

Monday, 21 October

8:30 – 9:00 Registration

9:00 – 9:05 Welcome

9:05 – 9:40 Invited: Immanuel Bloch
Title: Quantum matter under the microscope

9:40 – 10:00 Contributed: Rukmani Bai
Title: Quantum Hall states in the 2D square optical lattices

10:00 – 10:35 Invited: Andrew Daley
Title: Dissipation, correlation spreading, and scrambling in sparse spin models with cold atoms

10:35 – 10:55 Coffee break

10:55 – 11:15 Contributed: Pranay Patil
Title: Hilbert space fragmentation and Ashkin Teller criticality in fluctuation coupled Ising models

11:15 – 11:50 Invited: Hannes Pichler
Title: From many-body physics to quantum information with Rydberg atoms

11:50 – 12:10 Contributed: Sebastian Weber
Title: Quantum simulation with Rydberg atoms

12:10 – 12:45 Invited: Tilman Pfau
Title: A supersolid phase of dipolar atoms

12:45 Lunch break

15:00 – 16:00 Invited Colloquium: Tilman Esslinger
Title: Twisted by dissipation

16:00 – 16:20 Contributed: Carlos A. R. Sá de Melo
Title: Supersolid, superfluid, Wigner crystal, and hexatic phases of dipolar bosons

16:20 – 16:40 Contributed: Jan Kumlin

Title: Emergent universal dynamics for an atomic cloud coupled to an optical waveguide

16.40 – 17:00 Coffee break

17:00 – 17:35 Invited: Antoine Browaeys

Title: Many-body physics with arrays of individual Rydberg atoms

17:35 – 17:55 Contributed: Izabella Lovas

Title: Quantized corner charges in the two-dimensional super-lattice Bose-Hubbard model

Tuesday, 22 October

9:00 – 9:35 Invited: Andrea De Luca

Title: Eigenvalue correlations, chaos and localization in many-body quantum systems

9:35 – 10:10 Invited: Achim Rosch

Title: Activating exotic conservation laws in driven systems: from integrability to many-body localization

10:10 – 10:30 Contributed: Zala Lenarcic

Title: Critical behavior near the many-body localization transition in driven open systems

10:30 – 10:50 Coffee break

10:50 – 11:25 Invited: Vladimir Gritsev,

Title: Integrability for dynamics, disorder and topology

11:25 – 11:45 Contributed: Elmer V. H. Doggen

Title: Many-body delocalization in large systems

11:45 – 12:05 Contributed: Takaaki Monnai

Title: Relaxation to Gaussian generalized Gibbs ensembles in quadratic bosonic systems in the thermodynamic limit

12:05 – 12:25 Contributed: Lucas Sá

Title: Complex spacing ratios: a signature of dissipative quantum chaos

12:25 – 12:45 Contributed: Rachel Wortis

Title: Charge and spin-specific local integrals of motion in a disordered Hubbard model

12:45 Lunch break

15:00 – 16:00 Invited Colloquium: João C. R. Magueijo

Title: Gravity waves and the quantum nature of gravity

16:00 – 16:35 Invited: Anders W. Sandvik

Title: Scaling and diabatic effects in quantum annealing

16:35 – 16:55 Coffee break

16:55 – Poster presentations (2 minutes each) and poster session

Wednesday, 23 October

9:00 – 9:35 Invited: Anushya Chandran

Title: Topological classes of quantum dynamics in quasi-periodically driven systems

9:35 – 10:10 Invited: Adam Nahum

Title: Universal structures in many-body dynamics from random circuits

10:10 – 10:30 Contributed: Dries Sels

Title: Quantum approximate Bayesian computation for NMR model inference

10:30 – 10:50 Coffee break

10:50 – 11:25 Invited: Aharon Kapitulnik

Title: Thermalization and possible signatures of quantum chaos in complex crystalline materials

11:25 – 11:45 Contributed: Eliska Greplova

Title: Hamiltonian learning for quantum error correction

11:45 – 12:20 Invited: David K. Campbell

Title: Approaching equilibrium in classical and quantum systems: The dynamical glass phase

12:20 – 12:55 Invited: Pedro Schlottmann

Title: Theory of electron spin resonance in heavy fermion compounds

12:55 Lunch break

15:00 Social Program

19:30 Banquet in room 129 of the University of Évora *Espírito Santo* College (XVI Century University Dining Hall)

Thursday, 24 October

9:15 – 9:50 Invited: Juan P. Garrahan

Title: Kinetic constraints and their relevance to quantum dynamics

9:50 – 10:10 Contributed: Garnett W. Bryant

Title: Atom-based solid-state quantum simulations: a quantum lab on a chip

10:10 – 10:45 Invited: Roderich Moessner

Title: Dynamics of more or less exotic magnets

10:45 – 11:05 Coffee break

11:05 – 11:40 Invited: Romain Vasseur

Title: Anomalous transport and hydrodynamics in quantum spin chain

11:40 – 12:00 Contributed: Lenart Zadnik

Title: Inhomogeneous matrix product ansatz and exact steady states of boundary driven spin chains at large dissipation

12:00 – 12:20 Contributed: Shintaro Takayoshi

Title: High-harmonic generation in quantum spin systems

12:20 – 12:40 Contributed: Marko Ljubotina

Title: Spin transport in a discrete-time Heisenberg model

12:40 Lunch break

15:00 – 16:00 Invited Colloquium: Ehud Altman

Title: Theory of entanglement transitions and natural error correction in quantum systems with measurements

16:00 – 16:35 Invited: Marcos Rigol

Title: Entanglement entropy of highly excited eigenstates of many-body lattice Hamiltonians

16:35 – 16:55 Contributed: Tiago Mendes-Santos

Title: Measuring entanglement in many-body systems via thermodynamics

16:55 – 17:15 Coffee break

17:15 – Poster presentations (2 minutes each) and poster session

Friday, 25 October

9:00 – 9:35 Invited: Ryo Shimano

Title: Higgs spectroscopy of unconventional superconductors

9:35 – 9:55 Contributed: Miguel M. Oliveira

Title: Classical and quantum liquids induced by quantum fluctuations

9:55 – 10:15 Contributed: Tharnier O. Puel

Title: Mixed-order symmetry-breaking quantum phase transition far from equilibrium

10:15 – 10:35 Contributed: Anne E. B. Nielsen

Title: Quasiparticles as detector of topological quantum phase transitions

10:35 – 10:55 Coffee break

10:55 – 11:30 Invited: Henrik Johannesson

Title: Topological multicriticality of spin-orbit coupled electrons in one dimension

11:30 – 11:50 Contributed: Ivan Kukuljan

Title: Violation of horizon by topological quantum excitations

11:50 – 12:10 Contributed: Miguel Gonçalves

Title: Disorder driven multifractality transition in Weyl nodal loops

12:10 – 12:40 Summary and closing remarks: Daniel Arovas