PhD Student, Bálint Farkas-Áron – narrative CV

Bálint Farkas-Áron is currently a first-year PhD student under the supervision of Associate Professor Dr. Begy Róbert-Csaba. His research topic focuses on natural and artificial radionuclides in radioecological and environmental studies.

He began his studies in 2019 at the Faculty of Environmental Science and Engineering, “Babeș-Bolyai” University, specializing in Environmental Sciences. After completing his undergraduate studies in 2022, his bachelor's thesis focused on "Determination of the Gross Alpha-Beta Activity of Mineral Waters in Harghita County Using Liquid Scintillation Measurement Technique." The study examined the levels of radionuclides present in mineral waters from a region with significant past volcanic activity, assessing their potential long-term risks to human health. Some sources were found to exceed the maximum levels recommended by Romanian regulations (Law 301/2015) and the WHO guidelines.

He finished his master's studies at the same faculty, specializing in "Sustainable Development and Environmental Management." His dissertation focused on "Improved ^{210}Po Measurement from Peat Samples Using Wire-Deposition Method." This work was presented on June 20, 2024, at the XII. RAD Conference in Herceg Novi, Montenegro. This conference marked his first scientific presentation and entry into the academic community.

In 2024, he began his PhD studies, focusing on the application of natural and artificial radionuclides as tracers to investigate the impacts of climate change and human interventions in aquatic environments, including peatlands and permafrost regions. His research includes the development of advanced methods for studying radionuclides of interest using nuclear spectrometry. Dating methods measuring ^{210}Pb or ^{41}Ca will also be employed, relying on nuclear disequilibrium. These methods will be applied in Romania and other European regions to reveal global climate change trends in the studied environments, as well as its effects on sedimentation and growth rates and the rate of permafrost retreat.

On November 20, 2024, he presented his findings to date at the IX. TREICEP (Terrestrial Radioisotopes in Environment International Conference on Environmental Protection).

Annex-Career timeline and listed achievements

Personal information:

Family name, First name: Bálint Farkas-Áron
Date of birth: 13 October 2000

Researcher unique identifier: ORCID 0009-0002-6061-1682
Google Scholar: https://scholar.google.hu/citations?hl=hu&user=OHLxgDMAAAAJ

Education:

2024 - present: Doctoral School ''Environmental Science'' - Faculty of Environmental Science and Engineering, "Babeş-Bolyai" University, Cluj-Napoca

2022 - 2024: Master's Degree "Sustainable development and environmental management'' - Faculty of Environmental Science and Engineering, "Babeş-Bolyai" University, Cluj-Napoca, Master thesis: "Measurement of ^{210}Po from peat moss samples using wire-deposition method"

2019 - 2022: Bachelor's Degree in Environmental Sciences, Faculty of Environmental Science and Engineering, "Babeş-Bolyai" University, Cluj-Napoca. Bachelor thesis: "Determination of the gross alpha-beta activity of mineral waters in Harghita county using liquid scintillation measurement technique"

Current positions:

2024 - present: Research assistant, in the "Center for Environmental Radioactivity and Nuclear Dating" at the "Institute for Interdisciplinary Research in Bio-Nano-Science" of "Babeş-Bolyai" University, Cluj-Napoca. Research field: alpha-beta and gamma measurements, radioactive dating, improvement of measurement methods

2024 - present: Teaching assistant, Faculty of Environmental Science and Engineering, Babeş Bolyai University, Cluj-Napoca, Romania.

Conferences:

2024 - XII. RAD conference – Twelfth international conference of radiation, natural sciences, medicine, engineering, technology and ecology, 17-21 June, Herceg Novi, Montenegro

2024 - IX. TREICEP conference - Terrestrial Radioisotopes in Environment International Conference on Environmental Protection, 19-22 November, Vonyarcvashegy, Hungary