### Thursday 26/7

|               | Speaker     | Talk  |
|---------------|-------------|---|
| 09:00 - 09:45 | Paternostro | Irreversible entropy production in non-equilibrium quantum processes  |
| 09:45 - 10:30 | Campisi     | Quantum Measurement Cooling   |
| 10:30 - 11:00 |             | Coffee Break  |
| 11:00 - 11:45 | Metzler     | Anomalous Diffusion in Membranes and Cytoplasm of biological cells  |
| 11:45 – 12:20 | Hilfer      | Anomalous Bochner-Levy-Riesz Diffusion  |
| 12:20 - 12:55 | Radons      | Anti-Persistent Random Walks and Anomalous Deterministic Diffusion of Dissipative Solitons                                |
| 12:55 - 14:30 |             | Lunch   |
| 14:30 - 15:15 | Saveliev    | Modelling diffusive memristors for emulation neural dynamics and neuromorphic computer applications                       |
| 15:15 - 15:50 | Rohwer      | Non-equilibrium forces following temperature quenches in classical fluids: the role of fluctuations and conservation laws |
| 15:50 - 16:25 | Politi      | One dimensional phase ordering with long-range interactions   |
| 16:25 - 16:55 |             | Coffee Break  |
| 16:55 – 17:40 | Rubi        | How environmental fluctuations affect the population behavior?  |
| 17:40 - 18:00 | Fiasconaro  | Modelling the DNA/RNA G-quadruplex mechanical unfolding   |
| 18:00 - 18:20 | Kabakcioglu | Role of helicity in DNA hairpin folding dynamics  |
| 18:20 - 18:40 | Maynar      | Understanding confined systems with kinetic theory  |
| 18:40 - 19:00 | Rogers      | Maximum Entropy Closure for Nonequilibrium Statistical Mechanics  |
| 19:00 - 19:45 |             | Project Multistability Round Table  |

# Friday 27/7 Talk

|               | Speaker | Talk  |
|---------------|---------|---|
| 09:00 - 09:45 | Ruffo   | Statistical physics of the Kuramoto model                                     |
| 09:45 - 10:30 | Ritort  | Q-stat thermodynamics: a new perspective on nonequilibrium phenomena          |
| 10:30 - 11:00 |         | Coffee Break  |
| 11:00 - 11:45 | Fazio   | Boundary time crystals  |
| 11:45 – 12:30 | Lanzara | Switching quantum materials properties with light                             |
| 12:30 - 13:05 | Falci   | Probing Ultrastrong Coupling by Coherent Amplification of Population Transfer |
| 13:05 - 14:30 |         | Lunch   |
| 14:30 - 15:15 | Marino  | Orthogonality Catastrophe from dissipative impurities?                        |
| 15:15 - 16:00 | Pekola  | Superconducting qubits as quantum refrigerators and heat switches             |
| 16:00 - 16:30 |         | Poster Session 1 <sup>st</sup> Oral   |
| 16:30 - 17:00 |         | Coffee Break  |
| 17:00 - 17:40 |         | Poster Session 2 <sup>nd</sup> Oral   |
| 17:40 - 19:30 |         | Poster Session 3 <sup>rd</sup> Discussion                                     |
|               |         |   |

### Saturday 28/7

|               | Speaker | Talk  |
|---------------|---------|---|
| 09:00 - 09:45 | Livi    | Heat transport in low dimensions                                    |
| 09:45 - 10:30 | Seifert | Stochastic thermodynamics: From principles to the cost of precision |
| 10:30 - 11:00 |         | Coffee Break  |
| 11:00 - 11:35 | Cuccoli | Dynamics of Hybrid Quantum Systems                                  |
| 11:35 – 11:55 | Settino | Dynamical properties of impenetrable bosons in optical lattices.    |

# Sunday 29/7

|               | Speaker      | Talk   |
|---------------|--------------|--|
| 09:00 - 09:45 | Vishveshwara | Quantum quench dynamics in topological systems   |
| 09:45 - 10:30 | Kastner      | Speed limits in classical and quantum lattice models   |
| 10:30 - 11:00 |              | Coffee Break   |
| 11:00 - 11:45 | Marinari     | The power spectrum for Fractional Brownian Motion: much information from few time trajectories.                    |
| 11:45 – 12:20 | Barkai       | Quantum first detection problem  |
| 12:20 - 12:55 | Corberi      | Development of a large fluctuation in a statistical system.  |
| 12:55 - 14:30 |              | Lunch  |
| 14:30 - 15:10 | Carollo      | Uhlmann curvature in dissipative phase transitions   |
| 15:10 - 15:50 | Braggio      | Majorana states in hybrid 2D Josephson junctions with ferromagnetic insulators                                     |
| 15:50 - 16:30 | Magazzù      | The driven spin-boson dynamics in a superconducting quantum circuit and the onset of resonant activation in the    |
|               |              | spin-boson model at strong dissipation   |
| 16:25 - 16:55 |              | Coffee Break   |
| 17:00 - 17:20 | Leonforte    | Topological properties of fermionic systems at finite temperature  |
| 17:20 - 17:40 | Корес        | Quantum glass of interacting bosons with off-diagonal disorder   |
| 17:40 - 18:00 | Bascone      | Kitaev's honeycomb model at finite temperature: topological properties   |
| 18:00 - 18:20 | Mathey       | Fluctuation Induced First Order Phase Transitions in Open Floquet Systems  |
| 18:20 - 16:55 | Paladino     | 1/f critical current noise in short ballistic graphene Josephson junctions   |
| 16:55 – 19:15 | Dell'Anna    | Supercritical entanglement, violation of cluster decomposition and anomalous dynamics in local quantum spin chains |

### Monday 30/7

|               | Speaker      | Talk   |
|---------------|--------------|--|
| 09:00 - 09:45 | Gambassi     | Dynamical transitions, universality, and chaos in prethermal states  |
| 09:45 - 10:30 | Silva        | Quantum many-body Kapitza phases of periodically driven spin systems   |
| 10:30 - 11:00 |              | Coffee Break   |
| 11:00 - 11:35 | Lo Gullo     | A self-consistent non-equilibrium Green's functions approach to interacting many-body quantum systems          |
| 11:35 - 12:10 | Jussiau      | Abrupt change in thermoelectric transport due to a quantum dot's bound state                                   |
| 12:10 - 12:45 | Ciccarello   | Collision Models in Quantum Thermodynamics   |
| 12:45 - 13:05 | Novotný      | Analytical calculation of phase bistability switching rates in dissipative Jaynes-Cummings model               |
| 13:05 - 14:30 |              | Lunch  |
| 14:30 - 15:00 | Spiechowicz  | Quantum law for equipartition of energy  |
| 15:00- 15:20  | Hovhannisyan | Autonomous thermal rotor in the quantum regime   |
| 15:20 - 15:40 | На           | Role of Localized Defect in 1D Driven Diffusive Flow   |
| 15:40 - 16:00 | lubini       | Coupled transport phenomena in chains of oscillators   |
| 16:00 - 16:30 | Mulugeta     | A spin-half system as a working substance of a heat engine: exploring its finite-time thermodynamic quantities |
| 16:30 - 17:00 |              | Coffee Break   |
| 17:00 - 17:35 | Grassberger  | Self-trapping self-repelling random walks  |
| 17:35 - 18:10 | Guarcello    | Soliton-based coherent caloritronics in long Josephson tunnel junctions  |
| 18:00 - 19:30 |              | Closing Remarks Free Discussion  |



Out of Equilibrium Anomalous Diffusion Out of Equilibrium Classical Systems Out of Equilibrium Quantum Systems

### **Poster Session**

Posters will be exposed in the hall from Friday 08:30 to Friday 19:30 Poster discussion will be held in Friday from 17:40 – 19:30. Poster session will be preceded by a brief oral presentation, 3 slides in 3 minutes, in which each participant will briefly show the focus and the main results of his poster, inviting listeners to view his poster.

| Charalambous | Two distinguishable impurities in BEC: squeezing and entanglement of two Bose polarons                         |
|--------------|--|
| Dima         | A spin-half system as a working substance of a heat engine: exploring its finite-time thermodynamic quantities |
| García       | Enskog equation for confined systems   |
| Hasegawa     | Quantized pumping via a single-level quantum dot in coherent transport region                                  |
| Jo           | Non-equilibrium phase transitions in dissipative open quantum system with long-range interaction               |
| Jung         | Expansion dynamics of a self-avoiding chain under cylindrical confinement                                      |
| Kharcheva    | Time and probability characteristics of steady-state Lévy flights in bistable potential                        |
| Klyuev       | Relation of macroscopic parameters fluctuations with microscopic dynamics of magnetic monopoles in spin ice    |
| Koriazhkina  | Statistical analysis of memristor response to complex electric activity  |
| Mitsokapas   | Peak-End Memory: An Extension to Asymmetric Choices  |
| Piccitto     | Out of equilibrium long range interacting Ising chain: a cluster meanfield approach.                           |
| Puglia       | Phase-Coherent Thermal Router  |
| Razzitte     | Entropy in multifractal non equilibrium structures of dielectric breakdown                                     |
| Rubtsov      | The creation of an interdisciplinary laboratory of stochastic multistable systems in the UNN                   |
| Ryabov       | Diffusing up the hill: Dynamics and equipartition in highly unstable systems                                   |
| Safonov      | Relaxation times of steady-state concentration of diffusing particles in memristive systems                    |
| Sliusarenko  | Model for Anomalous Diffusion with Finite Moments in Complex Medium  |
| Spiechowicz  | Subdiffusion via dynamical localization induced by thermal equilibrium fluctuations                            |
| Suñé         | Efficiency fluctuations in cyclic machines   |
| Timchenko    | Atomic Motion in Out-of-Equilibrium Radiation  |
| Yamamoto     | Heat transport in a two-state system coupled with bosonic reservoirs   |