

Quantum Science Ltd

Senior R&D Device Engineer

Location: Daresbury, Warrington

Salary: Highly competitive (negotiable depending on experience)

Hours: Full time

Contract Type: Permanent

Role Overview

Quantum Science Ltd (QS) is seeking a Senior Device Engineer to join our R&D team based in Daresbury, UK. As a team member, you will have the opportunity to work on exciting optoelectronic projects and advance the company's research and development.

You will be a key contributor to support new product development within QS as well as driving research efforts into next-generation technologies. You will be given the flexibility to succeed and provided avenues to reach your individual career goals while fulfilling the company's mission.

The work environment is fast-paced and requires comprehension and resolution of complex problems. A high level of self-discipline, initiative, and motivation is required as you will need to handle and prioritise multiple tasks simultaneously, with minimal supervision. Diligence towards meeting project requirements on schedule is essential.

Company and Business Overview

Quantum Science is a leading material innovation company with strong portfolio of intellectual properties. We contribute to society through material innovations to transform image sensors, to change the way we detect diseases, and to introduce more efficient and cost-effective membrane technology for clean water.

We have fostered strong relationships with leading research organisations and industrial partners to keep us at the forefront of innovation while achieving a stable foundation thanks to investors who share our long-term vision.

We work closely with research and business partners to develop innovative technologies and then license them to create a win-win partnership with our customers.

Main tasks and responsibility

- Lead the development of advanced semiconductor/photodiode devices, fabrication processes and wafer-level integration technologies to realise QS technology strategy, vision, and imperatives with a measurable impact on the business
- Guide materials characterisation efforts to support device performance understanding
- Collaborate with fellow engineers, program managers and internal customers within the organisation and external partners (leading industrial partners, universities, research institutes, contractors, etc.) to develop advanced image sensor technologies that meet aggressive performance goals
- Serve as a device and process technical expert to lead/support new technology idea generation and IP to win external R&D funding for the long-term development

roadmap, while creating technologies to measurably impact nearer-term business needs

- Strong leadership skills to manage a team of research scientists to achieve defined objectives.
- Create a high-performance team with a strong talent pipeline for the QS
- Excellent communication skills and technical competencies to interact with both internal and external customers, including tier-1 image sensor developers and manufacturers
- Author and review funding proposals, white papers and manuscripts seeking external funding and market QS's technologies
- Participate in the steering, creation and execution of the photodiode device and image sensor integration technology roadmaps to meet future QS business unit needs
- Strong organisation and influencing skills to effectively work with inter-disciplinary and cross-functional teams within QS to achieve project goals
- Stays abreast of industry trends and where appropriate participate in technical conferences and committees to benchmark against and assure that QS maintains a technological leadership over our competitors

Skills and Experience

- PhD in physics, electrical engineering, material science, or related field with proven experience in semiconductor device design, processing, integrated packaging and characterisation
- Deep understanding of semiconductor materials, processes, device design and integration schemes with the ability to propose and demonstrate novel solutions to enhance the performance of photodetector devices. Hands-on experience enabling custom test configurations is a plus
- Minimum of 3-5 years of postdoctoral or equivalent industrial experience in fabricating, characterising, and simulating optoelectronic devices and semiconductor processing or advanced integration required. Clean room set up experience are essential
- At least 3 years' management experience in optoelectronics or semiconductor-related technical projects
- Demonstrated ability to solve problems and to prioritise competing demands
- Experience capturing and executing high-level research programs including proposal writing, resource estimation and milestone planning
- Strong communication, presentation, and teamwork skills
- Deep understanding of semiconductor device physics
- Understanding of materials properties and characterisation techniques relevant to device performance
- Understanding of soft semiconductor materials (colloidal nanocrystals, organic, etc.) a plus
- Understanding of continuous and pulsed light sources and optics relevant to optoelectronic device characterisation
- Strong physics-based thinker able to perform device design and simulation, experimental design, electrical characterisation, and process development in a cleanroom
- Demonstrated skills for conducting and championing research projects in a team environment
- Familiarity in the design of ROIC and CMOS is a plus
- Excellent analytical, problem-solving, and programming skills (MATLAB, Python, C/C++)
- Excellent oral and written communication skills
- International travels may be required

KPI's:

- Achieving project milestones
- Reporting results to Head of R&D in a timely manner
- All invention disclosures/ patents filed in a timely manner
- All samples are sent to other teams and customers in a timely manner
- Identify needed equipment and carry out procurement if necessary

Benefits Package

- Competitive salary
- Performance-related bonus system
- Pension contribution
- Life insurance

Qualified candidates should send the CV to HR@qscis.com