

3S'25

SYMPOSIUM ON SURFACE SCIENCE 2025

Baqueira Beret, Lleida, Spain
March 9-15, 2025

Time Schedule

Sunday, 9th March 2025

- 16:30-20:30 Registration at Hotel Tuc Blanc
- 17:00 Shuttle Bus departure from Toulouse airport
- 20:30 Dinner

Monday, 10th March 2025

- 07:30-08:30 Breakfast
- 08:00-09:30 Registration

SESSION-Mo1
Chairperson: **Pedro Echenique**

- 16:30-16:50 Opening: Andres Arnau

- 16:50-17:10 **Amadeo L. Vázquez de Parga**
Electron delocalization in a 2D Mott insulator
- 17:10-17:30 **Markus Valtiner**
SPM visualization and simulation of thermodynamics of ion structuring in the electric double layer
- 17:30-17:50 **Maria E. Messing**
Magnetic field-assisted nanochain formation of intermixed catalytic Co–Pd nanoparticles
- 17:50-18:20 COFFEE BREAK
- SESSION-Mo2
Chairperson: **Maria Messing**
- 18:20-18:40 **Alexander Föhlisch**
Amphoteric homogenization and photoactivation of MoS₂. Surfaces probed by Synchrotron Spectroscopy
- 18:40-19:00 **Fabien Cheynis**
Van der Waals epitaxy and electronic properties of Weyl-semimetal T_d-WTe₂
- 19:00-19:20 **María Camarasa-Gómez**
Predicting accurate fundamental and optical gaps of bulk and surface materials from first-principles using hybrid functionals
- 20:00 *DINNER*

Tuesday, 11th March 2025

- 07:45-08:30 Breakfast
- SESSION-Tu1
Chairperson: **Edvin Lundgren**
- 08:30-08:50 **Jörg Libuda**
Electroswitchable catalysis for molecular solar thermal systems: From surface science to the electrified solid liquid interface
- 08:50-09:10 **Olaf M. Magnussen**
Nanoscale evolution of platinum electrode surfaces during oxidation/reduction

SESSION-Tu2

Chairperson: **Matteo Jugovac**

- 16:30-16:50 **Pavel Jelinek**
Observables in STM: can we see molecular orbitals?
- 16:50-17:10 **Franz J. Giessibl**
Probing the “shape” of atoms through their bonding symmetries by AFM
- 17:10-17:30 **Artem Odobesko**
Examining proximity-induced superconductivity in topological materials:
key criteria for robust superconducting spectral gap
- 17:30-17:50 **Christoph Tegenkamp**
Proximity effects in epitaxial 2D graphene-based systems
- 17:50-18:20 COFFEE BREAK

SESSION-Tu3

Chairperson: **Enrique Ortega**

- 18:20-18:40 **Zdeněk Jakub**
Identical Fe-N₄ sites with different reactivity: Elucidating the effect of
support curvature
- 18:40-19:00 **Mateusz Rebarz**
New Capabilities of Time-Resolved Ellipsometry Station at ELI
Beamlines
- 19:00-19:20 **Pavel Kocán**
Nanopatterning of two-dimensional electronic states
- 20:00 *DINNER*

Wednesday, 12th March 2025

- 07:45-08:30 Breakfast

SESSION-We1

Chairperson: **Ulrich Höfer**

- 08:30-08:50 **Harald Brune**
Single Atom Magnets on thermally stable adsorption sites
- 08:50-09:10 **Haritz Garai-Marin**
Microscopic theory of spin-relaxation of a single Fe adatom coupled to
substrate vibrations

SESSION-We2

Chairperson: **Daniel Sanchez Portal**

16:30-16:50 **Ulrich Höfer**
Time-resolved photoemission orbital tomography of organic interfaces

16:50-17:10 **Saumya Mukherjee**
New Developments in Momentum Microscope and ARPES analysers

17:10-17:30 **Adam Kollin**
RHK Technology: 37 years of continuous SPM innovation

SESSION-We3 (poster session)

Chairperson: **Amadeo L. Vazquez de parga**

17:30-18:00 **Poster presentations (10 posters)**

Matteo Jugovac (1), “Graphene-Molecule Hybridization at a Ferromagnetic Interface”

Simone Mearini (2), “Exploring Charge Transfer in 2D Metal-Organic Frameworks: Effects of Ligand Saturation”

Malen Etxebarria-Etxaniz (3), “Magnetic Response to a Non-Magnetic, Time-Dependent, Localized Perturbation in the Relativistic Limit”

Enrique Ortega (4), “Chemical reactions at surfaces investigated with curved crystals and ambient pressure XPS”

Martin Setvin (5), “Atomic Structure and Lattice Distortions of $\text{KTaO}_3(001)$ Studied by LEED I-V and nc-AFM”

Vyacheslav M. Silkin (6), “Electron dynamics in graphite and bound states/quantum resonances in graphene”

Edvin Lundgren (7), “A passive oxide film on Au”

Julen Ibañez-Azpiroz (8), “Bulk photovoltaic effect in Rashba surfaces”

Boyao Liu (9), “Characterization of defect-induced acoustic surface phonon linewidth broadening using helium spin echo”

Daniel Sanchez Portal (10), “Influence of atomistic features in plasmon–exciton coupling and charge transfer driven by a single molecule in a metallic nanocavity”

18:00-20:30 Poster Session (including drinks)

20:30 *DINNER*

Thursday, 13th March 2025

07:45-08:30 Breakfast

SESSION-Th1

Chairperson: **Pavel Jelinek**

08:30-08:50 **Hugo Dil**

Inducing a Floquet topological insulator by light in SnTe

08:50-09:10 **Javier Sivianes**

Optical signatures of spin symmetries in unconventional magnets

SESSION-Th2

Chairperson: **Martin Setvin**

16:30-16:50 **Karina Morgenstern**

On-surface synthesis of highly branched oligomers via sequential C–C coupling and C–H activation of carbenes

16:50-17:10 **Johannes V. Barth**

Templated on-surface synthesis of planar metalated π -extended cycloparaphenylenes with armchair inner edge

17:10-17:30 **Jan Berger**

Globally aromatic odd-electron π -magnetic macrocycle

17:30-17:50 **Shiyong Wang**

Imaging Fractional Spinon Quasiparticles in Open-Shell Triangulene Spin-1/2 Chains

17:50-18:20 COFFEE BREAK

SESSION-Th3

Chairperson: **Vyacheslav Silkin**

18:20-18:40 **Jon Zubeltzu**

Redefining the dielectric response of nanoconfined liquids: insights from water

18:40-19:00 **Antton Babaze**

Excitation of bulk and surface Bennett plasmons in metallic nanoparticles by penetrating fast electron beams

- 19:00-19:20 **Daniel Hernangómez-Pérez**
Theoretical insights on excitonic g-factors in transition metal dichalcogenides from first principles and group theory
- 19:20-19:50 Giant Slalom and Peter Varga Poster Awards Ceremonies
- 20:30 *CONFERENCE BANQUET*

Friday, 14th March 2025

- 07:45-08:30 Breakfast
- SESSION-Fr1
Chairperson: **Andrés Arnau**
- 08:30-08:50 **Fritz Aumayr**
What can be learned from electrons emitted or captured during highly charged ion transmission through 2D Materials?
- 08:50-09:10 **Milena Majkić**
Formation of nanostructures on metal surfaces by an impact of slow highly charged Ar^{q+}, Kr^{q+} and Xe^{q+} ions: Cohesive energy model
- SESSION-Fr2
Chairperson: **Fritz Aumayr**
- 16:30-16:50 **Manfred Buck**
Changing Paradigm: Electrodeposition onto Carbon Nanomembranes
- 16:50-17:10 **Junji Yuhara**
Epitaxial Growth of Plumbene on Pd(111)
- 17:10-17:30 **Tomáš Šikola**
In situ observation of self-assembly of graphene on molten metal
- 17:30-17:50 **Pierre Müller**
Thermal mass transport mechanisms on surfaces: From adatom biased diffusion to thermomigration of 2D voids
- 17:50-18:20 COFFEE BREAK
- SESSION-Fr3
Chairperson: **Julen Ibañez-Azpiroz**

- 18:20-18:40 **Yan Yan Grisan Qiu**
Impact of Structural Flexibility on Intrinsic Properties of 2D MOFs on Weakly Interacting Substrates
- 18:40-19:00 **Iulia Cojocariu**
On the magnetism and spin polarization of molecular based hybrid interfaces
- 19:00-19:20 **Matteo Jugovac**
Beyond and Beneath the Graphene van Hove Singularity through Europium Density Modulation
- 19:20-19:30 Closing
- 20:30 *DINNER*

Saturday, 15th March 2019

- 07:00 Early breakfast (optional)
- 07:30 Shuttle bus departure to Toulouse Airport
- 07:45-08:30 Breakfast