

Open positions in National Quantum Laboratory (Russia)

There are several new projects starting within the framework of the Russian Roadmap on quantum computing. In particular, a joint team of researchers from Moscow State University, Russian Quantum Center, Ioffe Physico-Technical Institute and other institutions starts two new labs aiming towards building the quantum computing prototypes based on the cold atom and linear-optical physical architectures.

The photonic QC project aims at developing a fully integrated prototypes of linear-optical quantum processors including integrated sources of single photons and on-chip superconducting detectors. The team will develop the technological approaches for manufacturing low-loss integrated passive and active photonic components and hybrid technologies for superconducting detectors and quantum dot single photon sources integration. Secondly the large part of the project concentrates on the investigation of the entangled states generation using the semiconductor quantum dots.

The atomic QC project is developing a platform for NISQ computing based on single rubidium atoms trapped in optical tweezer arrays. Our target will be a fully operational prototype of a processor with ~ 100 atomic qubits as well as custom control electronics and software. Although the main focus of the lab is on applications and developing a working prototype for a cloud QC system based on neutral atoms, the large part of efforts will be devoted to experimental and theoretical research with topics ranging from advanced two-qubit gates for Rydberg atoms to specialized algorithms for the atomic architecture.

We have multiple fully funded PhD and postdoc positions available in both research areas.

National Quantum Laboratory will be based in Skolkovo Innovation center in Moscow, in the new building of Skolkovo Institute for Science and Technology (Skoltech) and will host teams of researchers from leading Russian institutions.

Interested candidates should send their CVs to Dr. Stanislav Straupe (straups@quantum.msu.ru).