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UMF
UNIVERSITATEA DE
MEDICINĂ ȘI FARMACIE
IULIU HAȚIEGANU
CLUJ-NAPOCA

Registration No : 12320/03.05.2023

**NOTICE COMPETITIONS
FOR EMPLOYMENT OF THE MEMBER –MASTER STUDENT**

University of Medicine and Pharmacy "Iuliu Hațieganu" Cluj Napoca announces competition for employment within the project PN-III-P4-PCE-2021-1119 entitled “Expert System based on Artificial Neural Network for 3D-Printability Prediction of Tailored Release Oral Dosage Forms” ctr. PCE 41/2022 of the following vacancy :

Member-Master student –3 position

Workload : maximum 20 h/month

Determined period –starting 20.06.2023-31.12.2024.

Type of contest samples: Analysis of the competition dossier (eliminary)
Interview

Place of the contest: Universitatea de Medicină și Farmacie „Iuliu Hațieganu”- Departamentul de Cercetare, Dezvoltare și Inovare, Cluj-Napoca, România, on 12.06.2023, at: 10:00 o'clock

1. Content of the application file:

- application to enter the competition
- ID copy and civil status documents
- Work record or certificates attesting to seniority in work
- curriculum vitae
- copies of study diplomas or certificate from the Faculty of Pharmacy to prove student status, in the IV or V year
- the certificate issued by the family doctor attesting the proper health status
- a declaration on his own responsibility that he has no criminal record to make him / her incompatible with the job he / she is applying for

2. General conditions necessary for the position of Researcher

- has Romanian citizenship or other EU Member States or states belonging to the European Economic Space;
- knows the Romanian language, written and spoken;
- has a health status corresponding to the position for which he / she is applying;
- fulfills the conditions of study and, depending on the case, seniority or other requirements specific to the job
- has not been convicted of committing any offense

3. **Specific conditions required to fill the job**

- The candidate must be a graduate of long-term higher education (bachelor's degree) with a degree in the pharmaceutical field or is a student in IV-V years at the Faculty of Pharmacy;
- To have a thorough knowledge of English
- Research project of 4-6 pages (2000-3000 words written in English, with the theme of 3D printing in the pharmaceutical field).

4. **Schedule of the contest, marking the evidence, communicating the results:**

- The competition dossier will be filed by 08.05.2023-07.06.2023, at 15.00 pm, at DEPCDI, str. Pasteur nr. 4, et.3, camera 11, contact person: Peter Radu Stefan tel.0374834140.
- Analysis of the competition dossier will take place on 08.06.2023, at 10:00 am and the results with admitted / rejected will be recorded in a minute;
- Research project analysis 09.06.2023, will be marked by the competition committee according to the following criteria:
 - a) the chosen topic and the argumentation of the selected topic and the argumentation of its selection 20%;
 - b) objectives pursued and originality 40%;
 - c) scientific accuracy and clarity of presentation 40%.
- The interview will take place on 12.06.2023, at 10:00 o'clock. The interview held before the evaluation committee, during which the candidates will be graded taking into account the following criteria:
 - a) Presenting the project and arguing the elements of originality/innovation from the research project before the evaluation committee 30%;
 - b) the candidate's motivation for the research activity, including the availability to continue studies through a doctorate on the topic of 3D printing 30%;
 - c) presentation quality and communication skills 40
- The results of each evaluation will be communicated to the candidates enrolled in the contest, by email, by the end of the day in which the evaluation was conducted;
Final grade = 0.50 * Test 1 + 0.5 * Test 2
- The deadline for submitting complaints is one business day from the date of the communication of the outcome of each sample.
- The final results shall be communicated the first working day after the expiration of the appeal, on 14.06.2023 until 12:00 o'clock.

5. **Themes:**

- 1. 3D printing in the pharmaceutical field
- 2. Drug manufacturing by thermoplastic extrusion and melt deposition modeling
(*pharmaceutical 3D printing by hot melt extrusion coupled with fused deposition modeling; pharmaceutical-HME-FDM-3D-printing*)”

6. **References:**

1. Abdul W. Basit, Simon Gaisford. *3D Printing of Pharmaceuticals*. Springer 2015.
2. Crisan, AG; Iurian, S; Porfire, A; Rus, LM; Bogdan, C; Casian, T; Lucacel, RC; Turza, A; Porav, S; Tomuta, I. *QbD guided development of immediate release FDM-3D printed tablets with customizable API doses*. International Journal of Pharmaceutics 2022;613:- 121411.doi:10.1016/j.ijpharm.2021.121411.

3. Crisan, AG; Porfire, A; Ambrus, R; Katona, G; Rus, LM; Porav, AS; Ilyes, K; Tomuta, I. *Polyvinyl Alcohol-Based 3D Printed Tablets: Novel Insight into the Influence of Polymer Particle Size on Filament Preparation and Drug Release Performance*. PHARMACEUTICALS 2021;145:- 418.doi:10.3390/ph14050418.
4. Ilyes, K; Crisan, AG; Porfire, A; Tomuta, I. *Three-Dimensional Printing By Fused Deposition Modeling (3dp-Fdm) In Pharmaceutics*. FARMACIA 2020;684:586-596 .doi:10.31925/farmacia.2020.4.2.
5. Ilyes, K; Kovacs, NK; Balogh, A; Borbas, E; Farkas, B; Casian, T; Marosi, G; Tomuta, I; Nagy, ZK. *The applicability of pharmaceutical polymeric blends for the fused deposition modelling (FDM) 3D technique: Material considerations-printability-process modulation, with consecutive effects on in vitro release, stability and degradation*. European Journal of Pharmaceutical Sciences 2019;129:110-123 .doi:10.1016/j.ejps.2018.12.019.
6. Articole publicate în ultimii 7 ani pe ScienceDirect (<https://www.sciencedirect.com/>) având ca temă ”*pharmaceutical 3D printing by hot melt extrusion (HME) coupled with fused deposition modeling (FDM)*”.