



LEEM PEEM 12 2022 CÓRDOBA, SPAIN



Mon Sep 26, 2022

11am - 1pm Registration opens

1pm - 2:30pm Lunch

Where: Rectorado's cafeteria

IUVSTA Short Course 'Getting more out of LEEM-PEEM microscopes'

Chair: Frank Meyer zu Heringdorf

2:30pm - 3:15pm Tutorial: Sense J. van der Molen

Low-energy electron spectroscopy in both transmission and reflection

3:15pm - 3:30pm Break

3:30pm - 4:15pm Tutorial: Sandra Ruiz-Gomez

Exploring the 3D magnetization: how the XPEEM can help us?

4:15pm - 4:30pm Break

4:30pm - 5:15pm Tutorial: T. A. de Jong/P. Dreher

Data acquisition: get the most out of your LEEM/PEEM instrument

6:30pm - 8pm Welcome reception

Where: "La Posada del Caballo Andaluz" Calle D San Basilio, 16, 14004 Córdoba



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Tue Sep 27, 2022

8:45am - 9am Opening remarks

With the presence of Prof. María José Polo Gómez, Vice-rector for Scientific Policy, Universidad de Córdoba.

Morning session 1. Chair: Ruud Tromp

9am - 9:40am Distinguished Guest Lecture: Pieter Kruit

Electron mirrors for wave front modulation of electron beams

9:40am - 9:55am Olena Fedchenko

Topological States in MoTe₂ investigated by Time-of-Flight Momentum Microscopy

9:55am - 10:10am Alexei Zakharov

Properties of 2D gold in the heterostack with graphene

10:10am - 10:25am Alessandro Sala

Quantum Confinement in Aligned Zigzag "Pseudo-Ribbons" Embedded in Graphene on Ni(100)

10:25am - 10:40am Tobias A. de Jong

Visualizing moiré patterns in twisted and strained bilayer graphene

10:40am - 11:10am Coffee break

Morning session 2. Chair: Arantzazu Mascaraque

11:10am - 11:25am Irene Palacio

Intercalation of alkali metals on graphene by photon irradiation

11:25am - 11:40am Sujitra Pookpanratana

Watching (De)Intercalation of 2D metals in Epitaxial Graphene

11:40am - 11:55am Christian Kumpf

Hexagonal Boron Nitride on Metal Surfaces

11:55am - 12:10pm Lars Buß

In-situ growth characterization of 2D heterostructures: MoSe₂ on intercalated graphene/Ru (0001)

12:10pm - 12:25pm Peter S. Neu

Low Energy Electron Transmission through MoS₂

12:25pm - 12:40pm Philip Schädlich

Properties of epitaxial graphene on various SiC terminations and polytypes

12:40pm - 12:55pm Nick Barrett

Domain wall creep at the surface of BaTiO₃ (001)



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Tue Sep 27, 2022

1pm - 2:30pm Lunch

Where: Rectorado's cafeteria

Afternoon session. Chair: Anna Mandziak

2:30pm - 2:45pm Cristina Bran

Exotic magnetic configurations observed by XMCD-PEEM in cylindrical nanowires

2:45pm - 3pm Roberto Lo Conte

Tuning the properties of zero-field magnetic skyrmions in all-light-metal multilayers

3pm - 3:15pm Rahil Hosseinifar

Studying all-optical-switching in ferrimagnetic Gd₂₆Fe₇₄ alloy with single and dual ultra-fast laser pulses

3:15pm - 3:30pm Hans-Joachim Elmers

Band Asymmetry in Antiferromagnetic Mn₂Au: Momentum Microscopy from 6 eV to 6 keV

3:30pm - 3:45pm Carlo Alberto Brondin

Magnetic anisotropy in ultrathin cobalt induced by carbon species

3:45pm - 4pm David Janas

Adsorbate-enhanced electron correlation breaks up the Stoner-like picture of band ferromagnetism

4pm - 4:40pm IEEE Lecture: Mathias Kläui

Antiferromagnetic Insulatronics: Spintronics without magnetic fields

4:45pm - 6:30pm Student contest & poster session with refreshments

Where: Rectorado's Patio

8pm - 10pm Student mixer

Where: «Mercado de la Victoria» Paseo de la Victoria, s/nº, 14004 Córdoba



LEEM PEEM 12 2022 CÓRDOBA, SPAIN



Wed Sep 28, 2022

Morning session 1. Chair: Irene Palacio

9am - 9:40am Distinguished Guest Lecture: Marisol Martin-Gonzalez

Nanoengineering Thermoelectrics

9:40am - 9:55am Stefano Curiotto

Motion kinetics of 2D and 3D surface nanostructures under electromigration

9:55am - 10:10am Matyo Ivanov

Utilizing LEEM techniques to explore and understand coexistence in GaAs

10:10am - 10:25am Arie Van Houselt

Shining new light on the motion of eutectic droplets across surfaces: A PEEM study of PtGe on Ge(110)

10:25am - 10:40am Andre Luis Fernandes Cauduro

Island decay on Pd(111): From adatom diffusion to nucleation

10:40am - 11:10am Coffee break

Morning session 2. Chair: Jan Ingo Flege

11:10am - 11:25am Katharina Johanna Engster

Growth of molecular aggregates in the vicinity of nanostructures

11:25am - 11:40am Tim Kratky

Dragging Si towards the interface between CVD grown graphene and Cu by O intercalation

11:40am - 11:55am Olivier Renault

Correlating quantitative core-level XPEEM maps with band structure: substrate-dependent charge transfer in 1-layer MoS₂

11:55am - 12:10pm Jorge Trasobares

Operando XAS and th-PEEM study on molecular graphene transistors

12:10pm - 12:25pm David Bell

Application of LEEM Techniques to Quantum Materials

12:25pm - 12:40pm Piotr Drózdź

Strain control in α -phase antimonene

12:40pm - 12:55pm Giovanni Zamborlini

Versatile photoemission electron microscope for time- and angle-resolved photoemission spectroscopy.



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1pm - 2:30pm Lunch

Where: Rectorado's cafeteria

Afternoon session. Chair: Mathias Kläui

2:30pm - 3:10pm Distinguished Guest Lecture: Hannes Lichte

Electron mirrors for wave front modulation of electron beams

3:10pm - 3:25pm Mariusz Gołębowski

Ferromagnetic cobalt layers on silicene

3:25pm - 3:40pm Miguel A. González Barrio

Reversal of DW chirality induced by chemisorbed oxygen

3:40pm - 3:55pm Miguel A. Cascales Sandoval

3D magnetization vector reconstruction of 360 domain wall rings in Synthetic Anti-Ferromagnets with interlayer chiral interactions

3:55pm - 4:10pm Anna Mandziak

Antiferromagnetic domains distribution in mixed nickel-cobalt oxide (NixCo1-xO) thin films

4:10pm - 4:25pm Florian Kronast

Observation of optical nucleation, manipulation and annihilation of magnetic skyrmions by ultrashort laser pulses

4:25pm - 4:40pm Francesco Maccherozzi

Effects of the epitaxial strain on the antiferromagnetic properties of LaFeO₃ thin films

4:45pm - 6:30pm Poster session with refreshments

Where: Rectorado's Patio



LEEM PEEM 12 2022 CÓRDOBA, SPAIN



Thu Sep 29, 2022

Morning session 1. Chair: Claus Ropers

9am - 9:40am Distinguished Guest Lecture: Pupa Gilbert

Biomineralization mechanisms revealed by PEEM

9:40am - 9:55am Olena Tkach

Circular Dichroism in Soft- and Hard-X-ray Momentum Microscopy and Photoelectron Diffraction

9:55am - 10:10am Xin Liang Tan

Soft X-ray Fermi Surface Tomography of Palladium and Rhodium via Momentum Microscopy

10:10am - 10:25am Toshiyuki Taniuchi

New Use Cases of High Resolution of Laser-PEEM

10:25am - 10:40am Martin Kordesch

Electron Spectroscopy and Thermionic Emission Microscopy of Barium on W(100)

10:40am - 11:10am Coffee break

Morning session 2. Chair: Sense Jan van der Molen

11:10am - 11:25am Wolf Widdra

Propagating surface plasmon polaritons on Ni₈₀Fe₂₀ imaged by femtosecond laser PEEM

11:25am - 11:40am Iulia Cojocariu

Advances in photoemission tomography: an overview on (some of) the new developments

11:40am - 11:55am Lukas Wittenbecher

Ultrafast time-resolved PEEM with excitation frequency resolution

11:55am - 12:10pm Frank Meyer zu Heringdorf

From Vector Microscopy to Vector Polarimetry

12:10pm - 12:25pm Muhammad Waqas Khaliq

Imaging of Magneto-acoustic Waves at GHz Frequency

12:25pm - 12:40pm Dmytro Kutnyakhov

Multispectral time-resolved energy-momentum microscopy using high-harmonic extreme ultraviolet radiation

12:40pm - 12:55pm Ivo Konvalina

Time-of-Flight Spectrometer for Low-Energy Electrons



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Afternoon session. Chair: Wolf Widdra

2:30pm - 3:10pm Distinguished Guest Lecture: Claus Ropers

Structural Dynamics at Surfaces Probed by Low-energy Electron Pulses

3:10pm - 3:25pm Rudolf Tromp

Energy Filter for LEEM Electron Gun

3:25pm - 3:40pm Stefan Böttcher

Spin Resolved Analysis for Momentum Microscopy

3:40pm - 3:55pm Matthias Escher

2D Imaging Spin-Filter for NanoESCA based on Au/Ir(001)

3:55pm - 4:10pm Hans Tietz

Advantages of Fiber-Optically Coupled CMOS Cameras for LEEM/PEEM

5:00pm - 7:00pm Guided visit JUDERIA and MEZQUITA

Where: «Mosque-Cathedral of Córdoba» Calle Cardenal Herrero, 1, 14003 Córdoba

8pm - 10pm Gala dinner with flamenco show

Where: «Bodegas Campos» Calle Lineros, 32, 14002 Córdoba



LEEM PEEM 12 2022 CÓRDOBA, SPAIN



Fri Sep 30, 2022

Morning session 1. Chair: Florian Kronast

9:25am - 9:40am PhD prize: **Sandra Ruiz Gomez**

Direct X-ray detection of the spin Hall effect in CuBi

9:40am - 9:55am **Sergey Subach**

Momentum-selective orbital hybridization at molecule/metal interfaces

9:55am - 10:10am **Elaine Wong**

Surface electronic structure and chemical compositions of wide bandgap mixed-halide lead perovskite thin films

10:10am - 10:25am **Michael Man**

Momentum degree of freedom of excitons in 2D semiconductors

10:25am - 10:40am **Grażyna Antczak**

Attenuation of Photoelectron Emission by a Single Organic Layer

10:40am - 11:10am **Coffee break**

Morning session 2. Chair: Sandra Ruiz Gomez

11:10am - 11:25am **Hirokazu Fujiwara**

Operando observation of breakdown process in HfO₂-based metal-ferroelectric-metal capacitor

11:25am - 11:40am **Elena Salagre Rubio**

Surface phases upon Lithium deintercalation in epitaxial Li_xCoO₂ films

11:40am - 11:55am **Nicolas Braud**

Structural and chemical characterization of surface oxide phases of Pt₃Sn (111) emerging after annealing at very high temperatures

11:55am - 12:10pm **Oscar Rodríguez de la Fuente**

Synchrotron-based structural, compositional and magnetic study of the ion-beam-induced transformation of a hematite thin film into a magnetite/hematite epitaxial bilayer

12:10pm - 12:40pm **LEEMPEEM 2024**

12:40pm - 12:55pm **Closing remarks**