



## **Postdoctoral Programme in Advanced Theoretical Methods in Quark-Gluon Matter dynamics**

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

### **Your mission**

The main objective of this position is to understand the formation and dynamics of quark-gluon matter in heavy-ion collisions, with special emphasis on the energy range of NICA complex at JINR. The application of advanced theoretical methods including the nonequilibrium statistical mechanics, effective field theory, quantum anomalies, relativistic hydrodynamics and gravity theory is planned.

The general theoretical analysis will be combined with consideration of various observables including polarization, flows and anomalous transport which will be carried out in direct collaboration with the Veksler and Baldin Laboratory of High Energy Physics, Joint Institute for Nuclear Research.

### **Your tasks**

You will work with our Theory of Fields and Particles Fundamental Interactions group at the Bogoliubov Laboratory of Theoretical Physics. Your research programme will focus on:

- Investigation of instabilities and phase transitions in accelerated quark-gluon and hadronic matter.
- Studies of viscosity and entropy of quark-gluon media.
- Assistance to the scientists in charge of NICA physics program in implementation of various theoretical results.

### **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, remote work is allowed.

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 theoretical particle or nuclear physics, or in a similar field.
- Age under 40, have not had more than 3 temporary positions.
- Strong background in theoretical physics, in particular, quantum field theory and gravity theory is a prerequisite.
- 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

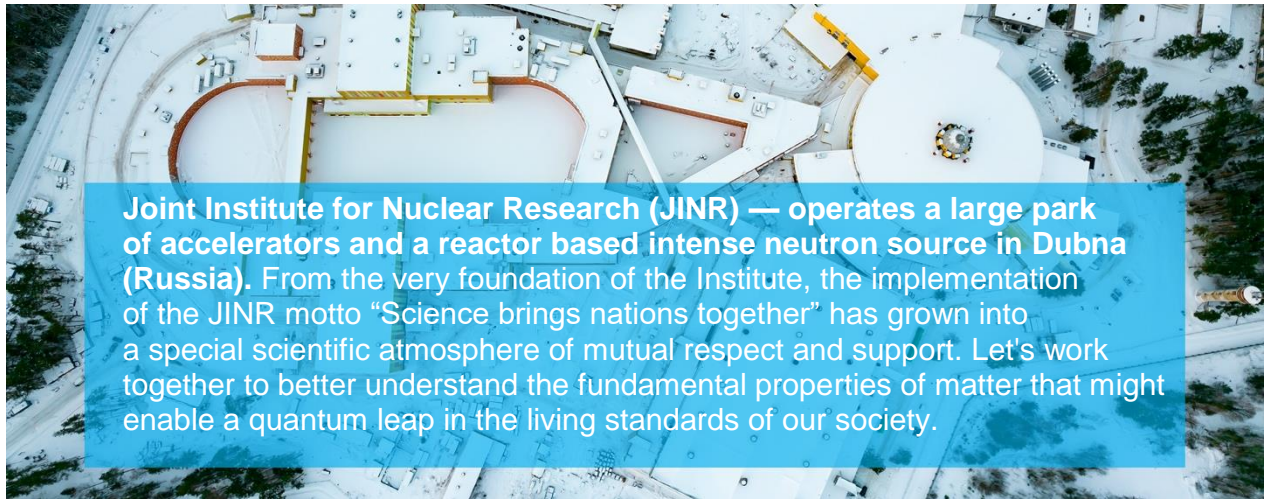
2300 USD per month, paid in Russian rubles at the planned exchange rate (forecasted year-average), which is adopted with the JINR budget for the current year. In 2024, the exchange rate is 90.1 Russian rubles per 1 USD.

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](http://jinr.int) | [telegram](#) | [twitter](#)