

INTERNSHIP: Probe Fabrication Research

Preferred duration 5 months

Literature research to guide future fabrication strategy

The performance of our microscope depends critically on the quality of the SQUID-on-tip (SOT) probes at its heart. Today, SOT probes are produced through a labour-intensive process requiring significant manual intervention at multiple steps. As we transition from research prototype to commercial instrument, this is one of the major bottlenecks we need to solve.

As our Probe Fabrication Research intern, you will survey the scientific and technical literature on SOT and nanoscale SQUID fabrication methods, with a sharp focus on scalability: which techniques reduce the number of fabrication steps, minimise manual handling, and are compatible with higher-throughput production?

Candidate profile

We will support you throughout your internship at QuantaMap. To hit the ground running, you ideally bring:

- appetite to take responsibility and make an impact in a small, growing team;
- demonstrated dedication and perseverance, with a drive to motivate others toward shared goals;
- (currently pursuing) a degree in Physics or related field.

Bonus points for experience with:

- experience in working with nanofabrication techniques.

Beyond the technical skills, you're an independent problem solver with grit and a genuine passion for building things. You thrive in close-knit teams, communicate openly, and hold your work to a high standard — even when the goalposts move.

Impact of your role

Our company is developing one-of-its-kind technology that can solve one of the most important problems in the quantum industry. You will be a key member of the team developing this technology, and your talent and hard work will have an impact on the quantum industry. Your findings will directly inform the decisions we make about our future fabrication pipeline.

What we have to offer

You'll join a young, diverse, and highly motivated team working on technology that doesn't exist anywhere else. This is a hands-on internship — you'll own real work, iterate quickly, and see the results of your contributions on an actual tool.

- **Mentorship:** you'll work closely with experienced engineers and researchers who are invested in your growth

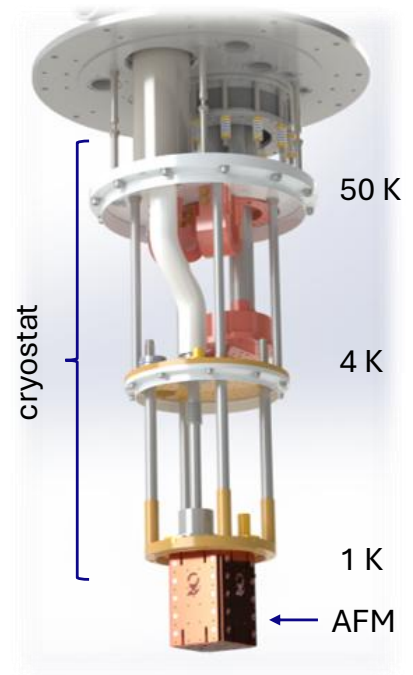
- **Impact:** your work directly shapes a product that is already in the hands of our first customers
- **Environment:** open, inclusive, and built on trust — we explicitly welcome applicants from all backgrounds and identities

We value mentorship, trust, kindness, and ambition — and we mean it in practice, not just on paper.

About QuantaMap

We are a Leiden-based deep-tech startup developing cutting-edge metrology and diagnostic tools for the quantum industry. Quantum computing has the potential to tackle problems that are currently impossible to solve, with impact across fields such as material research, drug discovery, and logistics. But quantum chips are extraordinarily complex and difficult to produce. When they do not perform as intended — and they often don't — there is currently no way to identify which component failed or how to improve the production process. This is one of the major roadblocks to scaling quantum chip production.

We have developed a novel microscope based on IP-protected SQUID-on-tip sensing technology. By integrating a quantum sensor into the probe of an atomic force microscope, the system can image temperature, electric currents, magnetic fields, and surface structure simultaneously — all at nanoscale resolution and under cryogenic conditions matching the actual operating environment of the chip.



How to apply

Please send your CV and a short message explaining why you want to join QuantaMap to join-us@quantamap.nl. We will get back to you with a suggested interview date. Don't hesitate to apply even if you don't tick every box — we value potential and passion as much as experience.

