



XXV SLAFES GENERAL PROGRAM

Start	End	23-oct-24	24-oct-24	25-oct-24	26-oct-24
8:30	8:45	ARRIVAL IN BARRANQUILLA	<p>TOPIC PLENARY Caio LEWENKOPF</p> <p>Topic Talk 1.1 Paula GIRALDO-GALLO</p> <p>Topic Talk 2.1 José Eduardo BARRIOS VARGAS</p> <p>COFFEE BREAK</p> <p>THURSDAY POSTERS SET-UP</p> <p>Topic Talk 1.2 Eric SUÁREZ MORELL</p> <p>Topic Talk 2.2 Outmane OUBRAM</p> <p>Oral Contribution 1.1</p> <p>Oral Contribution 1.2</p> <p>Oral Contribution 1.3</p> <p>Oral Contribution 1.4</p>	<p>SPECIAL TOPIC PLENARY José Luis MORÁN LÓPEZ</p> <p>TOPIC PLENARY Boris Alfredo MAIOROV</p> <p>COFFEE BREAK</p> <p>Topic Talk 3.3 Ricardo FACCIO</p> <p>Topic Talk 4.3 Rafael GONZALEZ-HERNANDEZ</p> <p>Topic Talk 3.4 Ana Cecilia NOGUEZ GARRIDO</p> <p>Topic Talk 4.4 José Carlos EGUES</p> <p>Oral Contribution 3.5</p> <p>Oral Contribution 3.6</p> <p>Oral Contribution 3.7</p> <p>Oral Contribution 3.8</p>	<p>SPECIAL TOPIC PLENARY Luis E. F. FOA TORRES</p> <p>COFFEE BREAK</p> <p>SPECIAL TOPIC PANEL</p> <p>SLAFES XXVI VENUE REVEAL Javier MONTOYA</p> <p>CLOSING REMARKS</p>
8:45	9:00				
9:00	9:15				
9:15	9:30				
9:30	9:45				
9:45	10:00	REGISTRATION FORMALITIES	<p>LUNCH</p> <p>TOPIC PLENARY Andrés SANTANDER SYRO</p> <p>Topic Talk 3.1 César ORTEGA</p> <p>Topic Talk 4.1 Cecilia VENTURA</p> <p>Oral Contribution 3.1</p> <p>Oral Contribution 3.2</p> <p>COFFEE BREAK</p> <p>Topic Talk 3.2 Verónica VILDOSOLA</p> <p>Topic Talk 4.2 Juan Manuel FLOREZ URIBE</p> <p>Oral Contribution 3.3</p> <p>Oral Contribution 3.4</p>	<p>LUNCH</p> <p>TOPIC PLENARY Julio MENDOZA ALVAREZ</p> <p>Topic Talk 1.3 Yonatan BETANCUR OCAMPO</p> <p>Topic Talk 2.2 Ever ORTIZ MUÑOZ</p> <p>Oral Contribution 1.5</p> <p>Oral Contribution 1.6</p> <p>COFFEE BREAK</p> <p>Topic Talk 1.4 Diana DULIC</p> <p>Topic Talk 2.2 Caetano MIRANDA</p> <p>Oral Contribution 1.7</p> <p>Oral Contribution 1.8</p> <p>Oral Contribution 2.7</p> <p>Oral Contribution 2.8</p>	 <p>XXV Latin American Symposium on Solid State Physics</p> <p>SLAFES: IN THE AGE OF AI</p> 
10:00	10:15				
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13:30	13:45	OPENING SESSION	<p>COFFEE BREAK</p>	<p>COFFEE BREAK</p>	
13:45	14:00				
14:00	14:15	OPENING PLENARY Ana María LLOIS	<p>Topic Talk 3.3 Ricardo FACCIO</p> <p>Topic Talk 4.3 Rafael GONZALEZ-HERNANDEZ</p>	<p>Topic Talk 1.3 Yonatan BETANCUR OCAMPO</p> <p>Topic Talk 2.2 Ever ORTIZ MUÑOZ</p>	
14:15	14:30				
14:30	14:45	OPENING PLENARY Andrea MARINI	<p>Oral Contribution 3.5</p> <p>Oral Contribution 3.6</p> <p>Oral Contribution 3.7</p> <p>Oral Contribution 3.8</p>	<p>Oral Contribution 4.4</p> <p>Oral Contribution 4.5</p> <p>Oral Contribution 4.7</p> <p>Oral Contribution 4.8</p>	
14:45	15:00				
15:00	15:15	COFFEE BREAK	<p>Oral Contribution 4.1</p> <p>Oral Contribution 4.2</p>	<p>Oral Contribution 2.5</p> <p>Oral Contribution 2.6</p>	
15:15	15:30				
15:30	15:45	OPENING PLENARY Yenny HERNÁNDEZ	<p>Oral Contribution 4.3</p> <p>Oral Contribution 4.4</p>	<p>Oral Contribution 2.7</p> <p>Oral Contribution 2.8</p>	
15:45	16:00				
16:00	16:15	OPENING PLENARY Bruno CUCCO	<p>POSTER PRESENTATION</p>	<p>POSTER PRESENTATION</p>	
16:15	16:30				
16:30	16:45		<p>POSTER PRESENTATION</p>	<p>SOCIAL ACTIVITY</p>	
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18:45	19:00				
19:00	19:15	Topic 1: Nanomaterials, Low-Dimensional Systems, and Novel Materials			
19:15	19:30	Topic 2: Thermal, Optical, and Transport Properties			
19:30	19:45	Topic 3: Crystal and Electronic Structure			
19:45	20:00	Topic 4: Magnetism, Strongly Correlated Systems, Collective Phenomena, Low-Temperature Physics			

Wednesday, 23 October 2024

10:00 – 18:00

- 10:00 **Registration formalities 3h30'**
- 13:30 **Opening Session 1h**
- 14:30 **Opening Plenary: Calculating Electronic and Magnetic Properties: A 30-Year retrospective on research in Low Dimensional and Complex Systems 45'**
Speaker: Ana María LLOIS (Instituto de Nanociencia y Nanotecnología, CNEA-CONICET, Argentina)
- 15:15 **Opening Plenary: Ab-Initio simulations of equilibrium and out-of-equilibrium phenomena in complex materials: combining High-Performance computational tools with advanced theoretical approaches 45'**
Speaker: Andrea MARINI (Istituto di Struttura della Materia, National Research Council, Italy)
- 16:00 **Coffee Break 30'**
- 16:30 **Opening Plenary: On the Physical Response of Layered Materials Exfoliated in Liquid Phase: Evidence of Functional Groups and Size-Dependent Features 45'**
Speaker: Yenny HERNÁNDEZ (Universidad de los Andes, Colombia)
- 17:15 **Opening Plenary: Materials design and ab initio modeling of novel materials for optoelectronics 45'**
Speaker: Bruno CUCCO (Center for Quantum Materials Engineering, The University of Texas at Austin, United States)

Thursday, 24 October 2024

08:45 – 18:30

- 08:45 **Topic Plenary: Quantum phase transitions in strongly disordered topological insulators: A coordinate-space analysis 45'**
Speaker: Caio LEWENKOPF (Universidade Federal Fluminense, Brazil)

	ROOM 1	ROOM 2
09:30	Topic Talk 1.1: Room temperature multiferroicity in solid solutions of transition metal dichalcogenides 30' Speaker: Paula GIRALDO-GALLO (Universidad de Los Andes, Colombia)	Topic Talk 2.1: Engineering adiabatic pumping in nanostructures 30' Speaker: José Eduardo BARRIOS VARGAS (UNAM, Mexico)

- 10:00 **Coffee Break 30'**
- 10:30 **Poster Parade 30'**

	ROOM 1	ROOM 2
11:00	Topic Talk 1.2: Electronic localization and its fragility in rotated graphene layers 30' Speaker: Eric SUÁREZ MORELL (Universidad Técnica Federico Santa María, Chile)	Topic Talk 2.2: Transport and magnetoresistance in disordered ferromagnetic superlattices on two-dimensional materials 30' Speaker: Outmane OUBRAM (Universidad Autónoma Del Estado de Morelos, Mexico)
11:30	Contributed Talk 1.1: Hydrogen production using Co-Ni based electrodes obtained from wasted NiMH batteries 15' Speaker: Karina PULIDO DE LA CRUZ (Instituto Politécnico Nacional, Mexico)	Contributed Talk 2.1: Enhancing exciton localization in two-dimensional semiconductors through dielectric environment modification 15' Speaker: Kelly Yohana MUÑOZ GOMEZ (Universidad Pedagógica y Tecnológica de Colombia, Colombia)
11:45	Contributed Talk 1.2: Strong spin-lattice coupling and high-temperature magnetic ordering in monolayer chromium dichalcogenides 15' Speaker: Álvaro GONZÁLEZ GARCÍA (Universidad del Norte, Colombia)	Contributed Talk 2.2: CuNbS3: A First-Principles Exploration of a Potential Photovoltaic Material 15' Speaker: Catalina RUIZ VERGARA (Universidad Andrés Bello, Chile)
12:00	Contributed Talk 1.3: Non-spherical atomic effective pseudopotentials applied to the study of the electronic structure of Si nanowires 15' Speaker: Jairo Ricardo CARDENAS (Universidad del Atlántico, Colombia)	Contributed Talk 2.3: Novel Kagome KMn3Sb5 metal: Chiral magnetism, lattice dynamics, and anomalous Hall conductivity 15' Speaker: Andrés Camilo GARCIA CASTRO (Universidad Industrial de Santander, Colombia)
12:15	Contributed Talk 1.4: Long-Term Analysis of Electromechanical Properties in Cementitious Composites with Copper Nanoparticles 15' Speaker: Jorge H. QUINTERO-OROZCO (Universidad Industrial de Santander, Colombia)	Contributed Talk 2.4: Control of the spin-polarized conductance in a bilayered 2D magnetic CrI3-based device 15' Speaker: Carlos Eduardo ARDILA GUTIERREZ (Universidad Industrial de Santander, Colombia)

12:30 **Lunch 1h30'**

14:00 **Topic Plenary: Imaging the itinerant-to-localised transmutation of electrons across the metal-to-insulator transition 45'**
Speaker: Andrés SANTANDER SYRO (ISMO, Université Paris-Saclay, Orsay, France)

	ROOM 1	ROOM 2
14:45	Topic Talk 3.1: Strategic co-substitutions to increase magnetization in pristine AlN monolayer 30' Speaker: César ORTEGA (Universidad de Córdoba, Colombia)	Topic Talk 4.1: Modeling Bi-based layered superconductors: electronic properties 30' Speaker: Cecilia VENTURA (Centro Atómico Bariloche (CONICET) & UNRN, Argentina)
15:15	Contributed Talk 3.1: Catalytic activity and sensing properties of the M-MOF74 (M=Mn, Fe, Co) Metal-Organic Frameworks 15' Speaker: Victor HOYOS SINCHI (Universidad Andrés Bello, Chile)	Contributed Talk 4.1: Discontinuous, compensation and hysteresis phenomena in a high-spin Ising-type ferrimagnet: S=3/ Q=7/2 15' Speaker: Nicolás DE LA ESPRIELLA VÉLEZ (Universidad de Córdoba, Colombia)

15:30	Contributed Talk 3.2: Efficacy of vanadium oxide nanoparticles doped with reduced graphene oxide in the photocatalytic degradation of methylene blue 15' Speaker: Leydi Julieta CÁRDENAS FLECHAS (Universidad de América, Colombia)	Contributed Talk 4.2: Formation, generation and stability of magnetic vortex in individual Co₈₅Ni₁₅ nanowires with transversal magnetic anisotropy 15' Speaker: Nicolás BARRIOS PIZO (Universidad del Valle, Colombia)
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15:45 **Coffee Break 30'**

	ROOM 1	ROOM 2
16:15	Topic Talk 3.2: Lithium isotopic separation via electrochemical techniques: the role of electronic structure 30' Speaker: Verónica VILDOSOLA (CONICET-CNEA (CAC) Buenos Aires, Argentina)	Topic Talk 4.2: Accelerating the discovery of 2D multiferroics 30' Speaker: Juan Manuel FLOREZ URIBE (Universidad Técnica Federico Santa María, Chile)
16:45	Contributed Talk 3.3: Adsorption and diffusion of lithium, sodium, gallium, and sulfur atoms on the GaS monolayer 15' Speaker: Raúl MELÉNDEZ (Universidad de Córdoba, Colombia)	Contributed Talk 4.3: Pairs and stripes phases in an antiferromagnet within the extended Hubbard model 15' Speaker: Uriel Alberto DIAZ REYNOSO (UNAM. Mexico)
17:00	Contributed Talk 3.4: Effect of defects on the energetics and electronic properties of the (4×4) AlN/(5×5) graphene heterobilayer 15' Speaker: Ronald LARA (Universidad de Córdoba, Colombia)	Contributed Talk 4.4: Study of effect of inclusion of multiwalled carbon nanotubes (MWCNTs) in structural and electrical properties of samples of YBa₂Cu₃O_{7-δ} (YBCO) 15' Speaker: Carlos PIÑEIRO (Universidad del Valle, Colombia)

17:15 **Poster Presentation 1h15'**

Friday, 25 October 2024

08:45 – 20:00

08:45 **Topic Plenary: To (boldly) measure where no one has measured before: Possibilities for Condensed Matter in Pulsed Magnetic Fields 45'**
Speaker: Boris Alfredo MAIOROV (Los Alamos National Laboratory, United States)

	ROOM 1	ROOM 2
09:30	Topic Talk 3.3: Nanostructured Titanates: unveiling their unique functional properties 30' Speaker: Ricardo FACCIO (Universidad de la República, Uruguay)	Topic Talk 4.3: Altermagnetism: A novel magnetic phase 30' Speaker: Rafael GONZALEZ-HERNANDEZ (Universidad del Norte, Colombia)

10:00 **Coffee Break 30'**

10:30 **Special Topic Plenary: Understanding the magnetic behavior of Manganese 30'**
Speaker: José Luis MORÁN LÓPEZ (Instituto Potosino de Investigación Científica y Tecnológica, Mexico)

	ROOM 1	ROOM 2
11:00	Topic Talk 3.4: Electronic Interactions on Moiré 2D van der Waals Heterostructures 30' Speaker: Ana Cecilia NOGUEZ GARRIDO (UNAM, Mexico)	Topic Talk 4.4: Quantum oscillations 30' Speaker: José Carlos EGUES (Instituto de Física de São Carlos, Brazil)
11:30	Contributed Talk 3.5: Electronic flat-bands on twisted bilayer Penrose quasicrystals 15' Speaker: Ernesto HUIPE DOMRATCHEVA (UNAM, Mexico)	Contributed Talk 4.5: Magnetic properties of Sr_{2-x}Ce_xFe_{1+x/2}Mo_{1-x/2}O₆ double perovskite system 15' Speaker: Diana Litzajaya GARCÍA-RUIZ (UNAM, Mexico)
11:45	Contributed Talk 3.6: MOF-5 Organometallic Structure as a Sensor for Pollutant Gas Detection 15' Speaker: Pedro SOUZA (Universidad Andres Bello, Chile)	Contributed Talk 4.6: Order-disorder dynamic phase transition in a magnetite nanoparticle and its relationship with magnetic hyperthermia: A micromagnetic approach 15' Speaker: Johans RESTREPO (Universidad de Antioquia, Colombia)
12:00	Contributed Talk 3.7: Ab-initio study of topological properties of A₃BO Antiperovskites 15' Speaker: Joan Sebastián IBAÑEZ SOTELO (Universidad Nacional de Colombia, Colombia)	Contributed Talk 4.7: Ge-NW/LaTiO₃ nanostructured materials 15' Speaker: Eliel CARVAJAL (Instituto Politécnico Nacional, ESIME-Cul., Mexico)
12:15	Contributed Talk 3.8: High field magnetotransport measurements of the topological semi-metal and charge density wave compound TaTe₄ 15' Speaker: Diego Felipe SILVERA VEGA (Universidad de Los Andes, Colombia)	Contributed Talk 4.8: Local symmetry of Co, in Co-Doped ZnO Nanocrystals 15' Speaker: Ovidio ALMANZA (Universidad Nacional de Colombia, Colombia)

12:30 **Lunch 1h30'**

14:00 **Topic Plenary: GaSb-based Semiconductors for Optoelectronic Device Applications in the Mid-Infrared Spectral Region 45'**
Speaker: Julio MENDOZA ALVAREZ (CINVESTAV-IPN, Mexico)

	ROOM 1	ROOM 2
14:45	Topic Talk 1.3: Atomically thin current pathways in graphene through Kekulé-O engineering 30' Speaker: Yonatan BETANCUR OCAMPO (UNAM, Mexico)	Topic Talk 2.3: On the high-temperature phase transition of Rb₃H(SeO₄)₂: A polymorphic-superprotonic phase transition? 30' Speaker: Ever ORTIZ MUÑOZ (Universidad del Atlántico, Colombia)
15:15	Contributed Talk 1.5: Optimization of photovoltaic cell properties and efficiency by incorporating functional groups into π-conjugated triphenylamine molecules 15' Speaker: Jonathan ROMERO ATENCIO (Universidad del Atlántico, Colombia)	Contributed Talk 2.5: Electrical analysis of Caseinate-Borax biofilms 15' Speaker: Nayda Patricia ARIAS DUQUE (Universidad de Sucre, Colombia)
15:30	Contributed Talk 1.6: Decoherence effects on quantum transport through topological domain walls 15' Speaker: Ricardo Yael DÍAZ BONIFAZ (UNAM, Mexico)	Contributed Talk 2.6: Solid-state mechanisms enhancing fire resistance in niobium and boron alloyed structural steels 15' Speaker: Edwan Anderson ARIZA ECHEVERRI (Universidad del Magdalena, Colombia)

15:45 **Coffee Break 30'**

	ROOM 1	ROOM 2
16:15	Topic Talk 1.4: Designing a “perfect” porphyrin molecule for the Mechanically Controllable Break Junction Experiments 30' Speaker: Diana DULIC (Universidad de Chile, Chile)	Topic Talk 2.4: Virtual Worlds, Real Solutions: Multiscale Materials Design for Global Challenges 30' Speaker: Caetano MIRANDA (Instituto de Física, USP, Brazil)
16:45	Contributed Talk 1.7: Study and optimization of electronic and structural properties of two-dimensional materials (MXenes) for energy generation and storage through first-principles calculations 15' Speaker: Nicolás FORERO (Universidad de la Frontera, Chile)	Contributed Talk 2.7: Propagation of electromagnetic waves through a bi-periodic 1D dielectric-graphene photonic crystal 15' Speaker: Jesús MADRIGAL-MELCHOR (Universidad Autónoma de Zacatecas, Mexico)
17:00	Contributed Talk 1.8: Ferroelectric switching in monolayer WSe₂ via concurrent antisite and vacancy defects. A DFT study.15' Speaker: Camilo ESPEJO (Universidad del Norte, Colombia)	Contributed Talk 2.8: Enantiospecific electron transport in chiral-modified molecular junctions 15' Speaker: Omar HERNÁNDEZ MONTES (UNAM, Mexico)

17:15 **Poster Presentation 45'**

18:00 **Social Activity 2h**

Saturday, 26 October 2024

09:00 – 12:30

09:00 **Navigating Peer Review: Critical Tips for Authors 1h**
Speaker: Luis E. F. FOA TORRES (Universidad de Chile, Chile)

10:00 **Coffee Break 30'**

10:30 **Promoting science exchange through networks 1h**
Panelists: Nayda Patricia ARIAS DUQUE (Universidad de Sucre, Colombia), Oracio NAVARRO (UNAM, Mexico), Javier MONTOYA (Universidad de Cartagena, Colombia), José Luis MORÁN (Instituto Potosino de Investigación Científica y Tecnológica, Mexico)

11:30 **SLAFES XXVI venue reveal 30'**
Chair: Javier MONTOYA (Universidad de Cartagena, Colombia)

12:00 **Closing remarks 30'**