



Postdoctoral Programme in Nuclear Chemistry of Superheavy Elements

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

Your mission

The main objective of this position directly linked to the creation of a modern experimental base at the accelerator complex Superheavy Element Factory: a specialized GASSOL superconducting separator for superheavy element chemistry research, a cryogenic gas ion trap, and a new chemical setup for determining physicochemical quantities such as ionization potential, atomic/molecular mass, and electron affinity, which directly reflect the electronic structure of new elements and their compounds. With the commissioning of the GASSOL separator and ion trap, studies of volatile compounds of Cn, Nh, Fl, and Mc will continue at a new statistical and experimental level (2026-2028).

Your tasks

You will work with our Gas phase chemistry group/Chemistry of transactinides sector at the Superheavy Element Factory and FLNR radiochemistry lab. Your research programme will focus on:

- development of new chemistry setup (detector) for separation and detection of short-lived isotopes of Cn and Fl in the gas phase behind the new GASSOL separator;
- development of radiochemical separation procedures of radioisotopes of Hg, Tl, Pb, Bi, At, Rn, Zr, Hf, Nb, Ta, and others produced in alpha particle beams, particularly at the U-400M cyclotron;
- conducting experiments with light homologues of superheavy elements to study the specific features of the transition to "single-atom chemistry". Model experiments with mentioned radioisotopes will include methodological developments for the application of the chromatographic methods and emerging approaches at the single-atom level, and the selection of promising chemical reactions for the synthesis of oxides, hydroxides, hydrides, and other compounds;

- participation in international beam time sessions and experiments, in particular in collaboration with the Institute of modern physics, China academy of sciences, China.

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. The work will be carried out at the accelerator facilities and radiochemical labs whereby the necessary authorizations will be issued following the annual medical examination arranged by the employer.

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, nuclear chemistry, physical chemistry or in a similar field.
- Age under 40, have not had more than 3 temporary positions.
- Strong background in experimental radiochemistry or physical chemistry is a prerequisite.
- Practical experience in gas phase chemistry or separation research would be advantageous.
- As an international intergovernmental research organization, we are particularly keen to ensure that we also attract applicants from outside Russia. You must have a good knowledge of English and be willing to learn Russian (a language course will be paid for by JINR).

** Winners of last year's JINR Postdoctoral Programme and JINR Fellowship Programme who were previously employed at JINR are not eligible to participate in the contest again, as current JINR employees.*

Candidates from JINR Member States are considered for employment at the Institute by nomination from JINR Member States Plenipotentiary Representative.

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, adopted in the JINR budget for the current year, which is fixed on the date of conclusion of the contract and valid throughout its entire term). In 2026, the exchange rate is 92.2 Russian rubles per 1 USD.*

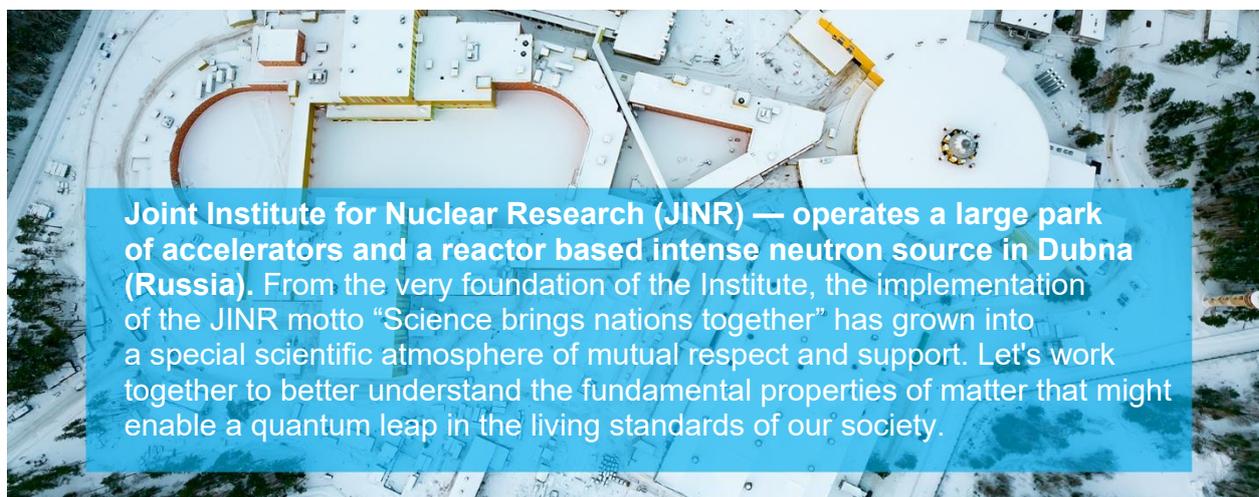
Income tax of 13% is applied. The employer shall pay no pension insurance.

*The average per capita income in the Moscow region is 110 thousand rubles.

Benefits

We offer considerable social benefits: annual paid leave of 42 calendar days with an additional one-time payment of 50 % of your monthly salary after one year of work, air fare (except for family members) at the beginning and the end of the employment period in case the terms of the contract are fulfilled, accommodation (50 %, without cost of utilities and furniture rental), free local health insurance for you and your family members, relocation assistance (reimbursement of the cost of excess baggage and transfer from/to airport at the beginning and end of the contract for all family members). We also offer free Russian courses and subsidies for the use of JINR sports infrastructure (Olympic swimming pool, stadium, gym, climbing wall, etc.), as well as access to a variety of cultural activities.

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