



Postdoctoral Programme in Experimental Astrophysics

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

Your mission

The Baikal-GVD Collaboration is constructing a neutrino telescope in Lake Baikal. Arrays of light-sensitive elements record the Cherenkov light produced by fast travelling charged particles in the lake water, these particles could originate from interactions of neutrinos. The energy and direction of the original neutrinos can be reconstructed from the amount of Cherenkov photons and their time-of-arrival in the detectors. The telescope is measuring cosmic neutrinos and searching for their sources as well as possible neutrino flux from dark matter annihilation.

Your tasks

The Baikal-GVD group at JINR has an opening for PostDoc position. The successful candidate will work on the selection and reconstruction of neutrino events in the detector, with focus on the measurement of astrophysical neutrino flux with the data of the Baikal-GVD telescope. The candidate will work with experimental physicists and engineers. The candidate is also expected to help in data processing, the construction of further detector elements at Baikal-GVD site, as well as detector calibration.

Constraints and risks

The candidate is expected to undertake business trips for periods varying from 3 to 6 weeks to Baikal-GVD 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, high-energy physics, astrophysics or in a similar field.

- Age under 40, have not had more than 3 temporary positions.
- Strong background in experimental high-energy physics or astrophysics is a prerequisite.
- Practical experience in data processing, event reconstruction and selection methods, detector calibrations and astrophysics would be advantageous.
- The ideal candidate has a strong interest in instrumentation, has good software skills (C++, Python, ROOT, advanced Linux) and preferably has (some) research experience in experimental particle physics or detector R&D.
- 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.

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