



Postdoctoral Programme in Gamma-ray Astronomy and Experiment Simulation

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

Your mission

The main goal of this position is to participate in the processing of experimental data of the TAIGA experiment.

The goal is to isolate extensive air showers (EAS) generated by gamma rays from the hadronic background, taking into account information obtained from telescopes that record images of EAS in Cherenkov light, wide-angle Cherenkov detectors and muon detectors.

The work will be carried out in direct cooperation with Moscow State University and Irkutsk State University.

Your tasks

You will work with our team in the laboratory and on the TAIGA hybrid facility complex.

Your research program will focus on:

- Simulation of Cherenkov radiation depending on the parameters of the primary particle.
- Simulation of the interaction of elements of the TAIGA hybrid complex with EAS for various parameters of the primary particle.
- Evaluation of the operating efficiency of a hybrid complex for searching for gamma rays depending on the geometry of the detectors.
- Making the recommendations for the design of gamma observatories.

Constraints and risks

The candidate is expected to undertake business travel for a period of 1 to 4 weeks. Shift work and weekend work are possible when working on the TAIGA experimental site.

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, gamma-ray astronomy and optics, or in a similar field.
- Age under 40, have not had more than 3 temporary positions.
- Strong background in physical experiment and optical simulation is a prerequisite.
- Practical experience in programming with modern programming languages would be an advantage.
- 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

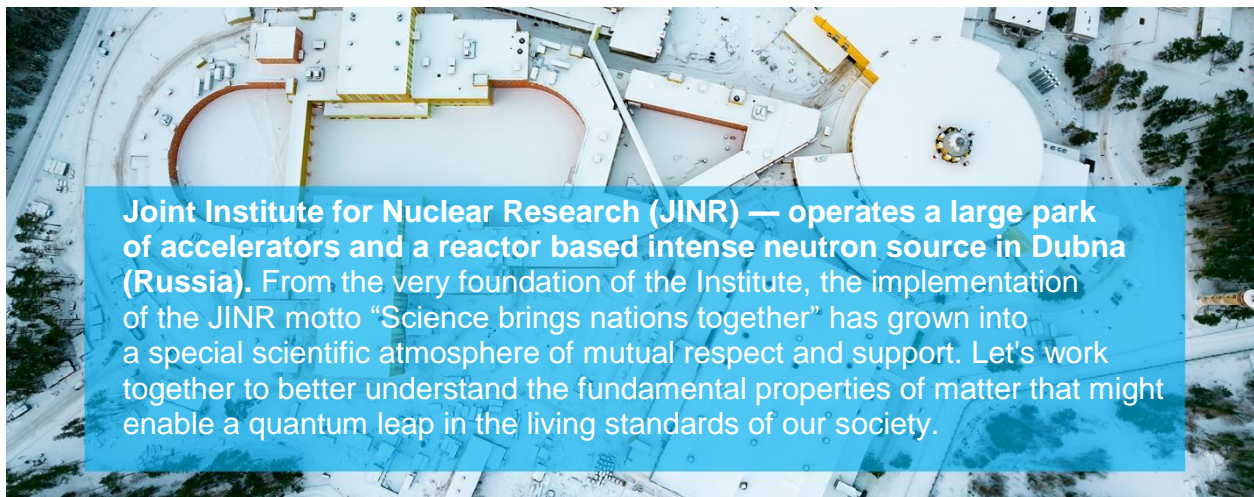
2300 USD per month, paid in Russian rubles at the planned exchange rate (forecasted year-average), which is adopted with the JINR budget for the current year. In 2024, the exchange rate is 90.1 Russian rubles per 1 USD.

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.

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