Photonics Engineer

Antelope company
Antelope DX develops a point-of-need diagnostic platform that allows consumers and healthcare professionals to have on-the-spot access to key health parameters. The Antelope technology aims to offer clinical lab performance with the ease-of-use of a pregnancy test at a consumer price tag. The platform is based on an innovative lab-on-chip technology that can perform a sensitive test on any bodily fluid, without requiring complex user operations or sample preparation.

Role
The Antelope Photonics Engineer is responsible for the design & development of the silicon photonic chip, located inside the Antelope consumable. He/she will also contribute largely to the optics and photonics aspects of associated hardware such as the Antelope reader. He/she will need to perform these product developments in a way that is compatible to IVD industry standards, including the generation of associated documentation.

Responsibilities and duties

- Photonics design & optimization of the sensing circuits.
- Set up an optical/photonic system model to better predict and understand deviations from the norm by e.g. manufacturing tolerances.
- Setting up characterisation, verification and QC equipment and methodologies for the photonic wafers & chips.
- Support the design of the optical components of the read-out system.
- Support the developmentt of the algorithmic framework that processes the optical signals to a diagnostic answer.
- Support the development of R&D tools & methodologies from a system perspective to increase R&D efficiency, throughput and data generation.
- Support the improvement of the R&D experimental setups, used to generate assay results.
- Setting up testing and verification planning.
- Expand on the sensing capabilities of the current photonic chip towards higher performance by exploring novel photonic devices and systems.
- Define system, component and subcomponent inputs or requirements to be later verified on system and component level.
- Maintain system and sub-system documentation, including e.g. CAD-files and reports, supporting creation of the Design History File.
- Perform the design and development in concordance with Design Control methodologies, applicable to medical device development in the context of a regulatory filing to FDA and CE, in concert with the quality and regulatory team.
- Provide guidance on verification and validation activities to ensure system functionality and performance is achieved.
- Ensure system compliance with international standards and harmonized regulations for IVD applications

Qualifications, skills, knowledge required

- Master in Science or PhD in photonics, electronics, physics or equivalent
- 4+ years experience in Silicon Photonics research or industry

- Design of silicon photonics circuits & software (e.g. Ipkiss, likewise or custom). Knowhow of Ipkiss is a significant advantage.
- Design and building optical (fiber) characterization setups. Experience with automation is a plus
- Photonics & Physics simulations software knowledge (e.g. Lumerical, Fimmwave, Comsol or similar)
- Knowledge on data analysis & writing of (pseudo-)algorithms
- Advanced skillset in general technical scripting language (e.g. Matlab, Python, R)
- Design of (macro)-optical systems
- Understanding of photonic integration and packaging technologies
- Knowledge of quality and compliance standards for development of medical devices / IVD systems is a plus
- Knowhow of Design and Development methodologies and IVD/Medical Device industry standards is a plus
- Appreciation and affinity for product development in a structured, methodological and traceable way.
- Experience with CMOS fabrication & process technologies is a plus.
- Experience with bio-analysis or in-vitro diagnostics devices is a plus
- Experience with lab-on-a-chip devices is a plus
- Knowledge on development of (multiplexed) assays for protein detection is a plus
- Dynamic and flexible personality: willingness to take up new responsibilities and tasks as they rise
- Open minded: Able to think outside of the box in order to meet the company targets.

Apply

Please send your CV together with a motivation letter in English to info@antelopedx.com.
Your application and related information will remain strictly confidential.