CENTRE D'ÉLABORATION DE MATÉRIAUX ET D'ÉTUDES STRUCTURALES

Postdoctoral position (M/F) on (Scanning) Transmission Electron Microscopy of ferroelectric nanostructures on silicon

CEMES-CNRS

Short description

We are looking for a resourceful postdoctoral research scientist to join the team at CEMES-CNRS working on transmission electron microscopy of functional oxides (MEM group, in collaboration with the I3EM group) and to support the ANR FEAT project between France and Germany.
Our aim is to develop a detailed understanding of the physics of oxide ferroelectrics when integrated at the nanoscale on a semiconductor platform examining their characteristics at the atomic scale with (scanning) transmission electron microscopy-based methods (HRTEM/(S)TEM-HAADF-ABF/EELS).

Requirements

We are particularly looking for a candidate experienced in transmission electron microscopy (TEM and STEM). In addition to conventional TEM and HRTEM, STEM-HAADF and ABF will be of concern to determine the strain state and the ferroelectric state (via location of heavy cations and light O anions atomic columns with few tens picometers precision) from the collected images. Knowledge of such data treatment is recommended together with extraction of EELS elemental/phase maps. Skill in FIB specimen preparation will be appreciated but is not an essential prerequisite and can be taught at CEMES. Knowledge of the physics of ferroelectrics and/or microelectronics devices is a definite plus.

The essential following items will be considered:
• Experience in the use of TEM, STEM and EELS,
• Experience in the use of codes like MATLAB, Python etc…

The successful candidate should have good team spirit, dedicated work ethic and fluent in written and spoken English.

The contract is for 18 months. Starting date February 2022.

Please send your application including a motivation letter and complete CV with the references that we may contact to Sylvie Schamm-Chardon (sylvie.schammchardon@cemes.fr)

Also, more details at https://bit.ly/3pQNOUd where you have to apply (strictly necessary) (both French and English available)

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