

Sunday, October 13, 2024

15:00 – 19:00 Arrival at Hotel

19:30 – 21:00 Dinner

Monday, October 14, 2024

8:15am – Bus leaves hotel

Opening and Welcome

08:45 – 09:00 Alvaro Ferraz (IIP, Natal)

09:00 – 09:15 Stefan Jorda (WEH foundation)

Session 1: Morning – Superconductors: Unconventional

09:15 – 10:00 Laura Greene (Florida, USA):

Unconventional Superconductivity overview and Planar Tunneling into Kondo Lattices

10:00 – 10:45 Ilya Eremin (Bochum, Germany):

Magnetic fluctuations, superconducting instability, and layer selectivity in bilayer nickelates under high pressure

10.45 – 11.15 **Coffee Break**

Session 2: Morning – Superconductors: Two dimensional systems

11:15 – 12:00 Yoshihiro Iwasa (Tokyo, Japan):

Density controlled BCS-BEC crossover in a 2D superconductor

12:00 – 12:45 Hermann Freire (Goias, Brazil):

Non-Fermi liquid, superconductivity and pair density wave in a doped Mott insulator: Lessons from a 2D exactly solvable model

12:45 – 14:15 **Lunch**

Session 3: Afternoon – Superfluids: Condensates of Light

14:15 – 15:00 Johann Kroha (Bonn, Germany):

Coherence and dephasing in driven-dissipative condensates of light

Session 4: Afternoon – Poster Flash Presentations

15:30 – 16:15 Plenary Poster Flash Presentations I

16:15 – 16:45 **Coffee Break**

16:45 – 17:30 Plenary Poster Flash Presentations II

17:30 – 18:00 Hotel Transportation

19:30 – 21:00 **Dinner**

Tuesday, October 15, 2024

8:30am – Bus leaves hotel

Session 5: Morning – Superfluids: Turbulence

9:00 – 9:45 Vanderlei Bagnato (São Carlos, Brazil):

Relaxation of an out-of-equilibrium closed quantum system: Experimental observations of decay of turbulence and the stages to reach equilibrium

9:45 – 10:30 Ednilson Santos (São Carlos, Brazil):

Hydrodynamic Energy Spectrum from Wave Turbulence

10:30 – 11:00 **Coffee Break**

Session 6: Morning – Superconductors and Superfluids: Fermi surfaces and topology

11:00 – 11:45 Carsten Timm (Dresden, Germany):

Superconductors with Fermi surfaces

11:45 – 12:30 Vivian França (São Paulo, Brazil):

Topological phases in one-dimensional superfluid Hubbard chains probed by entanglement measures

12:30 – 14:00 **Lunch**

Session 7: Afternoon – Superfluids: Bosons and Fermions

14:00 – 14:45 Arnaldo Gammal (São Paulo, Brazil):

Stability of Bose-condensed mixtures in a shell trap and Faraday waves induced by a Rabi coupling

14:45 – 15:15 Giacomo Roati (Florence, Italy):

Shapiro steps in strongly interacting Fermi gas

15:15 – 15:45 **Coffee Break**

Section 8: Afternoon – Posters

15:45 – 17:15 Poster Session I

17:30 – 18:00 Hotel Transportation

19:30 – 21:00 **Dinner**

Wednesday, October 16, 2024

8:30am – Bus leaves hotel

Session 9: Morning – Superconductors: Iron Selenide and Twisted Bilayers

09:00 – 09:45 Yuji Matsuda (Kyoto, Japan):

Exploring the BCS-BEC Crossover Regime in FeSe-based superconductors

09:45 – 10:30 Rafael Fernandes (Illinois, USA):

A critical nematic phase with pseudogap-like behavior in twisted bilayers

10:30 – 11:00 **Coffee Break**

Session 10: Morning – Superfluids: Vortex Dynamics and Hubbard Model

11:00 – 11:45 Kali E. Wilson (Stratchclyde, UK):

Vortex Dynamics in Binary Superfluids

11:45 – 12:30 Thereza Paiva (Rio de Janeiro, Brazil):

Attractive Hubbard model: recent advances

12:30 – 14:00 **Lunch**

14:00 – 18:00 **Excursion**

19:00 – 22:00 **Conference Dinner**

Thursday, October 17, 2024

8:30am – Bus leaves hotel

Session 11: Morning – Superconductors: New Materials and Quantum Phases

9:00 – 9:45 Rossitza Pentcheva (Duisburg-Essen, Germany):

Interface- and defect-induced quantum phases in nickelate thin films and superlattices

9:45 – 10:30 Stevan Nadj-Perge (Pasadena, USA):

Imaging strongly correlated and superconducting phases in twisted trilayer graphene

10:30 – 11:00 **Coffee Break**

Session 12: Morning – Superconductors: Chains

11:00 – 11:45 Flavia Ramos (Kaiserslautern, Germany):

Nonlinear effects on charge fractionalization in critical chains

11:45 – 12:30 Mucio Continentino (Rio de Janeiro, Brazil):

Interplay between topology and interactions in superconducting chains

12:30 – 14:00 **Lunch**

Session 13: Afternoon – Superfluids: Phase Transitions

14:00 – 14:45 Gabriele Ferrari (Trento, Italy):

False vacuum decay via bubble formation in ferromagnetic superfluids

14:45 – 15:15 Krissia Zawadzki (São Carlos, Brazil):

Optimal work storage across the fermionic superfluid-insulator transition

15:15 – 15:45 **Coffee Break**

Session 14: Afternoon – Posters

15:45 – 17:15 Poster Session II

17:30 – 18:00 Hotel Transportation

19:30 – 21:00 **Dinner**

Friday, October 18, 2024

8:30am – Bus leaves hotel

Session 15: Morning – Superconductors: Cuprates

9:00 – 9:45 Neil Harrison (Los Alamos, USA):

Small Pockets and the Origin of the Low Superfluid Density in the Underdoped Cuprates

9:45 – 10:30 Eduardo Marino (Rio de Janeiro, Brazil):

A Successful Theory for High-Tc Superconductivity in Cuprates

10:30 – 11:00 **Coffee Break**

Session 12: Morning – Superfluids: Fermions

11:00 – 11:45 Artur Widera (Kaiserslautern, Germany):

Superfluids along the BEC-BCS crossover in time-controlled disorder

11:45 – 12:30 Jacques Tempere (Antwerp, Belgium)

Collective excitations and vortices in Fermi superfluids

12:30 – 14:00 **Lunch**

Session 14: Afternoon – Superfluids: Supersolids

14:00 – 14:45 Ralf Klemt (Stuttgart, Germany):

Sound and amplitude modes in trapped dipolar supersolids

14:45 – 15:15 Tobias Grass (Bilbao, Spain):

Lattice bosons with non-local interactions: From Bose metals to supersolids and string-ordered phases of matter

15:15 – 15:45 **Coffee Break**

15:45 – 16:15 Concluding Remarks – Poster Prizes

16:30 – 17:00 Hotel Transportation

19:30 – 21:00 **Dinner**