Name of the Partnering Organization:	**Division of Molecular and Condensed Matter Physics, Uppsala University**	
Location (town, country):	Uppsala - Sweden	
Web site address:	http://www.fysast.uu.se/molcond/	

Brief description of the organization

Uppsala University (www.uu.se), in Uppsala, Sweden, is one of the oldest and largest Universities in the Nordic countries. Education and research is active in theology, law, arts, languages, social sciences, educational sciences, medicine, pharmacy, science and technology. Uppsala University has about 5,500 employees of whom about 3,000 are teachers/researchers. Every year 45,000 undergraduate and graduate students enroll for classes and some 4,500 undergraduate and graduate degrees are conferred. The postgraduate education includes 2,000 doctoral students. About 330 doctorates and about 70 licentiate degrees are conferred each year. 4,000 publications in international journals each year. Concerning the budget costs, nearly 70% goes to research and postgraduate education. About 50% of research is funded by external sources. In Uppsala one finds Sweden's perhaps largest research effort in physics and astronomy in the Department of Physics and Astronomy (www.physics.uu.se). Basic research aimed at revealing the fundamental laws of Nature and finding our place in the universe, is found side by side with applied research on new materials and energy technology. Uppsala University is an active participant in a large number of leading international research collaborations such as CERN, ESO, ESA, AMANDA and MAX-lab, the Swedish synchrotron radiation laboratory. Over the years in the area of Physics Uppsala has been awarded two Nobel prizes through Manne Siegbahn and Kai Siegbahn.

Description of the research group

The Division of Molecular and Condensed Matter Physics is part of the Department of Physics and Astronomy. The Division continues the long-standing tradition of spectroscopy using x-rays in Uppsala and counts several professors. It has a broad research scope based on experimental studies of the electronic structure of matter. Motivated by issues such as energy, environment as well as fundamental topics, systems are investigated ranging from free atomic, molecular and cluster species to liquids, molecular materials and single crystal hard materials with laboratory and synchrotron-radiation-based spectroscopies as our main tools. The main experimental techniques are based on high-resolution core level spectroscopies, in particular electron-and x-ray spectroscopies after x-ray excitation. An important emphasis of the research efforts is the development of state-of-the-art instrumental techniques concomitant with the exploration of the various scientific problems. A large part of the experimental work is performed at synchrotron radiation laboratories nationally (MAX-lab) and internationally (BESSY, ELETTRA, SLS, SOLEIL, ALS, NSLS). The Division hosts a comprehensive in-house laboratory for advanced spectroscopy and x-ray science as well as scanning probe techniques for surface science. Senior members of the Division have built and developed several of the beam lines operating at MAX-lab, over several decades.

Selected list of relevant publications

Description of the new I1011 beamline for magnetic measurements using synchrotron radiation at MAX-lab, I. A. Kowalik et al. Journal of Physics: Conference Series, 211, 012030 (2010) **Self-Organized Hexagonal Patterns of Independent Magnetic Nanodots** Thomas Bobek et al. Advanced Materials 19, 4375(2007) **Influence of Ligand States on the Relationship between Orbital Moment and Magnetocrystalline Anisotropy** C. Andersson et al. Phys. Rev. Lett. 99, 177207 (2007)

Key researcher's CV

Dimitri Arvanitis - Senior Lecturer. Specialist in the use of core level electron-and x-ray spectroscopies for the characterization of low dimensional magnetic materials. Key person for the development of magnetism related spectroscopies at MAX-Lab. Project leader with the Swedish Research Council, for the built up of a high brilliance beam line and related infrastructure for magnetism studies at MAX-lab. Member of the Executive Committee of the International X-ray Society, member of the Program Committee and Guest Editor of the XAFS VIII (Germany) and XAFS XI (Japan). Organization of the XAFS XII International Conference in Sweden. Member of the Advisory Board for beam time distribution of the BESSY (Germany) storage ring. Representation of Uppsala University as Scientist in Charge to the activities of three EC funded Research oriented Networks and one EC STReP. Advisory role, on the construction of the UE 46 beam-line at BESSY. Publications: 104 in international journals after Refereeing and one Communication with the European Patent Office.