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Experimental Physicist (Integrated Nonlinear Optics)

Hardware · Full Time · Toronto, ON

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At Xanadu, we are learners, innovators, researchers, collaborators and problem solvers. We are creating something that has never been built before. What we are doing is extremely hard, the classic moon shot. Few people in their life will be able to be a part of something like this, where if we are successful, the technologies we develop will solve some of the world's most challenging problems, and literally change the world. And that is something to be excited about!

As part of the Hardware Team, you will work with our established team of physicists and engineers to develop nonlinear optical devices on integrated nanophotonic platforms. In the role of experimental physicist, you will be responsible for designing, building, and operating complex optical experiments to develop and optimize scalable quantum light sources for deployment in the world's first photonic quantum computers. The selected candidate will have a strong track record of accomplishments in developing nonlinear optical devices.

Required qualifications and experience:

- PhD in physics, engineering, or related discipline

- Academic and/or industry experience in nonlinear optics
- Academic and/or industry experience in integrated photonics or AMO physics
- Self-motivated and comfortable working in a fast-paced environment

Preferred qualifications and experience:

- 3+ years experience working on nonlinear optics in integrated devices, optomechanical devices, or AMO physics with an emphasis on light-matter interaction
- Experience with optical parametric oscillators and amplifiers (OPOs/OPAs), frequency combs, or soliton generation
- Experience with RF electro-optic tools and techniques (EOMs, IQ modulators, etc)
- Experience with phase locking solutions (PLLs, PDH, etc)
- Strong understanding of coherent detection (homodyne/heterodyne), phase-sensitive experiments, and shot noise-limited measurement
- Strong familiarity with the principles of quantum optics, including squeezing, photon pair generation, and single-photon detection

Please submit a copy of your CV and any additional information outlining why you think this is the right role for you! We're looking forward to reading your application.

Deadline to apply: March 3, 2021

Mission

To build quantum computers that are useful and available to people everywhere.

Values

Our values are important. They are fundamental and lay the foundation for culture at Xanadu. Learn more about our values [here](#).

At Xanadu, we are committed to building an inclusive, safe, and equitable culture and fostering an environment where our employees feel included, valued, and heard. We are committed to meeting the needs of all individuals and support a barrier-free workplace. Should you require accommodations at any point during the recruitment process please contact Human Resources at hr@xanadu.ai.

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