Joint Institute for Nuclear Research
International Intergovernmental Organization

SCIENCE BRINGS NATIONS TOGETHER

Postdoctoral Programme in Reconstruction Algorithms, Monte-Carlo Simulation

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

Your mission

The main objective of this position is to prepare an experiment to study the spin structure of the proton and deuteron in proton-proton and deuteron-deuteron collisions in the SPD detector of the NICA collider at JINR within the international SPD collaboration. The main goal of the SPD experiment is to provide access to the gluon TMD PDFs in the proton and deuteron, as well as the gluon transversity distribution and tensor PDFs in the deuteron, via the measurement of specific single and double spin asymmetries using different complementary probes.

Your tasks

The work includes the following tasks:

- Monte Carlo simulation of the main signal processes like production of charmonia, open charm, prompt photons, etc.
- Development and optimization of the event reconstruction algorithms.
- Optimization of the SPD experimental setup.

Constraints and risks

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 particle or high-energy physics.
- Age under 40, have not had more than 3 temporary positions.
- Strong background in experimental particle physics and nucleon structure.

JINR DOSCIENCE@DUBNA

- Experience of working in international collaborations.
- Practical experience in data analysis and Monte Carlo simulation in modern high-energy physics experiments.
- 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.

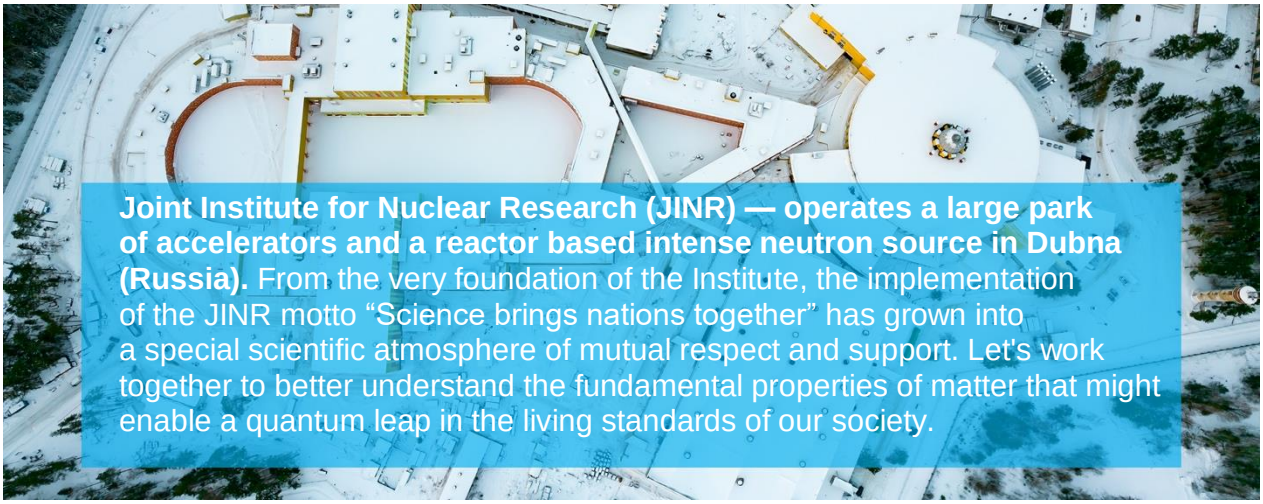
Remuneration

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



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.

jinr.int | **telegram** | **twitter**

JINR DOSCIENCE@DUBNA