



HE Space is a successful international space company. For 40 years, we have been supporting our customers with qualified experts in the field of engineering, science and administration.

Micro-Electronics Engineer

Key Tasks and Responsibilities

As part of the Microelectronics Section, you will have the following responsibilities:

- Technical and administrative management of the ESA Systems and synthesizable VHDL IP Core pool of designs. This work will involve: optimization, update and overall maintenance and of the ESA VHDL IP Cores databases, provision of technical support to ESA IP Cores users (performing analysis and finding solutions to problems in VHDL code, documentation or design methodology) holding a strong collaboration with our Contracts department in arranging and solving licenses and patent issues. Advertising the ESA IP service (website, workshops, etc.), handling IP cores requests and their distribution;
- Support ASIC and/or FPGA technology developments for R&D and /or projects, supervising that good design practices and manufacturing and test methodologies are applied. In addition, independent verification (through code inspection, simulation and timing analysis) and validation (through HW tests) will have to be carried out for some ASIC and FPGAS developments;
- Support development contracts regarding the above areas, act as the activity technical responsible, maintain interfaces with the prime contractors, participate in progress meetings and reviews, as requested, and provide appropriate feedback on the achieved progress and discussions;
- Supporting projects, interface with ESA's project teams, the prime and lower level contractors, participate in progress meetings and reviews, as requested by project work, and provide appropriate feedback on the achieved progress and discussions.

Skills & Experience

You will have the following qualifications and relevant experience:

- Master's degree in Electronics Engineering or Physics, specialized in analog/mixed-signal/RF microelectronics, with 5+ years of experience in at least three of the following domains:
 - transceiver (RFIC) integrated circuit blocks; low noise amplifiers, power output stages, up/down conversion stages, filters, limiters, voltage/digital controlled oscillators, charge-pump, fractional and digital phase locked loops
 - transceiver optical/photonic (PIC) integrated electronic circuit blocks related to semiconductor photonic microelectronics; trans-impedance amplifiers, samplers, clock and data recovery, continuous-time linear equalizers, (de)modulators, phase locked loops,
 - mixed-signal circuit design, simulations and layout with Cadence Virtuoso, Spectre, SpectreRF, Mentor/Siemens EDA Calibre or equivalent tools

Passionate about people and passionate about space

- electromagnetic simulation with Keysight ADS and/or Ansys HFSS or equivalent tools for package and PCB signal insertion/return loss, integrity, electro-magnetic interference/cross-talk/isolation optimisation
- transceiver IC electrical functional, performance and environmental testing

Important additional assets would be:

- Experience package design tools such as Cadence APD/SiP or equivalent for QFN, CSP and/or SiP packages is an asset;
- Experience with spectrum and vector network analysers for measurement of IC/package/PCB s-parameters, linearity (P1dB, HD, IMD, IIP2/3, EVM, ACPR), noise figure, resonance measurements/characterisation for high-speed interface performance validation, model extraction for frequency/time domain electrical simulations is an asset;
- Knowledge of deep submicron SiGe BiCMOS and FinFET technologies is an asset;
- Knowledge of standards for wireline physical layer of OIF CEI, Ethernet IEEE 802.3, PCIe is an asset;
- Knowledge of semiconductor photonic microelectronics is an asset;
- Knowledge of standards for wireless physical layer of IEEE 802.15(a) and/or 802.11 is an asset;
- Knowledge of high-speed optoelectronic devices (e.g., lasers, detectors, modulators), coherent transmission is an asset;
- Experience with VHDL-AMS, Verilog-AMS mixed-signal hardware description language is an asset;
- Experience of development, licensing and re-use of Intellectual Property (IP) cores is an asset;
- Knowledge of quality standards ESCC and ECSS applicable to VLSI ICs for space is an asset;
- Knowledge of the space environment and its effects on microelectronics devices and radiation effect mitigation techniques is an asset;
- Good inter-personal communication skills and high motivation to work in a multi-disciplinary and international environment with confidence and autonomy
- Fluency in English is mandatory; knowledge of another European language is an advantage.

This job is located in Noordwijk.

If you think you have what it takes for this job, please send your CV (in English and in Word or PDF) to Viktoria Panicharova, by clicking on the button "Apply for this job" quoting job **NL-HP-4989**.

An exciting and dynamic international working environment awaits you!



HE Space recruiting for ESA