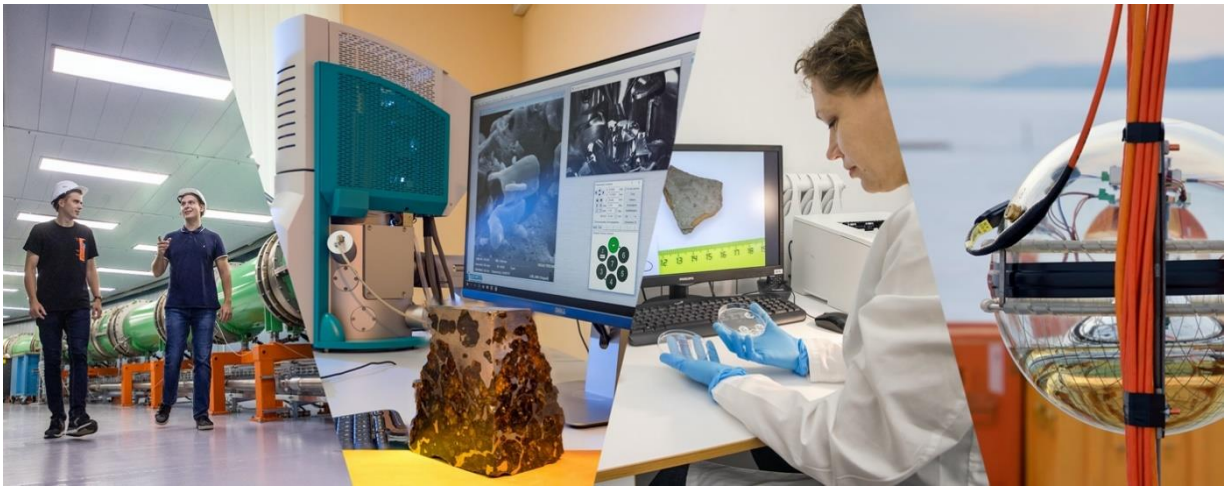
Joint Institute for Nuclear Research
International Intergovernmental Organization

SCIENCE BRINGS NATIONS TOGETHER



Postdoctoral Programme in Low Energy Nuclear Electron Spectroscopy

12-month contract, renewable for another max. 24 months

Your mission

The main goal of this position is to carry out research in the field of nuclear electron spectroscopy pertaining to solving fundamental and applied problems of nuclear and atomic physics. Fundamental problems are related to the study of electronic spectra from radioactive decay, which provide information on the properties of neutrinos, quantum characteristics of excited nuclear states, and post-decay relaxation of atomic shells. The applied aspect of research is related to the problem of using Auger electrons as a tool for targeted therapy of tumours (targeted Auger therapy). Therefore, one of the tasks is development of computer codes for assessing the absorbed dose at the cellular level. The reliability of these codes is established by testing them with experimental data on the Auger spectra. The work will be carried out in cooperation with the Institute of Nuclear Physics of the Czech Academy of Sciences, the Australian National University (Canberra) and the Institute of Nuclear Physics of the Academy of Sciences of the Republic of Uzbekistan.

Your tasks

You will be working with our team on the ESA-50 electrostatic beta spectrometer. Your research programme will focus on:

- Preparation of research radioactive sources for measurements on spectrometric equipment.
- Participation in measurements on the ESA-50 beta spectrometer and semiconductor gamma spectrometers.
- Obtaining spectrometric data from mathematical processing of hardware.
- Participation in the analysis and interpretation of experimental data.

Constraints and risks

The candidate is expected to go on international business trips for periods of 1 to 4 weeks. Work in shifts and work on the weekends may be necessary, remote work is allowed. The work will be carried out at the accelerator facilities and radiochemical laboratory. Necessary authorizations will be issued following an annual medical examination arranged by the employer.

Depending on your citizenship, you may need to obtain a visa and this process can last several months. JINR offers all the necessary support for obtaining the entry permit for the Russian Federation.

Your profile

- Highly motivated candidate with a PhD (obtained less than 5 years ago) in experimental nuclear physics.
- Age under 40, have not had more than 3 temporary positions.
- Strong background in experimental nuclear spectroscopy is a prerequisite.
- Practical experience with radioactive sources, knowledge of methods for measuring radiation spectra from radioactive decay.
- As an international intergovernmental research organization, we are particularly keen to ensure that we also attract applicants from outside of Russia. You must have good knowledge of English and be willing to learn Russian (a language course will be provided by JINR).

What we offer

High quality of life

Called the "Island of Stability", the city of Dubna is ideally located on the bank of Europe's largest waterway — the Volga River (only 2.5 hours from Moscow by train or bus and 1.5 hours by car from Sheremetyevo International Airport). It is important for us that our employees quickly and easily adapt to the new living conditions and have a healthy work-life balance. Therefore, we offer accommodation in comfortable guest-house rooms (for singles), or fully furnished flats owned by JINR, and annual paid leave.

Prospects

We guarantee you a **12-months postdoctoral contract, renewable for another max. 24 months (36 month in total)**, in a multicultural scientific environment.

Remuneration

2300 USD per month, paid in Russian rubles at the planned exchange rate (forecasted year-average), which is adopted with the JINR budget for the current year. In 2023, the exchange rate is 69.2 Russian rubles per 1 USD.
Income tax of 13% is applied. The employer shall pay no pension insurance.

Benefits

We offer generous social benefits (settling-in allowance, free health insurance for you and your family members), relocation assistance (under certain conditions), free school or kindergarten attendance for children. We also offer free language courses and subsidies for the use of JINR sports infrastructure (Olympic swimming pool, stadium, gym, etc.), as well as access to a variety of cultural activities.

Apply now

JINR DOSCIENCE@DUBNA

Joint Institute for Nuclear Research (JINR) — operates a large park of accelerators and a reactor based intense neutron source in Dubna (Russia). From the very foundation of the Institute, the implementation of the JINR motto “Science brings nations together” has grown into a special scientific atmosphere of mutual respect and support. Let's work together to better understand the fundamental properties of matter that might enable a quantum leap in the living standards of our society.

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