**19th January 2015**

**AFM beyond imaging: nanoscale characterization**

**of functional materials**

Atomic Force Microscope is one of the most versatile techniques for the nanoscale characterization of a large variety of materials (complex oxides, biopolymers, living cells, organic semiconductors …). Beyond a tool for topographic imaging, AFM has become a powerful tool for the local probe of a wide range of materials functionalities which cover electrical, electromechanical, magnetic, elastic properties.   
This workshop aims at providing an overview of novel advanced methods for the nanoscale characterization of materials functionalities in diverse fields, such as in biology, materials science, soft condensed matter, with stress on topics of potential interest for the ICMAB and nearby research community. Special emphasis will be placed in presenting a didactic content for those non- experts in AFM methods which are however curious in learning how AFM can contribute to their research.

Programm:

9.00 Opening and introduction

9.15 **Neus Domingo** (ICN2) “Electromechanical response at the nanoscale: from violins to electrical drums”

10.00 Andres Gómez (ICMAB) “Current Sensing AFM: Electrical Characterization of Materials”

*Coffee Break 10.45-11.15*

11.15 **Pedro de Pablo** (UAB) “Physical virology with Atomic Force Microscopy”

12.00 **Alvaro San Paulo** (Instituto de Microelectronica de Madrid) “ Quantitative Nanomechanical Mapping Of Breast Cancer Cells By Peak Force Tapping Atomic Force Microscopy”

12:45 **Ben Holmes** (JPK Instruments AG) “High-speed AFM imaging of soft and biological matter in liquids challenges and results"

Lunch 13.30 -15.30 (not included)

15.30 **Augustina Asenjo** (ICMM) “Nanoscale magnetism by Magnetic Force Microsopy”

16.15 **Sascha Sadewasser** (Laboratorio Ibérico de Nanotecnologia) : “Kelvin probe force microscopy: From atomic scale imaging to application on solar cell materials

17:00 **Gabriel Gomila** (UB-IBEC) “Quantitative electrostatic force microscopy for dielectric measurements in material science and biology"

Poster session

Organized by E.Barrena, C.Ocal and the ICMAB seminars comittee