



Postdoctoral Programme in High Energy Physics Experiment at the NICA Collider Complex

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

Your mission

The main objective of this position is to set up, commission, and operate a new large detector assembly for Short-Range Correlations (SRC) study using a polarized deuteron beam from NICA and a liquid hydrogen target. This is part of the worldwide SRC campaign.

Short-Range Correlations are local nuclear density fluctuations created by close-proximity nucleon pairs [Subedi, R. et al. *Probing Cold Dense Nuclear Matter. Science* 320, 1476-1478 (2008)]. Nucleons in SRC pairs have large and opposite momenta (above Fermi level) and low pair c.m. momentum. The JINR physics program on SRC studies includes two experiments in 2018 [M. Patsyuk, J. Kahlbow, G. Laskaris, V. Lenivenko, and E. P. Segarra et al. (BM@N Collaboration) *Nature Physics* 17, 693 (2021). [arXiv: 2102.02626](https://arxiv.org/abs/2102.02626)] and in 2022 [data analysis is ongoing]. The new measurement is aimed at studying SRC properties by hard quasi-elastic nucleon knockout reaction $d(p,2p)n$ using a tensor polarized 6 GeV/c/nucleon deuteron beam from the NICA injector facility at JINR. The work will be carried out within the international SRC collaboration including JINR (Russia), Tel-Aviv University (Israel), Massachusetts Institute of Technology (USA), Tsinghua University (China), and Beijing Normal University (China).

Your tasks

You will work with the JINR SRC group and at the HyperNIS experimental area being responsible for the preparing, commissioning, and performing a new experiment with tensor polarized deuteron beam. Your project will focus on:

- Involvement of in R&D and implementation of the missing infrastructure including electricity network, radiation protection, gas/water supplies of the experimental area etc.
- Developing and implementation of the detector support and cable routing.
- Supervising graduate students and technical staff.

- Carrying global responsibility for all the engineering aspects related to performing the scientific experiment.
- Carrying global responsibility for safety.

Constraints and risks

The candidate is expected to undertake international business trips for periods varying from 1 to 4 weeks. Shift work and work on weekends may be necessary, limited remote work is allowed. The work will be carried out at the accelerator facilities, 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 physics or in a similar field.
- Age under 40, have not had more than 3 temporary positions.
- 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 2025, the exchange rate is 96.5 Russian rubles per 1 USD*.

Income tax of 13% is applied. The employer shall pay no pension insurance.

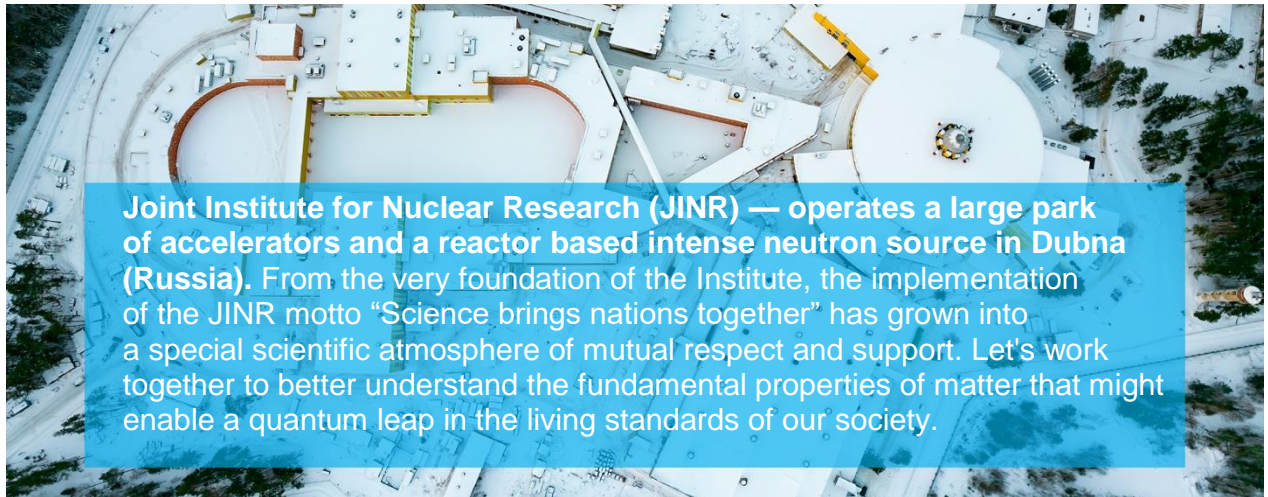
**The average per capita income in the Moscow region is 70 thousand rubles. The minimum cost of living in the Moscow region is 21 thousand rubles per month for the working population and 18 thousand rubles per month for children*

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



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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