

03.04.02 Physics

Radiology

Partner university

Medical Institute of Karakalpakstan (former Nukus branch of Tashkent Pediatric Medical Institute)

1st study year – Medical Institute of Karakalpakstan (Uzbekistan)

2nd study year – National Research Nuclear University MEPhI (Moscow Engineering Physics Institute) (Russia)

Key research and professional activities and objects

- sources of ionizing radiation and the laws of radioactive decays that determine the processes of radiation passage through matter
- biological effect of radiation
- fundamentals of the structure of living matter, mechanisms of impact of non-ionizing radiation on biological tissues, physical characteristics of the most important biological media and responsible biopolymers
- structure of proteins, carbohydrates and lipids, types of amino acids, structure and function of hemoglobins, DNA structure, enzymatic catalysis
- principle of operation and technical characteristics of PET, technology for the production of radio-isotopes, the theory of clinical application of PET in cardiology, neurology and oncology, production technology of RFP, theoretical foundations of the operation of CT and MRI.

Competitive advantages

- practical research activities with the use of tomographic equipment
- profound understanding of radiological processes