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SOFTCOMP – DYNACOP Workshop New Trends in Polymer Rheology: Complex Architectures and Complex Environments

Abril 12-14, 2010

ORGANIZERS

Prof. J. Colmenero (DIPC, Donostia-San Sebastián, Spain)
D. Richter (Forschungszentrums Jülich, Germany)

Polymer materials are evolving from more or less simple linear polymer systems towards multi-component and nano-structured systems, involving in many cases polymers with complex architectures as well. The idea of the workshop is to discuss the impact of this complexity on the rheological concepts and theories. New theoretical approaches and simulations will be revised at the light of recent experimental results from both macroscopic and microscopic (molecular) experimental techniques.

In connection with the European Network of Excellence, SoftComp and with the Marie Curie Action, DYNACOP, this workshop is now being organized by Professor Juan Colmenero and by Professor Dieter Richter – general coordinator of SoftComp. The workshop will take place in the Donostia International Physics Center (DIPC), San Sebastián, Spain. In the spirit of this type of workshops the number of participants will be limited to about 60 and there will be only invited lectures (see below) and oral contributions (of the order of 20).

CONTRIBUTIONS

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Angel Alegria, "Dielectric Spectroscopy" (Materials Physics Center, UPV/EHU-CSIC, San Sebastián, Spain)
Reiner Zorn, "Neutron Scattering" (Forschungszentrums Jülich, Germany)

Summer School on Computational Materials Sciences

June 28 - July 3, 2010

ORGANIZERS

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J. Neugebauer (Max-Planck-Institut für Eisenforschung, Germany)
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P. Cabrera-Sanfelix (DIPC, Donostia-San Sebastián, Spain)

The Summer School on Computational Materials Sciences aims at the identification and promotion of the common elements developed in theoretical and computational studies of materials properties across materials types, metals, ceramics, materials for new energy technologies, electronic materials and minerals. To accomplish this goal, the School brings together leading experts from a wide spectrum of materials simulations including theory, modeling, and computation, engaged in the study of a broad range of materials properties.

Therefore, this School provides a forum for exposing young researchers and students to most recent state-of-the-art theoretical and computational developments in studying, understanding, and predicting the properties of materials. Also, the School encourages interdisciplinary contributions, such as between the fields of condensed matter physics and applied materials sciences, chemistry, metallurgy, etc.

The emphasis of the School on Computational Materials Sciences will be on attracting scientists, students, and young researchers in the fields of basic science, e.g., electronic structure and related properties, assessing alloy phase diagrams, semiconductor physics, mineral science, and phenomenology. The emphasis on cross-fertilization of subject matter and the interdisciplinary character of the presentations make this meeting unique.

CONTRIBUTIONS

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2010

2010

Fourth International Workshop Photonic and Electronic Materials

July 5-7, 2010

ORGANIZERS

Rolindes Balda (UPV/EHU-CSIC, DIPC, Spain)

Joaquín Fernández (UPV/EHU-CSIC, DIPC, Spain)

Paras N. Prasad (Institute for Lasers and Biophotonics, University at Buffalo, The State University of New York, USA)

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Ken-ichi Ueda (Institute for Laser Science, University of Electro-Communications, Japan)

Martin Wegener (Karlsruhe Institute of Technology, Germany)

In the last years a wide variety of research activities linked with the interaction between light and matter have developed important applications in fields such as telecommunications, information technology, medical diagnostics and treatment, environment control etc. Among all the applications for the foreseeable future, those based on the non linear optical properties of matter are specially promising. Moreover, science and technology breakthroughs in the 21st Century are more likely to occur at the interface of disciplines. Recently much interest has been focused on Biophotonics defined as the interface of photonics and biological sciences. It is a new frontier, offering tremendous prospects for optical diagnostics as well as light activated therapy, surgery, biosensing, and restoration of biological functions. The demand for suitable materials (optical storage systems, systems with artificial non linearities, multipolar structures, new waveguides, photonic bandgaps, rare earth activated nano crystals, activated fibers...) and new techniques for detection in these fields are continuously growing.

The purpose of this workshop was to gather researchers from crossed fields and horizons (universities, laboratories and industries), to provide a much needed forum for the critical assessment and evaluation of recent developments in photonic materials (inorganic, organic, polymeric, biological, ...) and molecular devices. It also gave participants an insight on future advances and research possibilities in these fields and an opportunity for starting fruitful collaborations.

CONTRIBUTIONS

Chairperson S. John

Nonlinear Optics, Nanophotonics and Biophotonics:

New Interfaces to Meet 21st Century Technical Challenges

P.N. Prasad (Institute for Lasers, Photonics and Biophotonics, University at Buffalo, The State University of New York, USA)

Near field Photonic Forces on Dielectric and Magnetodielectric Small Particles

M. Nieto-Vesperinas (Instituto de Ciencia de Materiales de Madrid (ICMM), CSIC Madrid, Spain)

Optical microresonators for optoelectronic and biomedical applications

G. Righini (Istituto di Fisica Applicata Nello Carrara (IFAC CNR), Firenze, Italy)

Chairperson I. Ledoux

Organic electro-optical microring resonators for highly integrated optics

P. Günter (Institute of Quantum Electronics, Swiss Federal Institute of Technology, Zürich, Switzerland)

The Benefits of Single Domain Ferroelectric Nanoparticles in Disparate Optical Devices

D. R. Evans (Air Force Research Laboratory, Wright-Patterson Air Force Base, Ohio, USA)

Terahertz waves for materials testing and security

C. Medrano (Rainbow Photonics AG, Zurich)

Chairperson P. Günter

Multifunctional molecular materials and nanostructures for photonics: from molecular engineering to optoelectronic devices

I. Ledoux (Institut d' Alembert Ecole Normale Supérieure de Cachan, France)

Artificially designed materials using metal nano-objects

C. N. Afonso (Laser Processing Group, Instituto de Optica, CSIC, Madrid, Spain)

Chairperson M. Wegener

Optical Cavity Control of the Exciton Diffusion in Organic Photovoltaic cells

J. Martorell (ICFO-Institut de Ciències Fotòniques, Castelldefels, Spain and Universitat Politècnica de Catalunya, Terrassa, Spain)

Spatio-temporal properties of femtosecond laser-induced plasmas:

Control of laser structuring of dielectrics via non-linear absorption

J. Solís (Instituto de Óptica, CSIC, E-28006 Madrid, Spain)

Chairperson P.N. Prasad

Photonic Band Gap Materials: Light Control at Will

S. John (Department of Physics, University of Toronto, Canada)

3D Photonic Metamaterials and Transformation Optics

M. Wegener (DFG-Center for Functional Nanostructures and Karlsruhe School of Optics & Photonics, Karlsruhe Institute of Technology, Karlsruhe, Germany)

Plasmonic antennas as building blocks for compact optical switchers

J. Aizpurua (Centro de Física de Materiales, CSIC-UPV/EHU, Donostia-San Sebastián, Spain)

Chairperson C.N. Afonso

Tuning the Lasing in Self-assembled Photonic Structures

C. López (Instituto de Ciencia de Materiales de Madrid, CSIC, Madrid, Spain)

Eutectics as self-organized systems for metamaterials and photonic applications

R.I. Merino (Instituto de Ciencia de Materiales de Aragón, Universidad de Zaragoza-CSIC, Zaragoza)

2010

2010

Nonlinearities in metamaterials from self assembled and holographically defined templates
A. M. Urbas (Air Force Research Laboratory, Wright Patterson Air Force Base, Ohio, USA)

Chairperson G. Righini

Research of circadian response for white lighting with Ce3+ -doped glass phosphor and UV/blue LEDs
G. Boulon (Laboratoire de Physico-Chimie des Matériaux Luminescents, Université de Lyon, France)

Optical Fibers and Glass-Ceramics for infrared photonics
J. L. Adam (Equipe Verres et Céramiques, Université de Rennes, France)

Chairperson J.L. Adam

Glass-ceramic planar waveguides
A. Chiasera (Istituto Fotonica e Nanotecnologie, Gruppo CSMFO, Università degli studi di Trento, Italy)

Molecular configuration transitions of a nematic liquid crystal encapsulated in hybrid silicas
D. Levy (Instituto de Ciencia de Materiales de Madrid - ICM, CSIC, Spain)

Chairperson D. Levy

Giant Micro-Photonics : Domain Controlled Optical Materials
T. Taira (Institute for Molecular Science, Okazaki, Japan)

Superfluidity in out-of-equilibrium condensates: microcavit polaritons
L. Viña (Dept. Física de Materiales, Universidad Autónoma de Madrid, Spain)

Chairperson G. Boulon

Integrated amplifiers and lasers in Al₂O₃:Er³⁺ thin films on a silicon chip
M. Pollnau (Integrated Optical MicroSystems Group, MESA+ Institute for Nanotechnology, University of Twente, Enschede, The Netherlands)

One and two photon pumped random lasing in dye doped silica-based inhomogeneous systems
S. García-Revilla (ETS Ingeniería de Bilbao, UPV/EHU, Bilbao, Spain)

Excited state dynamics of metal –polybipyridine complexes investigated by ultrafast optical spectroscopies
Andrea Cannizzo (Laboratoire de Spectroscopie Ultrarapide, Ecole Polytechnique Fédérale de Lausanne, Switzerland)

International Soft Matter Conference 2010

July 5-8, 2010, Granada, Spain

ORGANIZING COMMITTEE

Chairperson Roque Hidalgo Alvarez

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Magdalena Medina-Noyola (Mexico)
Fernando Oliveira (Brasil)
Dieter Richter (Germany)
Jan Vermant (Belgium)
Dimitri Vlassopoulos (Greece)
Darsh Wasan (USA)
Erik Wassne

This conference brought together students and scientists interested in soft matter systems such as polymers, colloids, surfactants, membranes, biomaterials and their composites. Soft Matter is characterized by multi component mixtures, large ranges of length and time scales and many interacting degrees of freedom, leading to complex structures, phase behaviour and dynamics. This implies high sensitivity to external fields and ubiquitous and significant non-equilibrium phenomena.

Soft matter science requires an interdisciplinary approach connecting theoretical, computational and experimental physics, physical chemistry, material science and biology. A special focus of discussion in this context will be the application of soft matter concepts to biological and biomimetic systems.

In this field, basic science and a broad range of modern technological application encompassing also many aspects of nano-science are closely related. These links will be emphasized during this conference, thereby fostering the exchange between academia and industry.

There were four types of presentations: plenary talks, invited and contributed talks, and posters. These will be chosen by the program committee in cooperation with the advisory board. The contributed talks will be selected from submitted abstracts.

cont'd

2010

2010

CONTRIBUTIONS

Biophysics

G. Büldt (Forschungszentrum Jülich, Germany)

Protein Dynamics and Intermediate States in the Working Cycles of Retinal Proteins

P. Fratzl (Max-Planck-Institut für Kolloid- und Grenzflächenforschung, Germany)

The plant cell wall as a natural polymeric material: structure, mechanical properties, actuation

P.A. Janmey (Vagelos Research Laboratories, Philadelphia, USA)

Non-linear rheology of biopolymer networks

K. Kinoshita, Jr. (Waseda University, Tokyo, Japan)

Rotating Protein Machines

P. Nassoy (Institut Curie, Paris, France)

Homeostasis and Rheology of the cellular membrane

Colloids

S. Fraden (Brandeis University, Waltham, USA)

The PhaseChip: Separating Nucleation and Growth with Microfluidics

C. Bechinger (Universität Stuttgart, Germany)

Colloidal monolayers on quasiperiodic light fields

E.R. Weeks (Math & Science Center, Atlanta, USA)

The colloidal glass transition in confinement

M. Dijkstra (Utrecht University, The Netherlands)

Directing colloidal self-assembly by templates, electric fields, and depletion attractions

P. Bartlett (University of Bristol, United Kingdom)

The puzzle of sudden gel collapse – what is going on?

Dynamics of Complex Fluids

P.D. Olmsted (University of Leeds, United Kingdom)

The effects of boundaries and interfaces on shear banding in complex fluids

W. Briels (University of Twente, The Netherlands)

Coarse grain simulations of rheological properties of polymer liquids; from blobs to single particle models

M. Cloitre (Ecole Supérieure de Physique et Chimie Industrielles, Paris, France)

Micromechanics of soft glasses

H. Seto (Institute of Materials Structure Science, Japan)

Multilamellar structures induced by antagonistic salt added to a binary mixture of water and organic solvent

T. Squieres (University of California, USA)

Microrheology of phospholipid monolayers: direct visualization of stretching, flowing, yielding and healing

Membranes

T. Auth (Forschungszentrum Jülich, Germany)

Biomembranes: membrane proteins and active cytoskeleton

F. Brochard-Wyart (Institut Curie, Paris, France)

Mechanics of Cellular Aggregates

J. Rädler (Ludwig-Maximilians-Universität, München, Germany)

Soft matter nanosystems for gene and drug delivery

C.R. Safinya (University of California, USA)

Tau Protein Directed Assembly in Neuronal Systems

Polymers

M. Rubinstein (University of North Carolina, USA)

Polymer Physics of Airway Surface Layer in Lungs

F. Graeter (Shanghai Institutes for Biological Sciences, China)

Force distribution through complex molecules: clues to biomechanics and function

A. Moreno (Centro de Física de Materiales, San Sebastián, Spain)

Computer simulations of block copolymer dynamics: Soft confinement in nanostructured mesophases

E. van Ruymbeke (Université Catholique de Louvain, Belgium)

Telechelic Linear and Star Polymer Melts: Linear Rheology and Modelling

R. Biehl (Forschungszentrum Jülich, Germany)

Is dynamics important for protein function?

Self-Assembly

I.W. Hamley (The University of Reading, United Kingdom)

Amyloid Peptides and Peptide Copolymers: From self-assembly, towards therapeutics

C. Ligoure (University of Montpellier, France)

Morphology driven failure mode transition in self-assembled transient networks

M. Miguel (University of Coimbra, Portugal)

Mixtures of DNA with cationic surfactants and proteins: gels and gel nanoparticles

D. Andelman (Tel Aviv University, Israel)

Block copolymers at surfaces: patterns, templates and applications

E. Zaccarelli (Università di Roma "La Sapienza", Italy)

Laponite as a complex colloid: aggregation, gel and glass formation

Surfaces and Interfaces

G. Fragneto (Institut Laue-Langevin (ILL), France)
Bio-films by neutron scattering: a perspective

L. Léger (CNRS & Université Paris-Sud, France)
Grafted polymer layers: a way to control adhesion and friction

M. Quesada-Perez (University of Jaén, Spain)
The effect of ion size on colloidal forces: A Monte Carlo simulation study

P.S. Clegg (University of Edinburgh, United Kingdom)
How robust are particle-stabilized emulsions and bijels?

S. Dietrich (Max-Planck-Institut für Metallforschung, Stuttgart, Germany)
The critical Casimir effect: measuring and tuning femto-Newton forces

Soft Nanotechnology

S. Herminghaus (Max-Planck-Institute for Dynamics and Self-Organization, Göttingen, Germany)
Collective behaviour and self-organization in fluid micro-systems

J. Bibette (ESPCI, Paris, France)
Microorganism Growth Kinetic Variability in Droplets

S.K. Kumar (Columbia University, New York, USA)
Nanoparticle Amphiphiles

S. Lemay (Kavli Institute of Nanoscience, Delft, The Netherlands)
Electrochemical nanofluidics: Mesoscopic and single-molecule limits

J. Veciana (Instituto de Ciencia de Materiales de Barcelona (CSIC), Spain)
Soft organic thin films, based on nanostructured polymeric composites, as ultra sensitive piezoresistive materials and their applications

Catedra Collège de France - Fundación Marcelino Botín

Nanoscience: Chemistry and Physics Behind Supramolecular Science

July 16, 2010

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Nanoscience and Nanotechnology- The Self Organisation Approach
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Self- and "not so self"-assembly: Plant virus Hybrids and peptides
Chairman: Txema Pitarke

Igor Nabiev (CIC NanoGUNE Consolider, Donostia-San Sebastián, Spain)
Chemistry and Physics behind Energy Transfer from Nanostructures to Bio-Supramolecular Photosensitive Complexes
Chairman: Andrés Arnau

Tomás Torres (Universidad Autónoma de Madrid, Spain)
Phthalocyanines: old dyes, new materials. Putting color in nanotechnology
Chairman: Fernando Cossio

Rubén Pérez (Universidad Autónoma de Madrid, Spain)
Understanding surface chemistry with STM and AFM: from single-atom chemical identification to heterofullerene. Synthesis with planar aromatic precursors
Chairman: Enrique Ortega

Carmen Ocal (Instituto de Ciencias de Materiales de Barcelona, CSIC, Spain)
Functionalization by self-assembling: a route for selective growth and tuned surface properties
Chairman: Daniel Sanchez Portal

Miquel Salmerón (Lawrence Berkeley National Laboratory, California, USA)
Fundamental studies of molecular electronics: ultra-flat transistors with semiconducting self-assembled monolayers of oligothiophenes
Chairman: Felix Yndurain

2010

2010

Workshop on Inelastic Transport Phenomena

September 1-3, 2010

ORGANIZERS

Thomas Frederiksen (DIPC, Spain)
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STEERING COMMITTEE

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2010

The Workshop on Inelastic Transport Phenomena aims at the identification and promotion of the common elements developed in experimental and theoretical studies of inelastic transport phenomena, which are fundamental for the development of nanoelectronics. To accomplish this goal, the workshop brought together leading experts from the field of inelastic transport, including theoreticians and experimentalists with outstanding achievements within the theme of the workshop.

This workshop provided a forum for experts to expose the most recent state-of-the-art theoretical and experimental developments in studying, understanding, and predicting the inelastic properties of electronic transport. Discussion between experts was strongly encouraged, with special emphasis on the cross-fertilization between different subfields of inelastic transport. This workshop also aimed to attract students and young researchers in the field.

The call for participation will be mainly directed to students, young researchers and scientists specialized on inelastic transport phenomena. The number of participants was limited to 40, in order to ensure a maximum interaction between all the scientists participating. Attendance of graduate students and postdocs was strongly encouraged through the inclusion of a poster session.

Scientific Objectives

The objective of this event was to gather experts in the field of electronic transport at the nanoscale, with special emphasis on the investigation of inelastic processes. In particular, great emphasis will be placed on the study and theoretical investigation of energy transfer processes between moving electrons and atomic nuclei, i.e., vibrational excitations and Joule effect in nanojunctions. Other inelastic effects such as those related to electron-electron interaction or spinflip processes will also be discussed. The most relevant experimental aspects of the field will be covered by experts on scanning tunneling microscopy and break-junction technique.

Since the seminal work of I. K. Yanson, inelastic spectroscopy has become a standard experimental technique which allows to determine accurately the vibrational density of states of the materials forming a nanojunction. Equally, this technique allows the measurement of electron-phonon coupling as a function of incident electron energy. In recent years, this technique has been used to characterize molecular junctions and nanoscontacts. In such systems, the excitation of vibrations localized in the contact region and the consequent detection of changes in the resistance of the junction, allow to determine the type of molecule in the junction, the geometry of its bond to the contacts and the nature of the chemical bonds involved in electronic propagation. For all these reasons, inelastic spectroscopy is believed to be an important technique in the emerging field of nanoelectronics.

CONTRIBUTIONS

Prof. Nicolas Agrait (Universidad Autónoma de Madrid (UAM), Spain)
Inelastic Electron Tunneling Spectroscopy and Transport in Single molecules

Dr. Maite Alducin (Centro de Física de Materiales CFM-MPC, San Sebastian, Spain)
The vibrational inelastic electron tunneling spectroscopy of O₂ on Ag(110): what can we learn on the electronic structure

Dr. Mads Brandbyge (Technical University of Denmark, Denmark)
Current-driven runaway-instabilities in molecular bridges

Dr. Jorge Cerdá (ICMM, Madrid)
IETS simulations under tunneling regime: molecules adsorbed at surfaces and STM tips

Dr. Luis Foà Torres (FaMAF, Universidad Nacional de Córdoba, Argentina)
AC transport in carbon-based devices: unveiling novel phenomena in a world made of carbon

Prof. Jean-Pierre Gauyacq (LCAM, CNRS-Paris Sud, France)
Magnetic transitions induced by tunnelling electrons in individual adsorbates

Dr. Rafael Gutierrez (Dresden University of Technology, Germany)
Charge transport in dynamical environments: applications to DNA and organic stacks

Prof. Wilson Ho (University of California Irvine, USA)
Atomic Scale Inelastic Tunneling Phenomena

Dr. Hiroyuki Ishii (University of Tsukuba, Japan)
Inelastic transport through phonon-vibrating carbon nanotubes-Scattering times and temperature-dependent decoherence effects

Prof. Abraham Nitzan (Tel Aviv University, Israel)
Inelastic transport, heating and cooling in molecular junctions

Dr. Frederico Novães (Institut de Ciència de Materials de Barcelona (ICMAB-CSIC), Spain)
Simulations of inelastic conductance in magnetic adsorbates from first principles

Dr. Frank Ortmann (CEA, Grenoble)
Charge Transport in Organic Crystals

Prof. Jose-Ignacio Pascual (Freie Universität Berlin, Germany)
Electron transfer phenomena in quantum transport through molecules on surfaces

Dr. Magnus Paulsson (Kalmar University, Sweden)
First-principles description of inelastic transport in atomic and molecular wires

Dr. Alessandro Pecchia (University of Rome, Italy)
Heating and cooling effects in molecular electronics

Prof. Mats Persson (University of Liverpool, UK)
Inelastic spin excitations in tunneling from electronic structure calculations

Prof. Jan van Ruitenbeek (Leiden University, The Netherlands)
Experimental model systems: inelastic scattering and shot noise

Dr. Daniel Sanchez-Portal (DIPC and CFM-MPC, San Sebastian, Spain)
Functionalized STM tips: propensity rules and its influence on the IETS of single-molecules

Dr. Carlos Untiedt (Universitat d'Alacant, Spain)
Transport through atomic-contacts, e-ph and e-e interactions

Dr. Lucia Vitali (DIPC, San Sebastian, Spain)
Local effects on Inelastic Electron Tunneling Spectroscopy at single molecular junctions

2010

Dynamical Processes in Irradiated Materials

July 26-28, 2010

ORGANIZERS

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Dr. **Iñaki Juaristi** (DIPC, Centro de Física de Materiales CSIC, UPV/EHU, Spain)
Dr. **Jorge Kohanoff** (Queen's University of Belfast, UK)
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The workshop aimed to be a platform for interaction between expert theoretical and experimental scientists working in the field of the radiation damage at the atomic scale. The program of this 3-day workshop was built around a number of invited talks covering some important recent contributions to the field and poster sessions.

Scientific Objectives

The objective of this event was to get together experts in the field of radiation damage in materials, with special attention to the challenges for a microscopic theoretical description of the many processes involved in the radiation damage of real materials. In particular, great emphasis was placed on the study of the energy transfer processes between fast projectiles and the electrons in the target material. The influence of such excited hot electrons in the dynamics of the atoms of the target and other non-adiabatic effects will be considered in detail. The most relevant experimental aspects of the field was also covered by renowned experts.

CONTRIBUTIONS

Prof. Fernando Agulló-López (Universidad Autónoma de Madrid, Spain)
Damage and amorphization induced by swift-ion beams: A non-radiative exciton model

Prof. Andrés Arnau (Basque Country University CSIC-UPV/EHU, San Sebastián, Spain)
How far can we go with jellium models to describe valence electron excitations in solids?

Prof. Peter Bauer (Institute of Experimental Physics, Johannes Kepler University, Linz, Austria)
Electronic stopping of slow light ions in materials with large band gaps: an experimental approach

Prof. Alfredo Caro (Los Alamos National Laboratory, Los Alamos, USA)
Modeling collision cascades in metals: 25 years after

Prof. Alfredo Correa (Lawrence Livermore National Laboratory, California, USA)
Time-dependent DFT Simulations of Electronic Stopping

Prof. Christian Dufour (Centre de Recherche sur les Ions, les Matériaux et la Photonique, Caen, France)
Matter transformation by swift heavy ions: a thermodynamic point of view

Dr. Daniel Dundas (Queen's University of Belfast, Belfast, UK)
Correlated electron-ion dynamics in atomic wires

Prof. Marie-Pierre Gaigeot (Université d'Evry, France)

TD-DFT MD investigation of the ultrafast dissociation of ionised biomolecules immersed in water: direct and indirect chemical reactivity

Prof. Rafael Garcia-Molina (Universidad de Murcia)

Monte Carlo Modelling of Charged Particle Transport in Biological Materials Using a Dynamic Non-local Target Energy-Loss Function

Dr. Arkady Krasheninnikov (University of Helsinki and Helsinki University of Technology, Helsinki, Finland)
Irradiation effects in carbon and boron-nitride nanostructures: an insight from atomistic simulations

Dr. Christian Linsmeier (Max-Planck-Institut für Plasmaphysik, Garching, Germany)
Ion-induced surface chemistry in materials for fusion first wall applications

Dr. Daniel Mason (Imperial College London, UK)
Non-adiabatic forces on ions in radiation damage in metals

Dr. Jorge A. Morales (Texas Tech University, USA)

The Electron Nuclear Dynamics Theory and Related Models: from Ion-Molecule Collisions to Classical Charge-Equilibration Models

Prof. Thomas M. Orlando (School of Chemistry and Biochemistry, Georgia Tech, USA)

The role of resonances and diffraction in electron-beam induced damage of DNA and RNA thin-film targets

Dr. Chris Race (Imperial College London, UK)

Large scale semi-classical simulations of ion channelling with time-dependent tight-binding

Dr. Thomas Schlathöter (University of Groningen, The Netherlands)

Photodissociation and ion-induced dissociation of complex biomolecules

Prof. Eric Suraud (Université Paul Sabatier, Toulouse, France)

Towards the microscopic description of the irradiation of biomolecules

Prof. Francois Willaime (CEA Saclay, France)

DFT energy landscape of radiation defects in metals for kinetic models

2010

2010

PASSION FOR PHOTONS

September 29 - October 1, 2010

ORGANIZERS

Ricardo Diez Muiño Passion for Knowledge: The Workshops

Javier Aizpurua Passion for Photons

Addressing fundamental and applied aspects of nanoscale optics.

2010

CONTRIBUTIONS

Keynote: Passion for Photons

Prof. Naomi Halas (Rice University, Houston, USA)

Plasmonics: nanoscale manipulation of light

Nanoantennas

Prof. Lukas Novotny (University of Rochester, USA)

Nonlinear plasmonics with optical antennas

Dr. Garnett Bryant (NIST, Gaithersburg, USA)

Photonics with nanohybrids

Francesco De Angelis (Italian Institute for Technology, Genova, Italy)

Plasmon polariton nanotantenna for single molecule detection

Keynote: Passion For Soft Matter

Prof. Dieter Richter (Forschungszentrum Jülich, Germany)

Soft Matter and Live Science: Research with Neutrons

Concepts in Optics

Prof. Sir John Pendry (Imperial College London, UK)

Transformation Optics at Optical Frequencies

Prof. Shiwu Gao (University of Göteborg, Sweden)

Insights on surface plasmons from quantum mechanics

Antonio Garcia-Martin (Inst. de Microelectrónica de Madrid, CSIC Spain)

Active magnetoplasmonics in hybrid metal/ferromagnet/metal microinterferometers

Keynote: Passion for Interfaces

Prof. Fernando Flores (UAM, Madrid, Spain)

Organic and inorganic semiconductor interfaces across physics, chemistry and time

Electrons and Photons

Prof. Archie Howie (University of Cambridge, UK)

Photons and electrons: Tightening their embrace

Prof. F.J. Garcia de Abajo (Institute of Optics CSIC, Madrid, Spain)

Photons and electrons team up

Dr. Alejandro Reyes Coronado (IESL-FORTH, Heraklion, Greece)

Plasmonic forces induced by electrons

Coherence and Fast Control

Prof. Peter Nordlander (Rice University, UK)

Fano resonances in plasmonic nanostructures

Prof. Mark Stockman (Georgia State University, Atlanta, USA)

Trends in Nanoplasmonics: Ultrasmall, Ultrafast, Ultrastrong

Dr. Otto Muskens (University of Southampton, UK)

Active plasmonic nanoantennas for optical switching

Dr. Ricardo Sapienza (ICFO, Barcelona, Spain)

LDOS fluctuations probed by single-molecule spectroscopy in random and periodic media

Taking Advantage of the Near_Field

Dr. Rainer Hillenbrand (nanoGUNE, San Sebastian, Spain)

Scattering-type Scanning Near-Field Optical Microscopy

Dr. Riedel Damien (Nanophysics Lab. CNRS, Orsay, France)

A scanning tunneling microscope as a tunable nanoantenna for atomic scale control of optical-field enhancement

Dr. M.L. Juan (ICFO, Barcelona, Spain)

Self-induced back-action optical trapping

Dr. Amador Menéndez (Instituto tecnológico de Materiales de Asturias, Spain)

Improving the efficiency of luminescent solar concentrators

Theory

Prof. Nader Engheta (University of Pennsylvania, USA)

From Electronics to Metatronics to Graphene Metamaterials

Prof. F. J. Garcia Vidal (Universidad autónoma de Madrid, Spain)

Controlling the flow of surface plasmons

2010

PASSION FOR PHOTONS

Prof. Juan José Sáenz (Universidad autónoma de Madrid, Spain)
Resonant optical forces on metallic and dielectric nanoparticles

Prof. Fernando Moreno (Universidad de Cantabria, Santander, Spain)
Electromagnetic interactions between plasmon nanostructures and substrates

Plasmon-Bio-nanosense (Session sponsored by ESF)

Dr. Romain Quidant (ICFO, Barcelona, Spain)
Plasmon nano-optics: designing novel nanotools for Biosciences and Medicine

Prof. Mikael Käll (Chalmers University of Technology, Sweden)
Nanoplasmonic sensing: refractive index, SERS and optical forces

Prof. J.R. Krenn (University of Graz, Austria)
Plasmonic control of elementary emitters

Dr. Jaime Gómez Rivas (AMOLF, The Netherlands)
Collective plasmonic resonances in arrays of nanoantennas

Prof. Luis Martín-Moreno (Inst. de Ciencia de Mat. de Aragón, Spain)
Extraordinary optical transmission due to strongly localized modes

Alberto Curto (ICFO- Barcelona, Spain)
A nano-optical Yagi-Uda antenna driven by a quantum dot

Plasmon Bio-nanosense (Session sponsored by ESF)

Prof. Stefan Maier (Imperial College London, UK)
Correlative electron and optical spectroscopies of metallic nanostructures and applications in anometry

Dr. Andrea Csáki (IPHT, Jena, Germany)
Plasmonic-tuned microstructured optical fibers for localized surface plasmon resonance (LSPR) sensing

Bjoern Niesen (IMEC vzw, Leuven, Belgium)
Interactions of excitons with localized surface plasmons in organic semiconductor-metal nanoparticle thin-films

Antonio Fernández (Imperial College London, UK)
Kissing spheres: broadband response and superfocusing properties

Number of participants: 83

PASSION FOR KNOWLEDGE

The Workshops

PASSION FOR INTERFACES

September 28-30, 2010

ORGANIZERS

Ricardo Diez Muño Passion for Knowledge: The Workshops
Maite Alducin Passion for Interfaces

Unraveling fundamental aspects of the scattering and reactivity of atoms and molecules at interfaces, electronic properties of thin films and adsorbates, self-assembling and surface functionalization.

CONTRIBUTIONS

Keynote Lecturer: F. Flores (UAM, Madrid, Spain)
Organic and inorganic semiconductor interfaces across physics, chemistry and time

Chairman: Prof. Martin Weinelt (Freie Universität, Berlin, Germany)

Keynote: Passion for Electrons
Prof. W-D Schneider (École Polytechnique Fédérale de Lausanne)
Quantum oscillations, superconductivity, zero-bias anomalies, and Coulomb blockade in nanoscaled supported lead islands

Chairman: Prof. Geert-Jan Kroes (Leiden University, Netherlands)

Prof. Miquel Salmeron (LBNL and University of California, USA)
From vacuum to atmosphere: microscopies and spectroscopies for molecular level studies of surfaces and interfaces

Prof. Emilio Artacho (University of Cambridge, UK)
First-principles simulations of oxide hetero-structures: electrostatics, interface charges and vacancies

Prof. Hajo Freund (Fritz Haber Institute, Germany)
Electronic structure relations of oxide metal interfaces at the atomic level

Chairman: Prof. Hajo Freund (Fritz Haber Institute, Germany)

Prof. Rodolfo Miranda (IMDEA and UAM, Madrid, Spain)
Periodically Rippled Epitaxial Graphene: An Electronically and Structurally Nanostructured Material

Dr. Daniel Sánchez-Portal (CFM, San Sebastián, Spain)
Graphene interacting with transition metals: tuning the electronic and magnetic properties of graphene

2010

2010

PASSION FOR INTERFACES

Dr. E. Avellar Soares (Physics Department-ICEX-UFMG, Brazil)
Graphene-covered iron layers on Ni(111): structural and electronic properties

Dr. Laura Fernández (DIPC, Spain)
Ultra-high dense array of magnetic quantum dots on a GdAu₂ template

Chairman: Prof. Antoine Salin (Université Bordeaux, France)

Prof. Aart Kleyn (FOM Institute, Nieuwegein, Netherlands)
When energy is not a problem: interactions with fast and excited particles at surfaces

Dr. Pascal Larregaray (CNRS/Université Bordeaux1, France)
Theoretical investigation of the Eley-Rideal recombination of nitrogen on W(100)

Dr. Serge Monturet (Universität Potsdam, Germany)
Electronic damping of vibrations: the case of NO on Au(111)

Chairman: Dr. Javier Aizpurua (CFM and DIPC, San Sebastián, Spain)

Keynote: Passion for Photons

Prof. Naomi Halas (Rice University, Houston, USA)
Plasmonics: nanoscale manipulation of light

Chairwoman: Prof. Maki Kawai (RIKEN, Wako, Japan)

Prof. Karina Morgenstern (Leibniz Universität, Hannover, Germany)
Single molecule manipulation by light and electrons

Prof. Karsten Reuter (TU, München, Germany)
Adsorption of aromatic molecules: Tackling the van der Waals challenge with DFT-D?

Chairman: Prof. Juan Colmenero (UPV-CFM and DIPC, San Sebastián, Spain)

Prof. Dieter Richter (Forschungszentrum Jülich, Germany)
Soft Matter and Live Science: Research with Neutrons

Chairman: Prof. Aart Kleyn (FOM Institute, Nieuwegein, Netherlands)

Dr. Celia Rogero (CFM, San Sebastián, Spain)
Surface coordination chemistry: structure and reactivity of tetrapyrrole molecules

Dr. H. Fabio Busnengo (Universidad Nacional de Rosario, Argentina)
Structure of self-assembled monolayers of alkylthiolates on Au(111) and Ag(111): a comparative study based on Density Functional and post Hartree-Fock calculations

PASSION FOR INTERFACES

Maria J.T.C. van der Niet (Leiden University, Netherlands)
Interactions between H₂O and pre-adsorbed O or D on stepped platinum surfaces
Chairman: Dr. Ricardo Díez Muiño (CFM and DIPC, San Sebastián, Spain)

Prof. Fernando Flores (UAM, Madrid, Spain)
Organic and inorganic semiconductor interfaces across physics, chemistry and time

Chairman: Prof. Andrés Arnau (UPV- CFM, San Sebastián, Spain)

Prof. Maki Kawai (RIKEN, Wako, Japan)
Single Molecule Spectroscopy: Electronic state, vibrational state and spin state

Prof. Pietro Gambardella (CIN2, Barcelona, Spain)
Spin-spin and spin-orbital coupling effects at metallic interfaces

Dr. Lucia Vitali (CFM and UPV, San Sebastián, Spain)
Potential barrier mapping at metal-organic nanocontacts

Chairman: Prof. Enrique Ortega (UPV- CFM, San Sebastián, Spain)

Prof. Franz J. Himpsel (University of Wisconsin Madison, USA)
Atom-Specific Spectroscopy of Interfaces for Biosensors and Solar Cells

Dr. Nicolás Lorente (CIN2, Barcelona, Spain)
Mixed-valency signature in vibrational inelastic electron tunneling spectroscopy

Prof. J. I. Pascual (Freie Universität, Berlin, Germany)
Charging and electric field gating individual molecules at a hybrid metal-organic interface

Dr. Aitor Mugarza (CIN2, Barcelona, Spain)
Exotic Kondo effect in metalorganic complexes controlled by ion-substrate interaction

Chairman: Prof. Emilio Artacho (University of Cambridge, UK)

Prof. G. -J. Kroes (Leiden University, Netherlands)
Achieving chemical accuracy for a prototype molecule-surface reaction

Dr. Holly Hedgeland (University of Cambridge, UK)
Dynamic and static processes in interface interaction

Jörg Meyer (Fritz-Haber Institute, Berlin, Germany)
QM/Me – a novel embedding approach for adsorbate dynamics on metal surfaces

Gerson Mette (Philipps-Universität, Marburg, Germany)
Time-resolved investigation of laser-induced diffusion by optical second-harmonic microscopy

Number of participants: 86

2010

2010

PASSION FOR KNOWLEDGE

The Workshops

PASSION FOR SOFT MATTER

September 28-30, 2010

ORGANIZERS

Ricardo Diez Muiño Passion for Knowledge: The Workshops

Arantxa Arbe Passion for Soft Matter

Presenting state-of-the-art experiments and theoretical advances in the fields of soft matter (polymers, colloids, amphiphiles, biomaterials and composites).

CONTRIBUTIONS

Keynote Lecturer: D. Richter (Forschungszentrum, Jülich, Germany)

Keynote: Passion for Electrons

Chair: Prof. Martin Weinelt (Free University Berlin, Germany)

Prof. T.W. Hänsch (MPI, Garching, Germany)

Keynote Passion for Electrons

Novel Materials

Chair: Prof. José A. Pomposo (Centro de Física de Materiales UPV/EHU-CSIC and Ikerbasque, Spain)

Prof. Thomas P. Russell (University of Massachusetts Amherst, USA)

Directed Self-Assembly of Block Copolymers over Macroscopic Length Scales

Prof. Ralph H. Colby (The Pennsylvania State University, USA)

Designing Ion-Containing Polymers for Facile Ion Transport

Prof. Theyencheri Narayanan (ESRF, France)

Probing the multi-level structure and dynamics of soft matter using X-ray scattering

Confined Water

Chair: Dr. Silvina Cerverny (Centro de Física de Materiales UPV/EHU-CSIC, Spain)

Prof. Feri Mezei (ESS Collaboration, Lund, Sweden and Hungarian Academy of Sciences, RISSP, Budapest)

Study of Nanoscale Protein Dynamics by High Power Neutron Spectroscopy

Prof. Fabio Bruni (Università di Roma Tre, Italy)

Water near proteins and under confinement: is that a good model for bulk water?

Prof. Paola Gallo (University Roma Tre, Italy)

Water and The Others: Simulations of Supercooled Water in Confinement and Solutions

Dr. Sandrine Lyonard (CEA, France)

The dynamical behaviour of water confined in perfluorinated ionomers and surfactants

PASSION FOR SOFT MATTER

Window to Biology

Chair: Prof. Rod Quirk (University of Akron, USA)

Prof. Jan Skov Pedersen (University of Aarhus, Denmark)

The Structure of Protein-Detergent Complexes from Small-Angle X-ray Scattering

Dr. Ilja Voets (Adolphe Merkle Institute, University of Fribourg, Switzerland)

Complex Polymer Assemblies

Prof. Dmitry Matyushov (Arizona State University, USA)

Electrostatics and viscoelasticity of protein-water interface

Keynote: Passion for Photons

Chair: Dr. Javier Aizpúrua (Centro de Física de Materiales UPV/EHU-CSIC and DIPC, Spain)

Prof. Naomi Halas (Rice University, Houston, USA)

Keynote Passion for Photons

Emerging Properties

Chair: Prof. Jörg Baschnagel (Institut Charles Sadron, France)

Prof. Pablo G. Debenedetti (Princeton University, USA)

Thermodynamic and Kinetic Models of the Emergence of Biochemical Homochirality.

Prof. Francesco Sciortino (Università di Roma La Sapienza, Italy)

Self Assembly of Janus Particles and other Patchy Colloids

Keynote: Passion for Soft Matter

Chair: Prof. Juan Colmenero (Centro de Física de Materiales UPV/EHU-CSIC and DIPC, Spain)

Prof. Dieter Richter (Forschungszentrum Jülich, Germany)

Soft Matter and Live Science: Research with Neutrons

Dynamic Asymmetry, Viscoelastic Phase Transitions

Chair: Prof. Carmen Mijangos, Instituto de Ciencia y Tecnología de Polímeros, CSIC, Spain)

Prof. Hajime Tanaka (University of Tokyo, Japan)

Pattern evolution - From viscoelastic phase separation to mechanical fracture

Dr. Satoshi Koizumi (Japan Atomic Energy Agency, Japan)

Dynamic Asymmetry Effects on Soft-Matters: Small-angle Scattering Studies of Their Rich Varieties Ranging from Viscous-to-Gel Limits

Dr. Laurence Noirez (Laboratoire Léon Brillouin, France)

Hidden Macroscopic Shear Elasticity in Viscous Liquids

2010

2010

PASSION FOR SOFT MATTER

Keynote: Passion for Interfaces

Chair: Prof. Antoine Salin, Université Bordeaux, France)

Prof. Fernando Flores (UAM, Madrid, Spain)

Organic and inorganic semiconductor interfaces across physics, chemistry and time

Dynamics at Different Scales

Chair: Dr. Daniele Cangialosi, Centro de Física de Materiales UPV/EHU-CSIC, Spain)

Prof. Alexei P. Sokolov (University of Tennessee, USA)

Decoupling phenomena in dynamics of Soft Matter: From small molecules to proteins

Prof. Kenneth S. Schweizer (University of Illinois at Urbana-Champaign, USA)

Slow Dynamics in Soft Glassy Materials

Prof. Vladimir Novikov (University of Tennessee, USA)

Influence of pressure on fast relaxation in glass-forming materials

Self-Assembled Systems

Chair: Dr. Gustavo Schwartz, Centro de Física de Materiales UPV/EHU-CSIC, Spain)

Prof. Angel Alegria (Centro de Física de Materiales UPV/EHU-CSIC, Spain)

Structure - dynamics relationship in nano-structured diblock-copolymers by dielectric spectroscopy

Prof. Christiane Alba Simionescu (CEA Saclay, France)

How anomalous remain the liquid water properties when it is confined at the nanoscale?

Dr. Reidar Lund (DIPC, San Sebastián, Spain)

Non-equilibrium Kinetics in Block Copolymer Micelles

Prof. Soren Toxvaerd (Roskilde University, Denmark)

Crystallization of supercooled nanodroplets

Dynamics Of Polymers In Different Environments

Chair: Dr. Fernando Alvarez, Centro de Física de Materiales UPV/EHU-CSIC, Spain)

Dr. Angel Moreno (Centro de Física de Materiales UPV/EHU-CSIC, Spain)

Computer simulations of polymer blends: from structural relaxation to cain dynamics

Dr. Jörg Baschnagel (Institut Charles Sadron, France)

Deviations from Chain Ideality in Polymer Melts

Dr. Apostolos Kyritsis (National Technical University of Athens, Greece)

Dynamic heterogeneity in binary poly(ethyl acrylate) /p-xylene mixtures

Dr. Nigel Clarke (Durham University, UK)

Dynamics in polymer nanocomposites

Number of participants: 103

PASSION FOR KNOWLEDGE

The Workshops

PASSION FOR ELECTRONS

September 28-30, 2010

ORGANIZERS

Ricardo Diez Muiño Passion for Knowledge: The Workshops

Vyacheslav M. Silkin Passion for Electrons

Advances in ultrafast dynamics, attosecond physics, electronic excitations in solids, nanostructures and other low-dimensional systems.

CONTRIBUTIONS

SEPTEMBER 28

Keynote Lecturer: W-D. Schneider (École Polytechnique Fédérale de Lausanne, Switzerland)

Quantum oscillations, superconductivity, zero-bias anomalies, and Coulomb blockade in nanoscaled supported lead islands

Prof. J. Kirschner (Max-Planck-Institut für Mikrostrukturphysik, Halle, Germany)

Experiments on the exchange-correlation hole in solids

Prof. F. Martin (Universidad Autónoma de Madrid, Spain)

Electron Localization following Attosecond Molecular Photoionization of H₂

Prof. D. Menzel (Fritz-Haber-Institut der MPG, Berlin, Germany)

NO photochemistry on silver nanoparticles by nanosecond vs. femtosecond excitation

Prof. S. Blügel (Forschungszentrum, Jülich, Germany)

Electrons at surfaces: From Rashba effect to topologically protected spin textures

Prof. J.P. Gauyacq (Université Paris-Sud, Orsay, France)

Magnetic transitions induced by tunnelling electrons in individual adsorbates

Dr. J. Fransson (Uppsala University, Sweden)

Dynamical exchange interaction between localized spins in nonequilibrium

Prof. H.Ch. Schneider (TU, Kaiserslautern, Germany)

Ultrafast demagnetization dynamics in ferromagnets and Heusler alloys

Prof. R. Kienberger (Max-Planck-Institut für Quantenoptik, Garching, Germany)

Attosecond spectroscopy on solid surfaces

Prof. A.K. Kazansky (Fock Institute of Physics, Sankt Petersburg, Russia)

Some aspects of the theory of streaking experiments with subfemtosecond pulses on solids

2010

2010

PASSION FOR ELECTRONS

Dr. Ch. Lemell (Vienna UT, Austria)
Modelling XUV-NIR streaking experiments at metal surfaces

SEPTEMBER 29

Keynote: Passion for Photons

Prof. N. Halas (Rice University, Houston, USA)
Plasmonics: nanoscale manipulation of light

Prof. M. Rocca (Università di Genova, Italy)
Acoustic Surface Plasmons, a novel collective excitation at metal surfaces, with promising applications

Prof. T. Nagao (National Institute for Material Science, Tsukuba, Japan)
Plasmon propagation and confinement in atom-scale chains and sheets

Keynote: Passion for Soft Matter

Prof. D. Richter (Forschungszentrum Jülich, Germany)
Soft Matter and Live Science: Research with Neutrons

Prof. U. Höfer (University of Marburg, Germany)
Coherent dynamics of image-potential electrons

Prof. A. Rubio (University of the Basque Country, San Sebastián, Spain)
First principle modeling of the excited state properties of complex nanostructures and biomolecules: a TDDFT and Many-Body perturbation theory approach

Dr. J. Stähler (Fritz-Haber-Institut der MPG, Germany)
Ultrafast dynamics of coherent phonons during the insulator-metal transition of VO₂

SEPTEMBER 30

Keynote: Passion for Interfaces

Prof. F. Flores (UAM, Madrid, Spain)
Organic and inorganic semiconductor interfaces across physics, chemistry and time

Prof. H. Petek (University of Pittsburgh, USA)
Imaging the femtosecond time scale correlated electron-nuclear dynamics in surface photodesorption

Prof. E.V. Chulkov (University of the Basque Country, San Sebastián, Spain)
Decay mechanisms of single particle excitations in nanostructures surfaces

Prof. A. Heidenreich (University of the Basque Country, San Sebastián, Spain)
Laser pulse length dependence of electron and nuclear dynamics in Coulomb explosions of xenon clusters

2010

PASSION FOR ELECTRONS

Prof. M. Aeschlimann (University of Kaiserslautern, Germany)
Lifetime of optically excited electrons

Prof. B. Gumhalter (Institute of Physics, Zagreb, Croatia)
Ultrafast electron dynamics in pump-probe spectroscopies of surfaces: from transient excitonic to quasi-stationary polaronic states

Prof. J.M. Pitarke (CICnanoGUNE, San Sebastián, Spain)
The asymptotic behavior of the Kohn-Sham potential of Density-Functional Theory at metal surfaces

Prof. V.U. Nazarov (RCAS, Academia Sinica, Taipei, Taiwan)
Performance of the exchange-correlation kernel of time-dependent density-functional theory derived from LDA to current-density functional theory

Prof. Ph. Hofmann (University of Aarhus, Denmark)
The electronic structure of graphene: confinement-induced band gap opening and core electron delocalization

Prof. A.A. Lucas (FUNDP, Nandrin, Belgium)
Plasmon tsunami on C60 caused by electron transfer to a highly charged ion

Dr. L. Chico (Instituto de Ciencia de Materiales CSIC, Madrid, Spain)
Interface states in carbon nanotube junctions: Rolling up graphene

Dr. J. Zhao (University of Pittsburgh, USA)
The electronic structure graphene and graphene nanostructures from ab initio theory

Number of participants: 78

2010

European Physical Society Committee Meeting

October 1-2, 2010

CONTRIBUTORS

Carlos Hidalgo Plasma Physics Division
Bob Lambourne Physics Education
Jan Mostowski EPJ
M. Rosario Héras Celamin Royal Spanish Physical Society
Maria Helena Nazar Portuguese Physical Society
Igor Campillo Passion for Knowledge
Pedro Miguel Echenique Landiribar DIPC

2010

JCNS Panel Meeting

November 29-30, 2010

ORGANIZER

Arantxa Arbe (DIPC, Spain)

DIPC hosted the meeting of the JCNS Panel for proposals selection. After the permanent shut down of the research reactor FRJ-2 in Jülich, the Jülich Centre for Neutron Science (JCNS, <http://www.jcns.info>) has been founded. It encompasses the in-house research of the Institut für Festkörperforschung Jülich with neutrons, the instrument and method development and the instrument operation and user programs at the FRM-II reactor in Munich, the SNS Spallation Source in Oak Ridge and the ILL high-flux reactor in Grenoble. Twice a year, a committee of external experts in neutron scattering selects the best proposals from those submitted from all over the world to grant beamtime in the different instruments. In the November meeting celebrated at the DIPC 134 proposals were discussed. The Panel consists of a Chairperson (A. Arbe, CFM, San Sebastián) and 10 members (Stephan Förster, Bernhard Frick, Kim Lefmann, Roland May, Julian Oberdisse, Frederic Ott, Christian Pfeleiderer, Walter Richtering, Henrik Rønnow, Kristiaan Temst, and Regine Willumeit). In addition, two representative persons from JCNS (Alexander Ioffe and Thomas Gutberlet) attended the meeting to inform the Panel about the state of the art and future development of the instruments.

Symposium on Surface Science

March 6-12, 2011
Baqueira Beret, Lleida, Spain

ORGANIZERS

Andrés Arnau (UPV/EHU, CFM, DIPC, Spain)
Pedro M. Echenique (UPV/EHU, CFM, DIPC, Spain)

CONTRIBUTIONS

Chairperson Wolf-Dieter Schneider

Michael Altman
Moiré Twist in Graphene on Ru(0001)

Chairperson Pedro Miguel Echenique

Dietrich Menzel
Ultrafast charge transfer at graphene surfaces

Norbert Müller
Interplay between Electronic correlations and Coherent Structural Dynamics during the Monoclinic Insulator-to-Rutile Metal Phase Transition in VO₂

Ulrich Höfer
Time-resolved two-photon photoemission of metal/organic interface states

Wolf Widdra
Electronic properties of NiO thin films: A combined STM, STS, and 2PPE study

Chairperson U. Diebold

Claudia Ambrosch-Draxl
A Growth Model Based on Experiments and Simulations

Armin Gölzhäuser
Janus nanomembranes: Surfaces without bulk, functionalized on both sides

Manfred Buck
Electrochemical Generation of Low Dimensional Metal Structures on Top of Self-Assembled Monolayers

Christof Wöll
Charge Transport Through and Within Self-Assembled Monolayers: New Insights from Nanofabricated Model Devices

Chairperson F. Netzer

Matthias Scheffler
Gold clusters at finite temperature in vacuo and in a CO plus O₂ atmosphere: ab initio studies towards gold catalysis

Geoff Thornton
Defects on room temperature ultra-thin film CeO₂ with STM

2011

Chairperson E. Lundgren

Peter Varga
High Island Densities in Pulsed Laser Deposition: Causes and Implications

Yuriy Yanson
Copper electrodeposition on fast time scale: from underpotential deposition to bulk growth

Phil Willmott
Buckling under tension – LaAlO₃ on SrTiO₃

Fabien Cheynis
Dewetting dynamics of crystalline thin films

Chairperson M. Scheffler

Pascal Ruffieux
On-surface synthesis and characterization of grapheme nanostructures

Gustavo Ceballos
Growth of graphene nanoislands on a Ni(111) surface

Goucai Dong
Kinetics of graphene growth on Rh(111)

Gilberto Teobaldi
Structure and properties of surface and subsurface defects in graphite accounting for van der Waals and spin polarization effects

Chairperson G. Thornton

Ulrike Diebold
STM investigations of pure and Sn-doped In₂O₃ surfaces

Falko Netzer
Fabrication of a NiO_x nanodot superlattice

Chairperson F. Himpsel

Aitor Mugraza
Tuning the magnetic moment of individual molecules at the metallic interface

Ulrich Heinzmann
Spin-resolved Photoelectron Spectroscopy of Mn₆Cr Single-Molecule-Magnets and of Manganese Compounds as Reference Layers

Daniel Sánchez Portal
Magnetism of Covalently Functionalized Graphene

Poster presentations

Chairperson H. Brune

M. Faraggi
Characterization of an oxalic acid layer on Cu(111)

Q. Liu
Study of NO reduction by H₂ on a Pt(110) model catalyst in a High-Pressure STM

V.M. Silkin
Ultrafast screening of a point charge at a metal surface

A. García-Lekue
Plane-wave based Electron Tunneling through Au Nanojunctions

S.J. Leake
Structural studies of the metal-insulator transition in LaNiO₃ thin films

N. Gonzalez Lakunza
Structure and electronic properties of TCNQ-F4 deposited on clean Au(111)

M. Dürr
Fast and with atomic precision – real-space investigation of hydrogen diffusion on Si(001) using nanosecond laser heating and STM

V. Navarro
Cobalt catalyst in action followed at high pressures with STM and SXRD during hydrocarbon synthesis

S. Blomberg
The high pressure oxidation and reduction by CO of Rh – from single crystal to nanoparticles

P. Cabrera-Sanfelix
Water Adsorption on Clean and Oxygen Decorated Metal Substrates

Johannes V. Barth
Assembly and manipulation of supramolecular dynamers and rotatable sandwich complexes on a surface

Ulrich Heinzmann
Preparation of Monolayers of Mn₆Cr Single Molecule-Magnets on different Substrates and characterization by means of nc-AFM

T. Passanante
Thermal decomposition of oxidized Silicon-on-insulator thin film

M. E. Messing
Generation of Pd model catalyst nanoparticles by spark discharge

Chairperson E. Tagliauer

F. Aumayr
Nano-craters formed by impact of individual highly charged ions on PMMA surfaces

P. Bauer
Information depth in Low Energy Ion Scattering

Chairperson D. Menzel

F. J. Himpsel
Magnetism at Stepped Silicon Surfaces

J. I. Cerdá
CoPc adsorption on Cu(111): Origin of the C₄ to C₂ symmetry reduction

2011

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E. V. Chulkov
Electronic structure of topological insulators

J. E. Ortega
Tailoring interactions in supramolecular networks by fluorination

Chairperson Pascal Ruffieux

W.D. Schneider
Supramolecular self-assembly driven by electrostatic repulsion:
The 1D aggregation of Rubrene pentagons on Au(111)

K. Morgenstern
Preferred Pathway for a Molecular Photo Switch in Contact with a Surface

H. Daimon
Wide acceptance angle photoelectron spectrometer for stereophotograph of atomic arrangement

E. Lundgren
Probing a surface reconstruction with anomalous X-ray diffraction

Chairperson K. Morgenstern

T. Stempel
Bridging the Pressure Gap -
Developments and Challenges for Ambient Pressure Photoelectron Spectroscopy

M. Maier
High Precision local electrical Probing at $T < 5K$: Potential and Limitations for the Analysis of
Nanocontacts and Nanointerconnects

Chairperson F. Aumayr

T. Koshikawa
Dynamic magnetic domain observation with novel highly spin polarized and high brightness LEEM

J. Gustafson
Methane oxidation over Pd and Pt: linking surface science and industrial catalysis

S. Yu. Krylov
Atomic scale friction: Physically nontrivial problems

F. Salvat-Pujol
Contribution of surface excitations to secondary-electron emission observed by
secondary-electron-energy-loss coincidence spectroscopy

Chairperson P. Muller

D. Stradi
The role of dispersion forces in the structure of graphene monolayers over the Ru(0001) surface

F. Tabak
Fast scanning with piezo/counter-piezo elements and MEMS scanners: a comparison

F. J. Giessibl
Sensing Atomic Forces

T. Frederiksen
Atomic-scale engineering of electrodes for single-molecule contacts

Highlights in Quantum Condensed Matter Physics

June 17-23, 2011

ORGANIZERS

F. Sebastian Bergeret (CFM-CSIC, DIPC, Donostia-San Sebastián, Spain)
Miguel A. Cazalilla (CFM-CSIC, DIPC, Donostia-San Sebastián, Spain)
Chandra M. Varma (University of California Riverside, USA)
F. (Paco) Guinea (Instituto de Ciencia de Materiales de Madrid-CSIC, Spain)

The aim of this workshop was to bring together leading researchers working at the frontier of Condensed Matter Physics, in topics which include Graphene and Topological Insulators, High-Tc Superconductivity, Superconductivity at the Mesoscale, and Ultracold Atomic Gases.

CONTRIBUTIONS

Topological Insulators and Topological Phase Transitions

Lauren Molenkamp (Würzburg): Dirac Fermions in HgTe Quantum Wells.
Frederik Schiller (San Sebastian): Lifshitz Transition at the Surface of Noble Metals.

High-Tc Superconductivity (I)

Zhi-Xun Shen (Stanford): Dynamic Gap Competition Leading to a Revised Cuprate Phase Diagram
Steven Kivelson (Stanford): Aspects of the Phase Diagram of the Hubbard Model
Welcome Address by the President of DIPC Pedro M. Echenique

High-Tc Superconductivity (II)

Philippe Bourges (Saclay): Novel Magnetic Order and Excitations in High-Tc Copper-oxide Superconductors
Vivek Aji (Riverside): Quantum Criticality in Dissipative Quantum
Two-Dimensional XY and Ashkin-Teller Models: Application to the Cuprates

One Dimensional Systems and Beyond

Leonid Glazman (Yale): Non-linear Quantum Liquids in One Dimension
Julia Meyer (Grenoble): Phase Transitions in Quantum Wires
Masaki Oshikawa (Tokyo): Frequency Shift of Electron Spin Resonance
Thierry Giamarchi (Geneva) Spin Dimers: From BEC to Luttinger Liquids
Fractional Quantum Hall Effect and Topological Quantum Computing
F. Duncan Haldane (Princeton):

Hall Viscosity and A New Geometric Description of the Fractional Quantum Hall Effect
Inés Safi (Orsay): Measuring Fractional Charges without Recourse to Noise: A Novel Proposal
Yuval Oreg (Weizman): Majoranas and Topological Quantum Processing in 1D Networks
Daniel Arovas (San Diego): Gamma Matrix Generalizations of the Kitaev Model

Graphene and Graphene-related Phenomena (I)

Jennie Lau (Riverside): Quantum Transport in Suspended Bilayer and Trilayer Graphene
José González (Madrid): Higgs-like Condensation of Ripples and Buckling Transition in Graphene
Pablo Jarillo-Herrero (MIT): Electronic Transport in Graphene and Topological Insulators
Maxim Kharitonov (Rutgers): Correlated $\nu = 0$ Quantum many States in Mono- and Bilayer Graphene

Graphene and Graphene-related Phenomena (II)

María Vozmediano (Madrid): Aharonov-Bohm Interference from Local Deformations in Graphene
Michael Fogler (San Diego): Graphene Nanoplasmonics
Alexey Nikitin (Zaragoza): Nanoemitters in Graphene

Strong Correlations in Ultracold Gases and Condensed Matter(I)

Christophe Salomon (Paris): Quantum Simulation of Strongly Correlated Fermions with Cold Atomic Gases
 Marco Polini (SNS Pisa): Spin Dynamics and Spin Drag in Fermi Gases
 Konstantin Efetov (Bochum): Describing Systems of Interacting
 Fermions by Boson Models: Mapping in Arbitrary Dimension and Applications
 Alejandro Muramatsu (Stuttgart): Correlated Fermions on Graphenelike Lattices

Strong Correlations in Ultracold Gases and Condensed Matter (II)

Sungkit Yip (Academia Sinica): Spinor Bosons in Optical Lattices
 Shan-Wen Tsai (Riverside): Mediated Interactions and Correlated Phases in Cold Atom Mixtures
 Frank Hekking (Grenoble) Persistent Currents in a One-dimensional Bosonic Ring

Topologically Ordered Matter

Shoucheng Zhang (Stanford): Topological Insulators and Superconductors
 Aharon Kapitulnik (Stanford): STM Studies of the Local Density of States Near Impurities and
 Macroscopic Defects on the Surface of Topological Insulators
 Leon Balents (Santa Barbara): Quantum Spin Liquids in Quantum Spin Ice
 Tero Heikkilä (Helsinki): High Temperature Surface Superconductivity in Topological Flat Band Systems

High-Tc Superconductivity (III)

Greg Boebinger (Florida): Heat Capacity of Underdoped YBCO through the
 Magnetic-field-induced Resistive Transition: d-wave Superconductor Or Fermi Liquid Or Both Or Neither
 Chandra Varma (Riverside) Pseudogap State of the Cuprates
 Jörg Schmalian (Karlsruhe): Ising-nematic Order in the Ironbased Superconductors
 Piotr Chudzinski (Geneva): Collective Excitations and Low Temperature Transport Properties of Bismuth
 Javier Sanchez-Yamagishi (MIT): Quantum Hall Effect and Screening in Twisted Bilayer Graphene
 Christoph Schenke (Grenoble): Tonks-Girardeau Bosons Stirred on a 1D Ring

Mesosopic Systems

Alfredo Levy-Yeyati (Madrid): Andreev Transport in Carbon Nanostructures
 Juan-Carlos Cuevas (Madrid): Supercurrents in Microwave-Irradiated Superconducting Nanostructures
 Moshe Goldstein (Yale): Quantum Impurity Model for Microwave Photons
 Paco Guinea (Madrid): Closing Remarks

PCAM Summer School 2011: Electronic and Optical Properties of Nanoscale Materials

July 4-7, 2011

CHAIRMAN

Jose M. Pitarke (CIC nanoGUNE and UPV/EHU, Spain)

ORGANIZING COMMITTEE

Gian Paolo Brivio (U. Milano-Bicocca, Italy)

Ricardo Diez Muiño (CFM-CSIC and UPV/EHU, Spain)

Iñaki Juaristi (UPV/EHU)

Enrique Zarate, Secretary General (CIC nanoGUNE, Spain)

The PCAM (Physics and Chemistry of Advanced Materials) European network of doctorate programmes organizes every year a summer school on a specific relevant topic. The 2011 edition was organized by the University of the Basque Country (UPV/EHU), the Materials Physics Center CSIC-UPV/EHU, Donostia International Physics Center (DIPC), and the Nanoscience Cooperative Research Center nanoGUNE Consolider, in the framework of the Summer Courses of the University of the Basque Country. The lectures will focus on Electronic and Optical Properties of Nanoscale Materials. The participation is open to PhD students, post-docs, and all researchers interested in the field. The lecturers are first-class scientists and world leaders in their fields. The program, based on lectures and invited talks, also included oral contributions and a poster session.

Nanotechnology has set a new framework in material science where new materials are being designed for specific applications. A deep theoretical and experimental understanding is necessary to get insight and profit on the possibilities arising from the manipulation of materials at the nanoscale. The design of this course provides attendees with state-of-the-art knowledge on electronic and optical properties of nanoscale materials, most interesting in many applications such as nanodevices, sensing, or medicine.

CONTRIBUTIONS

R. Martin (Illinois, USA)

Electronic structure of solids and nanoscale materials

J.J. Saenz (Madrid, Spain)

Photonic Materials

R. Berndt (Kiel, Germany)

Controlled single atom and single molecule contacts

C. Ocal (Barcelona, Spain)

Look closely at how and why supramolecular order influences

G. Drera (Milan, Italy)

A Resonant Photoemission Study Of LaAlO₃-SrTiO₃ Interface: Evidence Of In-gap Ti- + Electronic States

O. Idigoras (San Sebastian, Spain)

Anomalous Hard Axis Behavior In Uniaxial Co-films

E.J.G. Santos (San Sebastian, Spain)

Spin-Strain Phase Diagram Of Defective Graphene

J. Fransson (Uppsala, Sweden)

Theory For Spin-polarized STM Applied To Local Spins

2011

R. Martin (Illinois, USA)

Electronic structure of solids and nanoscale materials

J.J. Saenz (Madrid, Spain)

Photonic Materials

A. Valsesia (Varese, Italy)

Nanoplasmonic devices, the next generation of ultrasensitive multiplexing biosensors

R. Hillenbrand (San Sebastian, Spain)

Infrared and Terahertz near-field nanoscopy

C. Motta (Milan, Italy)

Conducting Properties Of Diarylethene-based Molecular Switch On Graphene Leads

M. Gobbi (San Sebastian, Spain)

Magnetoresistance In Ferromagnetic-fullerene Hybrid Devices

P. Koval (San Sebastian, Spain)

O(N³) Implementation Of Hedin's GW Approximation With Dominant Products Basis

B. Rousseau (San Sebastian, Spain)

Response Functions Through Wannier Interpolation

M. Chhowalla (New Jersey, USA)

Graphene

J. Kirschner (Halle, Germany)

Spin-Polarized STM and Nanomagnetism

S. Roche (Barcelona, Spain)

Exploring Quantum Transport in Graphene-based Devices: From Novel Device Principles to Spintronics

C. Gómez-Navarro (Madrid, Spain)

Chemically derived graphene: electronic and mechanical properties

M. Chhowalla (New Jersey, USA)

Graphene

J. Kirschner (Halle, Germany)

Spin-Polarized STM and Nanomagnetism

M.I. Trioni (Milan, Italy)

Theoretical treatment of electronic properties of single adsorbates on extended substrate

P.M. Echenique (San Sebastian, Spain)

Electron dynamics at surfces and nanostructures

L. Martin-Gondre (San Sebastian, Spain)

Energy Dissipation IN The Scattering Of Nitrogen off Ag(111) Surface

I. Goikoetxea (San Sebastian, Spain)

Non-adiabatic Effects During The Dissociative Adsorption Of O2 At Ag(111)?

A First principles Divide and Conquer Study

D. Gallach (Madrid, Spain)

Properties Of ZnO/Psi/Si Structures Prepared By The Sol-gel Technique

A. García-Lekue (San Sebastian, Spain)

Switching Of Molecular Conductivity Under Electric field

Workshop on Graphene

August 29–September 2, 2011

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Andres Ayuela

Francisco Guinea

Paula Fekete

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Chairperson Professor Godfrey Gumbs (CUNY, USA)

Philip Kim (Columbia University, USA)

Manifest of electron interactions in quantum Hall effect in graphene

Klaus Zeigler (Universität Augsburg, Germany)

Collective modes of graphene

Shengjun Yuan (IMM, The Netherlands)

Modeling Electronic Properties of Single-layer and Multilayer Graphene

Chairperson Dr. Danhong Huang (AFRL, USA)

Y.H. Chiu (NCKU, Taiwan)

Magneto-optical excitation of graphene under periodic magnetic field

Elton J.G. Santos (DIPC, Spain)

Magnetism of graphene with defect vacancies, substitutional metals and covalent functionalization

Chairperson Yonatan Abraynos (CUNY, USA)

Francesco Guinea (ICMM, Spain)

Electron-electron interaction in graphene

Charles Smith (University of Cambridge, United Kingdom)

Using low temperature scanning probe techniques to study graphene quantum dots

Yen-Hung Ho (NCKU, Taiwan)

The electronic and optical properties of graphene layers in response to magnetic field

Yurii Lozovik (MIPT, Russia)

Collective and coherent properties of graphene

Rafael Roldán (IMM, the Netherlands)

Bernstein modes in graphene

Luis Brey (ICMM, Spain)

Dirac electrons in superlattice potentials

2011

Emmanuele Cappelluti (ICMM, Spain)
Spectral properties of phonon peaks in optical conductivity of graphene

Oleksiy Roslyak (CUNY, USA)
Charged particle energy loss in epitaxial, irradiated and free-standing multilayer graphene

W. Silkin (DIPC, Spain)
Unoccupied electronic states in layered graphene

Maria Vozmediano (ICMM, Spain)
General relativity and graphene

Leonid Levitov (MIT, USA)
States with spontaneously broken time reversal symmetry in graphene

Chairperson Paula Fekete (USMA, USA)

Wen Xu (ISSP, China)
Infrared optoelectronic properties of graphene and its application in HgCdTe infrared detectors

Mahi Singh (UWO, Canada)
Photon switching mechanism in graphene and quantum dot hybrid systems

Eugene Kogan (Bar-Ilan, Israel)
The influence of near-neighbor model in graphene on the dielectric function and plasmons

María P. López-Sancho (ICMM, Spain)
The effect of pressure on the magnetic moments of multilayer graphene

Chairperson Dr. Danhong Huang (AFRL, USA)

Fernando de Juan (IU, USA)
Aharonov-Bohm interferences from local deformations in graphene

Cristina Hernández Fuentevilla (USAL, Spain)
Transmission and conductance across a square barrier potential in monolayer graphene

Chairperson Mahi Singh (UWO, Canada)

Andres Ayuela Fernandez (DIPC, Spain)
Edge states and flat bands in graphene nanoribbons with arbitrary geometries

Enrique Diez (USAL, Spain)
Metal-insulator transitions in graphene

Hector Ochoa (ICMM, Spain)
Spin-orbit coupling and spin relaxation mechanisms in graphene

Paula Fekete (USMA, USA)
Effects of a potential barrier on spin currents along a nanotube

Amaia Zurutuza (Graphenea, Spain)
Graphenea and experiments at nanoGUNE

Mestizajes. Encuentro Internacional sobre Literatura y Ciencia

Mestizajes. Transitando las fronteras entre arte, ciencia y humanismo

Octubre 18-19, 2011

CHAIRMAN
Gustavo Ariel Schwartz (Centro de Física de Materiales/CSIC)

CO-CHAIRMAN
Juan Colmenero (DIPC, Jakiunde and CFM)

COMITÉ ACADÉMICO
Emmanuel Lizcano Fernández (UNED)
Ricardo Diez Muino (CFM - CSIC)
Silvina Cerveny (CFM - CSIC)
Andoni Ibarra (UPV/EHU)

¿Es posible un diálogo entre Ciencia y Literatura? ¿Tienen acaso algo que decirse?
¿Qué pueden aportarse mutuamente? ¿Es posible (y deseable) esta interacción?
¿O acaso ya existe sin que nos lo propongamos?

Mestizajes se propone como un espacio donde ponentes invitados debatirán con los asistentes estas (y otras) cuestiones mediante una serie de workshops y conferencias.

Mestizajes constituye un espacio alternativo para el encuentro de artistas, científicos y humanistas. Un lugar para el debate, para pensar diferente, para imaginar; un lugar para la búsqueda, para el encuentro y también para el desacuerdo; un lugar para la generación y la divulgación de nuevas formas de conocimiento. Mestizajes pretende abrir un camino que permita transitar la frontera entre arte y ciencia y crear allí un terreno fértil para la generación de nuevas ideas. Mediante workshops y conferencias Mestizajes pretende fomentar la participación activa y una mirada crítica de la realidad desde una perspectiva innovadora y vanguardista. La idea fundacional de Mestizajes es que se ha abierto una grieta en la muralla que separa arte y ciencia y que es posible transitar esa frontera e internarnos en un territorio emergente cargado de un enorme potencial humano e intelectual.

Encuentro Internacional sobre Literatura y Ciencia

Los encuentros se llevarán a cabo en dos modalidades. Por las mañanas se realizará un Workshop en el Donostia International Physics Center (DIPC) donde los invitados disertarán acerca de diferentes aspectos sobre literatura y ciencia (ver temas del encuentro) y habrá un espacio para la discusión y el debate. Por la noche tendrán lugar las conferencias con ponencias individuales o mesas redondas sobre cada una de las áreas de interés del encuentro. Podrán encontrar información más detallada en las páginas del Workshop o de las Conferencias.

En esta ocasión, el tema de debate se centrará en la frontera entre Literatura y Ciencia. Nos proponemos explorar las formas de representación, la autorreferencialidad, los dualismos y el uso de modelos y metáforas tanto en ciencia como en literatura. Indagaremos sobre los distintos tipos de relaciones entre literatura y ciencia y exploraremos las posibilidades de ese espacio común situado en la frontera entre ambas.

Los objetivos principales de Mestizajes son favorecer el diálogo entre ciencias, artes y humanidades; fomentar la diversidad intelectual y promover el mestizaje entre distintas formas de conocimiento; analizar el surgimiento simultáneo de ideas en diversos campos del conocimiento, como así también estimular la influencia recíproca, entre las ciencias, las artes y las humanidades. Mestizajes se propone como un espacio para romper con la hiper-especialización del conocimiento y desde donde promover el multilingüismo cognitivo. Mestizajes se propone como un ámbito abierto y estimulante donde explorar ese territorio virgen, esa "terra incógnita", que se encuentra en la frontera entre ciencia y arte. Mestizajes pretende contribuir a la construcción de un conocimiento más amplio donde arte, ciencia y humanidades se complementen y se enriquezcan mutuamente.

Temas del encuentro

- Las formas de representación en literatura y en ciencia.
- La autorreferencialidad en ciencia y en literatura.
- Metáforas y modelos.
- El pensamiento contemporáneo.

Posibles cuestiones para el debate

¿Cómo condicionan las formas de representación nuestra mirada sobre lo representado? ¿Puede el punto de vista cambiar nuestra interpretación acerca de lo que vemos? ¿Vemos o miramos? ¿Existe realmente una división clara entre objeto y sujeto? ¿Qué ocurre cuando el sujeto coincide con el objeto? ¿Qué problemas aparecen cuando la ciencia o la literatura indagan acerca de ellas mismas? El problema del otro. Limitaciones del pensamiento dualista. ¿Utiliza metáforas la ciencia? ¿Cuál es la diferencia entre metáforas y modelos? ¿Pueden las metáforas potenciar el conocimiento? Conocimiento holístico y conocimiento reduccionista. Ventajas y limitaciones de las categorías. Aspectos culturales de las formas de representación. ¿A qué responden los cambios de representación?

Workshop

Luisa Etxenike

En cuerpo y alma. Las formas de representación en Literatura y Ciencia

Alberto Rojo

Poesía y Física

Discusión/Mesa redonda: Luisa Etxenike y Alberto Rojo

Moderador: Gustavo Schwartz

Marta Macho-Stadler

Las matemáticas del OuliPo

Gustavo Vargas Silva y Gorka Calzada Terrones

La experiencia de coescribir literatura científica infantil y juvenil.

Biografía de Leonhard Euler escrita a cuatro manos

Enkarni Gomez Genua y Ainhoa Güemes Moreno

(Im)Precisiones para una Gnoseología Artecno científica y Feminismos

Guillermo Roa

Microciencia: Ciencia a través del micro

Moderadora: Luisa Etxenike

Guillermo Martínez

Autorreferencia en Literatura y Matemática

Luis Sáez Rueda

La 'Mathesis Universalis' como patología de Occidente y los cauces emergentes para su rebasamiento.

Mesa redonda

Guillermo Martínez / Luis Sáez Rueda

Moderador: Andoni Ibarra

Agustín Fernández Mallo

El mundo como diseño: las ciencias como representación.

Moderadora: Silvina Cervený

Cierre: Gustavo Schwartz

Conferencias

Luisa Etxenike/Alberto Rojo

En cuerpo y alma. Las formas de representación en Literatura y Ciencia. Poesía y Física

Moderador – Gustavo Schwartz

Bernardo Atxaga

Reacciones ante una piedra rayada

Moderador: Juan Colmenero

Guillermo Martínez / Luis Sáez Rueda

Autorreferencia en Literatura y Matemática.

La 'Mathesis Universalis' como patología de Occidente y los cauces emergentes para su rebasamiento

Moderador: Andoni Ibarra

Mariasun Landa Etxebeste / Agustín Fernández Mallo

Espacios entre las fronteras de la ciencia y la literatura.

El mundo como diseño: las ciencias como representación

Moderadora: Silvina Cervený

Network Meeting of the European project "CUBiHOLE", ERANET project

October 26-29, 2011

ORGANIZER
Javier Aizpurua

This Network meeting was devoted to analyze the progress on the European project CUBiHOLE, an ERANET project prioritized by the European Union, and funded by the Spanish Ministry within the program of Internationalization. The aim of this project is to build, characterize optically and understand clusters of metallic nanoparticles linked by organic cages (cucurbiturils) as hybrid platforms to host optoelectronic processes and devices. The first part of the Workshop took place in Hondarribia, where a set of technical talks devoted to report on the progress of each aspect of the project was developed. The Chemical group from the University of Cambridge reported on the last progress on CBs synthesis, the group from the University of Bordeaux reported on the recent achievements on electrochemical synthesis of hybrid systems, the Optical group of the University of Cambridge reported on the optical characterization of the clusters by measuring optical extinction, and SERS activity on the metallo-organic platform. The group from DIPC reported on the latest advances in the theoretical characterization of the physics of aggregation of the particle clusters, and on the processes involving tunneling between the particles.

The second part of the workshop took place at Donostia International Physics Center in Donostia, where a full day of the Meeting was devoted to analyze the perspectives and potential of the project CUBiHOLE from the point of view of intellectual property (IP). To that end, a group of experts in IP from Cambridge University Enterprise, an Agency of the University of Cambridge dealing with intellectual property issues managed a full session to identify the main topics and potentials of the project on the short, medium and long term for commercial exploitation.

2011



<http://dipc.ehu.es>

Credits

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