

## General information

Reference: FLNP JINR-PostDoc-2019-06

Workplace : Frank Laboratory of Neutron Physics JINR (FLNP JINR)

Date of publication : November 1st, 2019

Type of Contract : research fellow

Contract Period : 12 – 36 months taking into consideration the results achieved during the 12 months

Expected date of employment : 15 May 2020

Proportion of work : Full time

Remuneration : approximately 30000 USD gross per year paid in rubles. Final amount will be commensurate with qualifications and experience. 13% income tax is applied in accordance with the RF regulations. Social package: see additional information below

Desired level of education: PhD

Experience required 2 to 5 years of postdoctoral experience.

## Missions

The IBR-2 pulsed fast reactor can be rightly referred to as a record-breaking neutron source both as to the intensity of neutron flux in pulse and as to the engineering solutions allowing us to achieve it. IBR-2 is a fast pulsed reactor with mechanical modulation of reactivity.

FLNP JINR has a specialized department for development of neutron spectrometers for condensed matter investigations at IBR-2 reactor and manufacturing components of the spectrometric chain. The Department of Spectrometers Complex has significant experience in computing support of the development of neutron instrumentation at the IBR-2 reactor and is engaged in development of the future neutron source at FLNP. The research fellow has to become an active part of the work group on development of neutron instrumentation for present and future neutron sources at FLNP JINR.

## Activities

Monte Carlo simulation of different kinds of neutron instruments and its components for providing the modernization/optimization of the instruments, currently operating at the IBR-2 reactor as well as for instruments that will design for the future neutron source at FLNP JINR. The calculations based on simulation packages VITESS and McStas. Possible supervision of students and internships. Participation in conferences of the appropriate profile with presenting results and its publication in peer-reviewed journals.

## Skills

The candidate should have a PhD in physics and proven experience in neutron scattering technics. Knowledge of Monte Carlo method as well as its using in neutron scattering data handling is welcome. Software knowledge (office tools, computer skills: user level). English proficiency.

## Work Context

WORKPLACE: The job is in close collaboration with teams of physicists developing neutron instrumentation at the pulsed source IBR-2 and with groups of developers of the new instrumentation for the future neutron source at FLNP JINR. The job will develop in Department of Spectrometers Complex at the Frank Laboratory of Neutron Physics. The Department's total staff is 52.

## Constraints and risks

The postdoctoral fellow will be expected to undertake international travel.

## Additional Information

Applications should include a detailed CV, a brief statement of research interests, list of publications and at least two letters of reference forwarded to Dr. Otilia Ana Culicov [culicov@nf.jinr.ru](mailto:culicov@nf.jinr.ru) before February 1st 2020.

Social package offered by JINR:

- The employer offers free health insurance covering medical services in the frame of the Russian compulsory medical insurance system.
- The employer will pay no pension insurance.
- The employer can offer accommodation in its own apartments (one-, two- or three-room flat depending on the number of family members) in the limits of availability and the laboratory can partly offset the rent expenses.
- Half price access to the JINR Olympic-size swimming pool and preferential access to the sport infrastructure of JINR.

Short-listed candidates will be invited to an interview, remotely, or in person.