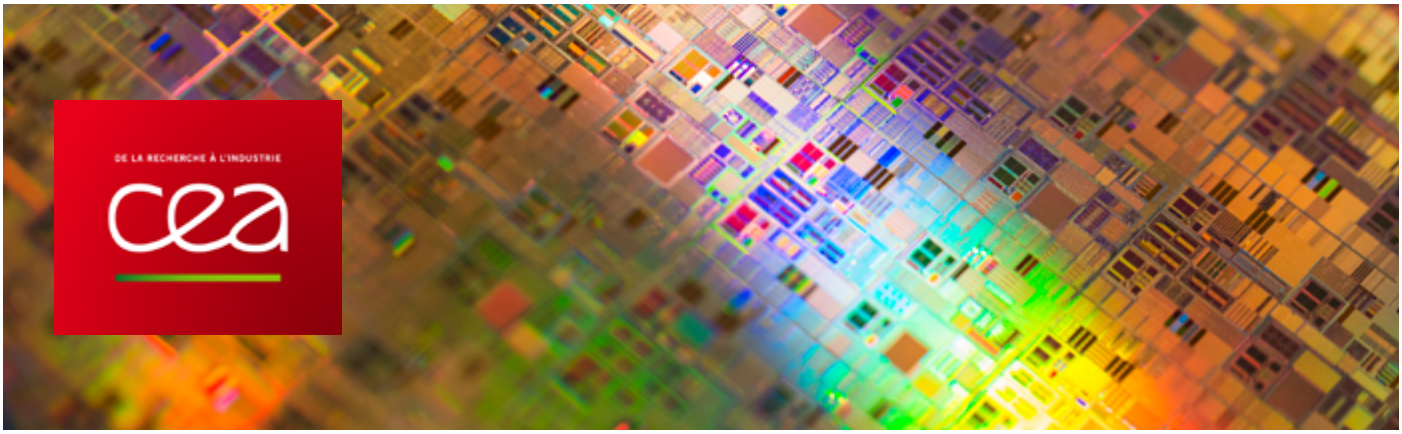

EMERGING MATERIALS AND PROCESSES
FOR NANOTECHNOLOGIES AND MICROELECTRONICS

Advanced materials and processes are essential for device development and enabling innovation. The miniaturisation of microelectronic devices and diversification in terms of applications and even computing paradigms (quantum and neuromorphic) drives the need for new materials and the processes needed to produce them.
For example CEA Tech is developing specific low temperature processes to enable 3D sequential integration without degrading the previously deposited devices. New approaches are being developed for advanced lithography in order to produce finer features and emerging materials are being integrated for memory elements, More-than-Moore applications, sensors and optoelectronics. This is done in the frame of the societal challenge of energy efficiency: the sourcing of materials, the device fabrication and the end-use should use as little energy as possible and have minimum environmental impact.
These activities are carried out in synergy with the development of advanced nanocharacterization techniques suited for small complex devices.

WHY A PHD RELATED TO EMERGING MATERIALS AND PROCESSES FOR NANOTECHNOLOGIES AND MICROELECTRONICS AT CEA TECH?

The successful PhD candidate will join a team of over 1800 people at the CEA-Leti institute in Grenoble working together to produce advanced technology solutions. The institute has around 300 ongoing PhD projects out of which 50 are dealing with emerging materials and processes.
The CEA-LETI is home to four world class technology platforms that cater for a wide range of devices from CMOS, to MEMS to display technology as well as advanced nanocharacterization. These platforms allow devices to be developed, prototyped, and even manufactured in small volumes on wafers sizes up to 300 mm. The nanocharacterization platform and the close proximity of large-scale characterization facilities such as the ESRF Synchrotron and the ILL neutron facility provide unique possibilities for advanced materials analysis.
The CEA-LETI is part of the Grenoble Alps University and has close ties to other international academic labs. It has an impressive track-record of industrial partnerships and start-ups. The candidate will have the opportunity to interact and learn from internationally recognized experts both from the CEA-LETI and global industrial partners.
If you are looking to work at the forefront of advanced semiconductor technology, the unique environment at the CEA-Leti will help you get your career off to a great start.

CEA-Leti Institute in Grenoble Alpes

50 ongoing PhD projects