Brief Information about the Project

Project Title	AP22684045 «Influence of physico-chemical methods of pretreatment on the content of natural radionuclides in mushrooms».
Relevance	At present, there are no comprehensive studies in the Republic of Kazakhstan on the determination of alpha-emitting natural radionuclide content in mushrooms and the assessment of their potential health risks upon consumption. Moreover, the effectiveness of standard decontamination methods (such as soaking and boiling) is limited, while the impact of alternative physicochemical pre-treatment methods on reducing natural radionuclide concentrations in mushrooms has not been studied. Given the lack of information on the degree of mushroom contamination and the absence of scientifically validated decontamination methods, this study is both relevant and justified — from the standpoint of public health protection and for the development of recommendations for food processing enterprises.
Aim of the project	The purpose of the project is to determine the effect of physico-chemical methods of pretreatment of mushrooms on the content of natural radionuclides
Task of the project	1. to collect available scientific information on the research topic by analyzing scientific articles which are published in international journals indexed by databases (Web of Science, Scopus), as well as domestic publications; 2. to conduct sampling of mushrooms from potentially contaminated territories of Kazakhstan; 3. to determine the content of uranium and thorium isotopes; 4. to identify the types of mushrooms with high degree of accumulation of natural radionuclides; 5. to establish the most effective physico-chemical pretreatment method of mushrooms; 6. to publish the results in the form of at least 2 (two) articles in journals from the first three quartiles by impact factor in the Web of Science database or having a CiteScore percentile in the Scopus database of at least 50 (fifty).
	1. A review of available scientific information on the research topic was collected by analyzing scientific articles which are published in international journals indexed by databases (Web of Science, Scopus), as well as domestic publications; 2. Sampling of mushrooms from potentially contaminated territories of Kazakhstan will be carried out; 3. Analysis for the content of uranium and thorium isotopes carrying out; 4. The types of mushrooms with high degree of accumulation of natural radionuclides will be identified; 5. The most effective physico-chemical pretreatment method of mushrooms will be established; 6. The results will be published in the form of at least 2 (two) articles in journals from the first three quartiles by impact factor in the Web of Science database or having a CiteScore percentile in the Scopus database of at least 50 (fifty).

Names and surnames of the research team members with their identifiers (Scopus Author ID, Researcher ID, ORCID, if available) and links to the corresponding profiles.	Nurgul Armankyzy Nursapina Web of Science ResearcherID: T-1730-2017. ORCID: https://orcid.org/0000-0001-5834-9932 Ilona Valeryevna Matveeva Web of Science ResearcherID: A-4758-2015. ORCID: https://orcid.org/0000-0002-3553-2010 Scopus Author ID: 55171504500.
List of publications with links to them	The obtained data were presented at the 5th International Scientific Forum "Nuclear Science and Technology," which took place in Almaty on October 7–11, 2024. https://inp.kz/ru/novost/v-mezhdunarodnyj-nauchnyj-forum-yadernaya-nauka-i-tehnologii
Patents	