Research Master's in Nanoscience

DIPC collaborates in the official postgraduate program in nanoscience organized by the Materials Physics Department of the University of the Basque Country (UPV/EHU) and the Center of Materials Physics (CSIC-UPV/EHU) "Master's in Nanoscience".

The Research Master's in Nanoscience has been offered since 2007 with more than seventy students who have obtained their Master's degree. Almost 50% of our graduates are international students coming from four different continents (Europe, America, Africa and Asia).

Researchers at DIPC participate in this program in various ways and from different perspectives by developing curriculums, giving lectures, acting as counselors to some of the students, and providing seminars on issues of special interest to the students.

4th Laboratory Course on Dielectric Spectroscopy

May 20-24, 2013

TEACHERS
Prof. A. Alegría, Dr. S. Arrese-Igor, Dr. D. Cangialosi, Dr. S. Cerveny, and Dr. G.A. Schwartz

The Polymer and Soft Matter Group (PSMG) at Materials Physics Center (CSIC-UPV/EHU) San Sebastián, Spain, organized a laboratory course on broad-band dielectric spectroscopy. The course was open to graduate students and researchers in Physics, Chemistry, Materials Science or Biology and the aim was to introduce participants into the dielectric relaxation experimental techniques and its applications in soft-condensed matter research.

The laboratory course consisted of lectures and experimental sessions. Each lecture included an introduction to polarization theory, dielectric materials and instrumentation. Selected experiments on soft-matter and polymers were conducted and analyzed by the participants. Furthermore, there were two invited tutorials on specific topics involving intensively dielectric relaxation experiments.

LABORATORY SESSIONS

Fundamentals of electrostatics and dielectric materials (S. Cerveny)

Polarization and dielectric permittivity (A. Alegría)

Dielectric relaxation (D. Cangialosi)

Phenomenological models of dielectric relaxation (G.A. Schwartz)

Experimental methods (S. Arrese-Igor)
Laboratory session 1. Introduction
Laboratory session 2. Preparing a first experiment.

Tutorial on: Broadband Dielectric Spectroscopy as a Powerful Tool for Investigating Molecular Dynamics and Proton Reaction Kinetics Of Condensed Matter

Systems at Ambient and Elevated Pressure" by Prof. M. Paluch Institute of Physics, University of Silesia, Poland

Sample preparation procedures (S. Cerveny)
Introduction to data analysis (D. Cangialosi)
Laboratory session 3. Preparing a second experiment

Analysis of experimental data 1
Analysis of experimental data 2
Laboratory session 4. Preparing a third experiment
Analysis of experimental data 3

Analysis of experimental data 4
Summary on data analysis and interpretation (A. Alegría)

http://dipc.ehu.es

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