

PixQuanta Design Engineer, April 2022

Reports to: The Design Engineer will report to PixQuanta CEO or CTO.

PixQuanta is seeking to hire a design engineer to help further the development of its leading edge photosensor technology. The candidate will be instrumental in designing thin-film photosensors to be fabricated onto silicon CMOS wafers with pre-defined Read-Out Integrated Circuits, or ROICs. The candidate will define the fabrication process, design the photosensor at mask level, and establish a physical model of the combined sensor and ROIC chip for comparison with test data.

Location: Cork city, Ireland.

Responsibilities and Duties

- The role is responsible for design of PixQuanta's thin-film on CMOS ROIC devices.
- In this role the engineer will design the process of PixQuanta CMOS sensors and analyse the impact of device performance through comparison with test at wafer and part level.
- Mask layout and drawing of the thin film devices.
- Documentation keeping is a key aspect of this role - all design aspects of the process at the wafer level will be captured in documentation such as flowcharts, technical notes, white papers etc. Familiarity with quality management systems is essential.
- The design, management, and execution of wafer lots with a view to understanding the performance of PixQuanta's sensor technology.
- Optimization of individual processing steps to achieve target optical and electrical characteristics of PixQuanta's sensor technology.
- Provide reporting on schedule and progress on daily and/or weekly basis.

Required experience

- Day to day work will be designing photodiodes for applications as diverse as 3D imaging, LiDAR, telecommunications, and X-Ray imaging
- Must have experience with CMOS fabrication techniques and tools, for example:
- Must have experience with CMOS analogue design
- Proven ability to deliver projects and documentation thereof.

Qualifications

- Engineering or physics degree at Master's or PhD level in a relevant subject area.
- Must be familiar with standard silicon CMOS processing techniques.
- Must be familiar with standard drawing techniques for mask-based lithography.
- Have excellent understanding of photodiodes and be able to construct physics models.
- Be able to understand ROIC analogue design and provide the necessary circuit models to understand performance of photodiode on ROIC devices.
- Excellent communication skills, with track record in contributing to a team.
- Must be dynamic, motivated, excellent problem solver who can work independently and in small teams, and available to travel when required.