

SBQuantum are using cutting edge science to enhance the way we use magnetic fields to 'Reveal the Invisible' for our clients. We are reinventing the way companies sense the world by innovating magnetics to provide solutions for problems to which this sensing modality was previously redundant. As a forerunner of Sherbrooke's nascent quantum hub, SBQ are prototyping a 'Magnetic Intelligence' platform, built around a novel diamond-based magnetometer. This platform will reveal hidden objects and enable improved navigation even in difficult environmental conditions. Magnetic fields are everywhere around us, let's make them central to how we sense the world.

Your mandate : Design, build and use the accuracy characterization chamber for the quantum magnetometer

You like mechanical design intertwined with thermal, physical and even... quantum constraints? You are interested by the rigor required to measure fraction of variation of the magnetic field? In close collaboration with our engineering team, you will be in charge of validating the sensitivity and accuracy of the sensor's output. Specifically, you will:

- Design the test bench required to measure the magnetometer's accuracy;
- Be in charge of the performance characterization of the quantum magnetometer;
- Apply compensation algorithms to limit the effects of thermal drifts;
- Measure the parasitic magnetic signature of the prototype's components.

Also, you will lead the mechanical and thermal design of the newest magnetometer's revision:

- Design the mechanical architecture of the sensor, increasing its mechanical vibration robustness;
- Analyze the thermal drift effects on the magnetometer's accuracy;
- Oversee the mechanical tests (vibration, temperature, vacuum).

What you need to join our team!

SBQ are looking for candidates with a high degree of autonomy and rigor to develop a high-performance autonomous magnetic inspection solution that meets customer needs. We are not afraid to fail so long as we learn from it - it's part of the adventure. We are looking for:

- A strong ability to work in a cross-functional team. You will work in a multidisciplinary team of nine passionate people in Sherbrooke, QC so we are looking for examples of times you have excelled in a team environment be that at school or in an extra-curricular activity;
- Physics or mechanical engineering background, tests or metrology experience is an asset;
- Knowledge of SolidWorks and 3D printing;
- Agility to shape decisions to navigate ambiguity and adjust priorities;
- Responsiveness to criticism, ability to set clear and measurable goals;
- Our schedule is flexible and includes working remotely when tasks allow;
- Bilingualism in French/English is an asset - the majority of our documentation is in English;
- Full-time position in Sherbrooke - 1.5 hours from Montreal, 1 hour from Vermont, close to four ski resorts and plenty of mountain biking trails!

Do you want to take an active part in the deployment of quantum technology in the field taking our magnetometer performance to new heights? Contact us, our team wants to meet you!

Send your CV and cover letter to: info@sbquantum.com

As featured in: ● Wired ● The Economist ● A case study ● Graduation from the Creative Destruction Lab
● Institut quantique annual reports ● The Quantum Daily ● MagQuest Challenge

