skills in the field of structural and morphological analysis of inorganic materials.
8. Knowledge of transmission and scanning electron microscopy, powder X-ray diffraction, IR and Raman spectroscopy, dynamic light scattering techniques, etc.
9. Polish language is an additional asset.

IV) Required languages

English – good, communicative

V) Required research, teaching or mixed experience

- Knowledge of laboratory techniques enabling the synthesis of luminophores doped with lanthanide ions.
- Knowledge of physicochemical and photophysical characterization techniques for materials.
- Ability to build optical systems.
- Experience in the analysis of experimental data.
- Knowledge and skills in the preparation of publications.

VI) Benefits

- ✓ an atmosphere of respect and cooperation
- ✓ supporting employees with disabilities
- ✓ flexible working hours
- ✓ 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. Scientific achievements documented by publications and their compliance with the scope of research topics specified in the competition requirements (0-20 points);
2. Management of research projects (0-5 points);
3. Participation in internships and conducting research abroad (0-5 points);
4. Participation in scientific conferences and seminars (0-5 points)
5. Other (0-5 points)

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

- Building a scientific profile through publications in high-impact scientific journals,
- Possibility to write grant applications in domestic (FNP, NCN) and foreign (MSCA) research projects,
- Establishing cooperation with renowned research centers around 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.