

R&D Photonics Engineer

About ICON Photonics

ICON Photonics is a technological company offering advanced photonics packaging solutions for multiple applications such as Optical Transceivers, Quantum Photonics, LiFi, LIDAR and Sensing. ICON Photonics ambition is to become the global reference suppliers of photonics market leaders with cutting-edge technologies enabling the next generation optical connectivity. Based on 10-years of research, ICON Photonics is a spinoff from a CNRS technological Center. The solutions developed by company tackles the miniaturization, bandwidth and assembly integration challenges of photonics industries based on an integrated packaging platform using wafer-level microfabrication processes.

ICON Photonics was awarded by the highly selective and prestigious i-Lab innovation competition, organized by the French Ministry of higher education, research, and innovation. It was particularly noticeable with one of the ten grand prizes given by a national jury awarding particularly remarkable projects focusing on one of today's major societal challenges. The company was also listed among the 100 start-ups where to invest in 2022.

The Role

The successful candidate will be in charge of the development of optical systems, their modeling, design and experimental characterization, exploiting original wafer-level micro-optics in a polymer-based technology. The candidate will also be responsible to develop and implement the packaging and assembly line, combining the optics with electrical interconnections that must be compliant in different environment conditions (Telcordia, quantum, space, etc.)

The applications will be oriented toward fiber optics, free space communications and sensing. The candidate will bring her/his experience in the design, test and packaging of such optical microsystems developed at the chip/wafer level. The work will be focused on the research and development of ICON Photonics solutions following a continuous innovation cycle.

Major Responsibilities / Tasks

-  Design of photonics integrated packaging solutions:
 1. Optical modelling and design of 3D polymer micro-optics technology with different optical functionalities such as focusing, collimation and beam shaping/forming;
 2. Design of packaging and assembly lines taken into account the electrical interconnection and the mechanical requirements.
-  Optical characterization and testing of the on-chip micro-optics.
-  RF and Microwave characterization of ultra-high-speed optoelectronics and electro-optics devices and sub-assemblies
-  Operate reliability tests plans for thermal, microwave, photonics behavior
-  Innovate, develop and maintain original bench setups from R&D to industrial production
-  Create, develop and implement the assembly and packaging of optoelectronic devices into high-speed modules
-  Create, develop and maintain detailed engineering documentation such as qualification plans, validation reports, component specifications/drawings, reports, test procedures and work instructions.

Major Desired Skills

-  PhD degree in Photonics or related field
-  Strong knowledge of Optical Microwave, Microelectronics, Optoelectronics. Good understanding of electromagnetic propagation, semiconductor lasers, photodetectors, optical fiber communications, free space optics and other optoelectronic device theory.
-  The candidate should also possess strong numerical and analytical modeling skills to support process, device or system designs in optics, microwaves and mechanics (e.g. RSoft, Zemax, COMSOL, Lumerical, CodeV, Matlab, Python, ADS, Cadence, etc.)
-  Familiarity with optical microwaves measurements and laboratory instrumentation
-  Language : French and English, strong written and verbal communications skills
-  Strong motivational and self-learning skills
-  Strong communication, interpersonal, and related skills
-  First experience

We offer

-  Become a R&D photonics engineer, member of a technological startup building the bridge between research and industry into an international dimension
-  Experience a fast-paced entrepreneurial environment
-  Opportunity to join a dynamic and highly motivated international team
-  Scientific research environment of excellence (CNRS laboratories)



Application details:

-  Starting Date: Oct./Nov. 2022 (flexible)
-  Language: both French and English required (B2 minimum)
-  Location : ESIEE Paris scientific campus. Paris region - Marne-la-vallée, East side. Connected to the RER A and upcoming Grand Paris Express
-  Contacts: Send CV and motivation letter to join-us@icon-photonics.com