

## **Open Post-doctoral position in energy harvesting using ferroelectric materials**

### **Research project:**

Driven by the ever-increasing demand for Internet of Things (IoT) devices, research and development efforts have been devoted to energy harvesting technologies, which scavenge the wasted energy available in the ambient environment, such as vibrations, heat, light or radiation into electrical energy for low-power devices and integrated circuits, wireless and self-powered sensors or medical implants. However, all of the energy harvesters utilize only one type of energy, with the other types wasted. Here, in the framework of NanoVibes flagship of Labex NanoSaclay, we aim at establishing a breakthrough in the development of new and efficient energy harvester systems for simultaneously and in a synergetic manner scavenge multiple types of environmental energy by using ferroelectric materials as they show excellent piezoelectric (conversion of mechanical deformations into electrical charges), good pyroelectric (conversion of heat into electrical charges), and significant photovoltaic (conversion of light into electrical charges) properties.

### **Profile:**

We are looking for motivated, independent, and skilled scientists to join our group. The position is open to strong applicants with backgrounds in ferroelectrics, with expertise in driving experimental activities including synthesis and characterizations from nano-to-macro-scale. Knowledge on technological applications and development of new set-up will be appreciated.

The successful candidate will join for 18 months the group "Smart and Functional Material" of laboratory Structures, Properties and Modelling of Solids at CentraleSupélec, who has a longstanding and recognized expertise in ferroelectric materials and related materials. This position will also involve very strong collaboration with the research groups belonging to NanoVibes project and international partners.

**Laboratory:** Structures, Propriétés et Modélisation des Solides (SPMS), CentraleSupélec, Université Paris-Saclay

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