

Quantum Experimentalists (Two Positions)

[Quantum Dot Optics]

About QBT

At Quantum Bridge Technologies (QBT) we are working on conventional and quantum technologies for the construction of the future quantum Internet; the new generation of communication infrastructures. To achieve this, we are tackling engineering and theoretical problems related to the generation and manipulation of quantum entanglement. In parallel to the development of Quantum Repeaters, QBT is developing core proprietary technologies to make current networks quantum resilient. The CTO of the company is Prof. Hoi-Kwong Lo of the University of Toronto and the University of Hong Kong, co-inventor of the all-photonic quantum repeater, and a leading scientist working on quantum communication and quantum technologies since the 1990s. The company has recently secured its seed investment round, and we are now building a team of research scientists and engineers who will shape the future of the company and will take leading roles at QBT. The company is based in Toronto and in Ottawa. The positions of Quantum Experimentalist will be based in Ottawa.

Role Description

As a Quantum Experimentalist at QBT, you will be joining a quantum optics research group that will work on the deterministic generation of photonic quantum cluster states using quantum dot emitters. The work will be done in close collaboration with our theory team, with experience in quantum information and condensed matter theory and your team will play a key role in driving future architectural decisions. The work is truly interdisciplinary and touches the core R&D business of Quantum Bridge.

The responsibilities for the role include:

- Join a team of experimental physicists and champion the development of the quantum technology at the core of the all-photonic quantum repeater.
- Design and implementation of the experimental facility, including equipment specification and procurement.
- Experimental design, including quantum dot structure and coherent control requirements.
- Coordination of the interaction between the theory and experimental groups.
- Publishing scientific papers in peer-reviewed journals and attending scientific conferences

Qualifications and Experience

- PhD in Optical Physics, Electrical Engineering, or related field.
 - Experience with spectroscopy and spin control of semiconductor quantum dots.
 - Experience with emitter-cavity coupling and coherent optical control of qubits.
 - Experience with quantum dots, solid state quantum emitters, AMO physics or quantum electrodynamics.
 - Experience with handling cryogenics and vacuum systems.
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Contact us

If you think this position is for you, please send your CV to human.resources@quantumbridgetech.com and any additional information outlining why you think this is the right role for you. We're looking forward to reading your application!

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