Postdoctoral Programme in Research of Heavy Nuclei Collisions at the BM@N Experiment

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

Your mission

The main purpose of this position is to study the interactions of relativistic heavy nuclei in the BM@N experiment at the Nuclotron. The focus of this research will be the analysis of experimental data collected in interactions of a Xenon ion beam with a CsI target. The research work includes simulation of products of Xenon-CsI interactions in the BM@N experimental set-up. The aim of the research is to get the physics results on formation of hyperons and light hyper-nuclei in Xenon-CsI interactions.

Your tasks

You will work with the BM@N Hyperon working group. Your research programme will focus on:

- Reconstruction of hyperon signals and search for signals of light hyper-nuclei in Xenon-CsI interactions.
- Simulation of Xenon-CsI interactions in the BM@N experimental set-up to evaluate the efficiency of the reconstruction of hyperons and hyper-nuclei.
- Measurement of the yield of hyperons and hyper-nuclei in Xenon-CsI interactions .
- Simulation of the interactions of heavy nuclei in the BM@N facility for the future program of experimental physics.

Constraints and risks

The candidate is expected to participate in shifts during the experimental run of the BM@N experiment. During the experimental run shift work may be required at night and on weekends. The shift work will be carried out at the accelerator facility, whereby the necessary authorizations will be issued following the 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 high energy heavy ion physics or in a similar field.
- Age under 40, have not had more than 3 temporary positions.
- Strong background in high energy physics is a prerequisite.
- Practical experience in experimental methods of high energy heavy ion physics 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.
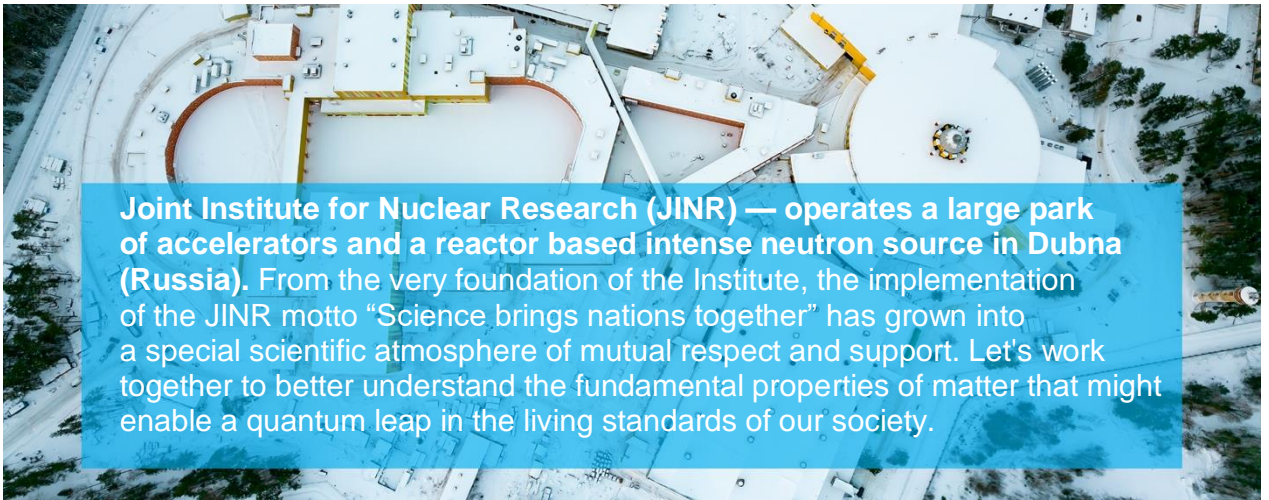
Remuneration

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 considerable social benefits: settling-in allowance, air fare (except for family members), free local health insurance for you and your family members, relocation assistance (under certain conditions), free public school or kindergarten attendance for children. We also offer free Russian 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

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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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