

Nanofabrication Technician – QuantaSense

Location: Edmonton (or willing to travel from Calgary)

Employment Type: Part-time

About Quantasense

At Quantasense, we're pioneering the transition of quantum sensing from the lab to real-world applications. Our work sits at the intersection of photonics, microwave engineering, and quantum physics, covering theoretical modelling and design to fabrication and precision measurement. We build at the edge of physics to the quantum mechanical limit, enabling unbeatable clarity in data, faster decision-making, and breakthroughs once thought impossible. If you're passionate about applying fundamental physics to solve practical problems and shaping the next generation of sensing technologies.

Role Overview

This position involves hands-on microfabrication of superconducting and photonic circuits for quantum-limited amplifiers. Responsibilities include executing lithography, thin-film deposition, and etching processes in a cleanroom environment, developing and optimizing fabrication workflows, and performing quality control using standard metrology tools. The role requires close collaboration with design and measurement teams to ensure device performance meets specifications.

Key Responsibilities

- Perform lithography, thin-film deposition, etching, and related steps for superconducting or photonic circuits.
- Operate within cleanroom environments, ensuring compliance with contamination control protocols.
- Refine process flows for high yield and reproducibility, document fabrication steps.
- Conduct wafer-level and device-level inspections using SEM, optical microscopy, and other metrology tools.
- Provide feedback on fabrication constraints and integrate improvements based on test results.
- Comfortable operating photolithography and electron-beam lithography systems, as well as developing and etching equipment.

Qualifications

- Bachelor's or Master's degree in Physics, Electrical Engineering, Materials Science, or a related field. (not necessary if still in program)
- Hands-on experience with microfabrication processes, including photolithography, electron-beam lithography, thin-film deposition, and etching.
- Familiarity with cleanroom protocols and contamination control.

- Proficiency in using metrology tools such as SEM, profilometry, and optical inspection systems.
- Ability to develop and document fabrication workflows for reproducibility and yield improvement.
- Strong attention to detail and ability to work independently in a lab environment.
- Excellent communication skills for collaboration with design and measurement teams.

Why Join Quantasense?

- Work at the frontier of quantum sensing technology, taking cutting-edge physics into real-world applications.
- Be part of a team where your contributions directly shape products and processes.
- Hands-on experience across design, fabrication, and measurement in a collaborative environment.
- Opportunity to tackle challenging problems in photonics, microwave engineering, and quantum-limited sensors.
- Join a company committed to innovation and pushing the boundaries of what's possible in sensing technology.

Think the role is right for you? **Email a resume and a cover letter to hiring@quantasense.ca**