



ROMANIAN ACADEMY
"PETRU PONI" INSTITUTE OF MACROMOLECULAR CHEMISTRY
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COMPETITION ANNOUNCEMENT

The "Petru Poni" Institute of Macromolecular Chemistry Iași, as Beneficiary, organizes the competition for employment under the **PCE financing contract no. 4/08.01.2025**, project entitled **"Exploitation of the multifunctionality of personalized polysaccharides in the design of nanostructured sorbents for wastewater treatment"** acronym **MPSorb**, of a vacant position, as follows:

Position: Scientific Research Assistant – ACS (member-master's student)

Number of positions put up for competition: 1

Type of employment contract: Individual part-time employment contract

Estimated contract start date: 01.10.2026

Employment period: determined, until 31.12.2026 with possibility of extension, with funding from the project 4PCE/08.01.2025: "Exploitation of the multifunctionality of personalized polysaccharides in the design of nanostructured sorbents for wastewater treatment (acronym MPSorb)"

Place of research activity: Functional Polymers within the "Petru Poni" Institute of Macromolecular Chemistry (ICMPP), Aleea Gr. Ghica Vodă 41A, postal code 700487, Iași

Place of competition: "Petru Poni" Institute of Macromolecular Chemistry (ICMPP), Aleea Gr. Ghica Vodă 41A, postal code 700487, Iași

Job description: Obtaining polysaccharide-based hydrogels and evaluating their performance in removing priority pollutants

General requirements for candidates:

- The candidate has Romanian citizenship, citizenship of other European Union member states or states belonging to the European Economic Area or citizenship of the Swiss Confederation;
- The candidate knows Romanian and/or English – written and spoken;
- The candidate has a state of health appropriate to the position for which he/she is applying, attested on the basis of a medical certificate issued by the family doctor or by authorized health units;
- The candidate meets the educational requirements and the specific conditions according to the position put up for competition;

- The candidate has not been definitively convicted of a crime against humanity, against the state or against authority, of duty or in connection with duty, which impedes the administration of justice, of forgery or acts of corruption or of a crime committed intentionally, which would make him/her incompatible with the exercise of the function, except in the case where rehabilitation has occurred.

Specific conditions for candidates:

- The candidate must have a higher education degree, a bachelor's degree in chemistry;
- The candidate must be enrolled in master's courses in chemistry;
- Theoretical and practical knowledge in the field of polymer functionalization;
- Theoretical and practical knowledge in the field of biopolymer-based hydrogels is an advantage;
- Theoretical and practical knowledge of the techniques used to evaluate the sorption performance of priority pollutants;
- Knows English, written and spoken;
- The candidate must be available to travel in the country and abroad, if necessary;
- Be motivated and creative, with advanced communication and teamwork skills;
- Possess practical computer skills (Word, Excel, Power Point, OriginLab).

The application file must contain:

- The candidate's application for registration addressed to the management of the "Petru Poni" Institute of Macromolecular Chemistry in Iași, requesting registration for the competition to fill the vacant position, dated and signed by the candidate, approved by the director of the institute and registered within the legal registration deadline;
- Copy of identity document and copies of documents attesting to the change of name, if applicable;
- Copies of documents attesting to the candidate's studies: baccalaureate, license accompanied by the transcript;
- Certificate attesting to the quality of master's student enrolled in an institution organizing Master's studies;
- Diplomas obtained in other states must be recognized by the National Center for Recognition and Equivalence of Diplomas (CNRED), and implicitly by the National Council for Attestation of University Titles, Diplomas and Certificates (CNATDCU), or the steps for these must have been initiated;
- Curriculum vitae adapted to the employment requirements, signed and dated;
- Letter of intent (free format) indicating the research areas of interest and the motivation for the position;
- Original medical certificate, which attests to the state of health, clearly stating the number, date, name of the issuer and its capacity, in the standard format established by the Ministry of Health;
- Criminal record or affidavit stating that he/she has no criminal convictions that would make him/her incompatible with the position for which he/she is running, with the completion of the competition file (until the date of the first competition test) with the original criminal record.

Competition procedure:

1. Analysis of the candidate's file (eliminary): Only candidates who have submitted all the necessary documents for registration to the competition and meet the participation conditions are accepted to participate in the written test. The results of the selection of the competition files are displayed with the mention "admitted" or "rejected".

2. Written test (eliminary): it will be held at the ICMPP headquarters, with topics according to the announced theme. In order to be declared admitted, candidates must obtain a minimum grade of 8 (eight) in the written test. The results of the written test are displayed on the ICMPP website with the mention "admitted" or "rejected";

3. Oral test: it will be held at the ICMPP headquarters and will consist of the presentation of the candidates' scientific activity. In order to be declared admitted, candidates must obtain a minimum grade of 8 (eight) in the oral test. The results of the oral exam are displayed on the ICMPP website with the words "passed" or "rejected".

The results of the competition exams are assessed by each member of the committee on a scale from 1 to 10; the exam score represents the arithmetic average of the scores given by the committee members.

The final grade of the candidates is calculated with the relationship: final grade = written exam grade $\times$ 0.7 + oral exam grade $\times$ 0.3

The ranking of the candidates will be done according to the final average.

Topic:

1. General notions of macromolecular chemistry

1.1. Definition and classification of macromolecular compounds

1.2. Polymerization processes: classification, short presentations

1.3 Polymer-analog transformations. Reactivity of functional groups belonging to macromolecular chains

1.3. Molecular weight of polymers

1.4. Methods for determining the molecular weight of polymers, general statements and principles

2. Biomaterials

2.1 Definitions. Classification. Characteristics of biomaterials

2.2. Polysaccharides: sources, production, chemical properties

2.2.1. Chitosan

2.2.2. Cellulose

2.2.3 Xanthan

2.2.4 Dextran

3. Hydrogels

3.1 Definition, classification

3.2 Preparation methods

3.3 Factors influencing the gelation process

4. Characterization techniques

4.1. UV-VIS Spectroscopy

4.2. Atomic Absorption Spectroscopy (AAS)

Bibliography:

1. C. Simionescu, C. Vasiliu Oprea, V. Bulacovschi, B. Simionescu, C. Neguleanu, Chimie macromoleculara, Ed. Didactica si Pedagogica, Bucuresti, 1985

2. D.F. Williams, On the nature of biomaterials, Biomaterials, 30, 5897-5909 (2009)

3. S. Dumitriu, V.I.Popa, Polymeric Biomaterials, 3rd edition, CRC Press, Boca Raton, 2013

4. M. Tombs, S.E. Harding, An introduction to polysaccharide biotechnology, Taylor & Francis, 1998

5. V. Sinha, S. Chakma, Advances in the preparation of hydrogel for wastewater treatment: A concise review. J. Environ. Chem.Eng. 7, 10329 (2019)

6. M. Thomas, Ultraviolet and Visible Spectroscopy, John Wiley&Sons, 1996
7. R.D. Beaty, J.D. Kerber, Concepts, Instrumentation and Techniques in Atomic Absorption Spectrophotometry, Perkin-Elmer Corporation, Norwalk, CT, U.S.A, 1993.
Note: This position is open to all candidates regardless of gender, religion, race or sexual orientation, the project team rejects any type of discrimination.

The candidate undertakes to maintain confidentiality on the research topics in which he/she participates

COMPETITION SCHEDULE

Date of publication of the competition: 20.08.2026
Deadline for submission of applications: 21.09.2026, 12:00, at the ICMPP headquarters or online at the e-mail address indicated in the announcement
Date of display of the results of the analysis of the applications: 22.09.2026, 16:00
Contests of the results of the analysis of the applications are submitted by: 23.09.2026, 14:00
Date of display of the final results of the analysis of the applications: 23.09.2026, 16:00
Date of taking the written test: 25.09.2026, 10:00
Date of display of the results of the written test: 25.09.2026, 16:00
The appeals for the written test are submitted by: 28.09.2026, 14:00
Date of posting the final results of the written test: 28.09.2026, 16:00
Date of taking the oral test/interview: 29.09.2026, 10:00
Date of posting the results of the oral test/interview: 29.09.2026, 16:00
The appeals for the oral test/interview are submitted by: 30.09.2026, 14:00
Date of posting the final results of the oral test/interview: 30.09.2026, 16:00
Posting the final results of the competition on the institute's website: 01.10.2026, 12:00

Details regarding the specific conditions can be read on the website <https://icmpp.ro>, section <<Competitions>> as well as on the websites: <https://www.euraxess.gov.ro/ro>, <https://jobs.research.gov.ro/> or additional contacts can be obtained from the Human Resources-Salary Service within the Institute of Macromolecular Chemistry "Petru Poni" (ICMPP), phone +40.332.880.220, as well as by e-mail: dinu.valentina@icmpp.ro

**This announcement was published on the Institute's website - Section
<< Competitions >>
by the Secretary of the competition committee on 20.08.2026**