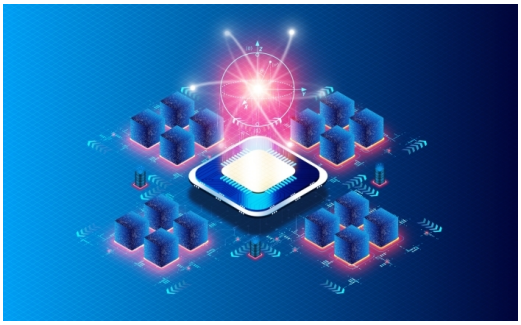
XXIst International Workshop on Quantum Atomic and Molecular Tunneling Systems (QAMTS24)



17.Jun - 21.Jun 2024

Cod. Z07-24

Mod.:
Face-to-face

Edition
2024

Activity type
Workshop

Date
17.Jun - 21.Jun 2024

Location
Miramar Palace

Languages
English

Academic Validity
50 hours

Web
https://qamts2024.dipc.org/

Organising Committee

Description

Tunneling phenomena are of importance in a wide range of fields in the physical, chemical, biological and computational sciences. The present series of Workshops has always been highly cross-disciplinary. It encompasses work on tunneling of protons and heavier species in gas and condensed phases, in general, including biological systems, chemical reactions, transport phenomena in solids and liquids and in systems of lower dimensionality.

The scientific program will include, but is not limited to, the following topics:

• *Proton tunneling in hydrogen bonds*
• *Tunneling and proton transfer in biomolecular systems*
• *Kinetic isotope effects*
• *Vibrational rotational tunneling dynamics in molecules and clusters*
• *Tunneling in quantum ferroelectrics and paraelectrics*
• *Atomic and molecular tunneling in wires, surfaces, glasses and amorphous systems*
• *Tunneling in porous materials*
• *Tunneling diffusion phenomena*
• *Spin-tunneling problems*
• *Tunneling transport in superprotonic conductors, acids and bases*
• *Effects of atomic tunneling on electron transport in nanosystems*
• *Advances in deep inelastic (Compton) neutron scattering*
• *Advances in NMR, Synchrotron Radiation, and other experimental techniques with applications to tunneling*
• *Multidimensional tunneling theories*
• *Quantum annealing (adiabatic quantum computing)*
• *Advances in computational methods and software updates*
• *Tunneling in the interstellar medium*

ORGANIZING COMMITTEE:

Ricardo Díez Muiño, Donostia International Physics Center, San Sebastian (Chair)

Antonio Fernández Ramos, Universidade de Santiago de Compostela (Chair)

Salvador Miret Artés, Instituto de Física Fundamental CSIC, Madrid (Chair)

Objectives

We encourage contributions on all phenomena where atomic, molecular, or magnetic tunneling plays an important role, including not only processes in solids and matrices, but also organic and organometallic reactions in liquids, tunneling processes in clusters and nanoparticles, enzyme-catalyzed reactions, and some non-traditional emerging areas.

Course specific contributors

Donostia International Physics Center

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Ion Errea is an Associate Professor at the University of the Basque Country and leads the Quantum Theory of Materials group at the Centro de Física de Materiales. His research focusses on the development of theoretical methods for calculating complex properties of solids, such as quantum and anharmonic effects in atomic vibrations and the electron-phonon interaction, and the application of these methods in hydrogen-based superconductors, thermoelectric materials, phase transitions in solids, nanostructures, etc. He is an ERC grantee, research associate at the Donostia International Physics Center, and member of Jakiunde.

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Universitat Jaume I

Katarzyna Świderek obtained her PhD with honours in 2011 at the Lodz University of Technology (Poland). During her PhD she was funded by an AXIOM - Marie Curie Host Fellowship with a 3-month contract at the Helmholtz Centre for Environmental Research-UFZ in Leipzig (Germany). After her PhD, she moved to the University of Valencia. In 2015 she was contracted at Universitat Jaume I (UJI) in a project funded by the National Institutes of Health (NIH) coordinated by UJI and the University of Iowa, USA. At the same time, she received the Polish grant “Iuventus Plus” dedicated to talented young researchers (under 35). In 2017 she spent 6 months at the University of Bath (UK). She returned to Spain where she obtained a 2-year Juan de la Cierva-Incorporation contract, a 3-year JIN contract, and in 2022 Ramon y Cajal fellowship. In 2020 she became a leader of the StopProt project that was funded by the GenT-SEJI 2020 program of the Valencian Regional Government. Her professional activity is focused on theoretical studies of enzymatic catalysis. She is co-author of over 75 research publications. In 2019 she was awarded with GEQC-RSEQ.

Registration fees

REGISTRATION	UNTIL 09-06-2024
Fee Waiver	0 EUR
Student Fee	310,00 EUR
Standard Fee	420,00 EUR

Place

Miramar Palace

Pº de Miraconcha nº 48. Donostia / San Sebastián

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