Long-Range Interactions and Dynamics in Complex Quantum Systems (satellite meeting of Statphys29)

Wednesday 23 July 2025 - Friday 25 July 2025

Albano Building 3

Scientific Programme

23 July

14:30 Registration and Opening remarks
15:00 Campa *First-order and second-order phase transitions in a quantum Nagle-Kardar model*
15:45 Bardarson *Ultraslow growth of number entropy in an l-bit model of many-body localization*
16.30-17:00 Coffee break
17:00-17:30 Arrufat *Ensemble inequivalence in long-range Quantum spin systems*

24 July

9:00-9:45 Gorshkov *Time-independence does not limit information flow*
9:45-10.30 Mukerjee *Transitions in the non-Hermitian kicked rotor*
10:30-11:00 Coffee break
11:00-11.45 Santos *Dynamical manifestations of many-body quantum chaos and the benefits of opening the system*
11:45-12:15 Novotny *Zeros of the complex field: Fidelity at different time scales*
12:15-12:45 Vivek G *Strongly-coupled cavity lattices*

13:00-15:00 Lunch

15:00-15:45 Saito *Energy diffusion in the long-range interacting spin systems*
15:45-16.30 Kulkarni *Anomalous transport in long-ranged open quantum systems*
16.30-17:00 Coffee break
17:00-17:30 Kaur *Julia sets in quantum evolution: A complex dynamics approach to dynamical quantum phase transitions*

25 July

9:00-9:45 Rey *More than two can dance: Twisting, double-twisting and binding in an optical cavity*
9:45-10.30 Piccitto *The real Ising quantum Otto engine*
10:30-11:00 Coffee break
11:00-11.45 Defenu *The long-range origin of the black hole entropy*
11:45-12:15 Manju C *Disordering a permutation symmetric system: revivals, thermalisation and chaos*

13:00-15:00 Lunch

15:00-15:45 Sengupta *Aspects of Floquet physics in closed quantum systems*
15:45-16:30 Artiaco *Local-information time evolution*
16.30-17:00 Coffee break
17:00-17:30 Pagni *Critical aging and relaxation dynamics in long-range systems*
17:30 Concluding remarks