

Universitatea Babes-Bolyai din Cluj-Napoca
Facultatea de Stiinta si Ingineria Mediului
Scoala doctorala Stiinta Mediului Doctoral School
Conducator de doctorat/Supervisor: Prof. dr. Calin Baci

Concurs pentru admiterea la doctorat / Admission exam to doctoral studies
Iulie, Septembrie/July, September 2025

Desfășurarea concursului / Exam procedure:

1. Test scris pe baza tematicii si a bibliografiei propuse pentru concurs

Written exam based on the proposed topics and references

2. Interviu in cadrul caruia se analizeaza preocuparile stiintifice si realizarile anterioare ale candidatului, dupa cum rezulta din documentele depuse la inscrierea la concursul de admitere, aptitudinile personale de cercetare, tema propusa pentru teza de doctorat.

Interview discussing the previous scientific interest and achievements of the applicant, as reflected by the submitted documents, personal skills of the applicant, and the topics proposed for the doctoral studies.

Nota: o parte a interviului se va desfasura in limba engleza.

Note: For the Romanian speaking applicants, part of the interview will be held in English. For the foreign applicants, the interview will be in English.

Tematica / Topics:

1. Condiții de apariție a heliului și hidrogenului de origine geogenă în scoarța terestră / Helium and geogenic hydrogen occurrence in the Earth's crust
2. Factori naturali și antropici care produc schimbări climatice; schimbări climatice la nivel regional și global; riscuri și impact ale schimbărilor climatice / Climate change: natural and anthropogenic factors determining climate change; climate change at a regional and global level; Risks and impact of climate change

Referințe / References:

- IPCC, 2021, Climate Change 6th Assessment Report; https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_TS.pdf
- Zgonnik V., 2020, The occurrence and geoscience of natural hydrogen: A comprehensive review. Earth-Science Reviews, 203, 103140
- Milkov A.V., 2022, Molecular hydrogen in surface and subsurface natural gases: Abundance, origins and ideas for deliberate exploration. Earth-Science Reviews, 230, 104063
- Danabalan D., Gluyas J.G., Macpherson C.G., et al., 2022, The principles of helium exploration. Petroleum Geoscience, <https://doi.org/10.1144/petgeo2021-029>, 28, petgeo2021-029
- Serra Leal J.S., Incer-Valverde J., Morosuk T., 2023, Helium: Sources, Applications, Supply, and Demand. Gases, 3, 181–183. <https://doi.org/10.3390/gases3040013>