

Fellows Gipuzkoa

Dr. Arantzazu Garcia Lekue

Lawrence Berkeley National Laboratory, USA

01/10/2006–31/10/2012

Electron transport and dynamics in nanostructure materials. Elastic quantum transport through molecular nanodevices, such as molecular based electronic switches. Inelastic effects caused by electronvibration interactions.

Dr. María José Cabrera San Félix

University of Liverpool, United Kingdom and Donostia International Physics Center, Spain

01/11/2007–31/10/2012

Molecular modelling of water ice in atmospheric and astrophysical environments. First-principles calculations of the structural properties and reactivity of water adsorbed, at the monolayer and submonolayer regions, on different surface types: metallic, ionic and graphitic surfaces.

Dr. Thomas Frederiksen

Technical University of Denmark

01/03/2008–14/08/2012

Theory and simulation of electronic transport properties of nanoscale systems. First-principles modeling of current-induced phenomena, inelastic scattering, and local heating. Density functional theory, nonequilibrium Green's functions, electron-phonon coupling, molecular electronics, monatomic chains, fullerenes.

Dr. Laura Fernández Gómez-Recuero

Technische Universität Dresden, Germany

01/01/2009–31/12/2013

Preparation and characterization of self-assembled metallic nanostructures that reveal magnetic properties. Structural analysis by scanning tunneling microscopy. Magnetic characterization by magnetometry and magneto-optics.

Dr. Maria Blanco Rey

University of Cambridge, United Kingdom

01/12/2010–31/05/2013

Molecular dynamics studies and non-adiabatic effects in the interaction of molecules and atoms with solid surfaces. Inelastic electron scattering. Surface crystallography by low-energy electron diffraction.

Dr. Rubén Esteban Llorente

NIST (National Institute of Standards and Technology), Gaithersburg, Maryland, USA

11/03/2013–Present

Quantum plasmonics.

Dr. Maia García Vergniory

Max Planck Institute of Microstructure Physics, Halle an der Saale, Germany

01/06/2013–Present

Electronic and magnetic properties in ordered and disordered topological insulators.

Dr. Peter Koval

Centro de Física de Materiales CSIC-UPV/EHU, Donostia-San Sebastián, Spain

25/11/2013–Present

Development of MBPT with localized orbitals.

Postdoctoral Positions**Dr. Santiago Rigamonti**

Centro Atómico Bariloche, Argentina

23/04/2008–04/05/2012

Electronic structure of low dimensional systems and transport in molecular junctions.

Dr. Marisa Faraggi

Universidad de Buenos Aires, Argentina

05/05/2008–30/04/2012

We study the dynamics of electronic excitation in metallic surfaces focusing on the study of electron-electron and electron-phonon interactions.

Dr. Ludovic Martin-Gronde

Université Bordeaux1, Talence, France

01/09/2009–14/09/2012

Theory of elementary reactive processes at metal surfaces: Calculation of potential energy surfaces from first-principles and evaluation of reaction rates in Eley-Rideal processes.

Dr. Siddhart Surajbhan Gautam

Bhabha Atomic Research Centre, Mumbai, India

04/09/2009–30/09/2012

Structure and dynamics of polymers by neutron scattering and md-simulations.

Dr. Pawel Rejmak

Institute of Catalysis and Surface Chemistry of Polish Academy of Science, Krakov, Poland

02/06/2010–31/05/2013

First-principles calculations on nanostructures.

Dr. Vasse Chis

University of Göteborg, Sweden

15/11/2010–31/12/2012

First-principle calculations of vibrations and electron-phonon interaction in heavy materials.

Dr. Iñigo Garcia Yoldi

Instituto de Ciencia y Tecnología de Polimeros, CSIC Madrid, Spain

01/03/2011–31/08/2012

Simulation of confined polymers.

Dr. Patrizia Borghetti

Università Cattolica del Sacro Cuore, Brescia, Italy

07/04/2011–30/04/2012

Physical chemistry of interfaces in organic solar cells.

Dr. Alvise Verso

Ulm University, Germany

01/05/2011–31/07/2013

Readout of a superconducting qubit: a problem of quantum escape processes for driven systems.

Dr. Alejandro Miccio

Facultad de Ingeniería - INTEMA, Mar del Plata, Argentina

21/07/2011–14/04/2013

Local Dielectric Spectroscopy by means of AFM.

Dr. Eithiraj Rajagopal Dashinamoorthy

Anna University, India

18/08/2011–31/08/2013

Computational solid state spectroscopy

Dr. Debsindhu Bhowmik

Laboratoire Léon Brillouin (CEA-NRS), Gif-sur-Yvette, France

01/01/2012–18/12/2013

Behavior of hydrophobic ions in aqueous medium.

Dr. Orkhan Osmani

Universität of Duisburg-Essen, Fakultät für Physik, Duisburg, Germany

09/01/2012–31/12/2012

Nanostructure formation under swift heavy ion irradiation of metals and insulators.

Dr. Andrew Walter

La Trobe University, Australia

06/03/2012–23/07/2013

Electronic structure investigations on defect arrays by angle resolved photoemission.

Dr. Ilya Nechaev

Tomsk State University, Russia

03/04/2012–Present

Electronic structure and many-body effects in layered semiconductors.

Dr. Christos Tserkezis

University of Athens, Greece

01/08/2012–Present

Optical properties of metamaterials.

Dr. Noelia Luque

Universidad Nacional de Córdoba, Argentina

01/11/2012–Present

Ab-initio quantum chemistry studies of seleno-L-cysteine on coinage metal surfaces.

Dr. Stepan Tsirkin

State University of Tomsk, Russia

04/12/2012–Present

Magnetic proximity effect in the layered structures.

Dr. Pablo Aguado Puente

Universidad de Cantabria, Santander, Spain

01/01/2013

Coupling of ferroic nanoscale films with interfacial two dimensional electron gases in oxides.

Dr. Chang-Jin Lee

Boston College, Massachusetts, USA

01/04/2013

Electronic excitations and many-body effects in solids, surfaces, and nanostructures.

Dr. Fabienne Barroso Bujans

Centro de Física de Materiales, CSIC-UPV/EHU, Donostia-San Sebastián, Spain

16/04/2013

Aimed at finding the much-needed link between structure and properties of polymers confined at subnanometer dimensions at both fundamental and practical levels via understanding, tuning, and, ultimately, controlling the properties of polymer-based graphene nanostructured matter.

Dr. Maria de Retamosa Hernandez

Facultad de Química, UPV/EHU, Donostia-San Sebastián, Spain

01/07/2013

Remote structural effects in unnatural amino acids.

Dr. Rubén González Moreno

Instituto de Ciencia de Materiales de Madrid, CSIC, Spain

01/07/2013

Fabrication of curved single crystals.

Dr. Mikhail Otkov

State University of Tomsk, Russia

17/07/2013

Topological insulators.

Dr. Miren Iosune Arrastia Basalo

Facultad de Química, UPV/EHU, Donostia-San Sebastián, Spain

01/08/2013

Multiple spin state reactivity in Fe-containing complexes and enzymes.

Temporary Contract Position

Dr. Irina Sklyadneva

Russian Academy of Sciences, Tomsk, Russia

14/05/2003–Present

Surface phonons and electron-phonon interactions in bulk metals and at metal surfaces. Electron-phonon interactions are of paramount importance for the correct description of the temperature dependence of quasiparticle dynamics in bulk metals and at metal surfaces. The goal of the present project is calculations of electron-phonon interactions for overlayers of alkali metals on simple and noble metal surfaces. These calculations will be also done for superconducting materials like MgB₂ and for semimetals.

PhD Students

Olalla Pérez González

Facultad de Ciencia y Tecnología, Universidad del País Vasco/Euskal Herriko Unibertsitatea, Donostia-San Sebastián, Spain
02/10/2006–31/03/2012
Plasmon excitations in metallic nanoparticles. Optical properties of nanostructured materials.

Marco Bernabei

Universita di Roma Tre, Roma, Italy
29/10/2007–31/01/2012
Molecular dynamics simulations of simple models for glass-forming polymers.

Zakaria Mohammed Slimani

Centre Européen de Calcul Atomique et Moléculaire (CECAM), Lyon, France
24/02/2009–23/08/2013
Dynamics of diblock copolymers by computer simulations (Ph.D.) Computer simulations of self-assembly and slow dynamics in diblock copolymers.

Mohamed Ameen Poyli

Bharathidasan University, Tiruchirappalli Tamil Nadu, India
01/06/2010–31/01/2012
Photonic Nanoantennas.

Elixabete Goiri Little

Facultad de Ciencias y Tecnología, Universidad del País Vasco/Euskal Herriko Unibertsitatea, Leioa, Spain
01/07/2010–Present
Tunneling microscopy and spectroscopy of molecules on metals at 1 K.

Mario Lechner

Johannes Kepler Universität Linz, Austria
01/09/2010–31/08/2012
Design and self-assembly of polymer-based nanoparticles by computer simulations.

Alexander Correa Aristizabal

Universidad del Valle, Cali, Colombia
21/06/2011–Present
Studies at the nanoscale of interfaces for biosensor and solar cell applications.

Rubén González Moreno

Instituto de Ciencia de Materiales de Madrid, CSIC, Spain
27/07/2011–30/06/2013
Properties and organization of protoporphyrin IX molecules on metal and oxide surfaces.

Mikolaj Kajetan Schmidt

Copernico University, Torun, Poland
13/10/2011–31/03/2013
Radiative decay of emitters in the presence of magnetic dipoles.

Zakaria Abd El-Fattah

Universidad del País Vasco/Euskal Herriko Unibertsitatea, Centro de Física de Materiales CSIC-UPV/EHU, Donostia-San Sebastián, Spain
07/05/2012–13/02/2013
Electronic/structure interplay in self-assembled nanostructured noble metal surfaces.

Ali Akbari

Centro de Física de Materiales CSIC-UPV/EHU, Donostia-San Sebastián, Spain
01/07/2012–18/04/2013
Time-dependent reduced density matrix and density functional formalisms for many electron systems.

Itziar Gokoetxea Martinez

Centro de Física de Materiales CSIC-UPV/EHU, Donostia-San Sebastián, Spain
01/07/2012–31/03/2013
Scattering and reactive processes in gas/surface dynamics.

Juan Pablo Echeverry Enciso

Centro de Física de Materiales CSIC-UPV/EHU, Donostia-San Sebastián, Spain
01/07/2012–14/01/2013
Low-energy collective electronic excitations in graphite intercalated compounds.

Peio Garcia Goiricelaya

Universidad del País Vasco/Euskal Herriko Unibertsitatea, Leioa, Spain
01/11/2012–31/01/2013
Electron-phonon interaction and non-adiabatic processes in nano-structures.

Maider Ormaza Saezmiera

Centro de Física de Materiales, CSIC-UPV/EHU, Donostia-San Sebastián, Spain
01/01/2013–30/06/2013
Electronic structure of rare-earth, surface alloys.

Anton Xose Brión Rios

Universidad de Vigo, Spain
06/02/2013–Present
Theoretical study on the molecular adsorption and self-organization on substrates of different nature.

Dino Novko

University of Zagreb, Croatia
25/09/2013–Present
Modelling energy exchange in gas/surface interactions by means of ab-initio molecular dynamics.

Aitzol Iturbe Beristain

Universidad del País Vasco/Euskal Herriko Unibertsitatea, Leioa, Spain
01/10/2013–Present
Electron-phonon interaction in surfaces with strong spin-orbit interaction.

Oihana Galparsoro Larraza

Facultad de Química, Universidad del País Vasco/Euskal Herriko Unibertsitatea, Donostia-San Sebastián, Spain
01/10/2013–Present
Phonon and electron excitations in diatom abstraction from metallic surfaces.