



Postdoctoral Programme in Nuclear Physics with Neutrons

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

Your mission

The main objective of this position is the development and use of the tagged neutron method (TNM) for studying nuclear reactions and determination of the elemental structure of substances. The TNM helps registering the characteristic secondary radiation produced in reactions of fast 14.1 MeV neutrons with nuclei in coincidence with α -particles formed in the $t(d,n)\alpha$ reaction. The main component of the setup is a compact neutron generator ING-27. The work is performed within the framework of the TANGRA (TAGged Neutrons and Gamma RAYs) project: <http://flnph.jinr.ru/en/structure/dcmrd/dnicm/10-facilities/1109-tangra-project>.

Your tasks

Your research programme will focus on:

- Maintenance and upgrade of the TANGRA setup.
- Participation in the ongoing research programmes and developing your own programme in the field of nuclear physics with fast neutrons.
- Data analysis and computer simulations.
- Publication of the research results in peer-reviewed scientific journals.
- Presentation of the results at international scientific conferences and meetings.

Constraints and risks

The candidate is expected to go on in-country/international business trips for periods of 1 to 4 weeks. Work in shifts and work on the weekends may be necessary. The work will be carried out with sources of neutron/gamma radiation, while the 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 nuclear or particle physics, or in a similar field.
- Age under 40, have not had more than 3 temporary positions.
- Strong background in experimental physics is a prerequisite.
- Experience in data analysis, (ROOT, C++), computer simulations (GEANT4, MCNP) and digital electronics would be advantageous.
- 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

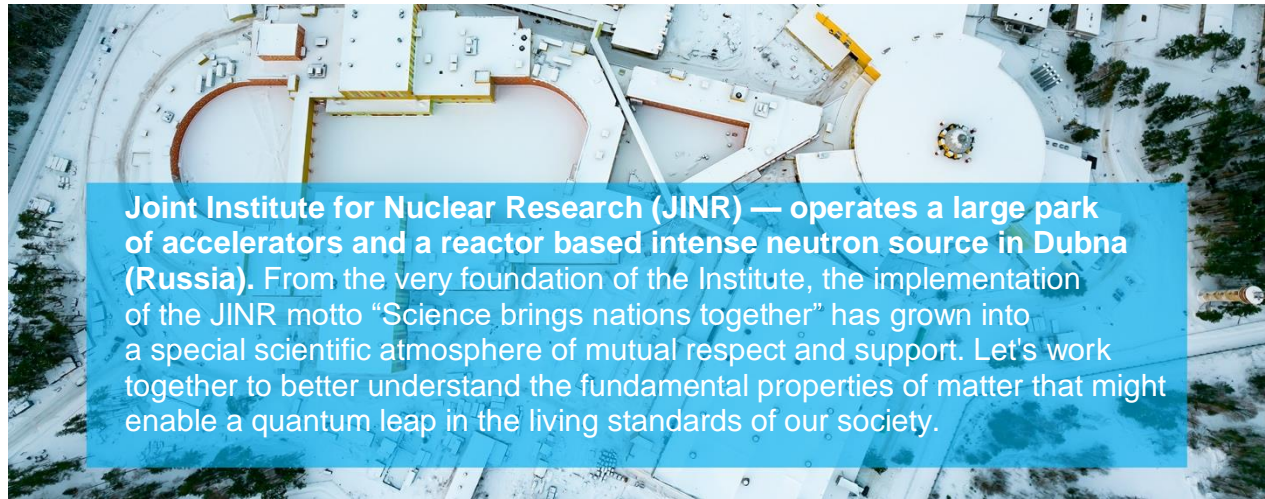
2300 USD per month, paid in Russian rubles at the planned exchange rate (forecasted year-average), which is adopted with the JINR budget for the current year. In 2023, the exchange rate is 69.2 Russian rubles per 1 USD.

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](#)



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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