PLENARY TALKS

Michal Lipson
Columbia University, USA
May 07

Duncan Haldane
Princeton University, USA
“Topological quantum matter, entanglement, and the second quantum revolution”
May 08

Steven Louie
University of California, Berkeley, USA
“The fascinating quantum world of two-dimensional materials: symmetry, interaction and topological effects”
May 09

Gerhard Rempe
Max Planck Institut, DEU
May 10

INVITED SPEAKERS (provisional list)

Francisco Alcaraz (IFSC-USP, BRA)
“Free parafermionic quantum chains”

Armando Aligia (CAB-CNEA, ARG)
“Effective Hamiltonians for cuprate, cobaltate and topological superconductors”

José Soares Andrade Jr (UFC, BRA)
Cid Bartolomeu de Araújo (UFPE, BRA)  
“Nonlinear wave-mixing in random lasers”

Emilio Artacho (U Cambridge, GBR)  
“New uses of SIESTA: the strongly non-equilibrium electronic processes in radiation damage”

Pierre-Louis de Assis (Unicamp, BRA)  
“Quantum dots in a vibrating photonic waveguide: a hybrid optomechanical system”

Vanderlei Bagnato (USP, BRA)  
“Optics with matter waves: disorder and speckle fields”  
“Research and innovation in biophotonics: from cancer treatment to microbial control”

Márcia Barbosa (UFRGS, BRA)  
“Water: from the ice age to the nanotechnology”

Maria José Valenzuela Bell (UFJF, BRA)

Márcio Bettega (UFPR, BRA)  
“All that stuff in electron and positron collisions with molecules: shape resonances, bound states and Ramsauer-Townsend minimum”

Georges Boudebs (U d’Angers, FRA)

Eduardo Bringa (U Nac Cuyo, ARG)

Matteo Calandra (U Paris VI, FRA)  
“Field-effect driven half-metallic multilayer graphene with rhombohedral stacking”

Andrea de Camargo (USP, BRA)*

Sergio Cannas (U Nac Córdoba, ARG)  
“Dipolar interactions and critical behavior in two dimensional ferromagnets: an avoided phase transition scenario”

Sylvio Canuto (USP, BRA)  
“Molecular photophysics in liquid environment”

Lucas Céleri (UFG, BRA)  
“Thermodynamic limits on physical processes”
Claudio Chamon (Boston U, USA)

Rafael Chaves (IIF-UFRN, BRA)*
“Quantum violation of an instrumental test”

Leonardo Civale (Los Alamos National Laboratory, USA)*

Mucio Continentino (CBPF, BRA)
“Casimir amplitudes in topological quantum phase transitions”

Mônica Cotta (Unicamp, BRA)
“Bacterial adhesion and biofilm formation: what can we learn with tools at the nanoscale?”

Evaldo Curado (CBPF, BRA)
“National Institute for Complex Systems” #

Nikolay Dokholyan (U North Carolina, USA)
“Control of cellular networks by structural disorder”

Stephen Doorn (Los Alamos National Laboratory, USA)
“Quantum emission behavior and photophysics of carbon nanotube defect states”

Solange Binotto Fagan (UNIFRA, BRA)
“Ab initio simulations of 1D and 2D nanomaterials for molecule adsorption” ❅

Roberto Mendonça Faria (IFSC-USP, BRA)*
“National Institute on Organic Electronics” #

Rodrigo Neumann Barros Ferreira (IBM Research, BRA)
“Nanotechnology for oil and gas: bridging the gap between fundamental science and industrial solutions”

Antonio Figueiredo (USP, BRA)
“National Institute on Complex Fluids: advances in the physics-biology-medicine interface” #

Jake Fontana (NRL, USA)
“Tunable plasmonic nanoantennae via directed assembly”

Adriana Fontes (UFPE, BRA)**
Raquel Giulian (UFRGS, BRA)
“Ion irradiation effects in antimonide films”

Anderson Gomes (UFPE, BRA)
“Photonics National Institute for Science and Technology”

Thiago Guerreiro (PUC-Rio, BRA)
“Table-top high-energy quantum physics”

Cecília Haddad (Hospital Sírio-Libanês, BRA)

Felix Hernandez (LNMS-IFUSP, BRA)
“Spintronics with two-dimensional electron systems”

Hans Herrmann (ETH, CHE)
“Rotating matter: the bearing state”

Risto Ilmoniemi (NBE, FIN)
“Towards electronically targeted, closed-loop transcranial magnetic stimulation: technology and first results”

Ado Jorio (UFMG, BRA)

Raman Kashyap (EPM, CAN)

Luciana Reyes Pires Kassab (Fatec-SP, BRA)
“Optical response improvement of metal-dielectric nanocomposites amplifiers based on rare earth doped germanate glasses with metallic nanoparticles”

Jorge Kohanoff (QU Belfast, GBR)
“Radiation damage of biological systems from first-principles simulations”

Belita Koiller (UFRJ, BRA)
“National Institute on Quantum Information”

Wilton de Melo Kort-Kamp (UFRJ, BRA)
“Emergent Hall physics and topological photonics in the graphene family”

Danays Kunka (Karlsruhe Inst Tech, DEU)
“Development of optical components for X-ray multimodal imaging”
Gabriel Landi (USP, BRA)
“Measures of irreversibility using quantum phase space”

Andrea Latgé (UFF, BRA)
“National Institute of Carbon Nanomaterials”#

Fernando Lázaro (PUC-Rio, BRA)
“National Institute of Surface Engineering”#

Eduardo Lee (UAM, ESP)
“Charge localization effects in hybrid superconductor-semiconductor nanostructures”

Marina Leite (U Maryland, USA)
“Functional imaging of materials for energy at the nanoscale”

Caio Lewenkopf (UFF, BRA)
“Landauer Büttiker approach in quantum thermodynamics: entropy evolution in strongly coupled systems”

Arturo Lezama (U República, URY)

Marcelo Magnasco (Rockefeller U, USA)
“Network-induced stability and topological protection in a network-of-networks model of cortex”

Hernán Makse (CUNY, USA)

Walter Margulis (Acreo-Se, SWE)
“Microstructured fibers as a tool for life-science studies”

Airton Abrahao Martin (U Brasil, BRA)
“Raman spectroscopy in cosmetic sciences”

Cristina Masoller (U Pol Catalunya, ESP)
“Identifying and characterizing complex dynamical regimes with nonlinear data analysis tools”

Fernando Metz (UFSM, BRA)*
“Large deviation approach for the eigenvalue fluctuations of sparse random matrices”

Tobias Micklitz (CBPF, BRA)
Eduardo Montenegro (UFRJ, BRA)
“Many-body fragmentation: beyond the Born-Oppenheimer and the independent electron approximations”

Jean Claude M’Peko (IFSC-USP, BRA)
“Electric field-assisted ultra-fast processing of electroceramic materials: microstructures and dielectric properties”

Jeremy Munday (U Maryland, USA)
“Tailoring Casimir forces and torques”

Robert T Murray (ICL, GBR)
“Nonlinear frequency conversion of fibre lasers – from the visible to the mid-infrared”

Wilson Ortiz (IFSC-USP, BRA)
“Controlling vortex dynamics in superconductors”

Pascoal Pagliuso (Unicamp, BRA)

Thereza Cristina Paiva (UFRJ, BRA)
“Spatial charge and spin correlations in the 2D Fermi-Hubbard model including a Zeeman field”

André Pasa (UFSC, BRA)

Ana Luiza Cardoso Pereira (Unicamp-FCA, BRA) ♦

Marcos Pimenta (UFGM, BRA)
“Intralayer and interlayer electron-phonon interactions in twisted graphene heterostructure”

Gloria Platero (ICMM-CSIC, ESP)
“Long range photo assisted transport in quantum dot arrays”

Tatiana Rappoport (UFRJ, BRA) ♦

Marcelo Bussotti Reyes (UFABC, BRA)
“Information theory, time and our brains”

Lucimara Stolz Roman (UFPR, BRA)
“Thin films of conducting polymers, carbon nanotubes and graphene oxide: their use in electronic devices”
Antonio Roque (USP-RP, BRA)
“Spontaneous activity of cortical network models”

Douglas Alves Santos (INPI-PR, BRA)
“Filing an invention as a patent application or publishing it in a scientific journal?”

Leandro Seixas (MackGraphe, BRA)
“Designing 2D materials for hydrogen production technologies”

Jim Shaffer (U Oklahoma, USA)
“Highly excited atoms as resources for quantum technologies”

Antonio José Roque da Silva (LNLS, BRA)
“Sirius: the new Brazilian synchrotron light source” ♦

Jenaina Soares (UFLA, BRA)
“Phonon signatures and interlayer coupling in two-dimensional metal monochalcogenides gallium selenide and germanium selenide” ✤

Rubem Sommer (CBPF, BRA)

Sandro Sorella (SISSA, ITA)*
“Emergent correlation effects when stretching graphene”

Rogério de Sousa (U Victoria, CAN)
“The holy grail of multiferroic physics: bringing bismuth ferrite closer to a ferromagnet-ferroelectric phase at room temperature”

Daniel A Vega (IFISUR, ARG)
“Phase transitions and topological defects in curved space”

Frank Wiekhorst (PTB, DEU)
“Magnetic particle imaging for biomedical research: current status and future perspectives”

Julia Yeomans (U Oxford, GBR)
“Dense active matter: topology in biology”

Yuanbo Zhang (Fudan U, CHN)
“Two-dimensional materials beyond graphene”