

**Title:** Design of signal processing units for pixelated radiation sensors

**Duration:** 18 months post-doc positions

**The Team:** Sensors and Electronic Architectures Laboratory (LCAE) is part of CEA LIST Institute, a French public entity inside the CEA (French Alternative Energies and Atomic Energy Commission). LCAE is a key French and European player in the field of nuclear instrumentation with  $\approx$  30 permanents and non-permanents staff in the laboratory. LCAE environment is characterized by a pluri-disciplinary environment (chemistry, nuclear measurements, data processing, analog and digital electronics) with all the equipment available for design and realization of PCB and subsequent integration.

**The project:** In order to increase its R&D activities in the frame of nuclear instrumentation, LCAE will offer a **non-permanent staff position (duration of 18 months)**, mainly focused on analog and digital electronics. The main project associated with this position is the design and fabrication of signal processing units for pixelated radiation sensor in a form of a multi-channel apparatus. The LCAE is developing several of such sensors based on plastic scintillators and is interested in a low granularity (one pre-processing electronic per pixel linked to a master unit) and medium granularity (one processing unit for 9,16 or 25 pixels linked to a scalable master unit).

**The candidate:** The post doc should present a proficiency in different domain linked to electronic and signal processing. Skills in analog systems design, including Analog/Digital conversion are welcome as well as experiences with processing of high frequency and low amplitude signals. Knowledge in the fields of photomultipliers tubes (PMT), Silicon based photomultipliers (SiPM) and more broadly ionizing radiation detection will be a benefit.

The candidate is expected to be rapidly autonomous and proactive. Redaction of peer review articles and patents will also be part of the project.

**Contacts:**

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