Optical Simulation Engineer – STMicroelectronics - Device, Process & Optical Simulation Team, Technology for Optical Sensors Organisation

Location: Crolles/Grenoble, France

The Role

In this role the successful candidate will be responsible for the optical simulation of photonics pixels and the development of associated simulation methodologies.

The role is within the Device, Process and Optical Simulation (DPOSim) team which is part of the Technology for Optical Sensors (TOS) organisation. The TOS organisation is responsible for delivering the technologies and devices which underpin the activities of STMicroelectronics Imaging Division. The DPOSim team is responsible for all device physics simulation (e.g. TCAD), process emulation and pixel level optical simulation (e.g. FDTD), supporting the development of all imaging technologies. This fast-changing environment is well suited to individuals with a drive to innovate and to push the boundaries in new technologies. In this role, the candidate will focus on the support of pixel level optical simulation, ensuring that designs are optimised and pixel performance well understood. This role requires good general physics, semiconductor device physics and optics knowledge in addition to a good working knowledge of our software tools. The aim of this role is to study pixel optical behaviour in detail and understand the key factors which impact performance. Pixel design specification and performance will be evaluated against product and system requirements, and it is the goal of the team to support the development of pixels and their associated technology for inclusion in mass market products. In addition to this, our simulation capabilities and methodology are constantly evolving. The candidate will therefore be expected to drive such continuous improvement in our way of working to maximise efficiency and enabling new analysis techniques. Close interaction with the pixel design and characterisation teams will be essential to allow the candidate to develop an understanding of how pixel design and implementation can impact critical figures of merit.

You will be responsible for the simulation, evaluation and optimisation of pixels across the full portfolio of ST optical sensors. You will work in collaboration with local and other STMicroelectronics sites, to develop and adopt standard methods and reporting formats.

The candidate will have a solid background in optics and device physics including tangible industrial or academic experience. The candidate must be team focussed and highly motivated. Strong communication skills are mandatory.

Key Skills

- Post-graduate level qualified (Masters, Ph.D)
- FDTD (Lumerical or equivalent) optical simulation tools knowledge
- Knowledge of photonics devices and/or image sensors
- Comfortable analysing data and bench measurement results

Additional Desirable Skills and Experience

- TCAD or equivalent process simulation tools
- Knowledge of CMOS fabric process
- Working knowledge of semiconductor devices, silicon products and device measurement
- Clear communication skills and proven ability to work in a multi-disciplined environment
- Fluent in French and English

If interested, please contact Bruce Rae at: Bruce.Rae@st.com