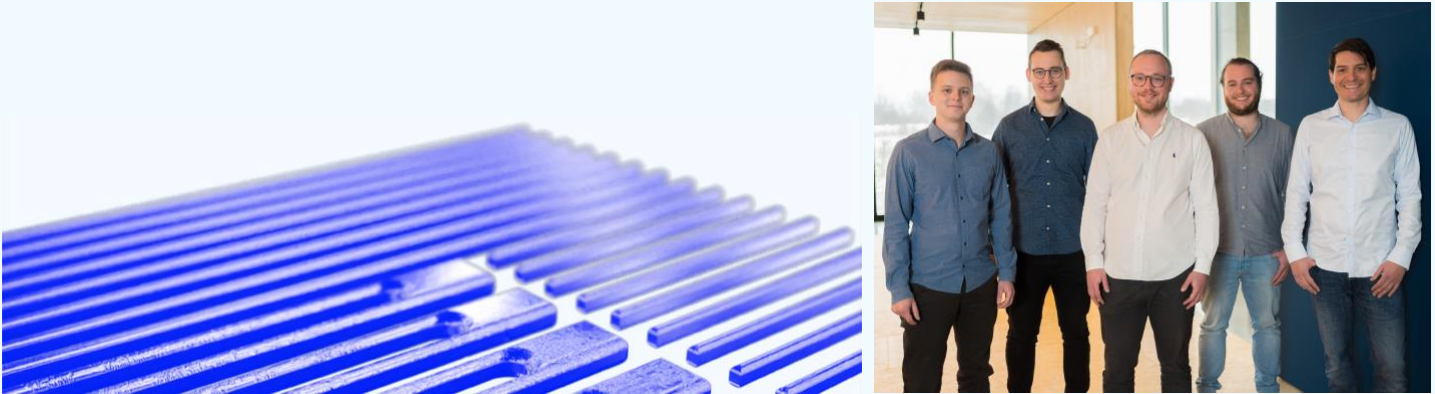


Open position: Nanofabrication Engineer (m/f/d)



Position: Full-time, Location: Garching / in-person

ENABLING THE QUANTUM REVOLUTION

At Munich Quantum Instruments (MQI), we are developing scalable, state-of-the-art quantum sensors based on superconductors that measure single particles of light (photons) with a high Quantum Efficiency > 90% and a timing precision down to the ps-scale. Our technology paves the way for revolutionary applications based on the fundamentals of quantum physics. They can be used for quantum key distribution (QKD), deep-space optical communication (DSOC), optical quantum computing, and many other applications. We aim to be at the forefront by further improving our technology according to the needs of tomorrow's quantum applications already today!

YOUR MISSION

The detectors produced by MQI are based on superconductors, that are patterned in a meandering shape with dimensions below 100nm. To this end, state-of-the-art nanofabrication tools for electron beam and optical lithography, thin film deposition and other techniques are required to manufacture the devices with high quality and yield. By improving the required processes, you will have a big impact on the detector performance. Your main tasks include the process optimization of

- Electron beam and optical lithography
- Reactive ion etching
- Thin film deposition

and to evaluate and analyze the obtained results by

- Performing measurements at room and cryogenic temperatures
- Scanning electron and atomic force microscopy
- and to help with the detector production.

Thus, with us, you will get experience in operating a setup at cryogenic temperatures, optimize the fabrication processes, work independently on your goals and getting hands-on experience in a quantum startup.

YOUR PROFILE

You ideally have ...

- a PhD or M.Sc. with exceptional experience in nanofabrication
- a background in material or process developments
- cleanroom experience: EBL, opt. lithography, RIE, Sputtering ...
- experience with characterization tools: SEM, AFM, XPS, XRD, ...
- experience with Python and Matlab

You are ...

- an independent and agile mind
- an excellent worker eager to learn new things
- highly motivated and committed
- fluent in English, German is a plus

Previous experience is beneficial, but secondary to your personal motivation and commitment to the project.

THE TEAM

At MQI, we are an international, open-minded, agile, and highly motivated team of 5 Co-founders and more than 5 part-time employees. You will benefit from the working atmosphere in a startup, experience the agile mindset and gain a lot of experience in various fields. We also offer you the opportunity to take on responsibility and get involved in important challenges. MQI is a spin-off from the Chairs of Prof. Jon Finley and Prof. Kai Müller at the Walter Schottky Institute and are based in Garching. MQI received an EXIST-FT grant, is part of the ESA-BIC, and was granted an ESA-Tender together with a Polish collaboration partner building space-proofed electronics. We value a well-crafted motivation letter stating how you learned about MQI, why you are a great addition to the team and why you want to work at a Quantum startup. Please include references of your previous work (e.g. thesis, papers, ...) and other information relevant for the job. Payment is based on TVöD and your experience with additional bonus payments, i.e. for successful project completions.