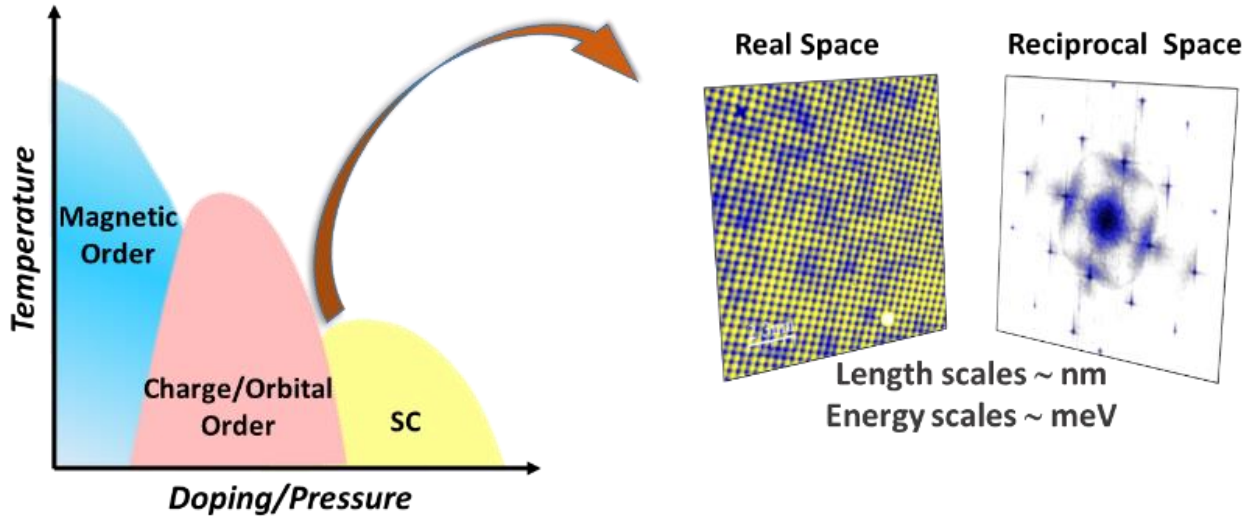
TWO 4 YEAR PhD POSITIONS

IN

HIGH MAGNETIC FIELD SCANNING TUNNELING MICROSCOPY STUDIES OF PNICTIDE SUPERCONDUCTIVITY

Low Temperature Laboratory – Universidad Autónoma de Madrid

PhD positions in experimental Condensed Matter Physics in the field of local studies of unconventional superconductors under extreme conditions. The PhD students will be hired under the **European ERC Starting Grant project PNICTEYES**.



Description:

We are looking for highly motivated PhD students with a strong interest in experimental condensed matter physics. The PhD projects will be focused on novel very high magnetic field studies of electronic correlations behind ordered phases in the normal and superconducting states of pnictide superconductors. The PhD will contribute developing state of the art scanning tunneling microscopes able to operate at temperatures down to a few miliKelvin and magnetic fields above 30 Tesla.

The Low Temperature Laboratory of the Universidad Autónoma de Madrid (**LBTUAM**) operates now several state of the art dilution refrigerator STM with magnetic fields up to 10 T. Within ERC PNICTEYES project, new instruments for very high magnetic field STM are being developed and built. The high field STM will be operated up to 22 T using superconducting magnets at a newly built vibration free laboratory dedicated to the ERC project at UAM. Students will also do experiments above 30 T in international high magnetic field facilities (**www.emfl.eu** and **https://nationalmaglab.org/**). The PhD students will be integrated within the stimulating scientific environment of the Maria de Maeztu Condensed Matter Physics Center (**IFIMAC**). This counts many experimental and theoretical research groups of top international level working on new materials. State of the art helium liquefaction facilities are provided within the Campus of Excellence UAM+CSIC. The PhD students will be also involved in active international collaborations with material and theory groups.

Eligibility:

Candidates who completed his/her Master of Science and with a strong motivation and/or experience in scanning probes, solid-state physics, high magnetic field and cryogenic environments are welcome to send an application including CV, brief motivation letter (naming at least one reference person) and Master examination scores to **isabel.guillamon@uam.es** from 15/08/2016 to 20/09/2016.

Duration:

Full time appointments for four years with start date 1 October 2016.

Contact information:

For further information do not hesitate to contact Dr Isabel Guillamón at **Isabel.guillamon@uam.es**