

Monday, November 14 th			
Polo Cientifico Tecnológico Auditorium			
Centro Cultural de la Ciencia, Godoy Cruz 2270			
9:00 - 11:00	Registration		
11:00 - 11:30	Opening		
	Lino Barañao (Minister of Science), Alejandro Ceccatto (President of CONICET), Daniel de Florian (Director of ICAS), Andreas Trepte (Liason Office Latin America MPG)		
11:30 - 12:00	COMPLEX SYSTEMS Chair - Luciana Bruno UBA, Argentina	Eberhard Bodenschatz MPI for Dynamics and Self-Organization, Germany	“Cilia-based transport networks “
12:00 - 12:30		Leticia Cugliandolo Universitè Paris 6, France	“Phase co-existence in bidimensional passive and active dumbbell systems”
12:30 - 14:00	Lunch break		
14:00 - 14:30	BIOPHYSICS Chair - Pablo Balenzuela IFIBA, Argentina	Frank Jülicher MPI for the Physics of Complex Systems, Germany	“Symmetry breaking of biological cells”
15:30 - 15:00		Luis Morelli Instituto de Investigación en Biomedicina de Buenos Aires (CONICET - MPS), Argentina	“Autonomous genetic oscillations from zebrafish segmentation clock cells”
15:00 - 15:30		Dante Chialvo Universidad Nacional de San Martín, Argentina	“Critical biological dynamics, a brief update”
15:30 - 16:00	Coffee break		
16:00 - 16:30	SOFT MATTER AND NANOSYSTEMS Chair - Joaquin Sacanell CAC-CNEA, Argentina	Galo Soler Illia, Universidad Nacional de San Martín, Argentina	“Nanoarchitechtonics through the chemical design of self-organized building blocks”
16:30 - 17:00		Rodolfo Acosta, Facultad de Matemática, Astronomía y Física, Argentina	“Characterization of porous polymer materials by time domain NMR”
17:00 - 17:30		Katharina Landfester, MPI for Polymer Research, Germany	“The potential of nanocapsules for various applications”
17:30 - 18:00		Daniel Vega Universidad Nacional del Sur, Argentina	“Symmetry breaking phase transitions and pattern formation in curved space”
18:00 - 18:30	Presentation Humboldt programs		
18:30 - 20:00	Posters, refreshments, wine and beer		

Tuesday, November 15 th			
Polo Cientifico Tecnológico Auditorium			
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09:00 - 09:30	NANO-CHEMISTRY AND BIOSYSTEMS Chair - Marcelo Ceolin INIFTA, Argentina	Joachin Spatz MPI for Intelligent Systems, Germany	“Sequential Bottom-up Assembly of Synthetic Cells”
09:30 - 10:00		Diego Pallarola Universidad Nacional de San Martín, Argentina Grupo Asociado Max Planck	“Real-Time Dual Optical-Electrochemical Monitoring of Cell Adhesive Response”
10:00 - 10:30		Ernesto Julio Calvo Instituto de Química Física de los Materiales, Medio Ambiente y Energía, Argentina	“From the sustainable extraction of lithium to advanced lithium air batteries: An electrochemical approach”
10:30 - 11:00	Coffee break		
11:00 - 11:30	SOFT MATTER AND BIOSYSTEMS Chair - Fernanda Cardinal Northwestern University, USA	Hans-Jürgen Butt MPI for Polymer Research, Germany	“Nanostructuring surfaces to control wetting”
11:30 - 12:00		Omar Azzaroni Instituto de Investigaciones Fisicoquímicas Teóricas y Aplicadas , Argentina	“Solid-state nanopores as biomimetic signal-transducing nanosystems. Learning from nature to design nanofluidic devices”
12:00 - 12:30		Hernan Grecco Instituto de Física de Buenos Aires , Argentina Grupo Asociado Max Planck	“From photons to molecules: deriving biological observables from functional microscopy images”
12:30 - 14:00	Lunch break		
14:00 - 14:30	SOFT MATTER AND NANOSYSTEMS Chair - Claudio Pastorino CAC-CNEA, Argentina	Metin Sitti MPI for Intelligent Systems, Germany	“Small-Scale Mobile Robots Leveraging Advanced Materials”
14:30 - 14:55		Gastón Corthey Max Planck Unit at DESY, Germany	“Ultrafast structural dynamics with electrons”
14:55 - 15:20		Mario Tagliazuchi Instituto de Química Física de los Materiales, Medio Ambiente y Energía, Argentina	“Two Tales of Self-Assembly in the Realm of Soft Materials”
15:20 - 15:45		Markus Müller University of Goettingen, Germany	“Directing the self-assembly of copolymers materials”
15:45 - 16:10	Public talk	Leonardo Ermann Centro Atómico Constituyentes (CNEA), Argentina	“Google matrix analysis: from complex networks to quantum chaos”
16:10 - 18:00		Posters & refreshments	
18:00 - 19:00	Public talk	Theo Geisel MPI for Dynamics and Self-Organization, Germany	“Rhythms and Algorithms: Self-Similarity in Music” Chair - Silvina Ponce-Dawson IFIBA, Argentina
20:00 - 23:00	Dinner -on invitation-		

Wednesday, November 16 th			
Polo Cientifico Tecnológico Auditorium			
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09:00 - 09:30	QUANTUM SOLID-STATE PHYSICS Chair - Luis Manuel IFIR, Argentina	Claudia Felser MPI for Chemical Physics of Solids, Germany	“Topology – from the materials perspective”
09:30 - 10:00		Santiago Grigera Instituto de Física de Líquidos y Sistemas Biológicos, Argentina	“Intermediate states, competing orders and distortions in spin-ice systems”
10:00 - 10:30		Andrew Mackenzie MPI for Chemical Physics of Solids, Germany	“Strain-tuning of quantum materials”
10:30 - 11:00	Coffee break		
11:00 - 11:30	QUANTUM SOLID-STATE PHYSICS Chair - Ariel Dobry IFIR, Argentina	Eduardo Fradkin University of Illinois at Urbana-Champaign, USA	“Order in Two-Dimensional Electronic Fluids”
11:30 - 12:00		Gonzalo Torroba Centro Atómico Bariloche, Argentina	“Dualities in high energy and condensed matter physics”
12:00 - 12:30		Karen Hallberg Centro Atómico Bariloche, Argentina	“Electronic properties in correlated materials: State-of-the-art calculations exploiting quantum information”
12:30 - 14:00	Lunch break		
14:00 - 14:30	QUANTUM SYSTEMS AND QUANTUM PHYSICS Chair - Alberto Camjayi UBA, Argentina	Julian Sereni Centro Atómico Bariloche, Argentina	“Testing the Third law of Thermodynamics at T → 0 in Frustrated magnetic systems”
14:30 - 15:00		Jan-Michael Rost MPI for the Physics of Complex Systems, Germany	“Time in Quantum Mechanics”
15:00 - 15:30		Axel Bruchhausen Centro Atómico Bariloche, Argentina	“Acoustic Dynamics in Nanophononic Devices”
15:30 - 16:00		Hector Manuel Moya-Cessa Instituto Nacional de Astrofísica, Óptica y Electrónica, Mexico	“Quantum-classical analogies in photonic lattices: Fourier transforms”
16:00 - 16:30	Coffee break		
16:30 - 16:55	COMPLEX SYSTEMS AND QUANTUM SOLID-STATE Chair - Verónica Vildosola CAC-CNEA, Argentina	Tomás Grigera Instituto de Física de Líquidos y Sistemas Biológicos, Argentina	“Information transfer in animal groups and the role of inertia”
16:55 - 17:20		Ana María Llois Centro Atómico Constituyentes (CNEA), Argentina	“Exploring low dimensional systems with DFT”
17:20 - 17:45		Alejandro Lobos Instituto de Física de Rosario, Argentina	“Topological phases of ultracold fermions in ladder-like optical lattices with higher orbital bands”
17:45 - 18:10		Leandro Tosi CEA-Saclay, France	“Quasiparticle dynamics in a hybrid Cooper-pair box”
20:00 - 22:00		Reception German Embassy -on invitation-	

Av. 25 de Mayo y Francia, San Martin/Gran Buenos Aires

09:00 - 09:30	QUANTUM OPTICS AND QUANTUM INFORMATION Chair - Marcos Saraceno UNSAM, Argentina	Gonzalo Alvarez Centro Atómico Bariloche, Argentina	“Quantum Sensors”
09:30 - 10:00		Norbert Schuch MPI of Quantum Optics, Germany	“Entanglement and topological order: A quantum information perspective”
10:00 - 10:30		Cecilia Cormick Facultad de Matemática, Astronomía y Física, Argentina	“Ion chains in optical cavities”
10:30 - 11:00		Coffee break	
11:00 - 11:30	QUANTUM OPTICS AND PHOTONIC SCIENCES Chair - Gabriela Capelutto UBA, Argentina	Cristian Schmiegelow Instituto de Física de Buenos Aires , Argentina	“Violation of atomic selection rules with structured light beams”
11:30 - 12:00		Vahid Sandoghdar MPI for the Science of Light, Germany	“Cryogenic Spectroscopy and Microscopy of Single Molecules: From Quantum Circuits to Structure Biology”
12:00 - 12:30		David Novoa MPI for the Science of Light, Germany	“Manipulating light with gas and glass”
12:30 - 14:00	Lunch break		
14:00 - 14:30	PHOTONIC SCIENCES AND NANOSYSTEMS Chair -Andrea Bragas UBA, Argentina	Fernando Stefani Centro de Investigaciones en Bionanociencias, Argentina	“Printing colloidal nanoparticles”
14:30 - 15:00		Alex Fainstein Centro Atómico Bariloche, Argentina	“Optomechanical non-linearities and wavelength conversion in semiconductor nano resonators”
15:00 - 15:30		Theo Geisel MPI for Dynamics and Self-Organization, Germany	“Wave Propagation and Caustics in Random Media: From Ballistic Electrons in Nanostructures to Tsunamis”
15:30 - 16:00		Yenny Hernandez Universidad de los Andes, Colombia	“Graphene heterostructures for energy harvesting applications”
16:00 - 16:30		Klaus von Klitzing MPI for Solid State Research, Germany	“News from quantum Hall physics”
16:30 - 17:00	Coffee break		
17:00 - 19:30	Honoris causa ceremony		
	Music ensemble Laudatio by Alejandra Tonina Laudatio by Fernando Stefani Presentation by UNSAM Rector Carlos Ruta		
	Nobel Laureate Klaus von Klitzing MPI for Solid State Research, Germany		“Max Planck and His Constant h- A New Application in 2018!”
	Wine and music		

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09:00 - 09:30	QUANTUM TRANSPORT AND NANOSTRUCTURES	Chair - Ma. Florencia Ludovico UNSAM, Argentina	Cao Lewenkopf Universidade Federal do Rio de Janeiro, Brazil	“Turning graphene into a topological insulator”
09:30 - 10:00			Mikhail Kiselev International Centre for Theoretical Physics, Italy	“Landau - Zener interferometry in multilevel systems”
10:00 - 10:30			Stuart Parkin MPI of Microstructure Physics, Germany	“Beyond charge currents: spin and ion currents for future computing technologies”
10:30 - 11:00			Coffee break	
11:00 - 11:30	QUANTUM TRANSPORT AND NANOSTRUCTURES	Chair - Claudio Gazza IFIR, Argentina	Armando Aligia Centro Atómico Bariloche, Argentina	“Many-body dynamics of the decay of excitons of different charges in a quantum dot”
11:30 - 12:00			Angel Rubio MPI for the Structure and Dynamics of Matter, Germany	“Modeling Light-Matter interaction: From Weak to Strong Coupling in QED Chemistry and Materials”
12:00 - 12:30			Liliana Arrachea Universidad Nacional de San Martín, Argentina	“Josephson current through a quantum dot attached to time-reversal topological superconducting wires”
12:30 - 14:00			Lunch break	
14:00 - 14:30	HIGH-ENERGY PHYSICS	Chair - Ezequiel Alvarez UNSAM, Argentina	Carla Göbel, Pontifícia Universidade Católica do Rio de Janeiro, Brazil	“Flavour Physics at the LHCb”
14:30 - 15:00			Wolfgang Hollik, MPI for Physics, Germany	“The indirect way to discoveries - the role of precision calculations”
15:00 - 15:30			Daniel de Florian, Universidad Nacional de San Martín, Argentina	“Higgs Physics at the LHC”
15:30 - 16:00			Closing	

[illegible]November 14th -18th, Buenos Aires

Scientific Committee

Fermi National Accelerator Laboratory, USA

Max Planck Institute of Quantum Optics, Garching, Germany

Université Paris 6, France

University of Illinois at Urbana-Champaign, USA

Max Planck Institute for Chemical Physics of Solids, Dresden, Germany

Max Planck Institute for the Structure and Dynamics of Matter, Hamburg,
Germany

Max Planck Institute for Intelligent Systems, Stuttgart, Germany