CHARACTERIZATION OF COMPLEX MATERIALS: MAGNETIC AND ELECTRICAL PROPERTIES

25th November 2013

9:15 h Welcome and introduction

9:30 h Ac and Dc Magnetometry techniques

Mr. Bernat Bozzo. Magnetometry and Low Temperatures Laboratory

10:30 h Torque magnetometry and ac-susceptibility techniques

Prof. Vassil Skumryev (ICREA - UAB)

11:30 – 12:00 Coffe break

12:00h Advanced technologies in He recovery and liquefying

Prof. Conrado Rillo. (Instituto de Ciencia de Materiales de Aragón)

13:00 h MicroHall magnetometry, an example of implementation of new techniques by taquing adventage of the PPMS – Quantum Design platform

Dr. Agustín Camón. (Instituto de Ciencia de Materiales de Aragón)

14:00 – 15:30 h Lunch (not included)

15:30 h Characterization of magnetic nanoparticles

Prof. Amilcar Labarta. (Depto. de Física Fundamental, U. de Barcelona)

16:30 h Characterization of superconducting materials by transport measurements and

inductive techniques.

Dr. Anna Palau (ICMAB-CSIC)

17:30h Dielectric, ferroelectric and magnetoelectric characterization at low temperature

Dr. Ignasi Fina (Max Planck Institute of Microstructure Physics, Halle)

SERVICIO DE BAJAS TEMPERATURAS Y MAGNETOMETRIA – ICMAB

B. Martínez and B. Bozzo

Comisión de seminarios

INTRODUCTION:

Material science has become one the most active field of research in the last decades, and this continuous effort has led to the discovery/fabrication of new materials with a high degree of complexity and sophistication. The proper characterization of these new materials requires techniques and equipments with a high degree of complexity and sophistication as well.

The Magnetometry and Low Temperatures Service at ICMAB have a unique offer for the magnetic and electronic transport characterization of materials in a broad range of temperatures and magnetic fields. The Service has different equipments allowing performing not only routine characterization but also customer-designed experiments, which endows the Service with a notable flexibility for satisfying different experimental requirements.

This workshop is intended to present the facilities and capabilities of The Magnetometry and Low Temperatures Service at ICMAB to all the R&D&I community and to welcome potential new users. And overview of the standard techniques for magnetic and electronic transport characterization of materials will be offered together with some special topics of potential interest for the ICMAB and nearby research community.