

Senior Semiconductor Technology Expert (full-time)



ESPROS Photonics is a best-in-class photonics technology company serving our worldwide customer base in industrial and building automation, mobile robotics and automotive. The company develops and produces TOF and LiDAR imagers, custom ASICs as well as 3D camera sensors based on the unique CCD/CMOS process.

To support our growth, we are seeking a **Senior Semiconductor Technology Expert** responsible for developing and maintaining a stable, reliable and accurate Optical CMOS Process for internal (IC Design and IC Production teams), and external (IC foundries, specific Swiss research institutes and other industry partners) as well as our opto-ASIC customers.

The successful candidate as the new Senior Semiconductor Technology Expert will collaborate with the relevant employees through daily hands-on tasks and is responsible for the seamless interaction of the wafer processing technology with the design, in order to develop and manufacture products according to specifications with sufficient process margin and yield. In particular, you will provide accurate physical and mathematical models for the available devices in the tool kit and work in strong collaboration with the IC Design Team. A semiconductor physics simulation environment is used and maintained in order to understand, describe and improve the electrical and optical behaviour of the epc product portfolio. Collaboration with engineering team in production, as well as improving our backside and coating processing, are also essential duties.

In this role, you will be directly reporting to CTO, help expansion of the Semiconductor Technology team in the future.



Your Responsibilities:

- **IC Design and IC Production teams:** Close collaboration with these groups is a key task
- **External foundries and partners:** Regular communication and coordination with same
- **Continuous yield monitoring and improvement in semiconductor production**
- **Setting up and maintenance of the device and process simulation environment based on TCAD**
- **Specification of test devices and chips for new pixels or photo-diodes**
- **Specification of internal or external FA and DoE:** driving this work, analyzing results
- **Verifying device simulation results** by means of by automated lab-tests and characterization, followed by documentation of same
- **Ensuring that the simulation results accurately reflect the behavior of our ToF/CCD pixels** and its related devices to provide accurate physical and mathematical models for the IC design tool kit
- **The ability to process build or transfer to a new foundry** including coordinating all relevant ramp-up activities
- **Device development, process integration, EDA tooling,** Other job duties in these fields can be considered depending on skills and experience



Your Profile:

- **Technical Expertise:** It is essential you possess the following qualifications an MSc in Electrical Engineering, followed by PhD in Semiconductors Physics or Material Sciences
- **Experience:** An extensive background and several years of practical experience in the following: CMOS / Semiconductor device development, solid state physics, semiconductor materials, photo-diodes, photo receivers, imager pixel development, high performance buried channel implant, floating diffusion, as well as other special device constructions on silicon level. Thin-film based devices and coating techniques is a plus. The ability to program is also a requirement as is familiarity with TCAD
- **Advanced simulation tools:** Good knowledge of numerical methods and experience to use same at optimum performance (Synopsys Sentaurus TCAD or equivalent in Semiconductor

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- **Good Python, C/C++, Git/SVN knowledge:** *Including* hands-on experience of characterization test automation
- **'Can-Do' spirit:** You are a self-driven, goal-oriented communicative individual who shows a real 'Can-Do' spirit in your daily work
- **Languages:** You are able to communicate fluently in English (written & orally) in a clear and concise manner. Fluency in German would be advantageous.
- **International team:** You enjoy working in a multi-disciplinary international team on tricky physics challenges



What We Offer:

- Attractive compensation package
- Flexible working hours and remote work options
- A pivotal role in driving the growth and success in a forward-thinking technology company
- Opportunities for professional growth and development in a fast-paced, innovative environment

Make a difference with us:

If you are ready to take on this exciting challenge and to be part of the ESPROS journey, please send your application, including your CV, salary expectations, and earliest start date by email to hr@espros.com (direct applications will be preferred)