



CMD31

Braga, September 2nd – 6th

Joint Conference of the Portuguese and European
Divisions of Condensed Matter Physics



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Sponsors

Institutional



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O Presidente da República

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Other



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Hannah Price (co-opted, University of Birmingham, UK)

Administrative Secretariat

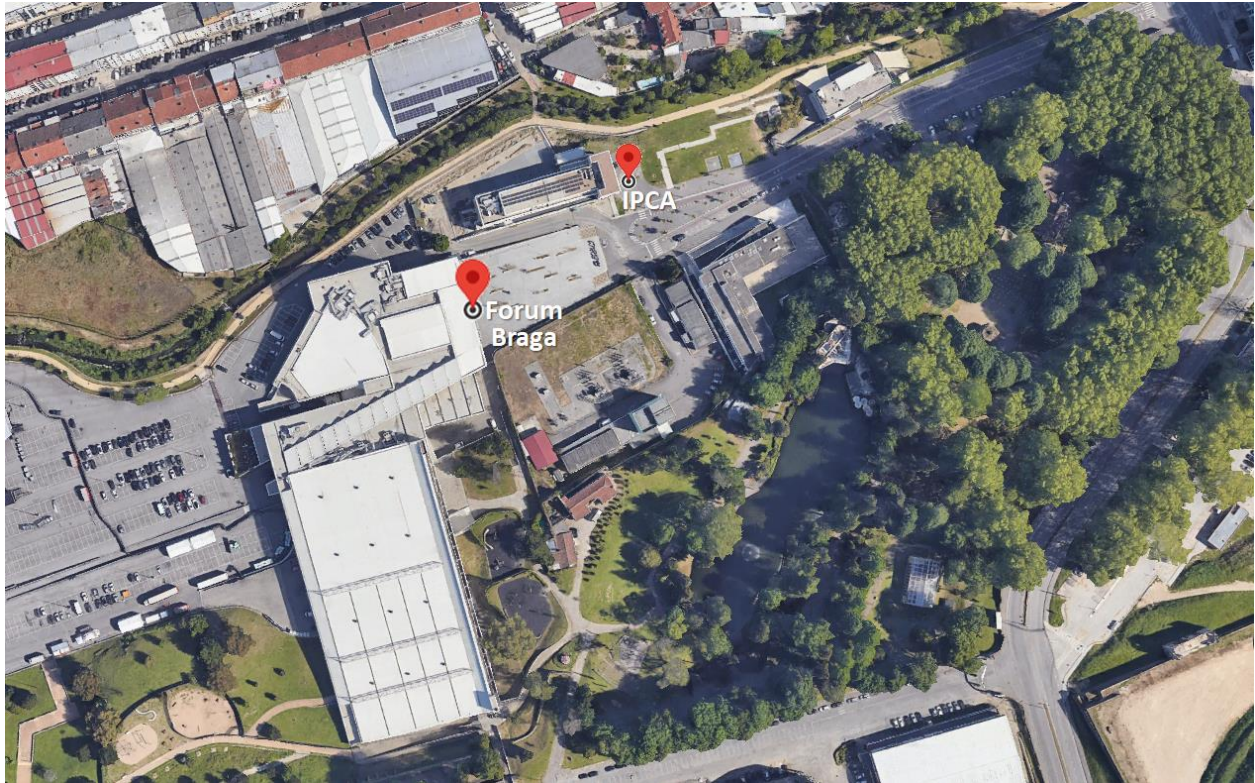
Maria José Couceiro – SPF

Isabel Alves - SPF

CMD31, Braga, Portugal, 2 - 6 September, 2024

	Monday Sept. 2 nd	Tuesday Sept. 3 rd	Wednesday Sept. 4 th	Thursday Sept. 5 th		Friday Sept. 6 th
08h30	Opening Session (Grand Auditorium)					
9h00 10h00	Plenary Lecture Eva Andrei (Grand Auditorium)	Plenary Lecture J Marc Triscone (Grand Auditorium)	Europhysics Price Andrea Cavalleri (Grand Auditorium)	Plenary Lecture A. A. Mortensen (Grand Auditorium)	9h00 11h30	Minicolloquia
10h00 10h30	Coffee Break	Coffee Break	Coffee Break	Coffee Break	11h30 12h00	Coffee Break
10h30 13h00	Minicolloquia	Minicolloquia	Minicolloquia	Minicolloquia	12h00 13h00	Plenary Lecture M Marques (Grand Auditorium)
13h00 14h30	Lunch	Lunch	Special Session Young Ming (Small Auditorium)	Lunch	13h00 13h30	Closing Session (Grand Auditorium)
14h30 15h30	Semiplenary Lectures Maia Vernyori (Grand Auditorium) Franca Albertini (Small Auditorium)	Semiplenary Lectures A Wallraff (Grand Auditorium) P Launois (Small Auditorium)	Semiplenary Lectures M Muzenberg (Small Auditorium) J Fernandez (Grand Auditorium)	Semiplenary Lectures C Smith (Grand Auditorium) M Silveirinha (Small Auditorium)	13h30 15h00	Free Time
15h30 16h00	Coffee Break (Ground floor Foyer)	Coffee Break (Ground floor Foyer)	Coffee Break (Ground floor Foyer)	Coffee Break (Ground floor Foyer)	15h00 17h00	Visits to INL
16h00 18h30	Minicolloquia	Minicolloquia	Minicolloquia	Minicolloquia		
18h30 19h30	Poster Session I (Ground floor Foyer)	Poster Session II (Ground floor Foyer)	Conference Dinner Meliá Hotel	Poster Session III (Ground floor Foyer)		

Maps



Conference Rooms

- **Grand Auditorium**, Ground Floor, Forum Braga (Plenaries and Semi-Plenaries)
- **Small Auditorium**, Upstairs Floor, Forum Braga (Semi-Plenaries, Special Session and MC Sessions)
- Other rooms for Mini-Colloquia Parallel Sessions:
 - Rooms S1, S2, S3, S4 and S5, Upstairs Floor, Forum Braga
 - Rooms A, B, C, D and E, Downstairs Floor, Forum Braga
 - Rooms IPCA-A and IPCA-1, Ground Floor, IPCA
 - Rooms IPCA-4, IPCA-5 and IPCA-6, First Floor, IPCA
 - Rooms IPCA-7, Second Floor, IPCA
- Coffee-Breaks and Poster Sessions:
 - Entry Hall, Ground Floor, Forum Braga

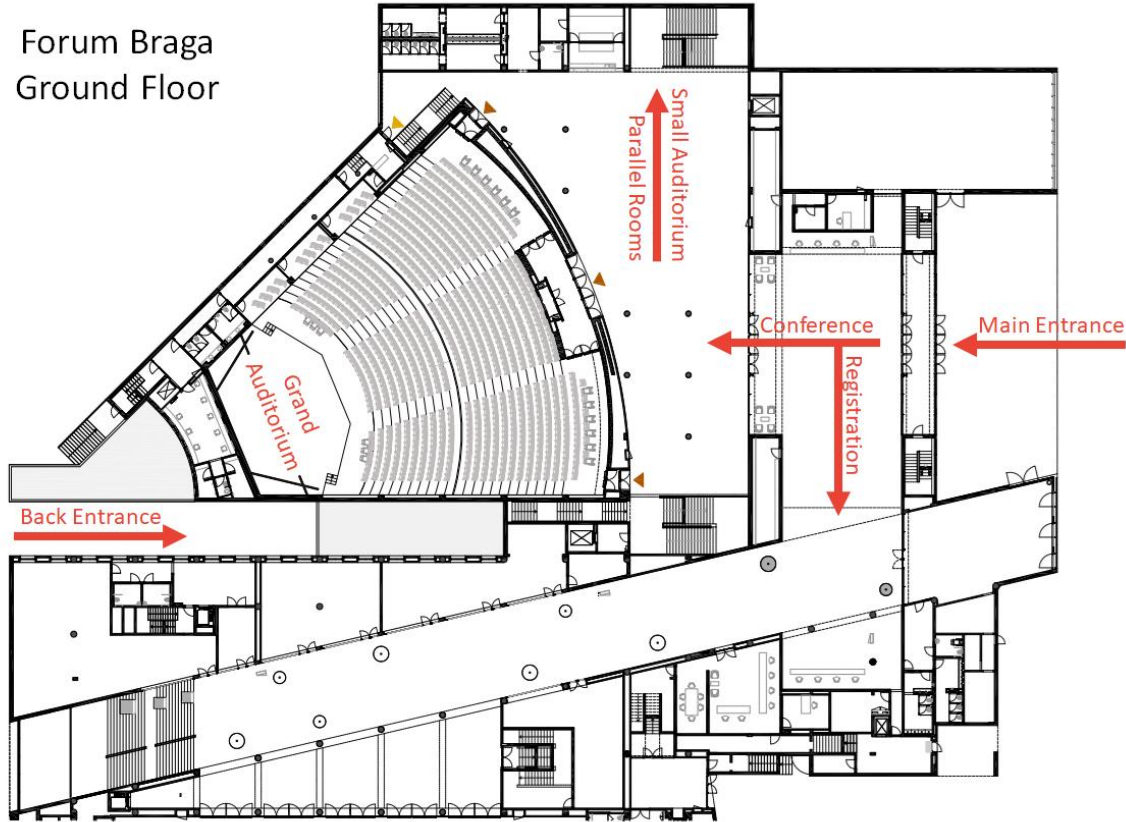
Forum Braga



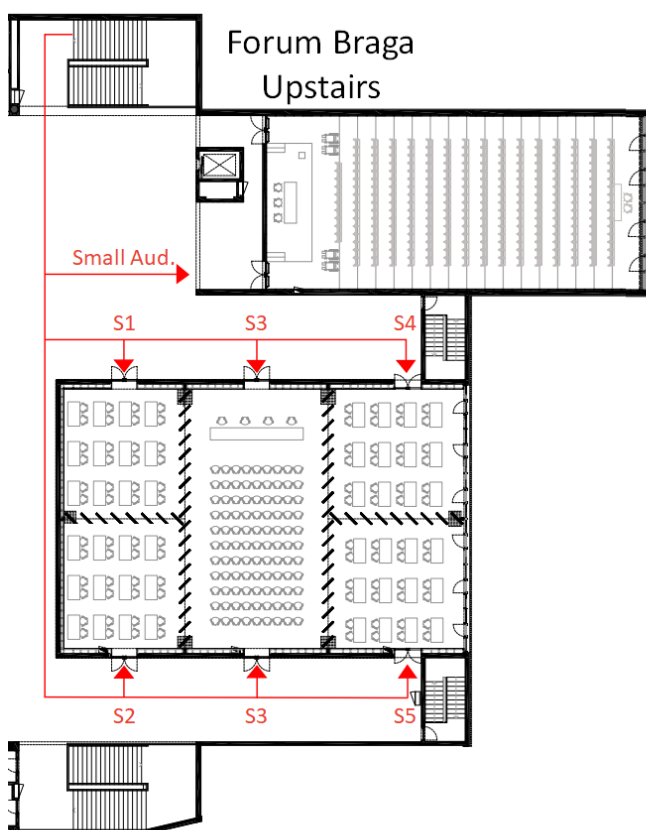
IPCA



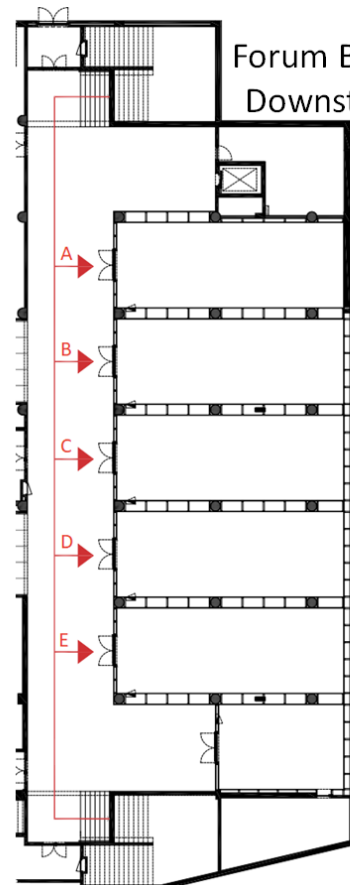
Forum Braga
Ground Floor



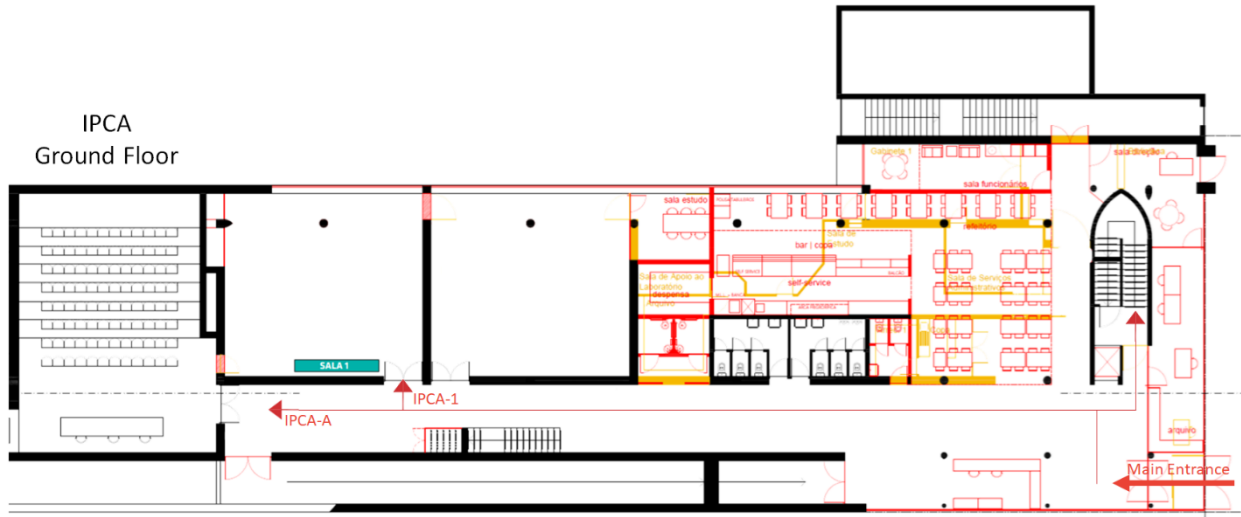
Forum Braga
Upstairs



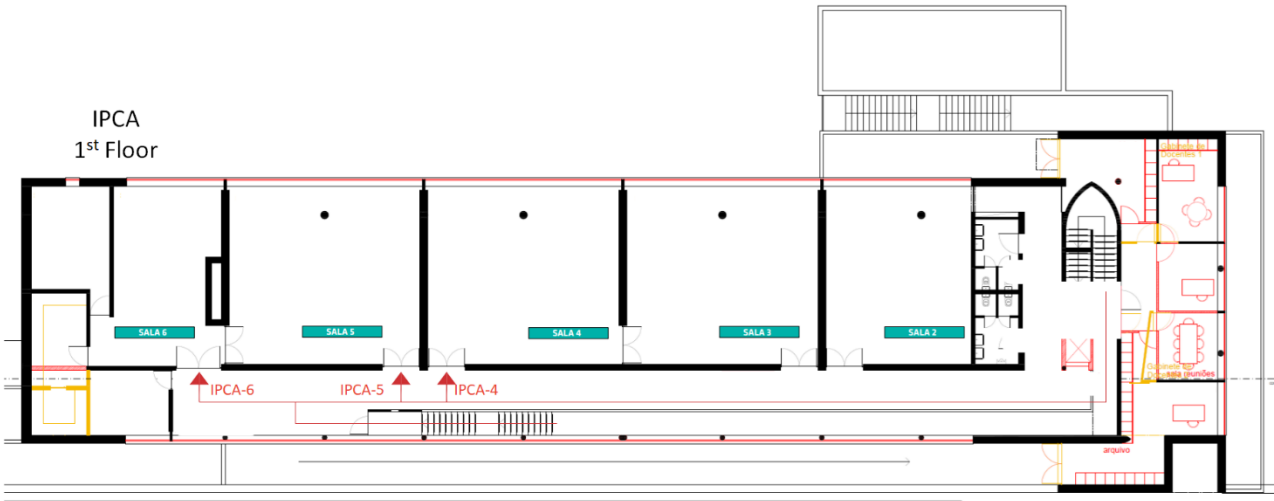
Forum Braga
Downstairs



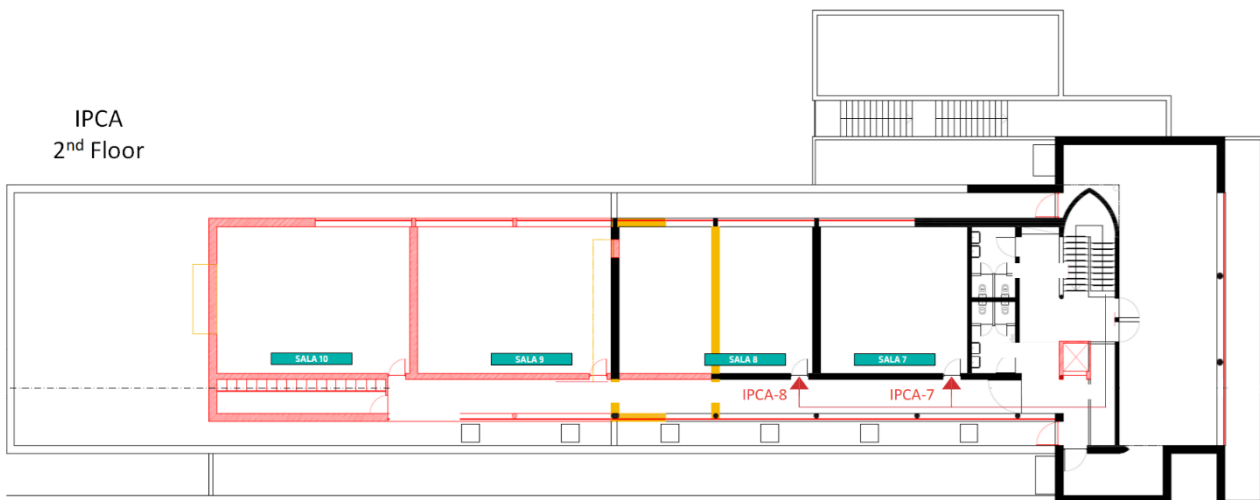
IPCA
Ground Floor



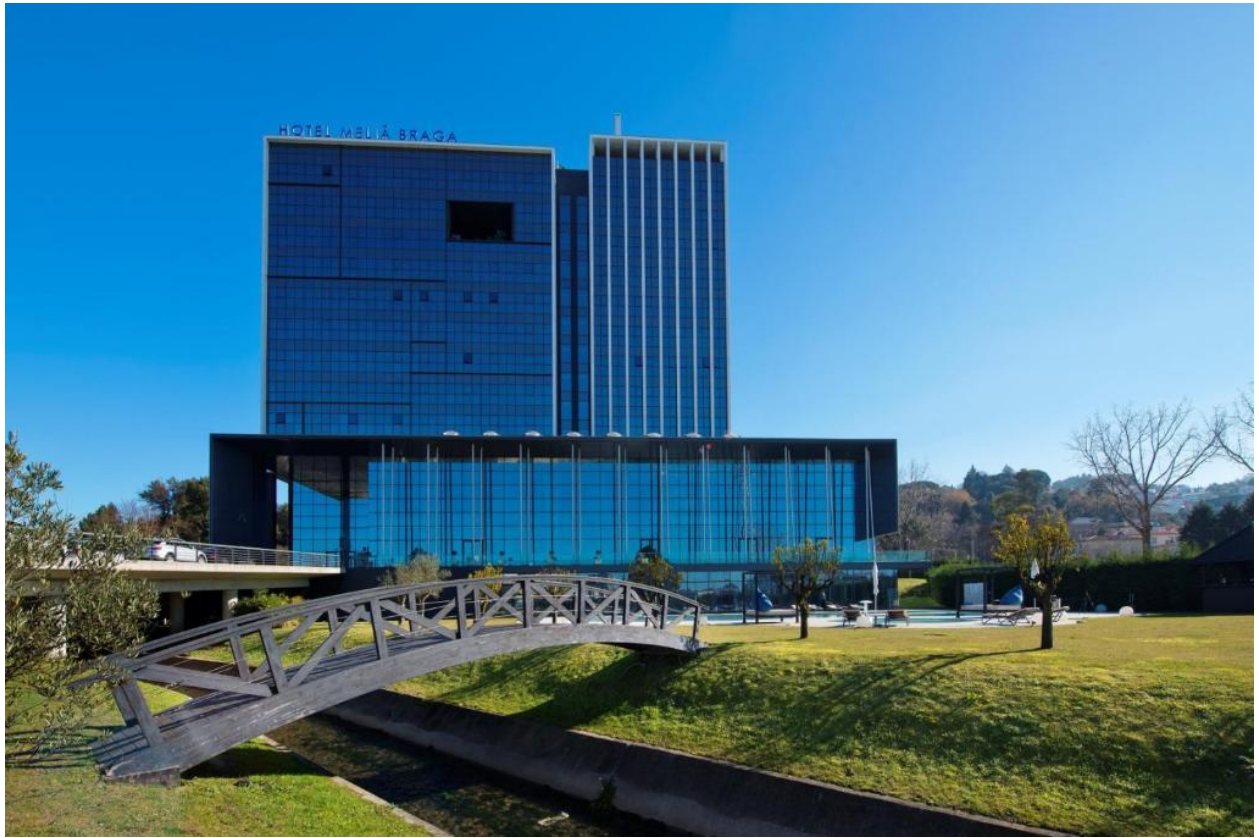
IPCA
1st Floor



IPCA
2nd Floor



Conference Dinner – Hotel Meliã Braga





Plenary and Semi-Plenary Sessions

Plenary Sessions

Monday, Sept 2 – 9h00

Chair: Eduardo Castro

Eva Andrei, Rutgers University, USA

Moiré materials: self-alignment, topology and quasi-crystals

Tuesday, Sept 3 – 9h00

Chair: Silke Bühler Paschen

Jean-Marc Triscone, University of Geneva, Switzerland

Structural and electronic coupling at oxide interfaces

Wednesday, Sept 4 – 9h00

Chair: José Maria de Teresa

Andrea Cavalleri, Max Planck Institute, Germany

New Physics Driven Quantum Materials

Thursday, Sept 5 – 9h00

Chair: Nuno Peres

N. Asger Mortensen, University of Southern Denmark

Mesoscopic electrodynamics, nonlocal response, and quantum corrections in surface-polariton systems

Friday, Sept 6 – 12h00

Chair: Cristóvão Dias

Miguel Marques, Ruhr University Bochum, Germany

Machine-learning assisted discovery and characterization of materials

Semi-Plenary Sessions

Monday, Sept 2 – 14h30:

Grand A: Maia Vergniory, DIPC, San Sebastián, Spain

Towards Topological Diagnosis of Strongly Correlated Electron Systems

Chair: Joaquín Fernández-Rossier

Small A: Franca Albertini, IMEM-CNR, Parma, Italy

Magnetic shape memory Heuslers for energy and biomedical applications

Chair: João Ventura

Tuesday, Sept 3 – 14h30:

Grand A: Andreas Wallraff, ETH Zürich, Switzerland

Quantum Science and Technology with Superconducting Circuits

Chair: Gianluigi Catelani

Small A: Pascale Launois, University of Paris-Saclay, France

The amazing properties of nano-confined water

Chair: Mykola Tasinkevych

Wednesday, Sept 4 – 14h30:

Grand A: J. Fernández-Rossier, INL, Braga, Portugal

Flat bands, entanglement and fractionalization in bottom-up quantum matter

Chair: Mikhail Vasilevskiy

Small A: Markus Munzenberg, IMEM-CNR, Parma, Italy

Ultrafast spintronics on attosecond time scales

Chair: Peter Wahl

Thursday, Sept 5 – 14h30:

Grand A: Christiane Smith, Utrecht University, The Netherlands

Quantum fractals: from meta- to real materials

Chair: João Lopes dos Santos

Small A: Mário Silveirinha, IST, Lisboa, Portugal

Distributed transistor response with chiral gain

Chair: Andrea Capasso



Daily schedule

Monday, September 2nd Morning Session

MC8 - Collective and nonlinear phenomena in confined quantum systems I

Chairperson: Serghei Klimin

 Room: IPCA-A

10h30-11h00	12569	Taira Kawamura	Invited	Emergence of an inhomogeneous superfluid state in a driven-dissipative two-dimensional Fermi condensate
11h00-11h30	13172	Leonardo Pisani	Invited	Critical current in the BCS-BEC crossover and collective excitations in Bose-Fermi mixture
11h30-12h00	14345	Hadrien Kurkjian	Invited	Dispersion of hydrodynamic sound in a Fermi liquid
12h00-12h30	13828	Jacques Tempere	Invited	Vortex dynamics in superfluid Fermi gases
12h30-13h00	12384	Luca Salasnich	Invited	Finite-size effects in the two-dimensional BCS-BEC crossover

MC9 - Machine learning in soft condensed matter I

Chairperson: Cristóvão Dias

 Room: S1

10h30-11h00	13421	Frank Cichos	Invited	Harnessing Active Particles for Computations
11h00-11h30	12367	Laura Natali	Invited	Decentralised learning in a swarm of autonomous robots
11h30-12h00	12489	Giorgio Volpe	Invited	Sampling rare events using unsupervised neural networks
12h00-12h30	15567	Carlo Manzo	Invited	Deep Learning Approaches for Biological Dynamics
12h30-13h00	15985	Daniel Midtvedt	Invited	Investigating weak interactions with deep learning enhanced quantitative microscopy

MC13 - Mesoscopic superconductivity and quantum circuits I

Chairperson: Gianluigi Catelani

 Room: SA

10h30-10h45	12910	Eran Ginossar	Oral	Scalable and robust quantum computing on qubit arrays with fixed coupling
10h45-11h00	12610	Ben Blain	Oral	Many-body localization in chains of superconducting qubits

11h00-11h15	12759	Federico A. Roy	Oral	Parity-Depended State Transfer for Entanglement Generation on a Superconducting Qubit Chain
11h15-11h30	13493	Giampiero Marchegiani	Oral	Crossover from nonequilibrium to equilibrium quasiparticle distribution in superconducting qubits
11h30-11h45	13103	Dominik Maile	Oral	Dynamics of the Josephson Phase in the presence of general Ohmic environments
11h45-12h00	12986	Michele Governale	Oral	Odd-frequency superfluidity from a particle-number-conserving perspective
12h00-12h15	13765	Paul Benedikt Fischer	Oral	The Influence of sub-gap states on quasiparticle dynamics in disordered superconductors
12h15-12h30	13102	Marcin Łobejko	Oral	The bosonic model of the Josephson junction and its relation to the RCSJ model

MC14 - Ultrafast electronics meets quantum thermodynamics I

Chairperson:

Room: S4

10h30-11h00	13263	Gloria Platero	Invited	Spin flying qubits in quantum dot arrays
11h00-11h30	-	Pređen Roulleau	Invited	Electron quantum optics in graphene
11h30-12h00	12997	Sungguen Ryu	Invited	Timing-Noise-Induced Decoherence in Single Electron Sources
12h00-12h30	12930	Pedro Portugal	Invited	Heat pulses in electron quantum optics
12h30-13h00		Slava Kashcheyevs	Invited	

MC15 - Phononics and thermal transport I

Chairperson: Ilaria Zardo and Riccardo Rurali

Room: S2

10h30-11h00	13849	Saskia Fischer	Invited	Ballistic Phonon Transport in Homoepitaxial β -Ga ₂ O ₃ Films
11h00-11h30	13217	Olivier Bourgeois	Invited	Phonon transport in asymmetric nanostructures in the ballistic regime
11h30-11h45	13108	P. M. Martinez	Oral	Ballistic-Diffusive Heat Transport Crossover in Molecular Junctions
11h45-12h00	12962	Guillaume Nataf	Oral	Spontaneous nanostructuring of ferroelectrics for thermal switches
12h00-12h15	13513	O. Mateos-Lopez	Oral	Heat transport across nanometre-sized gaps
12h15-12h30	13015	Catalina Coll	Oral	Thermal transport in Silicon Grain Boundaries: Localized vibrational states

MC16 - Integrative approaches in physics: using machine learning to explore magnetism, disordered media, and materials science

Chairperson: Cecília Coelho

Room: E

10h30-11h00	13247	C. Coelho	Invited	Minding the Molecules: Incorporating Fundamental Rules in Chemical Reaction Modeling with Neural Networks
11h00-11h15	13861	Yana Propad	Oral	Search for stable superconducting hydrides using a random structure generator with a fixed environment
11h15-11h30	13247	C. Fernandes	Oral	Numerical Simulation of Viscoelastic Fluid-Particle Systems with Magnetic Spheres

MC21 - Optical materials for structured light I

Chairperson: Stefano Luigi Oscurato

Room: A

10h30-11h00	13708	Emiliano Descrovi	Invited	Polarization-driven deformations in an azopolymer composites
11h00-11h15	13641	Alex Berdin	Oral	Pixelated holographic printing of light-reconfigurable diffractive optical elements on azobenzene materials
11h15-11h30	12961	Biagio Audia	Oral	Broadband vectorial interferometry: a new tool for complex and multi-scale material structuring
11h30-11h45	13369	Francesco Reda	Oral	Reprogrammable flat optics from maskless photo-morphing of azopolymers
11h45-12h00	13751	Marcella Salvatore	Oral	Enhancing modulation in Surface Relief Gratings: exploring limitations and alternatives
12h00-12h30	12880	David McGee	Invited	Photopatterned microstructures on azopolymer films via continuous film translation

MC22 - Frontiers in phonon-mediated superconductivity I

Chairperson: Simone Di Cataldo

Room: D

10h30-11h00	12842	Lilia Boeri	Invited	Ab-initio design of Superconductors: Towards high-Tc conventional Superconductivity
11h00-11h30	12974	Yu Xie	Invited	Machine-learning Crystal Structure Prediction Aided Theoretical Design of 100 K Superconductivity in Metal Borides
11h30-11h45	12627	Wenbo Zhao	Oral	Anharmonicity and Superconductivity in Pm-3 XYB6C6
11h45-12h00	13672	Yue-Wen Fang	Oral	Searching Materials Space for Hydride Superconductors at Ambient Pressure
12h00-12h15	12988	Zefang Wang	Oral	Unlocking the origin of stability and superconductivity in LaBeH8 at submegabar pressure

MC23 - Advanced characterization for energy materials I

Chairperson: Rui C Vilão

Room: S3

10h30-11h00	12855	T. Prokscha	Invited	Depth profiling of defect regions with nm depth resolution at semiconductor interfaces using low-energy uSR
11h00-11h30	13462	V. Corregidor	Invited	Materials for solar cells devices studied by a nuclear microprobe
11h30-11h45	13112	A. Flötotto	Oral	Surface structure of industrially prepared As-modified Si(100) substrates for solar power conversion
11h45-12h00	13148	G. Ribeiro	Oral	PbS CQDs in perovskite host matrix for broadband optoelectronic semiconductors
12h00-12h30	13692	J. Deuermeier	Invited	Chemical and electrostatic surface characterization with photoelectron spectroscopy - a tutorial
12h30-13h00	12987	C Gutiérrez	Invited	Improved methodology for the surface characterisation of porous materials

MC33 - Memristive devices and materials for emerging computing paradigms I

Chairperson: Catarina Dias

Room: S5

10h30-11h00	16762	Suzanne Lancaster	Invited	Achieving identical pulse switching in ferroelectric memristors
11h00-11h15	12668	Andreia Catarina V Silva	Oral	Liquid synapses for low power neuromorphic computing
11h15-11h30	13036	Miguel Ruiz Garcia	Oral	The fluidic memristor as a collective phenomenon in elasto-hydrodynamic networks
11h30-11h45	12905	Gaubert Pierre	Oral	Influence of Ge/Sb mixing and doping on the electronic transport properties of the phase change material Ge ₂ Sb ₂ Te ₅
11h45-12h15	12801	Giuliana Di Martino	Invited	Can we make better devices using visible light at the nanoscale?
12h15-12h30	12591	Henrique J Teixeira	Oral	Integration of 2D Ti ₃ C ₂ T _x MXene flakes for neuromorphic resistive switching applications
12h30-12h45	12659	Maria B Grácio	Oral	MXene-based composite with resistive switching properties

MC34 - Nonequilibrium dynamics and control of quantum materials I

Chairperson: Elsa Abreu

Room: C

10h30-11h00	_	Gregor Jotzu	Invited	Ultrafast magnetic flux expulsion from a laser-driven cuprate
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11h00-11h15	13466	Yuriko Baba	Oral	Floquet engineering in Dirac materials under short pulses
11h15-11h30	12941	H. P. Veiga	Oral	Unambiguous Simulation of Diffusive Charge Transport in Disordered Nanoribbons
11h30-11h45	13094	J. M. Alendouro Pinho	Oral	From Bloch Oscillations to a Steady-State Current in Strongly Biased Mesoscopic Devices
11h45-12h00	13125	Alessandro Braggio	Oral	Correlation, interaction and heat current detection with nonlocal thermoelectricity in quantum Hall edges
12h00-12h30	16761	Olesia Dmytruk	Invited	Topological materials coupled to cavity photons

MC35 - Interaction effects in systems with higher order Van Hove singularities and flat bands I

Chairperson: Joseph Betouras

Room: B

10h30-11h00	-	Andrei Bernevig	Invited	Integer and Fractional Chern insulators exhibiting integer and fractional quantum Hall effects in MoTe2 and rhombohedral multilayer graphene
11h00-11h30	14740	Raquel Queiroz	Invited	Topologically protected flatness in moiré heterostructures
11h30-11h45	13502	Arunava Kar	Oral	Softening of a flat phonon mode in the kagome ScV6Sn6
11h45-12h15	15668	Sid Parameswaran	Invited	Spiral Orders from Textured Exciton Insulators in Moiré Materials
12h15-12h45	15310	Nicolas Regnault	Invited	Fractional Topological Insulators at $\nu=-4/3$ in Twisted Transition Metal Dichalcogenides

MC38 - Fundamentals and applications of polymer-based magnetoelectrics

Chairperson: Pedro Martins

Room: IPCA-1

10h30-11h00	-	Xavier Moya	Invited	Caloric and magnetoelectric materials for sustainable heating and cooling
11h00-11h30	13639	Harvey Amorín	Invited	Magnetoelectric Hybrid Composites: Optimization of the component performance and compatibility to boost response
11h30-12h00	13418	Venkata Ramana Eskilla	Invited	Probing the influence of processing on magnetoelectric and energy storage characteristics of polymer nanocomposites
12h00-12h15	13083	Rui Carvalho	Oral	Filler effect on the converse ME response of polymer-based magnetoelectric nanocomposites
12h15-12h30	13059	Luís Amorim	Oral	Magnetoelectric PVDF-based laminates for Spintronics

Monday, September 2nd Afternoon Session

MC3 - Nanomaterials and polymer composites: tailor-made dielectric properties for a new generation of electronic components

Chairperson: António J Paleo

Room: E

16h00-16h30	12866	Xavier Castel	Invited	Dielectric/carbon composite antennas: design, fabrication and characterization for microwave applications
16h30-17h00	-	R. Benzerga	Invited	Carbon-filled polymers for microwave absorbing materials
17h00-17h15	13895	Vahideh B. Isfahani	Oral	Comparative Analysis of Structural, Dielectric, and Energy Storage Properties in Composite Films of PVDF-based Co- and Ter-polymers
17h15-17h30	12957	Nelson Pereira	Oral	Poly(vinylidene fluoride-co-trifluoroethylene) Composites with Barium Strontium Titanate for High-Performance Wearable Heart Rate Sensors
17h30-17h45		Jaime Oliveira da Silva	Oral	Unlocking the potential of nanomaterials for gas sensing applications through a computer-guided discovery
17h45-18h00	13627	Dayana L. G. Sierra	Oral	Dielectric properties of chitosan based films
18h00-18h15	13839	Mariem Mssaada	Oral	Dielectric Characterization of RF Magnetron-Sputtered TiTaO Thin Films: Influence of Phase Boundaries and Electrical Parameters
18h15-18h30	13480	Elvin Aliyev	Oral	Effect of Graphene Oxide (GO) on fuel cell performances of Nafion membrane

MC8 - Collective and nonlinear phenomena in confined quantum systems II

Chairperson: Luca Salasnich

Room: IPCA-A

16h00-16h30	12771	Carlos Sa De Melo	Invited	Collective Modes of Two-Dimensional Superfluid Fermi Gases from the BCS to the Bose Limit
16h30-17h00	12757	Jordi Boronat	Invited	Quantum-Monte-Carlo-based density functional for ultracold Bose gases
17h00-17h15	13271	Thomas Repplinger	Oral	Ab initio description of sound in a Fermi gas
17h15-17h30	12783	Alice Bellettini	Oral	Rotational states of an asymmetric vortex pair with mass imbalance in binary condensates

17h30-17h45 [13034](#) Cesar Cabrera Oral Tracking the confinement-induced hybridization of the Higgs mode in a strongly interacting superfluid

MC13 - Mesoscopic superconductivity and quantum circuits II

Chairperson: Alessandro Braggio

 Room: SA

16h00-16h30	12327	Francisco J. M- Cañadas	Invited	Quantum circuits with multiterminal Josephson-Andreev junctions
16h30-16h45	13603	Aleksandr Svetogorov	Oral	New type of a superconducting spin qubit
16h45-17h00	12954	Claudio Guarcello	Oral	Diode and anomalous Josephson effects in kinked nanowire-based Josephson junctions
17h00-17h15	13072	Angel Ibabe	Oral	Joule spectroscopy and heating effects in hybrid superconductor-semiconductor devices
17h15-17h30	13078	Gabriel Moraes Oliveira	Oral	Switching currents limited by the inverse proximity effect in a flux-tunable superconductor
17h30-17h45	12872	Giulio Cappelli	Oral	Josephson transmission lines based on Al-AlOx-Al capacitors
17h45-18h00	13658	Nicolò Crescini	Oral	Development and application of optically patterned overlap Josephson junction devices
18h00-18h15	12748	Roudy Hanna	Oral	Superconducting quantum circuits using SiO ₂ /Si ₃ N ₄ on-chip stencil hard mask
18h15-18h30	12751	Thomas J. Smart	Oral	All-nitride superconducting devices on sapphire for quantum computing

MC14 - Ultrafast electronics meets quantum thermodynamics II

Chairperson:

 Room: S4

16h00-16h30	-	Sergei Lemziakov	Invited	Thermometry based on superconductive qubit
16h30-17h00	-	Krzysztof Ptaszyński	Invited	Fermionic one-body entanglement as a quantum thermodynamic resource
17h00-17h30	13578	Eran Sela	Invited	Measuring stochastic thermodynamics in mesoscopic systems
17h30-18h00	12612	Juliette Monsel	Invited	Energy transport and refrigeration with driven quantum dots
18h00-18h15	12887	Konstantin Nestmann	Oral Contrib	Self-consistent noise computation in quantum dot systems
18h15-18h30	12613	Sigmund Kohler	Oral Contrib	Quantum dissipation at conical intersections of quasienergies

MC15 - Phononics and thermal transport II

Chairperson: Marianna Sledzinska and António Gonçalves

Room: S2

16h00-16h30	12889	Severine Gomes	Invited	Investigation of Heat Transport in Individual Nanostructures by Scanning Thermal Microscopy
16h30-16h45	13713	Aswathi K Sivan	Oral	Exploring Diameter-Dependent Ultrafast Phonon Dynamics in Germanium Nanowires
16h45-17h00	12804	Paolo Maioli	Oral	Nanothermics: ultrafast heat exchanges at solid and liquid interfaces
17h00-17h15	13020	S. Mishra	Oral	An optical technique to investigate thermal transport in correlated electron metals
17h15-17h30	13468	Johannes Trautvetter	Oral	InAs-InP Superlattice Nanowires with Tunable Phonon Frequencies
17h30-17h45	13912	E. R. C de Oliveira	Oral	Transport of gigahertz coherent acoustic phonons in GaAs/AlAs-based optophononic waveguides

MC21 - Optical materials for structured light II

Chairperson: Marco Piccardo

Room: A

16h00-16h15	13638	Maria Oliveira	Oral	Robust monolithic meta-optics for high-power laser beam shaping from near-UV to near-IR
16h15-16h45	13875	Colm Delaney	Invited	Hierarchical ordering of nanomaterials for 4D photonic structures
16h45-17h15	13587	Diogo Aguiam	Invited	Considering process and material dependencies for robust multilevel diffractive flat optics
17h15-17h30	14736	Francesca Leone	Oral	Micro- and Nano-structured bio-inspired polymers for photonics applications
17h30-18h00	13131	Nicolò Maccaferri	Invited	Twisted plasmons in 3D: from particle trapping and beaming towards tailored chiro-optical and magnetoplasmonic effects

MC22 - Frontiers in phonon-mediated superconductivity II

Chairperson: Yue-Wen Fang

Room: D

16h00-16h30	12972	Hanyu Liu	Invited	High superconducting superhydrides under pressure
16h30-16h45	13457	G. Anemone	Oral	Probing Electron-Phonon Interaction in 1T-PtTe ₂ and 1T-PdTe ₂ by Helium Atom Scattering: Implications for Superconductivity
16h45-17h00	16698	Simone di Cataldo	Oral	It is time for genuine high-throughput superconductor discovery

MC23 - Advanced characterization for energy materials II

Chairperson: J. P. Teixeira

Room: S3

16h00-16h30	12897	P. M. P. Salomé	Invited	The role of characterization and modelling in the path for developing ultrathin CIGS solar cells
16h30-16h45	13523	A. J. N. Oliveira	Oral	Design of Optimal Architectures for Optical Path Length Enhancement in Ultrathin and Bifacial Solar Cells
16h45-17h00	13035	A. F. Violas	Oral	Rear Passivation for Improved Performance in ACIGS Ultrathin Solar Cells with Mo and ITO Rear Contacts
17h00-17h30	13140	JP Leitão	Invited	Photovoltaics for space applications: the case of Cu(In,Ga)Se ₂
17h30-17h45	12965	P. A. Fernandes	Oral	Raman and X-ray structural characterization of post-annealed hydrothermal Sb ₂ (S, Se) ₃ thin films for solar cell application
17h45-18h00	13850	G Marques	Oral	Aerosolized Luminescent Nanoparticles as Optical Probes in Leakage Detection Systems
18h00-18h15	13235	M Großmann	Oral	A robust, simple and efficient workflow to converge GW calculations
18h15-18h45	13079	N. Nicoara	Invited	Probing Nanoscale Properties: CIGSe Solar Cells and Ir-Ni Catalysts for Hydrogen Production

MC33 - Memristive devices and materials for emerging computing paradigms II

Chairperson: José Silva

Room: S5

16h00-16h30	12778	Markus Hellenbrand	Invited	Oxide thin film structure and interface design for neuromorphic computing
16h30-17h00	13066	Asal Kiazadeh	Invited	Exploring the Diverse Frontiers of Memristor Technology: From Neuromorphic Computing to RF Switching
17h00-17h15	13310	Sabina Spiga	Oral	Investigation of short-term memory effects in volatile electrochemical memristor for neuromorphic computing
17h15-17h30	13246	Nuno M E Silva	Oral	Resistive switching in epitaxial rhombohedral HfO ₂ ultra-thin film
17h30-18h00	12904	Laura Bégon-Lours	Invited	Ferroelectric Synaptic Weights with Hafnia Superlattices
18h00-18h15	12978	Miguel A M Franco	Oral	Development of conductive inks and memristive active material for printed electronic applications

MC34 - Nonequilibrium dynamics and control of quantum materials II

Chairperson: Dante Kennes

Room: C

16h00-16h30	14887	Hadas Soifer	Invited	A band resolved view on ultrafast photocurrents
16h30-16h45	12894	Diogo Cunha	Oral	Hot-electron model for graphene: the key to understanding pump-probe experiments
16h45-17h00	13903	Adolfo Avella	Oral	Out-of-equilibrium Hubbard dimer within DPOA
17h00-17h15	12684	John Sous	Oral	Light-induced disordered and paired states in optically pumped metals from nonlinear electron-phonon coupling
17h15-17h45	13219	Martin Eckstein	Invited	Long-lived non-thermal phases of strongly correlated electrons

MC35 - Interaction effects in systems with higher order Van Hove singularities and flat bands II

Chairperson: Eduardo Castro

Room: B

16h00-16h30	15133	Bartomeu Monserrat	Invited	Band degeneracies beyond electrons
16h30-17h00	15667	Sebastiano Peotta	Invited	Superconductivity and quasiparticle localization in flat bands
17h00-17h15	13738	Eeli Lamponen	Oral	Superconductivity near flat bands and van Hove singularities with resonating valence bond pairing
17h15-17h30	12898	Krzysztof Piotr Wojcik	Oral	Interactions and high-order Van Hove singularities: single impurities and lattices
17h30-18h00	14832	Haoyu Hu	Invited	Superconductivity and Kondo phase in twisted bilayer graphene

MC47 - Non-equilibrium soft condensed matter I

Chairperson: Nuno Araújo

Room: S1

16h00-16h30	13331	Paul van der Schoot	Invited	Tactoids Large and Small: Impact of an Electric Field
16h30-17h00	12929	Giovanni Volpe	Invited	Experimental study of critical fluctuations and critical Casimir forces
17h00-17h30	13101	Mariana B. Oliveira	Invited	Aqueous immiscible systems for the preparation of versatile interface-assembled biomaterials
17h30-17h45	13218	Leila Abbaspour	Oral	Collective self-caging of active filaments in virtual confinement
17h45-18h00	13481	Juan Carlos Sobarzo	Oral	Spontaneous Self-Organization of Identical Materials into a Triboelectric Serie

18h00-18h15	13005	Mykola Tasinkevych	Oral	Sculpting liquid crystal skyrmions with external flows
18h15-18h30	12599	Dan Shafir	Oral	Disorder-Induced Anti-Friction in Anomalous Diffusion

General Topics I

Chairperson: Bernardo Almeida

Room: IPCA-1

16h00-16h15	15465	Beatriz M R Arouca Maia	Oral	Cathodes pinpoints for the next generation of energy storage devices: the LiFePO ₄ case study
16h15-16h30	13868	Inês C G Espada	Oral	Green synthesis of Au/TiO ₂ nanocomposites for photocatalytic degradation of ciprofloxacin
16h30-16h45	12955	Saibal Mitra	Oral	Development of Rechargeable Li-ion Micro-Batteries Using Femto-Second Laser Machining
16h45-17h00	13877	Joana Marina Silva Queirós	Oral	Photocatalytic Membranes Based on Natural Polymers for Antibiotics and Bacteria Removal
17h00-17h15	13744	Ane Martin Ayerdi	Oral	Synergistic Effect between C ₆₀ & CNTs in the Functional Characteristics of Conductive, Piezoresistive and Thermoresistive Polymer Nanocomposites
17h15-17h30	13208	Ricardo José Silva Lima	Oral	Towards sustainable epoxy based self-sensing polymer composites for high responsibility applications
17h30-17h45	12893	Elena Molteni	Oral	Self-Assembled Monolayers of N-Heterocyclic Olefins on Au(111)
17h45-18h00	12881	Sérgio A Pereira Gonçalves	Oral	Polymer-Based Capacitive, Piezoelectric and Piezoresistive Integration in an Interactive Hybrid Book Application
18h00-18h15	13204	Bárbara Cruz	Oral	Ionic Liquid-Modified Cellulose Acetate for Sustainable Temperature and Chromic Sensing Applications

Tuesday, September 3rd Morning Session

MC8 - Collective and nonlinear phenomena in confined quantum systems III

Chairperson: Jacques Tempere

 Room: IPCA-1

10h30-11h00	12677	Vladimir Fomin	Invited	New Characteristics of Magneto-Polarons in Transition Metal Dichalcogenides
11h00-11h15	12308	Serghei Klimin	Oral	Analytic method for polarons with a quadratic interaction in a non-parabolic band
11h15-11h30	13476	Filippo Pascucci	Oral	Density collective modes in bilayer exciton systems
11h30-11h45	12383	Matthew Houtput	Oral	Beyond the Fröhlich Hamiltonian: Large polarons in anharmonic solids

MC9 - Machine learning in soft condensed matter II

Chairperson: Giovanni Volpe

 Room: S1

10h30-11h00	12404	Kristian Gustavsson	Invited	Efficient navigation of microswimmers in turbulence
11h00-11h30	12372	Tristan Berreau	Invited	Transferable coarse-grained models accelerate chemical-space exploration
11h30-12h00	13030	Miguel Ruiz-García	Invited	Applying soft-matter physics to machine learning: Dynamical loss functions and catastrophic forgetting
12h00-12h30	15981	Rute Ferreira	Invited	Machine Learning-Driven Materials Design for Optimizing Solar Harvesting in Luminescent Solar Concentrators
12h30-13h00	13596	Adam Carter	Invited	Colloidal Dynamics from Microscopy: Tracking vs Box Counting vs DDM

MC11 - Triboelectric and piezoelectric nanogenerators: unleashing energy harvesting at the nanoscale I

Chairperson: B. Wicklein and F. Aparicio

 Room: E

10h30-11h00	13514	Paula Ferreira	Invited	Understanding the potential of polysaccharides on the development of novel flexible piezoelectric materials
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11h00-11h15	13764	C. Rodrigues	Oral	Harvesting Ocean Wave Energy: Assessing Triboelectric Nanogenerator Performance in Realistic Sea Environments
11h15-11h30	13012	Artur Baeta	Oral	Material and design comparison in Triboelectric Energy Harvester build by Fused Filament Fabrication
11h30-12h00	13678	Andris Sutka	Invited	The effect of polymer physicochemical properties on triboelectric response: towards mechanical energy harvesting
12h00-12h15	14731	Carlos Cobos	Oral	Boosted triboelectric generation in biodegradable nanoengineered PLA three-dimensional metamaterials
12h15-12h30	12602	Carlos Callatay	Oral	Finite-element simulations of nanoparticle-doped triboelectric materials towards nanogenerator performance enhancement
12h30-13h00	13373	Giuseppina Pace	Invited	2D-Materials and Hydrogels based on Triboelectric Nanogenerators (TENGS) for Mechanical Energy Harvesting and Self-Powered Sensing

MC12 - Materials morphology alteration by using state-of-the-art techniques: experiments, simulations and theoretical models I

Chairperson: Eduardo Castro

 Room: IPCA-5

10h30-11h00	12553	Przemysław Józwick	Invited	Ion implantation, ion channeling, Molecular Dynamics, and Monte Carlo simulations for materials modification and modeling of defects in compounds
11h00-11h30	12982	José María De Teresa	Invited	Tuning of the electrical resistivity and potential applications of electron/ion-irradiated solid precursor films
11h30-11h45	12896	Katharina Lorenz	Invited	Ion irradiation of wide bandgap semiconductors: Defect engineering and radiation detection
11h45-12h15	16050	Stefan Facsko	Invited	Nanoscale surface engineering by low-energy ion irradiation

MC13 - Mesoscopic superconductivity and quantum circuits III

Chairperson: Giampiero Marchegiani

 Room: SA

10h30-11h00	13097	Bayan Karimi	Invited	Bolometric detection of Josephson radiation
11h00-11h30	12753	Samuel Cailleaux	Invited	Photonic Joule effect in a superconducting circuit
11h30-11h45	13645	Ciprian Padurariu	Oral	Phase locking squeezed states of microwave light
11h45-12h00	13659	Felix Ahrens	Oral	Observation of Microwave Photon Energy Lifting

MC14 - Ultrafast electronics meets quantum thermodynamics III

Chairperson:

Room: S4

10h30-11h00	12562	Rolf Haug	Invited	AC-Driving of Single-Electron Tunneling in Quantum Dots
11h00-11h30	13074	Benjamin Rousset	Invited	Electron Quantum Optics, Signal Processing and Superconductivity
11h30-12h00		Juan David Jaramillo	Invited	Probing Molecular Magnetic Structure Using Spin Logic Transistors
12h00-12h30	13010	Pablo Burset	Invited	Electron Quantum Optics with Superconducting Devices
12h30-13h00		Mohamed Seddik Ouacel	Invited	Quantum interference beyond the adiabatic limit

MC15 - Phononics and thermal transport III

Chairperson: Marianna Sledzinska

Room: IPCA-6

10h30-11h00	13592	Emigdio Chavez	Invited	Thermal transport across 2D-layered materials
11h00-11h15	12906	Carlotta Ragazzo Capello	Oral	Exploitation of Silicon NEMS/MEMS-compatible techniques for the manipulation of phonons
11h15-11h30	12883	Riccardo Dettori	Oral	Anomalous thermal transport in two-dimensional materials: insights from equilibrium and non-equilibrium molecular dynamics simulations
11h30-11h45	13599	Giulio de Vito	Oral	Suspended micro thermometer for anisotropic thermal transport measurements
11h45-12h15	13415	Laura de Sousa Oliveira	Invited	Super-suppression of long mean-free-path phonons in constricted nanoporous Si due to heat current anticorrelations

MC17 - Spectroscopic Hall effect I

Chairperson: Alexey Kuzmenko and Girsh Blumberg

Room: IPCA-7

10h30-11h00	14349	Andrei Pimenov	Invited	Quantized Faraday rotation in 2D electron systems
11h00-11h15	13586	Andrei Sirenko	Oral	THz vortex beam spectroscopy of 2DEG in magnetic field
11h15-11h30	14075	Jianpeng Liu	Oral	Correlated topological states in moire graphene superlattices
11h30-11h45	14732	Viktor Rindert	Oral	THz spectroscopic EPR ellipsometry
11h45-12h00	13149	Ricardo P. S. M. Lobo	Oral	Correlations and dispersive Dirac physics in the quantum material BaNiS ₂
12h00-12h15	12600	Lingjie Du	Oral	Experimental observation of chiral graviton modes in quantum Hall liquids

12h15-12h30	13845	Girsh Blumberg	Oral	Optical Hall conductivity of "strange metals" and quantum liquids
12h30-12h45	13704	Alexey Kuzmenko	Oral	Magneto-Raman, magneto-Infrared and Faraday-rotation spectroscopy of Dirac materials
12h45-13h00		A.Kuzmenko/ G.Blumberg	discussion	Discussions and concluding remarks

MC21 - Optical Materials for Structured Light III

Chairperson: Jaana Vapaavouri

 Room: A

10h30-10h45	13761	Bereneice Sephton	Oral	Using light to correct light with nonlinear optics
10h45-11h15	13748	Vincenzo D'Ambrosio	Invited	Quantum information and sensing with structured light
11h15-11h45	13007	M. Lobet	Invited	Glimpse into near-zero refractive index photonics
11h45-12h00	14738	Pedro Silva	Oral	Dancing Artificial Muscles: enabling multidirectional bending in helically twisted polymeric fibers
12h00-12h30	13095	Mário Silveirinha	Invited	Chiral-Gain Photonics

MC23 - Advanced characterization for energy materials III

Chairperson: S. Shukla

 Room: S3

10h30-11h00	13323	J. Bisquert	Invited	Impedance and capacitance properties of energy materials
11h00-11h30	13321	M Rosário P Correia	Invited	The Raman spectroscopy in the study of semiconductors: case studies
11h30-11h45	13365	Mikhail Vasilevskiy	Oral	Composition-driven breaking of structural selection rules in polarized Raman scattering from Ge-Sn alloys
11h45-12h00	13524	C. O. Fernandes	Oral	Advanced Characterization to Access End-of-Life Li-ion Batteries Black Mass
12h00-12h30	13031	R. S. Sampaio	Invited	Characterization of the performance of a C/MnO _x asymmetric supercapacitor subjected to long cycling.
12h30-13h00	12775	L. Truta	Invited	Advanced anode materials for the next generation of LIBs

MC27 - Carbon-based nanostructures with engineered electronic and spin properties I

Chairperson: Pascal Ruffieux

Room: IPCA-A

10:30-11:00	13555	Diego Peña	Invited	Design and synthesis of well-defined carbon-based nanostructures by on-surface organic chemistry
11:00-11:30	13917	Michal Juricek	Invited	Taming and unleashing open-shell graphene fragments
11:30-11:45	13675	Lucia Vitali	Oral	Thioetherification of Br-Mercaptobiphenyl Molecules on Au(111)
11:45-12:00	13496	Manuel Melle Franco	Oral	Understanding and predicting nanographenes and nanoribbons with enhanced properties
12:00-12:15	13758	Carlos A. Palma	Oral	Spin and electronic properties of N-containing sp ² - and sp ³ -carbon nanostructures
12:15-12:30	13179	Letizia Salvo	Oral	Cross-coupling of Pd-cyclometallated complexes on Ag(110).
12:30-12:45	12993	Stephan Bromley	Oral	From spin-polarised carbon-based molecules to nanostructured 2D quantum materials
12:45-13h00	13132	Ricardo Ortiz	Oral	Exchange interaction in π -d platforms as monomers of magnetic organic frameworks.

MC33 - Memristive devices and materials for emerging computing paradigms III

Chairperson: Sabina Spiga

Room: S5

10h30-11h00	13039	Liza Herrera Diez	Invited	Magneto-Ionics: Advancing Non-Volatile Control of Magnetic Properties for Neuromorphic Applications
11h00-11h30	13670	Alberto Riminucci	Invited	Glassy synaptic time dynamics in molecular La _{0.7} Sr _{0.3} MnO ₃ /GaQ3/AlO _x /Co spintronic crossbar devices
11h30-11h45	13626	Rui Santos Costa	Oral	Fabrication and Characterization of Nanowire Networks for Neuromorphic Applications
11h45-12h00	13826	Diogo Miguel Caetano	Oral	Memristor-based LIF Neuron with Self-Timed Proportional Biphasic Stimulation for Hybrid Bio-CMOS Systems
12h00-12h30	13322	Juan Bisquert	Invited	Frequency and time domain properties of memristors: connecting hysteresis to the equivalent circuit characteristics
12h30-12h45	13400	Alon Ascoli	Oral	Local Activity in a Memristor Halves the Number of Dynamical Circuit Elements Necessary to Reproduce the Action Potential Life Cycle in the Hodgkin-Huxley Neuron
12h45-13h00	13598	Vivek Dey	Oral	Modeling Avalanche Dynamics in Percolative Tunneling Networks Using Network Theory

MC34 - Nonequilibrium dynamics and control of quantum materials III

Chairperson: Michael Sentef

Room: C

10h30-11h00	-	Aleksei Kimel	Invited	Ultrafast magnetism – terra incognita beyond the conventional approximations
11h00-11h15	12634	Riccardo Grazi	Oral	Enhancing energy storage crossing quantum phase transitions in an integrable spin quantum battery
11h15-11h30	13068	Bruno-Bertin Johannet	Oral	Time-dependent quantum transport in the fractional quantum Hall effect
11h30-12h00	12337	Davide Bossini	Invited	Dynamical renormalization of a spin Hamiltonian via high-order nonlinear magnonics

MC35 - Interaction effects in systems with higher order Van Hove singularities and flat bands III

Chairperson: Peter Wahl

Room: B

10h30-11h00	12828	Hillary Noad	Invited	Thermodynamic measurements across a uniaxial-pressure-tuned Lifshitz transition in Sr_2RuO_4
11h00-11h15	12654	David Perkins	Oral	Scattering rate of interacting electrons in the presence of flat-bands and van Hove singularities
11h15-11h45	13333	Carolina Marques	Invited	Exchange interaction and magnetostriction of the surface layer of $\text{Sr}_4\text{Ru}_3\text{O}_{10}$
11h45-12h00	12810	Lewis Burke	Oral	Dark to bright excitons & trions in InSe with Mexican hat energy dispersion
12h00-12h30	12551	Federico Mazzolla	Invited	Signatures of a surface spin-orbital chiral metal

MC37 - Advances in emerging nanostructured solar cells I

Chairperson: Arlete Apolinário and Adélio Mendes

Room: D

10h30-11h00	14745	Adélio Mendes	Invited	Solar redox flow cells: from a Dream to high-performance
11h00-11h15	14746	Telmo da Silva Lopes	Oral	High Energy Density and Efficiency Silicon-driven Solar Redox Flow Cell
11h15-11h30	14743	Filipe Moisés	Oral	Addressing the stability challenge of semi-transparent Ta_3N_5 photoelectrodes
11h30-11h45	12907	Fran Fernandez	Oral	Understanding the Synergistic Effects of Ti–Sn Co-Doping on Photoelectrochemical Water Splitting of Hematite Nanowires
11h45-12h00	13872	André Aguiar	Oral	Incorporating Au plasmonic nanoparticles into hematite nanowires for improved solar water splitting photoanodes
12h00-12h15	13756	Sofia Gongalves	Oral	Solar Water Splitting and Green Hydrogen Production with Photoelectrochemical Cells

12h15-12h30	13763	Arlete Apolinário	Oral	Flexible Photoanodes Based on Hematite Porous Layers
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MC44 - Exploring the frontier of thermoelectric materials, devices, and applications in condensed matter physics I

Chairperson: Carlos Tavares

Room: IPCA-4

10h30-11h00	12817	J García Cañadas	Invited	Improving the thermoelectric power factor of nanostructured and porous oxides using electrolytes and surface functionalization
11h00-11h15	13725	Ana Sousa	Oral	Thin Multi-Layered Multifunctional Textiles with Thermal Energy Harvesting and Energy Storage Properties
11h15-11h30	13718	Ana Pires	Oral	Synergistic Energy Systems: Merging Thermoelectric and Magnetocaloric Technologies
11h30-12h00	15463	Marisol M Gonzalez	Invited	The Interplay of Electrons and Phonons in Thermoelectric Materials
12h00-12h15	13178	Olga Caballero	Oral	Thermoelectric generators fabricated within flexible commercial filters
12h15-12h30	13214	Andres Conca	Oral	Silver selenide thin films deposited by pulsed hybrid reactive magnetron sputtering at low temperature
12h30-13h00	13760	André Pereira	Invited	Printable Thermoelectric Devices: Harvesting from Heat Surfaces, Wearables and Wireless Energy Transfer

MC46 - Charge and spin transport in low-symmetry, topological and magnetic materials I

Chairperson: Ivan Vera Marun

Room: S2

10h30-11h00	-	Yoshichika Otani	Invited	Orbital Edelstein effect and long-distance diffusive propagation
11h00-11h15	13417	Eoin Dolan	Oral	Switching spin-charge interconversion mechanisms via back-gate voltage in a graphene/ReS ₂ van der Waals heterostructure
11h15-11h30	13805	Mafalda Moreira	Oral	Bridging the gap between Spintronics and Flexible Technology using 3D Topological Insulators
11h30-11h45	13729	Julien Bréhin	Oral	Towards Bi-based spintronics logic devices
11h45-12h00	13192	V.N. Mantsevich	Oral	Current-induced spin accumulation in a quantum dot: Kondo effect and spin Nernst effect
12h00-12h15	13730	Carlos E. Roque	Oral	Micro-Grating Structures of Topological Insulator: From Plasmonics To Spintronics
12h15-12h30	12980	M. Governale	Oral	Topological nano-switches in higher-order topological insulators
12h30-12h45	12803	Andreas Kreisel	Oral	Minimal Models for Altermagnetism
12h45-13h00	12812	S. Stavić	Oral	Altermagnet or weak ferromagnet: the case of two-dimensional RuF ₄



Tuesday, September 3rd Afternoon Session

MC2 - Emergent ferroelectrics I

Chairperson: Martina Müller and Niklas Wolff

 Room: S3

16h00-16h30	12973	Geoff Brennecka	Invited	Chemical Effects on Switching Pathways in Ferroelectric Wurtzites
16h30-17h00	14035	Elizabeth Dickey	Invited	Polarization and Switching in Novel Ferroelectrics: Atomic -scale Analysis via Scanning Transmission Electron Microscopy
17h00-17h15	13216	Niklas Wolff	Oral	Ex situ observation of ferroelectric domain structures in wurtzite-type AlScN thin films by TEM
17h15-17h30	14066	Niklas Kyoushi	Oral	Metal Work Function Modulation of Al _{1-x} Sc _x N based Memristive Devices towards Downscaling
17h30-18h00	13104	Martina Müller	Invited	How to detect defect signatures in ferroelectric capacitors—a spectroscopic approach
18h00-18h15	13174	José P. S. Cardoso	Oral	Optical characterization of AlScN films grown by metalorganic chemical vapor deposition
18h15-18h30	13755	Maike Gremmel	Oral	Oxygen and Boron Incorporations and their Effect on Ferroelectricity in Al _{0.72} Sc _{0.28} N

MC8 - Collective and nonlinear phenomena in confined quantum systems IV

Chairperson: Vladimir Fomin

 Room: IPCA-1

16h00-16h30	12622	Henrique C. Prates	Invited	Bloch-Landau-Zener oscillations in a quasi-periodic potential
16h30-17h00	12732	Anatoly Kuklov	Invited	Transverse Quantum Fluids
17h00-17h30	12938	Francesco Minardi	Invited	Breakup of two-components quantum droplets
17h30-18h00	13907	Roberta Citro	Invited	Hall effect in atomic ladder systems
18h00-18h15	12963	Alberto Nardin	Oral	Quantum nonlinear optics on the edge of small lattice fractional quantum Hall fluids
18h15-18h30	13473	J.M.A. Oliveira Pinho	Oral	Polariton-assisted second-harmonic generation in graphene

MC11 - Triboelectric and piezoelectric nanogenerators: unleashing energy harvesting at the nanoscale II

Chairperson: G. Pace and C. Rodrigues

Room: E

16h00-16h30	13888	Luís Pereira	Invited	Functionalized fibre and wood structures for applications in mechanical energy harvesting
16h30-16h45	12847	B. Wicklein	Oral	Sustainable nanocomposite materials for tribo- and piezoelectric nanogenerators
16h45-17h00	13640	Cristina Pascual	Oral	Piezoelectric hybrid composites from biobased polymers and lead-free ferroelectric ceramic fillers
17h00-17h15	12781	P. Costa	Oral	Triboelectric, piezoelectric, and hybrid energy harvesting generation based on flexible and sustainable materials
17h15-17h30	13812	Ismael Domingos	Oral	Triboelectric devices with flexible graphene electrodes for energy harvesting and sensing solutions
17h30-18h00	12886	Francisco Aparicio	Invited	Vacuum and Plasma fabrication of Thin Films and 1D Nanoarchitectures for Energy Harvesting applications

MC12 - Materials' morphology alteration by using state-of-the-art techniques: experiments, simulations and theoretical models II

Chairperson: Milena Majkić

Room: IPCA-5

16h00-16h30	12764	Denise Erb	Invited	Nanopatterning of crystalline Ge(001) surfaces induced by broad-beam low-energy ion irradiation: influence of erosion in the diffusion-dominated regime
16h30-16h45	12582	Constance Toulouse	Oral	Helium implantation for strain-engineering: a new route for tuning functionality in materials
16h45-17h15	13144	Pablo de Vera	Invited	Biomaterials excitation by energetic charged particles: towards a detailed modelling of biomedical applications
17h15-17h45	13008	Filip Vuković	Invited	Revealing the atomistic structure of 2D organic membranes

MC13 - Mesoscopic superconductivity and quantum circuits IV

Chairperson: Luca Chirulli

Room: SA

16h00-16h30	12632	Michael Stern	Invited	Coupling single electrons spins to a superconducting flux qubit
16h30-16h45	12374	Niccolo Traverso Ziani	Oral	Novel effects in quantum spin Hall based Josephson junctions
16h45-17h00	13143	Roberto Capecelatro	Oral	Transport and noise properties of ferromagnetic Josephson junctions at the $0 - \pi$ transition.

17h00-17h15	13560	Emil Siuda	Oral	Competition between Nagaoka ferromagnetism and superconducting pairing in a hybrid quantum dot plaquette
17h15-17h30	13696	Sourabh Patil	Oral	The Andreev bound states and a diode effect in an Ising-superconductor Josephson junction
17h30-17h45	13792	Phillip Mercebach	Oral	Thermoelectric signatures of Bogoliubov Fermi Surface in superconducting 3D Topological Insulator Heterostructures
17h45-18h00	13388	Yuriko Baba	Oral	Induced triplet pairing on chiral Andreev edge states in the quantum Hall regime
18h00-18h15	13171	Gianmichele Blasi	Oral	Topological Josephson junctions in the integer quantum Hall regime
18h15-18h30	13326	Haolin Jin	Oral	Hybrid superconducting coplanar resonator with high T _c superconductor

MC14 - Ultrafast electronics meets quantum thermodynamics IV

Chairperson:

Room: S4

16h00-16h30	12683	Kay Brandner	Invited	Thermodynamic Uncertainty Relations for Coherent Transport
16h30-17h00	-	Borhan Ahmadi	Invited	Nonreciprocal Quantum Batteries
17h00-17h30	-	Peter Samuelsson	Invited	Quantum measurement and control of a Maxwell demon in double quantum dots
17h30-18h00	-	Didrik Palmqvist	Invited	Thermodynamic constraints on bosonic and fermionic noise
18h00-18h15	-	David C Ohnmacht	Oral	Thermodynamic Uncertainty Relations in Superconductors
18h15-18h30	12617	Giulia Gemme	Oral	Thermodynamics of a rechargeable Josephson quantum battery

MC24 - Multifunctional materials for advanced biophysics: decoding electrical and mechanical cues

Chairperson: Pedro Libano Martins

Room: A

10h30-11h00	12999	Senentxu Lanceros-Mendez	Invited	Surface-charged piezoelectric substrates: A novel approach to enhancing primary neurons viability and maturation in vitro
11h00-11h30	16379	António J. Salgado	Invited	Cell Secretome and Biodegradable Biomaterials for CNS Regenerative Medicine: Insights on Spinal Cord Injury and Parkinson's Disease
11h30-12h00	-	Clárisse Ribeiro	Invited	Physically Active Bioreactors: A New Paradigm in Tissue Engineering
12h00-12h30	13002	Estela O. Carvalho	Oral	Optimizing orthopedic interfaces with piezoelectric matrices embedded with ionic liquids through osseointegration and antibacterial dual characteristics

12h30-12h45	12949	Ricardo Brito-Pereira	Oral	Enhancement of Antimicrobial Response of Electroactive Polymers by Propolis Incorporation for High-Traffic Surfaces and Biomedical Applications
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MC27 - Carbon-based nanostructures with engineered electronic and spin properties II

Chairperson: Arán García Lekue

Room: IPCA-A

16:00-16:30	13506	Pascal Ruffieux	Invited	Nanographene Spin Chains
16:30-17:00	13660	Nacho Pascual	Invited	π -Paramagnetism in Azatriangulenes
17:00-17:15	13630	Antonio T. Costa	Oral	Beyond spin models in orbitally degenerate open-shell nanographenes
17:15-17:30	12435	Hongde Yu	Oral	Metal-free magnetism in two-dimensional polymers
17:30-17:45	12937	Beatriz Viña	Oral	Controlling magnetic interactions between $S=1/2$ spins at unusually large distances
17:45-18:00	13863	Nils Krane	Oral	Exchange interactions and correlations in nanographene-based spin systems
18:00-18:15	13255	Diego Soler	Oral	Spin excitation and many-body physics in a poly-radical nanographene

MC37 - Advances in emerging nanostructured solar cells II

Chairperson: Arlete Apolinário and Shrabani Panigrahi

Room: D

16h00-16h30	13674	Shrabani Panigrahi	Invited	Revealing the Inner Dynamics: Surface Potential Mapping across the Cross-section of Perovskite Solar Cells
16h30-16h45	13767	Neenu Lekshmi Prasannan	Oral	Layered oxide-based perovskites without inversion symmetry: possibility towards photoferroic applications
16h45-17h00	13337	E. Lora da Silva	Oral	Pressure-induced phase transitions of oxide-based perovskite systems
17h00-17h15	12811	Demontis Valeria	Oral	2-Dimensional Single-Crystal Perovskites: Study of the Temperature and Light Power Dependent Photoresponse
17h15-17h30	13727	M. B. Candeias	Oral	Optoelectronic study of the crystalline Si/amorphous hydrogenated Si interface

MC42 - A quantum leap: unraveling the mysteries of correlated electronic states in quantum materials through atomic-scale imaging and spectroscopy I

Chairperson: Carolina de Almeida Marques

Room: S5

16h00-16h30	13511	Susanne Baumann	Invited	Atomic-scale ultrafast charge dynamics on surfaces measured with a scanning tunneling microscope
16h30-16h45	13423	Jiahao Yan	Oral	Excitons and superconductivity in Cu intercalated 1T-TiSe ₂
16h45-17h15	12918	Lihuan Sun	Invited	Determining spin-orbit coupling in graphene by quasiparticle interference imaging
17h15-17h45	12834	Andreas Kreisel	Invited	Unconventional superconducting pairing: Theoretical mechanisms and spectroscopic probes
17h45-18h00	13893	Peter Wahl	Oral	Suppression of superconductivity at the surface of Sr ₂ RuO ₄
18h00-18h30	13887	Silke Bühler-Paschen	Invited	Strange metals – A platform to study entanglement in condensed matter?

MC44 - Exploring the frontier of thermoelectric materials, devices, and applications in condensed matter physics II

Chairperson: Olga Caballero

 Room: IPCA-4

16h00-16h30	15311	Sylvain Le Tonquesse	Invited	New Synthesis Approaches for Non-toxic and Affordable Transition Metal Silicides and Phosphides as Thermoelectric Materials
16h30-16h45	13267	J M D Vázquez	Oral	Thermoelectric efficiency of sputtered epitaxial Fe ₂ VAI and Fe ₂ V _{0.8} AlW _{0.2} (100) and (110) thin films
16h45-17h00	12420	Milan Klicpera	Oral	Lead-free dielectrics, improved recipe for synthesis
17h00-17h30	12598	Yohann Thimont	Invited	Thermoelectric properties of optimized transparent gamma copper iodine thin films: Development of unitracks modules, experimental and simulated performances
17h30-17h45	13150	J M Ribeiro	Oral	Transparent Thermoelectric Titanium Dioxide-based Thin Films for Thermal Energy Harvesting
17h45-18h00	15466	Enrique Muñoz	Oral	Thermoelectric Transport Coefficients for Weyl Semimetals in the Family of Transition Metal Monopnictides with Dislocation Defects
18h00-18h30	13916	Eliana Vieira	Invited	Optimization of binary oxides properties for energy harvesting

MC46 - Charge and spin transport in low-symmetry, topological and magnetic materials II

Chairperson: Sofia Ferreira Teixeira

 Room: S2

16h00-16h30	13463	Ivo Souza	Invited	Chiral effects in trigonal tellurium
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16h30-16h45	13499	A. Kazantsev	Oral	Hall effect and transport of non-conserved charges
16h45-17h00	12744	L. Medel Onofre	Oral	Planar Hall effect in Weyl semimetals induced by pseudoelectromagnetic fields
17h00-17h15	13259	H. Siampour	Oral	Controlled Excitation of Quantum Dot Spins on a Semiconductor Chip
17h15-17h30	13894	Silke Paschen	Oral	Designing strongly correlated topological semimetals
17h30-17h45	13615	Pankaj Mandal	Oral	Magnetically tunable supercurrent in dilute magnetic topological insulator-based Josephson junction
17h45-18h00	12615	Simone Traverso	Oral	Emerging topological bound states in (superconducting) Haldane model zigzag nanoribbons
18h00-18h15	12698	Matteo Carrega	Oral	Half-integer Shapiro Steps in Highly Transmissive InSb Nanoflag Josephson Junctions
18h15-18h30	13062	Sara Catalano	Oral	Tunnelling spectroscopy and Josephson coupling through EuS/Al interfaces.

MC47 - Non-equilibrium soft condensed matter II

Chairperson: Rodrigo Coelho

 Room: S1

16h00-16h30	12780	Margarida M. Telo da Gama	Invited	Interfaces of active fluids
16h30-17h00	12797	N.Vandewalle	Invited	Exploiting capillary interactions to self-assemble mesostructures on liquid interface
17h00-17h30	13686	Sabine H.L. Klapp	Invited	Self-assembly and self-organization in nonreciprocal anisotropic systems
17h30-17h45	13610	Maks Pecnik Bambic	Oral	Optimal face-to-face coupling for fast self-folding kirigami
17h45-18h00	13163	A. Bensabat	Oral	Microenvironment anisotropy drives cell migration and large-scale nuclear deformations – a coupled in silico and in vitro study
18h00-18h15	13018	Nicolò Galvani	Oral	How does a foamed yield-stress fluid coarsen?
18h15-18h30	12708	Tomás Alvim	Oral	Collective variable model for the dynamics of liquid crystal skyrmions

General Topics II - Magnetic and multiferroic oxide materials

Chairperson: Rui Vilarinho

 Room: B

16h00-16h30	13084	Lucia Varbaro	Invited	Structural, magnetic and electronic study of rare earth nickelate solid solutions and superlattices
16h30-16h45	13739	Guido Fratesi	Oral	Metal-TetraPhenyl-Porphyrins Surface Functionalization of Ultrathin and Bulk Magnetic Oxides



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16h45-17h00	13270	Anita Yadav	Oral	Inducing out-of-plane magnetic anisotropy by substitutional doping in the multiferroic CuCrP_2S_6 monolayer
17h00-17h15	12862	Tiago Rodrigues	Oral	Composite Multiferroic $\text{CoFe}_2\text{O}_4/\text{LiNbO}_3$ Nanofibers by Electrospinning
17h15-17h30	12419	Milan Klicpera	Oral	Magnetic and conducting properties of rare-earth iridates

Wednesday, September 4th Morning Session

MC2 - Emergent ferroelectrics II

Chairperson: José Silva and Jacobo Santamaria

 Room: S3

10h30-11h00	12820	Jacobo Santamaria	Invited	Ferroelectric twistrionics with BaTiO ₃ membranes
11h00-11h15	12851	Bruna Silva	Oral	Strain-dependent magnetic and dielectric properties of Ca ₃ Mn ₂ O ₇ thin films prepared by pulsed laser deposition
11h15-11h30	13467	Yue-Wen Fang	Oral	Ferroelectric bismuth oxides: from crystal structure prediction to device implementation
11h30-11h45	12724	Suzanne Lancaster	Oral	Multilevel switching in ferroelectric hafnia capacitors and tunnel junctions
11h45-12h00	12917	Alexandre Baigol	Oral	From Picoseconds to Biological Timescales: Conductance Changes in Hafnia Synapses
12h00-12h15	13291	Judith Knabe	Oral	Spectroscopic insights into filamentary and ferroelectric switching in epitaxial Hf _{0.5} Zr _{0.5} O ₂

MC6 - Dissipative quantum many body dynamics I

Chairperson: Pedro Ribeiro

 Room: C

10h30-11h00	14337	Dariusz Chruściński	Invited	Constraints for relaxation rates for open quantum systems
11h00-11h15	13892	Diogo Aguiar	Oral	Liouvillian Tomography in Noisy Intermediate-scale Quantum Computers
11h15-11h30	12688	Daniel Werner	Oral	Auxiliary master equation approach to the Anderson-Holstein impurity problem out of equilibrium
11h30-12h00	13898	Dario Poletti	Invited	Emergence of steady quantum transport in a superconducting processor
12h00-12h15	13890	João Costa	Oral	Current statistics of noisy fermionic chains
12h15-12h30	12619	Andrew Keefe	Oral	Probing many-body environments using quantum master equations

MC7 - Supported metal nano-particles and alloys for catalytic applications I

Chairperson: Jose Gomes

Room: IPCA-6

10h30-11h00	12440	Konstantin M. Neyman	Invited	How oxide supports affect transition-metal particles in catalytic nanomaterials
11h00-11h30	12650	Luca Vattuone	Invited	Ni and NiO nanoclusters on ultrathin MgO films
11h30-11h45	16763	Sergio Tosoni	Oral	Density Functional Theory Investigation of X55 (X: Ni, Pd, and Pt) Nanoclusters on MgO (100) and MgO (100)/Ag(100) Support: Toward Realistic Models of Supported Catalytic Particles
11h30-11h45	15565	Federico Piciacchia	Oral	Functionalization of Titanium Dioxide to Prevent Lithium Dendrites Formation: A DFT Study
11h45-12h15	13878	Andreia F. Peixoto	Invited	Strategic metal-support interactions to improve the performance of heterogeneous catalysts
12h15-12h30	15566	Letizia Savio	Oral	Role of interface oxygen in the growth of monolayer MgO island on Ag(100)

MC9 - Machine learning in soft condensed matter III

Chairperson: Rodrigo Coelho

Room: S1

10h30-11h00	12388	Daniel de las Heras	Invited	Machine learning inverse problems in nonequilibrium many-body soft matter systems
11h00-11h30	12747	Nuno Araújo	Invited	Self-folding kirigami at the microscale
11h30-12h00	13222	Andreas Zöttl	Invited	Reinforcement learning of microswimmers with genetic algorithms
12h00-12h15	13195	Jaka Zaplotnik	Oral	Neural networks for identification of liquid crystal elastic constants and structures from optical measurements
12h15-12h30	12616	João L C Grade Neves	Oral	Mapping the discrete configurational space of kirigami folding
12h30-12h45	13221	Bappaditya Roy	Oral	Learning hydrodynamic equations from the collective behavior of active Brownian particles

MC13 - Mesoscopic superconductivity and quantum circuits V

Chairperson: Gianluigi Catelani

Room: GA

10h30-11h00	13567	Wolfgang Belzig	Invited	Quartet Tomography in Multiterminal Josephson Junctions
11h00-11h30	12270	Luca Chiorli	Invited	Cooper quartets designing in multi-terminal superconducting devices
11h30-11h45	12306	Gianluca Rastelli	Oral	Entangled photon-pair emission in circuit QED from a Cooper pair splitter
11h45-12h00	12623	Rok Zitko	Oral	Quantum dot Josephson junctions

12h00-12h15	13395	Andriani Keliri	Oral	Floquet-Andreev resonances in hybrid superconducting systems
12h15-12h30	12749	Sachin Verma	Oral	Theoretical modelling and Simulations study of Superconducting Qubits as a basis of Quantum Computing
12h30-13h00	13121	Gerhard Kirchmair	Invited	Hot Schrödinger Cat States

MC14 - Ultrafast electronics meets quantum thermodynamics V

Chairperson:

Room: A

10h30-11h00	-	Rafael Sánchez	Invited	Scattering theory of thermal and thermoelectric diodes
11h00-11h30		Michał Horodecki	Invited	Catalytic advantage in Otto-like two-stroke quantum engines
11h30-12h00	16746	Guliano Benenti	Invited	Dissipation-induced collective advantage of a quantum thermal machine
12h00-12h30	-	Francesco Giazotto	Invited	Quantum Heat Engines Based on Josephson Circuits
12h30-12h45	13033	Alessandro Braggio	Oral	Thermoelectricity in hybrid superconducting quantum machines

MC18 - Magnetization dynamics at nanoscale I

Chairperson: Maciej Krawczyk, Roman Khymyn

Room: IPCA-1

10h30-11h00	16695	Farkhad Aliev	Invited	Interface driven magnon dynamics in antiferromagnet-ferromagnet and superconductor-ferromagnet hybrids
11h00-11h30	13324	Kostyantyn Gusliyenko	Invited	Bloch-point domain wall dynamics in a cylindrical magnetic nanowire
11h30-12h00	13664	Oleg Tretiakov	Invited	Bimerons in Magnetic Topological Materials
12h00-12h15	13056	Yannik Kunz	Oral	Non-reciprocal phonon-magnon interaction in yttrium-iron-garnet/zinc oxide heterostructure
12h15-12h30	13253	Rostyslav Serha	Oral	Damping enhancement in YIG films at millikelvin temperatures caused by GGG
12h30-12h45	12715	Artem Talantsev	Oral	Tunnelling magnetoresistance platforms for linear positioning and nanoscale displacements sensing
12h45-13h00	14037	Ana Vieira Silva	Oral	Ultrafast Spectroscopies to Probe Magnetic and Electronic Dynamics

MC19 - Topological materials for novel electronic devices: towards room temperature applications I

Chairperson: Alexander Brinkman

Room: D

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10h30-11h00	13230	Ralph Claessen	Invited	Topology and Hidden Honeycomb Physics in a Triangular Atom Lattice: Indene on SiC(0001)
11h00-11h30	13787	Anna Isaeva	Invited	Materials design of intrinsic magnetic topological insulators towards higher Curie temperature
11h30-12h00	13808	Vanda Pereira	Invited	Bi ₂ Te ₃ thin films and magnetic heterostructures grown by molecular beam epitaxy
12h00-12h15	15135	Valentyn Volobuev	Oral	Topological semimetal phases of grey-Sn as a future platform for spintronic devices
12h15-12h30	13319	Daniel Brito	Oral	Wafer-scale fabrication of epitaxial topological insulator Bi ₂ Se ₃ top-gate devices by molecular beam epitaxy
12h30-13h00	:			Collaborations and project discussion

MC20 - Neuromorphic computing with complex systems I

Chairperson: Roberta Zambrini

Room: E

10h30-11h00	15568	Alejandro Giacomotti	Invited	Image classification based on Exceptional Point bifurcations in nanolaser arrays
11h00-11h30	14888	Neda Ghofraniha	Invited	Parisi Replica Symmetry Breaking and Complexity in Random Lasers
11h30-12h00	14735	Fabrice Raineri	Invited	InP on Silicon spiking nanolasers
12h00-12h15	13829	João Azevedo	Oral	III-V Semiconductor Bioinspired Nanopillar Arrays for Neuromorphic Applications
12h15-12h30	14733	Marcos Díaz	Oral	Nonlinear dynamics in an optimized optomechanical resonator

MC26 - Topological Bosonics I

Chairperson: Yan Pennec

Room: IPCA-7

10h30-11h00	15570	Alberto Amo	Invited	Extrinsic topology in Floquet photonic lattices
11h00-11h30	13768	Koijam Monika Devi	Invited	Topological modes in phononic waveguide interfaces
11h30-12h00	13614	Martin Guillot	Invited	All-optical measurement of the eigenstate structure in polariton lattices
12h00-12h30	13803	Edson R C de Oliveira	Invited	Nanoacoustic topological interface states in 1D superlattices by band inversion
12h30-12h45	13069	Nouh Krai	Oral	Simultaneous Photonic and Phononic Topological Interface States in a Si-based Membrane Crystal

MC27 - Carbon-based nanostructures with engineered electronic and spin properties III

Chairperson: Joaquín Fernández-Rossier

Room: IPCA-A

10h30-11h00	13663	Yujeon Bae	Invited	Atomic-Scale Quantum Coherent Science with Spins on Surfaces
11h00-11h30	13854	S. Kovarik	Invited	Magnetic resonance of individual charge-transfer complexes on an ultrathin insulator investigated with STM
11h30-11h45	12909	Wantong Huang	Oral	Spin Engineering in Artificial Atom-Molecule Hybrids
11h45-12h00	12885	Kwan Ho Au-Yeung	Oral	Site-dependent spin coupling in switching in single iron phthalocyanine complexes
12h00-12h15	13453	Yelko del Castillo	Oral	Probing spin fractionalization with absolute magnetometry ESR-STM
12h15-12h30	13799	David Jacob	Oral	Demonstrating Kondo behavior by temperature-dependent scanning tunneling spectroscopy
12h30-12h45	12726	Gonçalo Catarina	Oral	Conformational tuning of magnetic interactions in coupled nanographenes
12h45-13h00	13111	Nataly Herrera	Oral	Self-assembled magnetic islands vertically stacked by successive capping with 2D material.

MC29 - Orbitronics - exploring the power of orbital angular momentum manipulation I

Chairperson: Tatiana Rappoport

 Room: IPCA-4

10h30-11h00	13774	H. Jaffrès	Invited	Orbital currents and orbital torques from light metals and their interfaces
11h00-11h30	13355	Seungyun Han	Invited	Dynamics and transport of orbital angular momentum and orbital angular position
11h30-12h00	12952	Annika Johansson	Invited	Theory of spin and orbital Edelstein effects in topological oxide two-dimensional electron gases
12h00-12h30	13090	Michel Viret	Invited	Observation of the Orbital Inverse Rashba-Edelstein effect
12h30-12h45	13164	Jone Mencos	Oral	Observation of the orbital Hall effect by electrical orbital injection

MC30 - Materials Research with Neutrons I

Chairperson: Ricardo Vieira/Tatiana Guidi

 Room: IPCA-5

10h30-11h00	13920	Tatiana Guidi	Invited	Quantum bits and entanglement: a neutron scattering view
11h00-11h15	13869	J.A. Paixão	Oral	Neutron and resonant X-ray scattering study of the modulated magnetic structures of ErFe ₄ Al ₈ and NdFe ₄ Al ₈
11h15-11h30	13067	Clemens Ulrich	Oral	Stability and Scaling Behaviour of Magnetic Skyrmions in Cu ₂ OSeO ₃
11h30-11h45	12859	F. Duc	Oral	Magnetic field-driven spin-structures in MnCr ₂ S ₄ revealed by high-field single-crystal neutron diffraction
11h45-12h00	12776	F. Bourdarot	Oral	TbB ₄ under high magnetic field
12h00-12h30	13147	Ricardo Vieira	Invited	Spin Dynamics of ErW ₁₀ Polyoxometalate – Single Ion Magnet - Explored by Implanted Muons

12h30-12h45	13067	Diogo Almeida	Oral	Structure-property relationships in quasi-1D ruthenate Sr ₄ Ru ₂ O ₉
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MC42 - A quantum leap: unraveling the mysteries of correlated electronic states in quantum materials through atomic-scale imaging and spectroscopy II

Chairperson: Peter Wahl

Room: B

10h30-11h00	15994	Hermann Suderow	Invited	The feedback driven atomic scale Josephson microscope and other new insight from direct visualization
11h00-11h30	14418	Kazuhiro Fujita	Invited	Visualizing the finite-momentum pairing states in EuRbFe ₄ As ₄
11h30-11h45	13691	Siyuan Wan	Oral	Visualization of incommensurate antiferromagnetic order in Fe doped Bi ₂ Sr ₂ CaCu ₂ O _{8+δ}
11h45-12h00	12713	Jian-Feng Ge	Oral	Atomic-scale confinement and breakdown of electronic charge density modulation
12h00-12h30	14350	Chi Ming Yim	Invited	Nanoscale Physics of the surfaces of delafossite PdCoO ₂ and PdCrO ₂

MC43 - Advances in controlled disorder and defect analysis of materials I

Chairperson: Joana Rodrigues and Rosário Correia

Room: S5

10h30-11h00	12798	Alexander Azarov	Invited	Self-assembling of Ga ₂ O ₃ polymorphic heterostructures with ion beams
11h00-11h15	13142	M. Peres	Oral	Ag and Au nanoparticles created by ion implantation in Ga ₂ O ₃ thin films for temperature sensing
11h15-11h45	12934	D. M. Esteves	Invited	Implantation-induced β-Ga ₂ O ₃ microtubes and nanomembranes
11h45-12h00	13016	M. C. Pedro	Oral	Characterisation of differently doped β-Ga ₂ O ₃ membrane MSM photodetectors and FET
12h00-12h30	12946	R. Ratajczak	Invited	Multi-channeling characterization of radiation-induced effects and defects by Yb in the β- Ga ₂ O ₃
12h30-12h45	13563	J. Zaroni	Oral	Temperature-dependent photoluminescence studies in Pr implanted β- Ga ₂ O ₃
12h45-13h00	13213	Ana Sofia Sousa	Oral	Gallium Oxide Thin Films deposited by RF-Sputtering for Electro-Optical Applications

MC45 - Superconductivity in two-dimensional and layered materials I

Chairperson: R.S. Gonnelli, D. Wickramaratne

Room: S2

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10h30-11h00	13139	Philip Kim	Invited	Radiofrequency reflectometry measurement of superfluid stiffness of 2D superconductors
11h00-11h30	13134	Jianting Ye	Invited	Ion-gated high mobility electronic gases and orbital FFLO state in clean 2D superconductors
11h30-12h00	13173	Yoshihiro Iwasa	Invited	Nonreciprocal transport and superconducting diode effect with time reversal symmetry
12h00-12h30	15461	Matteo Calandra	Invited	Phonon mediated superconductivity in field-effect doped molybdenum dichalcogenides

MC48 - Attosecond physics in condensed matter I

Chairperson: Pablo San-Jose

Room: S4

10h30-11h30	13788	Gianluca Stefanucci	Keynote	Nonequilibrium excitons: Time-dependent ARPES spectrum, Floquet topological phases and coupling to coherent phonons
11h30-12h00	13225	M. Meierhofer	Invited	Subcycle Control of Quantum Dynamics in Solids
12h00-12h15	13901	Adolfo Avella	Oral	Dynamical Projective Operatorial Approach (DPOA) for Pump-Probe Setups in the Ultrafast Regime
12h15-12h45	13458	Antimo Marrazzo	Invited	Ab initio band structures and local topology of spin-orbitronics materials through Wannier functions

Wednesday, September 4th Afternoon Session

MC2 - Emergent ferroelectrics III

Chairperson: Florencio Sanchez/Ignasi Fina

Room: S3

16h00-16h30	13073	Ignasi Fina	Invited	Epitaxial ferroelectric hafnia as a suitable platform for fundamental and novel phenomena investigations
16h30-16h45	13831	Bertrand Vilquin	Oral	Deposition optimization, infrared spectroscopy and ab-initio simulations of ferroelectric HfZrO ₂ thin films
16h45-17h00	13723	Veniero Lenzi	Oral	Effect of oxygen vacancies on ferroelectric properties and phase stability of ZrO ₂ thin films
17h00-17h15	12878	Daniele Nazzari	Oral	Ferroelectric-enhanced Schottky-Barrier Field Effect Transistors for Logic-in-Memory applications
17h15-17h30	13392	Lucas Rhetat	Oral	A Ferroelectric-based Non-Volatile SRAM Optimized for Critical Embedded Systems
17h30-17h45	12467	Jayak. A Ravikumar	Oral	Ferroelectric ZrO ₂ thin films for high-performing near-infrared photodetection
17h45-18h00	12976	Pavan Nukala	Oral	Cryogenic cooling in ferroelectric hafnia proximity induced via Mott transition
18h00-18h15	13137	Alexandre Silva	Oral	Doping effect on the phase stability and ferroelectric properties in ZrO ₂

MC5 - Magnetism with societal impact I

Chairperson: Diana Leitão

Room: C

16h00-16h30	15131	Tito Trindade	Invited	Magnetic and Light-Scattering Synergies in Multifunctional Nanocomposites for Improving Water Quality
16h30-16h45	15129	Sofia Caspani	Oral	High-aspect ratio magnetic nanostructures for biomedical applications
16h45-17h15	12638	Nuno J Oliveira Silva	Invited	Imaging Magnetic Properties and Temperature
17h15-17h30	15130	Vital C. Ferreira-Filho	Oral	Influence of SPION Surface Coating on Magnetic Properties and Theranostic Profile
17h30-18h00	13572	Celia Tavares de Sousa	Invited	Magnetoplasmonic Nanostructures for Biomedical Applications
18h00-18h30	15127	Manuel Bañobre-López	Invited	Magnetic Theranostics: From Fundamental Design to Preclinical Applications

MC7 - Supported metal nano-particles and alloys for catalytic applications II

Chairperson: Sergio Tosoni and Letizia Savio

 Room: IPCA-6

16h00-16h30	12979	Gareth S. Parkinson	Invited	Single-Atom" Catalysis: Atomic-Scale Insights
16h30-16h45	13772	Sylwia Klejna	Oral	DFT study of metal precursor pulse in atomic layer deposition of Pt
16h45-17h00	13146	Li Ma	Oral	Pt-Bi ₂ Se ₃ (0001) Heterostructures: Interfacial Dynamics and HER Activity
17h00-17h30	14885	Anna Zielińska-Jurek	Invited	The effect of photocatalyst surface on photodegradation of persistent organic pollutants
17h30-17h45	15564	José R. B. Gomes	Oral	MXenes as potential heterogeneous catalysts

MC18 - Magnetization dynamics at nanoscale II

Chairperson: Oleg Tretiakov, Alex Jenkins

 Room: IPCA-1

16h00-16h30	13775	Maciej Krawczyk	Invited	Self-imaging effects in the field of magnonics: from the Talbot effect to computing
16h30-17h00	13709	Dmytro Bozhko	Invited	Magnetization dynamics from micro to macro scales: from magnetic rogue waves to macroscopic artificial spin ice
17h00-17h30	13832	Glib Kakazei	Invited	Dominant higher-order vortex gyromodes in circular magnetic nanodots
17h30-17h45	12846	John Mangeri	Oral	Coupled magnetostructural continuum model for multiferroic BiFeO ₃ : spin waves and switching
17h45-18h00	13838	Khrystyna Levchenko	Oral	Nanoscale Ga:YIG-based magnonic crystals
18h00-18h15	13790	Artem Bondarenko	Oral	Electrically controlled 2D magnon optics
18h15-18h30	12985	Marco Marino	Oral	Ab initio study of the Fe-phthalocyanine/NiO(001) spinterface

MC19 - Topological materials for novel electronic devices: towards room temperature applications II

Chairperson: Carlos Rosário

 Room: D

16h00-16h30	13534	Thilo Bauch	Invited	Tunable Topological Insulator Quantum dots
16h30-17h00	12756	Sofie Kölling	Invited	Current-induced spin polarization on the surface of a topological insulator

17h30-17h30	12573	Torsten Röper	Invited	Microwave transport in quantum anomalous hall edge state
17h30-17h45	13447	Kajetan Fijalkowski	Oral	Towards a quantum resistance standard based on the quantum anomalous Hall effect
17h45-18h00	12844	Lorenzo Rocchino	Oral	A transistor based on magneto-resistive modulation of the Weyl semimetal NbP"
18h00-18h15	13548	James Peters	Oral	Fabrication of topological insulator Bi ₂ Se ₃ Photodetectors for Photo Galvanic Applications
18h15-18h30	13731	B. M. Fernandes	Oral	Magnetization Switching in Topological Insulator Spin-Valve

MC20 - Neuromorphic computing with complex systems II

Chairperson: Pedro David García

 Room: E

16h00-16h30	14038	Andrea Morandi	Invited	Linear and Nonlinear Optics in Lithium Niobate as the Platform for Photonic Neuromorphic Computing
16h30-17h00	13469	Valentina Parigi	Invited	Spectral and time multiplexed continuous variable quantum information
17h00-17h15	14039	L. M. S. Dias	Oral	Luminescent Waveguides: Building Blocks for Energy-Efficient Photonic Neuromorphic Systems
17h15-17h30	13818	Artur Andrishak	Oral	Microprinted 3D Polymer Waveguides for Integrated Neuromorphic Photonic Chip Interconnects

MC26 - Topological Bosonics II

Chairperson: Daniel Lanzillotti-Kimura

 Room: IPCA-7

16h00-16h30	13822	Laura Blázquez Martínez	Invited	Optoacoustic cooling and entanglement
16h30-17h00	13789	Martin Esmann	Invited	Topologically tunable polaritons based on two-dimensional crystals in a photonic lattice
17h00-17h30	15571	Daniel Torrent Marti	Invited	Tailoring bound states in the continuum for acoustic waves
17h30-18h00		Antonio García-Martín	Invited	Chiral Plasmonic Structures as Acoustoplasmonic Transducers
18h00-18h15	12921	Runcheng Cai	Oral	Topological states in disordered elastic metabeams

MC27 - Carbon-based nanostructures with engineered electronic and spin properties IV

Chairperson: David Jacob

Room: IPCA-A

16h00-16h30	12536	José Lado	Invited	Hamiltonian learning, triplons, and high-order topological order in engineered nanoscale quantum magnets
16h30-17h00	13521	Aran García-Lekue	Invited	Tuning quantum electronic transport in 2D carbon-based nanoarchitectures
17h00-17h15	13841	Daniel García-Pina	Oral	Topology of functionalized 5-Armchair graphene nanoribbons
17h15-17h30	12787	Luisa Madail	Oral	Exotic edge states of C3 high-fold fermions in honeycomb lattices
17h30-17h45	13637	Joao Henriques	Oral	Designer spin models in tunable two-dimensional nanographene lattices
17h45-18h00	12667	David T. S. Perkins	Oral	Nano-Qubits: Ultra-Fast All-Electrical Qubit Manipulation Using Geometric Confinement
18h00-18h15	12692	Fernando Delgado	Oral	Ferromagnetism on a single layer of 2D metal-organic network
18h15-18h30	13351	E. Lora da Silva	Oral	3D Dynamical Properties on a 2D Material

MC29 - Orbitronics - exploring the power of orbital angular momentum manipulation II

Chairperson: Luis Canonico

Room: IPCA-4

16h00-16h30	13541	Jagoda Sławińska	Invited	Spintronics and orbitronics in chiral materials
16h30-17h00	12714	G. Sala	Invited	Nonlinear magnetotransport induced by the spin and orbital quantum geometry
17h00-17h30	12814	Yuriy Mokrousov	Invited	Orbitronics with magnetic 2D materials
17h30-17h45	12871	T. Adamantopoulos	Oral	Spin and Orbital Magnetism by Light in Rutile Altermagnets
17h45-18h00	13662	D. J. Passos	Oral	Optical bounds on the orbital magnetic moment
18h00-18h15	12680	Alessandro Principi	Oral	Non-conservation of the valley density and its implications for the observation of the valley Hall effect

MC30 - Materials Research with Neutrons II

Chairperson: Heloisa Bordallo/Andrei Salak

Room: IPCA-5

16h00-16h30	13262	Heloisa Bordallo	Invited	Chemical aesthetics measured by neutron scattering
16h30-16h45	13606	D. Sonaglioni	Oral	Dynamic Personality of Proteins and Effect of the Molecular Environment

16h45-17h00	13026	T. Seydel	Oral	Short-time transport properties of bidisperse and polydisperse suspensions of proteins confirm a colloid physics picture
17h00-17h15	13771	T.V. Tropin	Oral	Structural organization of magnetic nanoparticles in thin films of cellulose derivatives for sensor applications
17h15-17h30	13474	Cristian Mendes-Felipe	Oral	Structural and dynamical neutron scattering characterizations of carbonaceous fillers in UV curable piezoresistive composites
17h30-17h45	13701	Catarina F. Araújo	Oral	Exploring asymmetry induced entropy in tetraalkylammonium–urea DES systems: what can be learned from inelastic neutron scattering?
17h45-18h15	12609	Andrei Salak	Invited	An incommensurately modulated polar helical texture of copper-substituted BiMn7O12 via pressure in situ synchrotron radiation and neutron diffraction study

MC31 - Moiré, super-moiré and quasiperiodic quantum matter in twisted van der Waals heterostructures I

Chairperson: Eduardo Castro

 Room: A

16h00-16h30	12700	Dante Kennes	invited	Moiré heterostructures as a condensed-matter quantum simulator
16h30-17h00	13909	Roshan Krishna Kumar	invited	Twisted Quantum Photovoltaics
17h00-17h15	13530	Miguel S Sánchez	Oral	Correlated phases and topological phase transition in twisted bilayer graphene at one quantum of magnetic flux
17h15-17h30	12932	Tiago Antão	Oral	Designing frustrated moiré order with twisted van der Waals multiferroics
17h30-17h45	12750	Ajay Singh	Oral	Evolution of flat band Segments and Van-Hove Singularities in Twisted bi-layer Graphene
17h45-18h15	12545	Johannes Lischner	invited	Electrons, excitons and phonons in moiré materials from atomistic simulations

MC39 - 2D Materials beyond graphene: from fundamental studies to enabling technologies I

Chairperson: Andrea Capasso, Luca Camilli

 Room: SA

16h00-16h30	13687	Luis E. Hueso	Invited	Spin texture control with low symmetry 2D heterostructures
16h30-16h45	13510	A. Kimouche	Oral	Van der Waals Epitaxy of a Magnetic Transition Metal Dihalide
16h45-17h00	13055	Lionel Calmels	Oral	Tuning the spin-orbit coupling, magnetic proximity, and band hybridization in Fe/MgO/MoS2 multilayers
17h00-17h30	13432	Arindam Ghosh	Invited	Low-frequency noise in the heterostructures of near-magic angle twisted bilayer graphene and transition metal dichalcogenide

17h30-17h45	13617	Christos Tserkezis	Oral	Tunable exciton-polaritons in band gap engineered hexagonal boron nitride
17h45-18h00	13710	E. Bonaventura	Oral	From the optothermal response to an effective thermal conductivity in supported silicene
18h00-18h15	12704	Ofelia Durante	Oral	Exploration of Electrical and Optoelectronic Properties of Van der Waals BP/MoS ₂ Heterostructures

MC42 - A quantum leap: unraveling the mysteries of correlated electronic states in quantum materials through atomic-scale imaging and spectroscopy III

Chairperson: Pedro Ribeiro

Room: B

16h00-16h30	13175	Antonio Costa	Invited	Theory of spin excitations in van der Waals heterostructures
16h30-16h45	13126	Markus Ternes	Oral	Locally driven quantum phase transitions in a strongly correlated molecular monolayer
16h45-17h15	13327	Paul McClarty	Invited	Probing magnons in 2D magnets using quasi-particle interference
17h15-17h30	13668	Chenxiao Zhao	Oral	Construction and Manipulation of Low-Dimensional Many-Body Spin Systems Based on Nanographenes
17h30-17h45	13130	Büşra Arslan	Oral	Tuning Multiferroicity in Monolayer NiI ₂
17h45-18h15	12566	Jose Lado	Invited	Engineering and probing two-dimensional van der Waals heavy-fermion Kondo quantum matter

MC43 - Advances in controlled disorder and defect analysis of materials II

Chairperson: M. Patel and R. Eloirdi

Room: S5

16h00-16h30	12826	C. Mieszczynski	Invited	Combining Monte Carlo and Molecular Dynamics Methods for RBS/C Simulations
16h30-16h45	12770	E. Wyszowska	Oral	Point defects evolution in fcc Ni and Ni _x Fe _{1-x} single crystals with low Fe content
16h45-17h15	12576	Milena D. Majkić	Invited	A cohesive energy model for nanostructure formation by an impact of slow highly charged Arq ⁺ , Krq ⁺ and Xe _q ⁺ ions on metal surfaces
17h15-17h45	12754	O. Concepción	Invited	Ultimate Group-IV alloys Epitaxy for Device Applications
17h45-16h15	13040	J. S. Cabaço	Invited	Exploring the effects of systematic disorder in ion-irradiated Cr ₂ AlC

MC45 - Superconductivity in two-dimensional and layered materials II

Chairperson: E. Piatti, M. Calandra

Room: S2

16h00-16h30	12991	Edwin Herrera	Invited	Gapless superconductivity in 2H-NbSe _{2-x} S _x from enhanced correlations
16h30-17h00	12824	Darshana Wickramaratne	Invited	Role of defects and interfaces on 2D Ising superconductors
17h00-17h30	13129	Ivan Maggio-Aprile	Invited	Scanning Tunneling Spectroscopy investigations of vortex-core states and conductance modulations in Bi ₂ Sr ₂ CaCu ₂ O _{8+δ}
17h30-17h45	15460	Ignacio Figueruelo	Oral	Apparent color and Raman vibrational modes of the high-temperature superconductor Bi ₂ Sr ₂ CaCu ₂ O _{8+δ} exfoliated flakes
17h45-18h00	13402	Leonardo Martinelli	Oral	Quantum fluctuations of charge order in a detwinned state of a cuprate superconductor induced by uniaxial strain
18h00-18h15	12925	Jiasen Niu	Oral	Direct evidence of pairing up to pseudogap energy in nodal superconductors

MC47 - Non-equilibrium soft condensed matter III

Chairperson: Paulo Ivo Teixeira

Room: S1

16h00-16h30	12857	Maria Guix	Invited	Design and performance of soft biohybrid swimmers
16h30-17h00	12943	Juan J. Ruiz-Lorenzo	Invited	Memory and Rejuvenation in spin glasses: Experiments and Numerical Simulations
17h00-17h30	13651	José M. Tavares	Invited	Percolation and high density percolation in binary mixtures of patchy particles
17h30-18h00	13234	Ana-Sunčana Smith	Invited	Modelling the adaptation of tissues to environmental mechanical and chemical changes
18h00-18h15	13509	Sascha W. Epp	Oral	Rubber-like elasticity in laser-driven free surface flow of a Newtonian fluid
18h15-18h30	12853	Vasco C. Braz	Oral	Robust threshold for Degree Ranked Percolation of granular packings

MC48 - Attosecond physics in condensed matter II

Chairperson: Rui E. F. Silva

Room: S4

16h00-16h30	13021	Antonio Picón	Invited	Attosecond exciton migration
16h30-17h00	13882	Stefano Dal Conte	Invited	Ultrafast and coherent excitonic processes in 2D transition metal dichalcogenides and related heterostructures
17h00-17h15	13644	Eduardo B. Molinero	Oral	Sub-cycle dynamics of excitons under strong fields

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17h15-17h45	13557	Lorenz Drescher	Invited	Ultrafast Relaxation of Carriers and Spin in Solids Measured with Attosecond Transient Absorption Spectroscopy
17h45-18h15	13770	N. Tancogne-Dejean	Invited	High-harmonic spectroscopy of low-energy electron-scattering dynamics in liquids

Thursday, September 5th Morning Session

MC4 - Nano-electro-opto-mechanical systems I

Chairperson: Clivia Sotomayor

 Room: IPCA-A

10h30-11h00	12935	Ewold Verhagen	Invited	Controlling nonreciprocity, non-Hermiticity, and nonlinearity in optomechanical networks
11h00-11h30	13023	Laura Mercadé	Invited	Cavity optomechanics platform for all-optical processing of microwave signals
11h30-11h45	13525	Surangana Sengupta	Oral	Josephson Optomechanics
11h45-12h00	12964	Jonathan L. Wise	Oral	Nonclassical mechanical states in cavity optomechanics in the single-photon strong-coupling regime
12h00-12h15	13451	Alberto Hijano	Oral	Backaction evading measurements with feedback cooling
12h15-12h30	13773	Shulamit Edelstein	Oral	Optomechanical coupling optimization in engineered nanocavities
12h30-13h00	12865	Uroš Delić	Invited	Non-Hermitian collective optomechanical effects in nanoparticle tweezer arrays
13h00-13h15	13571	Wolfgang Belzig	Oral	Exponentially strong symmetry breaking in a parametrically modulated quantum oscillator

MC5 - Magnetism with societal impact II

Chairperson: Célia Sousa

 Room: S2

10h30-11h00	13848	Rafael F Sousa Almeida	Invited	A new kind of magnetic refrigeration: harnessing the demagnetizing effect
11h00-11h30	13824	Urban Tomc	Invited	Efficient and static magnetic field source for high frequency magnetocalorics
11h30-11h45	13753	Ricardo M.C. Pinto	Oral	A COMSOL Study on a Galinstan MHD Induction pump for Superior Power Electronics Cooling
11h45-12h00	12601	Anna Galler	Invited	Intrinsically weak magnetic anisotropy of cerium in potential hard-magnetic intermetallics
12h00-12h30	13452	Sophie Rivoirard	Invited	MagREESource : the green Rare Earth Magnet company

MC6 - Dissipative quantum many body dynamics II

Chairperson: Lucas Sá

Room: C

10h30-11h00	14342	Karol Życzkowski	Invited	The many facets of quantum operations and Lindblad generators
11h00-11h15	14334	Shovan Dutta	Oral	Approaching the classical limit of Lindblad dynamics --- emergence of limit cycles, fixed points and algebraic decay
11h15-11h30	14343	Rodrigo Pereira	Oral	Impact of Dissipation on the Spectral Features of Chaotic and Regular Quantum Dynamics
11h30-12h00	13906	André Eckardt	Invited	Ultracold atoms as quantum simulators for open systems
12h00-12h15	14332	Sergiy Denysov	Oral	Spectra or random quantum operations in the light of the Single-Ring Theorem
12h15-12h30	13891	Nadir Buruaga	Oral	Fidelity decay and error accumulation in quantum volume circuits
12h30-13h00	14341	Marko Žnidarič	Invited	Superdiffusion in non-interacting dissipative lattice models

MC10 - Europe-Asia pacific collaboration on condensed matter physics in quantum beam facilities I

Chairperson: J. Campo

Room: IPCA-5

10h30-11h00	13442	Je-Geun Park	Invited	Bond-dependent anisotropy and magnon decay in van der Waals antiferromagnets
11h00-11h30	13443	Fangwei Wang	Invited	China Spallation Neutron Source : a Rising Neutron Experimental Facility
11h30-11h45	13600	O. Prokhnenko	Oral	Neutron and x-ray scattering in steady-state and pulsed magnetic fields
11h45-12h00	12785	F. Duc	Oral	Neutron Diffraction in Pulsed Magnetic Fields up to 40 T
12h00-12h15	13631	H. Nojiri	Oral	Compact Pulsed Magnetic Field for Quantum Beam Experiments
12h15-12h30	13902	Jatinder Vir Yakhmi	Oral	Molecular Materials for Magnets and Electronic Devices

MC18 - Magnetization dynamics at nanoscale III

Chairperson: Kostyantyn Gusliyenko, Dmytro Bozhko

Room: IPCA-1

10h30-11h00	12766	Alex Jenkins	Invited	Reprogrammable analogue multi-functional nanodevices: the building blocks of neuromorphic spintronics
11h00-11h30	13261	Alexander Serga	Invited	Bose–Einstein condensation of magnons at nanoscale
11h30-12h00	16696	Roman Khymyn	Invited	Paving a way towards nano-scaled magnetic Ising machines

12h00-12h15	13100	Andrey Voronov	Oral	Inverse-design magnonics with nodal FD solve
12h15-12h30	12720	Maksim Steblyy	Oral	Non-volatile frequency reconfiguration of vortex oscillators
12h30-12h45	13635	Martin Zonda	Oral	Quantum-classical analysis of spin relaxation in nonequilibrium magnetic nanojunctions
12h45-13h00	-			Concluding remarks

MC25 - Electronic and magnetic excitations in 2D materials I

Chairperson: Alejandro Molina Sanchez

Room: D

10h30-11h00	13516	Samir Lounis	Invited	Topological magnetism in 2D materials: from proximity-induced effects to kagomerization
11h00-11h30	12915	Alexander Mook	Invited	Topological Magnetic Excitations in 2D Materials
11h30-11h45	13785	Mar Ferri-Cortés	Oral	Exploring a star lattice Hamiltonian with Neural Network Quantum States
11h45-12h00	13721	Kira Junghans	Oral	Fock-Darwin states of an artificial atom assembled bottom-up on a surface with high spin-orbit coupling
12h00-12h30	13515	Alex Khajetoorians	Invited	A quantum simulator to study lower dimensional electronic structure using artificial atoms on the surface of a semiconductor
12h30-12h45	13402	L. Martinelli	Oral	Quantum fluctuations of charge order in a detwinned state of a cuprate superconductor induced by uniaxial strain
12h45-13h00	13539	V. V. Palyulin	Oral	How mobile-immobile model explains negative diffusion of excitons and other non-conventional effects

MC29 - Orbitronics - exploring the power of orbital angular momentum manipulation III

Chairperson: Jose H. Garcia

Room: IPCA-4

10h30-11h00	12823	Kyung-Jin Lee	Invited	Orbital Torque and Orbital Pumping
11h00-11h30	12746	Kazuya Ando	Invited	Orbital torque and orbital pumping
11h30-12h00	13160	Maria Teresa Mercaldo	Invited	Superconducting Orbitronics Effects
12h00-12h30	12983	L. Canonico	Invited	Real-space Calculation of Orbital Responses in Disordered Materials

MC31 - Moiré, super-moiré and quasiperiodic quantum matter in twisted van der Waals heterostructures II

Chairperson: José Lado

Room: S1

10h30-11h00	13017	Ulrich Schneider	Invited	Ultracold atoms in an optical quasicrystal
11h00-11h30	13865	Bruno Amorim	Invited	The role of quasiperiodicity in one- and two-dimensional moiré materials
11h30-11h45	13922	Nicolau Sobrosa	Oral	Correlated phases and collective modes of 1D moiré materials
11h45-12h00	13819	Raul Liquito	Oral	Transport properties of 1D AA-like systems
12h00-12h15	13542	Balázs Hetényi	Oral	Extending the modern theory of polarization to handle the metallic side: Application to the localization transition of quasi-periodic models
12h15-12h30	13025	Veniero Lenzi	Oral	Understanding twisted COF monolayers on graphene
12h30-13h00	12630	Yonglong Xie	Invited	Strong interactions and isospin symmetry breaking in a supermoiré lattice

MC32 - Topological and chiral superconductor and magnetic nanostructures I

Chairperson: Córdoba, Villegas

Room: A

10h30-11h00	13038	Javier E. Villegas	Invited	Spin dynamics and supercurrents in superconductor/ferromagnet heterostructures
11h00-11h30	13527	Vladimir M. Fomin	Invited	Superconductor 3D Nanoarchitectures
11h30-11h45	13866	Igor Bogush	Oral	Non-Reciprocity Phenomena in Superconductor Open Nanotubes and Nanopetals
11h45-12h15	12734	Kaveh Lahabi	Invited	The unusual distribution of spin-triplet supercurrents in geometrically curved Josephson junctions
12h15-12h45	13918	Vadim Plastovets	Invited	Superconducting vortex pinned by a planar defect
12h45-13h00	=		Round Table	Main Outcomes, New Research Routes and Perspectives

MC36 - Phase transitions in disordered strongly correlated low-dimensional systems I

Chairperson: Igor Yurkevic

Room: B

11h00-11h30	13135	Michael Pepper	Invited	Disorder and Fractionalization in 1D and Quasi-1D Semiconductor Nanostructures
11h30-12h00	12302	Sergey Kravchenko	Invited	Collective depinning and sliding of a quantum Wigner solid in a two-dimensional electron system
12h00-12h30	12578	Victor Kagalovsky	Invited	Quantum Scaling for the Metal-Insulator Transition in a Two-Dimensional Electron System
12h30-13h00	13441	Dragana Popovic	Invited	Charge dynamics in strongly disordered 2D electron systems with power-law interactions

MC39 - 2D Materials beyond graphene: from fundamental studies to enabling technologies II

Chairperson: Carlo Grazianetti, Andrea Capasso

 Room: SA

10h30-11h00	13529	Olivia Pulci	Invited	Electronic and optical properties of 2-D materials beyond graphene: effect of gating, twisting, and of the substrate
11h00-11h15	13024	Juan A. Delgado Notario	Oral	Terahertz Photoresponse in Graphene Moiré Superlattices
11h15-11h30	13777	José Joaquín Pérez Grau	Oral	Layer-dependent evolution of the optical properties in 2D CrI ₃ mapped by hyperspectral imaging
11h30-11h45	12995	Stefan T. Bromley	Oral	Towards new 2D quantum materials from single-layer chemically-expanded graphenic lattices
11h45-12h15	12758	Mário Amado	Invited	Superballistic conduction in antidot graphene superlattices
12h15-12h30	13517	Lorenzo Poggini	Oral	Antiferromagnetic Strong Interactions in Chains of Molecular Qubits adsorbed on Graphene
12h30-12h45	13673	Lucia Vitali	Oral	Topological states in a pseudo-kagomé lattice

MC43 - Advances in controlled disorder and defect analysis of materials III

Chairperson: S. Magalhães, P. Jóźwik

 Room: S5

10h30-11h00	12975	Shyama Rath	Invited	Ion-implantation induced nitrogen vacancy defect centres in silicon carbide
11h00-11h15	13749	Daniel Dick	Oral	Stoichiometry fluctuations in random alloys: a case study on SiGe:C
11h15-11h45	12830	A. Wierzbicka	Invited	Analysis of defect distribution and lattice disorder in GaN core-shell nanowires
11h45-12h15	13037	G. Provatas	Invited	Study and modification of semiconductor particle detectors using a nuclear microprobe
12h15-12h45	13243	Gianguido Baldinozzi	Invited	Microstructures and structural organisation under extreme conditions in mixed oxides for nuclear applications
12h45-13h00	12831	A. Lysak	Oral	Improved optoelectronic properties of in situ Eu-doped ZnCdO/ZnMgO SLs growth by PA-MBE

MC45 - Superconductivity in two-dimensional and layered materials III

Chairperson: D. Daghero, J. Bekaert

 Room: S3

10h30-11h00	13170	Takasada Shibauchi	Invited	Exotic pairing states in Fe-chalcogenide superconductors
11h00-11h30	13159	Khalil Zakeri	Invited	Direct evidence of a large charge transfer and a significant spin-orbit coupling in FeSe monolayer on STO
11h30-11h45	15461	Sanghun Lee	Oral	Amorphous Shiba states in the multi-band superconductor $\text{FeTe}_{0.55}\text{Se}_{0.45}$
11h45-12h00	13397	Erik Piatti	Oral	Nodal Multigap Superconductivity in the Anisotropic Iron-Based Compound $\text{RbCa}_2\text{Fe}_4\text{As}_4\text{F}_2$

MC48 - Attosecond physics in condensed matter III

Chairperson: Álvaro Jiménez-Galán

 Room: S4

10h30-11h00	13309	Vladislav S. Yakovlev	Invited	How fast is strong-field photoinjection?
11h00-11h30	13595	Rui E. F. Silva	Invited	Strong field physics in solids from a Wannier perspective
11h30-12h00	13445	Dieter Bauer	Invited	Harmonic generation in molecular films
12h00-12h15	14747	Pieter J. van Essen	Oral	Spatial polarization gating of high-harmonic generation in solids
12h15-12h45	13446	Lars Bojer Madsen	Invited	High-harmonic generation, quantum light and correlated solids

Thursday, September 5th Afternoon Session

MC1 - Quantum plasmonics

Chairperson: Yuliy Bludov

Room: C

16h00-16h30	12354	Christos Tserkezis	Invited	Nonlocal plasmonics in light–matter interactions
16h30-16h45	13726	Sara Núñez-Sánchez	Oral	Bio-inspired polaritonic matter for all-organic photonic structures and metamaterials
16h45-17h00	13027	Hugo Terças	Oral	Three-Fluid Theory of Quantum Plasmons in Dirac Materials
17h00-17h30	12370	P. André D. Gonçalves	Invited	Quantum effects in nanoplasmonics and in plasmon-enhanced light–matter interactions
17h30-17h45	12926	Daigo Oue	Oral	Quantum-fluctuation-induced forces with optical gain
17h45-18h00	13623	Luis Brey	Oral	Band structure and topology of one-dimensional modulated systems: electrons and plasmons
18h00-18h30	12366	Line Jelver	Invited	Nonlinear plasmonics from ab-initio methods

MC2 - Emergent ferroelectrics IV

Chairperson: Suzanne Lancaster, Maria Helena Braga

Room: S3

16h00-16h30	13431	Maria Helena Braga	Invited	Electrical, thermal, and mechanical oscillators in a ferroelectric-electrolyte lead to energy harvesting, storage, and switching
16h30-16h45	12832	Grégoire Magagnin	Oral	High energy storage antiferroelectric fluorite nanosupercapacitors
16h45-17h00	13428	Manuela C. Baptista	Oral	Advancing anode-less solid-state batteries with a ferroelectric electrolyte
17h00-17h15	13762	Beatriz Moura Gomes	Oral	Revolutionizing Energy Technology: a solid-state hybrid transistor-battery architecture based on a Ferroelectric electrolyte.
17h15-17h30	13885	A.A. Bassou	Oral	Photo-Ferroelectric Oxides for photovoltaic applications: Insights, Challenges and Opportunities
17h30-17h45	13387	Angelina Gudima	Oral	In-gap excitons in BiFeO ₃ studied by resonant Raman spectroscopy.
17h45-18h00	12840	Tulika Maitra	Oral	Proposed two-dimensional rare-earth halide based triferroic from first principles calculations
18h00-18h15	13794	Mael Guennou	Oral	Photostriction in a model ferroelectric studied by Laue diffraction

MC4 - Nano-electro-opto-mechanical systems II

Chairperson: Eva Weig

Room: IPCA-A

16h00-16h30	12712	Farbod Alijani	Invited	Nonlinear dynamics of 2D material membranes in action
16h30-16h45	13791	Jouni Ahopelto	Oral	Enhancing electromechanical coupling to an optomechanical nanobeam
16h45-17h00	12989	Xin Zhou	Oral	Controlling multimode interactions in nanoelectromechanical systems by interference
17h00-17h15	12829	Matthijs H. J. de Jong	Oral	Casimir force between superconductors
17h15-17h30	13604	A. García-Martín	Oral	Torsional mechanical modes in coupled acousto-plasmonic antennas
17h30-18h00	12888	Oded Zilberberg	Invited	Topological phase transitions in nonlinear driven-dissipative resonators
18h00-18h30	12733	Vincent Dumont	Invited	Hamiltonian reconstruction via ringdown dynamics
11h30-11h45	15971	Samaneh Moeni	Oral	On noise in optomechanical resonators

MC5 - Magnetism with societal impact III

Chairperson: Elvira Paz

Room: S2

16h00-16h30	12736	Elvira Paz	Invited	Large area magnetic tunnel junction sensors with linear signal to reduced noise
16h30-16h45	13472	Carmen Rial Tubio	Oral	Fabrication and Performance of Soft Magnetoactive Materials
16h45-17h15	12838	Rute Rodrigues Santos	Invited	Geomagnetically Induced Currents in transport infrastructure
17h15-17h30	13776	Diana C Leitao	Oral	Designing magnetoresistive sensors with tunable characteristics
17h30-18h00	13004	Diogo C. Vaz	Invited	Voltage-based magnetization switching and reading in magnetoelectric spin-orbit nanodevices
18h00-18h30	13483	Atreya Majumdar	Invited	Magnetic materials for unconventional computing - towards scalable, fast, and energy-efficient systems

MC10 - Europe-Asia pacific collaboration on condensed matter physics in quantum beam facilities II

Chairperson: Jatinder Vir Yakhmi

Room: IPCA-5

16h00-16h30	13290	J. Campo	Invited	Chiral Magnets with Dzyaloshinskii-Moriya Interaction
16h30-17h00	13899	Clemens Ulrich	Invited	Stability and Scaling Behaviour of Magnetic Skyrmions in Cu ₂ OSeO ₃
17h00-17h15	13643	Shingo Yamamoto	Oral	Element-specific field-induced spin reorientation evidenced using high-field x-ray magnetic dichroism spectroscopy

17h15-17h30	15132	Mariana M. Gomes	Oral	Investigation of structural and magnetic properties of NdFeO ₃ in European beam facilities
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MC19 - Topological materials for novel electronic devices: towards room temperature applications III

Chairperson: Daniel Rosenbach

Room: D

16h00-16h30	12806	Joseph Dufouleur	Invited	Non-Hermitian topology in multi-terminal devices: from fundamental to applications
16h30-17h00	12867	Justin Schirrmann	Invited	Amorphous Topological Matter
17h00-17h15	13127	Riccardo Sorbello	Oral	Floquet engineering in topoelectrical circuits
17h15-18h30	-			Final remarks & collaborations and project discussion

MC20 - Neuromorphic computing with complex systems III

Chairperson: Bruno Romeira

Room: E

16h00-16h30	15134	Bryan Kelleher	Invited	Neuromorphic dynamics in optically injected dual state quantum dot lasers
16h30-17h00	13622	Giovanni Donati	Invited	Photonic-electronic Resonant Tunnelling Diode neurons
17h00-17h30	13316	Tristan Gomes	Invited	Neuromorphic weighted sum with magnetic skyrmions
17h30-17h45	13537	Tim Böhnert	Oral	Multifunctional magnetic tunnel junction for neuromorphic computing
17h45-18h00	14734	Pedro Moronta	Oral	Governing spectral persistence in Random Lasers

MC28 - Ultrastrong coupling for quantum science and technologies I

Chairperson: Gian Marcello Andolina

Room: IPCA-6

16h00-16h30	16746	G. Benenti	Invited	Dynamical blockade of a reservoir for optimal performances of a quantum battery
16h30-17h00		Alba Torras-Coloma	Invited	Non-perturbative ultrastrong couplings in superconducting quantum circuits
17h00-17h30	13852	L. Giannelli	Invited	Detection of Virtual Photons and Adiabatic Operations in UltraStrongly Coupled Quantum Systems
17h30-18h00	13375	Zeno Bacciconi	Invited	Theory of fractional Quantum Hall liquids coupled to quantum light and emergent graviton polaritons

MC31 - Moiré, super-moiré and quasiperiodic quantum matter in twisted van der Waals heterostructures III

Chairperson: Pedro Ribeiro

Room: S1

16h00-16h30	13268	Tobias Stauber	invited	Nematic versus triplet superconductivity and chirality in twisted bilayer graphene
16h30-17h00	13526	Chithra H Sharma	invited	Moiré mini-bands and spin-valley flavors in twisted TMDCs
17h00-17h15	13740	Ricardo Oliveira	Oral	Mean-field theory of superconductivity in two-dimensional Aubry-André models
17h15-17h30	13075	Bert Jorissen	Oral	Tight-Binding investigation of Proximity-Induced Spin-Orbit Coupling in Graphene-TMD Heterostructures
17h30-18h15	12664	Pierre P Peralta	invited	Designing Moire Patterns by Strain

MC32 - Topological and chiral superconductor and magnetic nanostructures II

Chairperson: Makarov, Schmidt

Room: A

16h00-16h30	13811	Gleb Kakazei	Invited	Route to obtain radial magnetic vortices
16h30-17h00	12543	Denys Makarov	Invited	Effects of geometry and topology in curvilinear magnetism
17h00-17h15	12728	Oleksandr Pylypovskyi	Oral	Surface-symmetry-driven Dzyaloshinskii-Moriya interaction in collinear antiferromagnets
17h15-17h45	12555	Oleksandr Dobrovolskiy	Invited	3D Nanoarchitectures for Fluxonics and Magnonics
17h45-18h15	12984	Thomas Schmidt	Invited	Quantum skyrmions in Heisenberg ferromagnets
18h15-18h30	-		Round Table	Main Outcomes, New Research Routes and Perspectives

MC36 - Phase transitions in disordered strongly correlated low-dimensional systems II

Chairperson: Claire Marrache-Kikuchi

Room: B

16h00-16h30	13904	Pratap Raychaudhuri	Invited	Visualising vortex liquid states in superconducting thin films
16h30-17h00	13842	Marc Scheffler	Invited	Electrodynamics of strongly disordered and granular superconductors
17h00-17h30	13800	Moshe Schechter	Invited	Polaronic effect of a metal layer on variable range hopping

17h30-18h00	12458	Milan P Allan	Invited	The breakdown of superconductivity in quantum materials
18h00-18h30	13591	Aviad Frydman	Invited	The superconducting energy gap deep in the insulator

MC39 - 2D Materials beyond graphene: from fundamental studies to enabling technologies III

Chairperson: Christian Martelli, Mario Amado

 Room: SA

16.00-16h30	14041	Antonio Lombardo	Invited	Resistive Switching in Insulator-Semiconductor Structures produced via Controlled Oxidation of 2D Layered Materials
16h30-16h45	13810	Guilherme Araújo	Oral	Interface engineering in 2D MoSe ₂ memristive devices
16h45-17h00	13105	Alessandro Baserga	Oral	Ultrafast broadband optical spectroscopy of a layered metal phosphorus trichalcogenide
17h00-17h15	14040	Mateo Barelli	Oral	Large area periodically modulated 2D Transition Metal Dichalcogenide layers featuring flat-optics and strain engineering
17h15-17h45	13809	Laura de Sousa Oliveira	Oral	Modeling insights on the electron and phonon transport of two-dimensional covalent-and metal-organic frameworks
17h45-18h00	13045	Luca Persichetti	Oral	Oxidation and hydroxylation of 2D GeAs
18h00-18h15	13821	Siva Sankar Nemala	Oral	Advanced liquid phase exfoliation methods for 2D crystals technology

MC41 - Environmental Nanomaterials for Energy production and Storage

Chairperson: Daniele Pontiroli

 Room: IPCA-1

16h00-16h30	12695	Daniela Santos	Invited	Biopolymeric Nanofibers Functionalized with Chiral Dipeptides for Energy Harvesting
16h30-17h00	13019	Magnani Giacomo	Invited	Biowaste for Energy Applications
17h00-17h30	13085	A. Barbier	Invited	Single crystalline epitaxial photoanodes for solar water splitting
17h30-17h45	13695	Patrícia Soares	Oral	Enhancing Water Evaporation-Induced Nanogenerators with Biowaste Materials for Sustainable Energy Harvesting
17h45-18h00	13804	João Ferreira	Oral	Seawater battery storage performance with bio-waste activated carbon electrocatalytic coating
18h00-18h15	13680	Aleksandra Szkudlarek	Oral	Hematite-copper oxide nanoheterojunctions for enhanced photoelectrochemical energy conversion

MC43 - Advances in controlled disorder and defect analysis of materials IV

Chairperson: M. Peres

Room: S5

16h00-16h30	13117	A. Andrino-Gómez	Invited	Quest for subsurface amorphization in topological Bi-Sb materials by MeV ion implantation
16h30-17h00	13581	Christian Dreßler	Oral	Coexistence of Cationic and Anionic Phosphate Moieties in the Solid Acid $\text{Cs}_7(\text{H}_4\text{PO}_4)(\text{H}_2\text{PO}_4)_8$ Investigated by ab initio Molecular Dynamics Simulations
17h00-17h15	13707	Tiago Fernandes	Oral	Remarkable recovery of proton-irradiated $\text{Cu}(\text{In,Ga})\text{Se}_2$ based solar cells for space applications: thermal annealing and light soaking treatments

MC48 - Attosecond physics in condensed matter IV

Chairperson: Bruno Amorim

Room: S4

16h00-16h30	13837	Olga Smirnova	Invited	Sub-cycle multidimensional spectroscopy of strongly correlated materials
16h30-17h00	12873	Peter M. Kraus	Invited	Towards ultrafast imaging of correlated matter with transient high-harmonic generation
17h00-17h15	13077	Francisco Lobo	Oral	Self-consistent superconducting nanowires
17h15-17h45	13091	Denitsa R. Baykusheva	Invited	Quantum control of Mott excitons
17h45-18h15	13683	Utso Bhattachary	Invited	Light Matters: High Harmonic Spectroscopy of Strongly Correlated Quantum Phase Transitions

Friday, September 6th Morning Session

MC4 - Nano-electro-opto-mechanical systems III

Chairperson: Gianluca Rastelli

Room: S2

9h00-9h30	14036	Richard Norte	Invited	Extreme-Aspect-Ratio Optomechanics: New Dimensions in Nanotechnology
9h30-10h00	12792	Anastasiia Ciers	Invited	Crystalline high-Q AlN nanomechanical resonators for quantum optoelectromechanics
10h00-10h15	13449	Andreas Hüttel	Oral	Magnetic Field Control of the Franck-Condon Coupling of Few-Electron Quantum States
10h15-10h30	12710	A. Delattre	Oral	Towards single phonon counting
10h30-11h00	13546	Federico Fedele	Invited	Spin mechanical coupling and self-oscillations in a carbon nanotube electromechanical resonator
11h00-11h30	13118	Gerhard Kirchmair	Invited	Nonlinear Magnetomechanics

MC6 - Dissipative quantum many body dynamics III

Chairperson: Sergiy Denysov

Room: S1

9h00-9h30	12767	Lucas Sá	Invited	Quantum many-body Ruelle-Pollicott resonances from weak dissipation
9h30-9h45	15309	Afonso Ribeiro	Oral	Dissipation-induced long-range order in the one-dimensional Bose-Hubbard model
9h45-10h15	14340	Zala Lenarčič	Invited	Non-interacting many-body systems coupled to baths: generalized Gibbs ensembles in superconducting qubit platform
10h15-10h30	13896	Pedro Ribeiro	Oral	Voltage-Driven Breakdown of Electronic Order
10h30-11h00	14730	Ivan Khaymovich	Invited	Localization enhancement in gain-loss non-Hermitian disordered models

MC25 - Electronic and magnetic excitations in 2D materials II

Chairperson:

Room: D

9h00-9h30	13426	Nicolas Ubrig	Invited	Control of the Electronic and Magnetic Properties of the 2D Magnetic Semiconductor CrPS ₄
9h30-10h00	13289	Khalil Zakeri	Invited	Terahertz magnon dynamics in classical 2D magnets in the presence of a large spin-orbit coupling

10h00-10h15	13870	Gonzalo R. Carracedo	Oral	Molecular/2D hybrid heterostructures for magnonic applications
10h15-10h30	12843	John Mangeri	Oral	Linear magnetoelectricity in the Zintl phase pnictides (Ba, Ca, Sr)Mn ₂ (P, As, Sb) ₂ from first principles calculations
10h30-10h45	13029	Sourav Dey	Oral	Tailoring magnetism in a 2D Van der Waals material with a chemical approach for magnonic applications
10h45-11h00	12755	Riccardo Rurali	Oral	Dynamical tuning of the thermal conductivity on 2D materials via magnetophononic and photophononic effects
11h00-11h15	13377	František Karlický	Oral	Excitonic Effects in Mxenes
11h15-11h30	13632	Jan Philips Staller	Oral	2D Ferroelectricity in d1T-MoTe ₂ : Dynamic stability, phase transition and temperature evolution.

MC28 - Ultrastrong coupling for quantum science and technologies II

Chairperson: Giuseppe Falci

 Room: C

09h00-09h30	12807	H. P. Ojeda Collado	Invited	Equilibrium parametric amplification in Raman-cavity hybrids
09h30-10h00	12359	D. Ferraro	Invited	Boosting energy transfer between quantum devices through spectrum engineering in the dissipative ultrastrong coupling regime
10h00-10h15	13698	Daniele Lamberto	Oral	Quantum Phase Transitions in Many-Dipole Light-Matter Systems
10h15-10h30	13700	Samuel Napoli	Oral	Comparison of cavity and circuit QED spectra in the ultrastrong coupling regime
10h30-11h00	13043	Miguel Carrera Belo	Invited	Gate-tunable phase transition in a bosonic Su-Schrieffer-Heeger chain

MC32 - Topological and chiral superconductor and magnetic nanostructures III

Chairperson: Fomin and Kakazei

 Room: A

9h00-9h30	13089	Dieter Koelle	Invited	YBa ₂ Cu ₃ O ₇ Josephson junctions and SQUIDs nanopatterned with focused ion beams
9h30-10h00	12697	Matteo Carrega	Invited	Supercurrent diode effect in hybrid Josephson junction
10h00-10h15	13793	Ignacio Sardinero	Oral	Current-phase relation in Fibonacci Josephson junctions
10h15-10h45	12884	Carmine Ortix	Invited	Nonlinear transport induced by the Berry curvature of Bloch electrons
10h45-11h00	12247	Toni Shiroka	Oral	Weyl fermion excitations in the CuTiSe ₂ semimetal
11h00-11h15	12399	Daniel de las Heras	Oral	Simultaneous and independent topological control of identical magnetic microparticles

11h15-11h30	-	Round table	Main Outcomes, New Research Routes and Perspectives
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MC36 - Phase transitions in disordered strongly correlated low-dimensional systems III

Chairperson: Miguel Ortuño

Room: B

9h00-9h30	12299	Sergej Flach	Invited	Strongly interacting bosons and flat bands
9h30-10h00	13223	Manuel Pino	Invited	Correlated volumes for the Anderson transition in random graphs
10h00-10h30	13353	Vincent Humbert	Invited	Photodoping, Photoconductivity, and Photosuperconductivity in superconducting oxides
10h30-10h45	13741	Óscar Bou Marqués	Oral	Vortex lattice pinning at 20 K in the stoichiometric pnictide superconductor CaFe_4As_4
10h45-11h00	13504	João Santos Silva	Oral	Topological Anderson Insulating Phases in the Interacting Haldane Model
11h00-11h15	12854	Ben Gade	Oral	Control of Néel Temperature through Synthetic Means in Kitaev Magnet Li_2IrO_3
11h15-11h30	12689	Tommaso M Mazzocchi	Oral	Impact of disorder and phonons on the Hubbard bands of Mott insulators in strong electric fields

MC39 - 2D Materials beyond graphene: from fundamental studies to enabling technologies IV

Chairperson: José Caridad, Luca Camilli

Room: SA

9h00-9h30	14042	P. Alonso-González	Invited	Photonic Magic Angles in $\alpha\text{-MoO}_3$ Trilayers
9h30-9h45	12603	D. R. Pereira	Oral	2D- MoO_3 nanostructures for Field Effect Transistors and biosensing applications
9h45-10h00	12992	N. Jiménez-Arévalo	Oral	X-ray photoelectron spectroscopy of high-throughput mechanically exfoliated van der Waals materials
10h00-10h15	12651	Selçuk Parlak	Oral	Raman scattering in two dimensional Dirac insulators
10h15-10h30	12795	Shaili Sett	Oral	Impact of antiferroelectric moiré domains on a graphene field-effect transistor
10h30-10h45	13286	Sergio Tosoni	Oral	Interface-driven Assembly of Pentacene/ MoS_2 Lateral Heterostructures: A Combined STM and DFT Study
10h45-11h00	13814	Marcelo Barreiro	Oral	Exciton generation by inelastic tunnelling in heterostructures with two-dimensional semiconductors

MC40 - Understanding and tuning electrical characteristics of the interfaces in energy storage systems

Chairperson: Carlos Costa, Senen Lanceros-Mendez

Room: S5

9h00-9h30	16380	Leonard Francis	Invited	Understanding the structure of energy related materials employing advanced electron microscopic techniques
9h30-9h45	12777	David Esteves	Oral	Challenges and opportunities in scaling up lithium battery developments
9h45-10h00	15997	Manab Kundu	Oral	Nanostructured transition metal derivatives for electrochemical energy storage
10h00-10h15	13706	Liliana Fernandes	Oral	Unveiling Ionic Liquids: Molecular Dynamics in Electric Fields
10h15-10h30	13003	Carlos M. Costa	Oral	Broadband dielectric spectroscopy of UV curable polyurethane acrylated composites with ionic liquid-laden metal-organic framework for energy storage systems

MC45 - Superconductivity in two-dimensional and layered materials IV

Chairperson: E. Piatti, M. Capone

Room: S3

9h00-9h30	12655	Jonas Bekaert	Invited	Ab initio exploration and optimization of superconductivity in novel boron-based two-dimensional materials
9h30-9h45	13620	Renato Gonnelli	Oral	The order-parameter symmetry of Sr_2RuO_4 revealed by directional Andreev-reflection spectroscopy
9h45-10h00	13354	Mateusz Domanski	Oral	Perspectives for superconductivity in nickel(I) hydrides
10h00-10h15	13338	Erik Linnér	Oral	Coexisting s-wave superconductivity and phase separation in the attractive extended Hubbard model
10h15-10h30	13194	Luca Tocchio	Oral	Superconductivity and orbital selectivity in a three-orbital Hubbard model for the iron pnictides: interplay of correlation and band structure
10h30-11h00	13317	Dario Daghero	Invited	Point-contact Andreev-reflection spectroscopy and multi-gap superconductivity in H-intercalated 1T-TiSe_2

MC48 - Attosecond physics in condensed matter V

Chairperson: Antonio Picón

Room: S4

9h00-10h00	13802	Misha Ivanov	Keynote	Ultrafast valleytronics in 2D mono- and multi-layer materials
10h00-10h15	13840	Giovanni Cistaro	Oral	Exploring electron dynamics in condensed matter systems
10h15-10h30	13919	Brian de Keijzer	Oral	The effect of photoexcitation on high-harmonic generation in semiconductors

10h30-11h00	12861	Daniel M. B. Lesko	Invited	All-optical valley current control from Floquet-engineered bandstructures
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General Topics III

Chairperson: Rui Vilarinho

Room: E

9h00-9h15	13910	Guilherme Vilhena	Oral	Moiré-Tile Manipulation-Induced Friction Switch of Graphene on a Platinum Surface
9h15-9h30	13461	Drilon Zenelaj	Oral	Wigner function approach to photodetection in a resonator-coupled double quantum dot
9h30-9h45	12919	Pasquale Marra	Oral	Topological zero modes and bounded modes at smooth domain walls: exact solutions and dualities in hermitian and nonhermitian regimes
9h45-10h00	13054	Karol Strutyński	Oral	Interplay of Pi-stacking and steric effects in Covalent Organic Frameworks
10h00-10h15	12355	Vitaly Kalikmanov	Oral	Sound wave propagation through two-phase systems: role of real gas effects
10h15-10h30	13371	Júlio Oliveira	Oral	Numerical Tests Of The Large Charge Expansion

Posters

Monday, September 2, 18h30

MC3

ID	Name	Title
	Ratiba Benzerga	Carbon fibers based ultra-porous epoxy composites for wideband planar multilayer absorber
	Antonio J. Paleo	An analysis of the dielectric properties of PA6 composites melt-mixed with Pyrograf® III carbon nanofibers
13123	Mariem Mssaada	Structural and Dielectric Properties of V ₂ O ₅ Nanoparticles

MC9

ID	Name	Title
13830	Vladimir Palyulin	First-Passage Time Minimization with Q-Learning in Heated Gridworlds
13754	Cristóvão Dias	Coarse-grained simulations of the flocking of active skyrmions
13420	Frank Cichos	Active Particle Steering by Actor Critic Reinforcement Learning
13207	Débora Batista Mendes	Numerical simulations of a neuromorphic spike-based autoencoder
15995	Helder Esteves	Particle-based simulations of active liquid-crystal Skyrmions using ML potentials

MC13

ID	Name	Title
12876	Rafael Sánchez	Nonlocal heat engines with hybrid quantum dot systems
12879	Erik Sefland Samuelsen	Andreev molecules at distance
13119	Michał Horodecki	Open system description of the Josephson junction

MC22

ID	Name	Title
13518	Pedro Borlido	High-throughput search of B-C-X superconductors

MC23

ID	Name	Title
13850	Gabriel Santiago Marques	Aerosolized Luminescent Nanoparticles as Optical Probes in Leakage Detection Systems
13148	Guilherme Ribeiro	PbS CQDs in perovskite host matrix for broadband optoelectronic semiconductors
13112	Aaron Flötotto	Surface structure of industrially prepared As-modified Si(100) substrates for solar power conversion
12965	P.A. Fernandes	Raman and X-ray structural characterization of post-annealed hydrothermal Sb ₂ (S,Se) ₃ thin films for solar cell application

MC47

ID	Name	Title
13256	Daniel Valente-Matias	Experimental realization of stochastic folding
13258	André F. V. Matias	Defect Control in Lyotropic Liquid Crystals in Confinement
13124	Guilherme Amaral	Liquid crystal skyrmions in shear flows
13115	J. M. Marcos	Modeling the breaking of an oil in water emulsion under a Surface Acoustic Wave (SAW) with a MC simulation
12920	Júlio Santos	Capsule dynamics in active turbulence

GT I

ID	Name	Title
16377	Houssem Sekrafi	Electric-field engineered lattice distortions of YMnO ₃ onto LXMO (X = Sr, Ca, Ba)
14886	Mohamed Cherif Benachour	Synthesis and development of composites based on PLA polymers reinforced with natural Jute fibers
13902	Jatinder Vir Yakhmi	Molecular Materials for Magnets and Electronic Devices
13733	Fernando Nogueira	Numeric local pseudopotentials through evolutionary optimisation
13693	Ana S. Castro	Development of natural polymer-Based membranes for efficient Cr(VI) water remediation
12998	Arkadeb Pal	Spin-induced strongly correlated magnetodielectricity, magnetostriction effect and spin-phonon coupling in helical magnet Fe ₃ (PO ₄)O ₃

*CMD31, Braga, Portugal, 2 - 6 September, 2024*

12912	Pasquale Marra	Majorana modes and topologically nontrivial stripes in two-dimensional inhomogeneous topological superconductors
12892	Elena Molteni	Electronic, magnetic and optical properties of pentacene on NiO(001): an ab initio study
12856	Bogoslovska Alla	Ultrathin buffer layers of ZnS prepared by ionic layer deposition
12849	Diana Fabušová	Theoretical investigation of novel Pd ₂ O polymorphs
12848	Radovan Bujdák	Exploring novel phases in the nickel-oxygen binary system with evolutionary algorithms and Density Functional Theory modeling
12621	Bertina Fisher	Two Insulator-Insulator transitions in Al-doped VO ₂ single crystals.

Tuesday, September 3, 18h30

MC2

ID	Name	Title
12761	M. Das	Effect of Mn substitution on the crystal structure and magnetic properties of Sr doped bismuth ferrite
13060	A. C. Miranda	Ferroelectricity vs Negative Thermal Expansion: A Nanoscopic View of Phase Transitions in Ruddlesden-Popper $AYTiO_4$ ($A = Na, Ag$)
13757	João Oliveira	Structural and Dielectric Properties of $CoFe_2O_4/LiNbO_3$ Bilayer Thin Films Deposited by Laser Ablation over $SrTiO_3$ Substrates
13886	A.A. Bassou	Photo-Ferroelectric h- $LuMnO_3$ Thin-films

MC11

ID	Name	Title
13120	Maxim Ivanov	Complex analysis of electrical and electronic properties of modified PLLA and PVDF-TrFE polymers as diverse platforms for piezo- and triboelectric energy harvesting

MC12

ID	Name	Title
13661	Gloria Conte	Nanocrystalline Silicon for Optomechanical Applications

MC14

ID	Name	Title
13577	Didrik Palmqvist	Thermodynamic constraints on bosonic and fermionic noise
13048	José Balduque Picazo	Non-equilibrium noise in driven mesoscopic devices

MC27

ID	Name	Title
13088	Lenka Cerna	On-surface Synthesis of π -Magnetic Au-Coordinated Porphyrins
13859	Fei Gao	Tunable spin and transport in porphyrin- graphene nanoribbon hybrids
13921	Pauline Pfister	Nonacethrene: towards a carbon-based magnetic switch
12653	Joao Henriques	Anatomy of linear and non-linear molecular exchange in $S = 1$ nanographenes

12789	Ola Alayan	Pd-cyclometalated molecules on HOPG
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MC37

ID	Name	Title
13825	Fran Fernandez	Boosted visible-light photocatalysis on Au clustered porous Se:Ta ₂ O ₅ thin films
13231	Malte Grunert	Predicting exciton binding energies from groundstate properties

MC42

ID	Name	Title
13652	Huiyu Zhao	AngstromPro: A versatile software for multilayer STM data management, and in-depth analysis

MC44

ID	Name	Title
16472	Luis Rebouta	Optimization of photoluminescence of Eu and Dy doped YVO ₄ nanoparticles and development of a portable photoluminescence detection system for its on-site analysis

MC46

ID	Name	Title
13505	DA Deaconu	Band-asymmetry-driven nonreciprocal electronic transport in a helimagnetic semimetal α -EuP ₃
13429	Alexey Ermakov	Transport Properties in Quantum Spin Liquids: Insights into Majorana Fermions and Topological Matter
13427	A. Daria Dumitriu-I	First-order effect of electron-electron interactions on the anomalous Hall conductivity of massive Dirac fermions
13041	R. M. S. Barbosa	Nonlinear anomalous transport in multiple Weyl points
12745	L. Medel Onofre	Planar Hall effect in Weyl semimetals induced by pseudoelectromagnetic fields

MC47

ID	Name	Title
12588	Rafael Almada	Healing Regimes for Microscopic Wounds in the Vertex Model of Cell Tissues
12470	Rodrigo Coelho	Pumping and mixing active nematics
13923	Sergey V. Pyrlin	Concentration-dependent clusteroluminescence in small molecules and synthetic peptides

12895	Tomás Alvim	Solute dispersion in confined active nematics
12774	Margarida Telo da Gama	Shape transition of flowing skyrmions in 2D
12575	Paulo I. C. Teixeira	Ultraconfined oblate hard particles between hybrid penetrable walls
12473	Rodrigo C. V. Coelho	Hall-like transport of liquid crystal skyrmions in Couette flows
12267	Paulo I. C. Teixeira	Dynamics of liquid bridges between patterned substrates
15996	Ana Carolina Ribeiro	Effect of environmental memory on the dynamics of active particles

Thursday, September 5, 18h30

MC1

ID	Name	Title
13410	Joel Borges	Localized Surface Plasmon Resonances (LSPR) of Au(-Ag) Nanoparticles Embedded in Metal Oxide Thin Films
13232	Rui Dias	Excitation of plasmon-polaritons in graphene via non-linear mixing of optical waves
13014	Vasco Santos	Two-dimensional Chiral Plasmonics at Magnetic Interfaces
12850	Diogo Simões	Kinetic Simulation of Quantum Plasmonics in Bidimensional Materials
12568	Pedro Cosme	Plasmonic nonlinear instabilities in graphene hydrodynamic regime

MC4

ID	Name	Title
12845	Matthew Herbst	Detecting Gravity at the Milligram Scale Using Optomechanics
12913	Jana Bauer	Integrated quantum acoustics with superconducting qubits
13287	Akong Loh	Cavity optomechanics with a carbon nanotube nanomechanical resonator
13343	Leyre Larraya-Sancho	4.5 GHz electro-mechanical resonators on bulk LiNbO ₃
13625	O. R. Ranjbar-Naein	Variability Impact on Hypersonic 1-D Phononic and Photonic Crystals

MC5

ID	Name	Title
13128	Pablo Hernandez-Gomez	Effect of Co substitution on the transverse susceptibility in ZnY multiferroic hexaferrite nanoparticles
15128	Beatriz G. Morgadinho	Multifunctional Iron Oxide-Graphene Nanoplatfor for hyperthermia and magnetic targeted drug delivery

MC11

ID	Name	Title
13065	V. Sanchez	KNN bionanocomposite materials for piezoelectric applications
13120	L. Pereira	Complex analysis of electrical and electronic properties of modified PLLA and PVDF-TrFE polymers as diverse platforms for piezo- and triboelectric energy harvesting

MC18

ID	Name	Title
16670	Tamara Azevedo	Novel approach for precise determination of parametric thresholds in magnetic films

MC20

ID	Name	Title
13780	Juan Silva	Artificial Sensory Oscillator Neuron based on III-V Semiconductor Micropillars for Neuromorphic Computing

MC25

ID	Name	Title
13681	André Marinho	Ab-initio and tight-binding electronic properties of Selenene
13552	Theo Grace	Motion of emergent gauge flux pairs in a bilayer quantum spin liquid
12719	Daniel Sousa	Berry: A code for the differentiation of Bloch wavefunctions from DFT calculations

MC29

ID	Name	Title
12821	Hye-Won Ko	Spin coherence length in d-wave altermagnet
16769	Jose H. García	Emerging Spin-Orbit Torques in Low-Dimensional Dirac Materials

MC30

ID	Name	Title
13750	Muhib M. S. Al-Rawi	Kraft Lignin Solubility in Deep Eutectic Solvents
12858	Frederic Bourdarot	New Neutron-Resonance Spin Echo spectrometer on IN22@ILL

MC31

ID	Name	Title
13653	Igor Vasilevskiy	Phase diagram of twisted trilayer graphene

MC34

ID	Name	Title
13068	Bruno Bertin-Johannet	Time-dependent quantum transport in the fractional quantum Hall effect

MC39

ID	Name	Title
13798	Vicente Lopes	Chemical vapor deposited 2D crystals for advanced technologies
13361	Subrata Rakshit	Double layer boron structures
12590	E. Amar	Large-area synthesis of hexagonal boron nitride thin films grown by atomic pressure chemical vapor deposition

MC40

ID	Name	Title
13908	Mireia Andonegi	Broadband dielectric spectroscopy evaluation of sustainable composites based on collagen with different contents of metal-organic framework and ionic liquid for energy storage systems
13815	Tiago Salgueiro	Reducing the Interfacial Resistance of NASICON solid electrolyte with Polyvinyl-based Wetting Agents
13277	Rafael Pinto	Electrical properties of printed solid polymer electrolytes for energy storage applications

MC41

ID	Name	Title
12813	Mauro Riccò	Asparagus waste derived activated carbon for assembling high performance quasi-solid-state supercapacitors
13266	Belgacem Tiss	Enhancing Durability and Longevity of Cork and Rubber by Deposition of Oxide Thin Films for UV Filtering and Wear Resistance
13685	P. T. Patrício	Influence of temperature and light on the recovery of CIGS based solar cells irradiated with high energy protons

MC43

ID	Name	Title
13050	Inês Proença	Unraveling the mechanisms of persistent luminescence in LiYGeO ₄
13070	Maria S. Batista	Chromium and manganese-activated Zn ₂ GeO ₄ : a versatile phosphor for emerging luminescence-based applications
13348	Magda Soares	On the road to monolithic RGB micro-LED arrays based on III-nitrides: optical and structural characterization of Tm implanted AlN nanowires

13707	Tiago Fernandes	Remarkable recovery of proton-irradiated Cu(In,Ga)Se ₂ based solar cells for space applications: thermal annealing and light soaking treatments
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MC45

ID	Name	Title
13317	Jisvin Sam	Superconductivity in Ca intercalated bilayer silicene
13136	Erik Linnér	Fluctuating field theory description of interplaying collective instabilities in strongly correlated systems
13129	Celia González Sánchez	Fabrication of hybrid vertical Josephson junctions based on NbSe ₂

MC48

ID	Name	Title
12716	Francisco Lobo	Self-consistent superconducting nanowires