# Complex Quatum Systems Dyanmics 2017 - Program

| Lunes | | Martes | | Miércoles | Jueves | Viernes | |
|---|---|---|---|---|---|---|---|
| 8:30 - 9:00 | Registration | 09:00 - 09:40 | Leonardo Fallani<br>Engineering new quantum systems with ultracold two-electron atoms | Stephen Clark<br>Enhanced pairing in a periodically driven Hubbard model | Tobias Schaetz<br>Time-resolved observation of thermalization in an isolated quantum system | 09:00 - 09:40 | Artur Ekert |
| 9:00 - 9:15 | Inauguration | | | | | | |
| 9:15 - 9:55 | Jörg Schmiedmayer<br>Recurrence of coherence in a many body quantum system | 09:40 - 10:20 | Jorge Casanova<br>Quantum control in diamond devices | Lea F. Santos<br>Powerlaw Decays and Thermalization in Isolated Many-Body Quantum Systems | Alex Retzker<br>Classical memory assisted correlation spectroscopy of quantum signals | 09:40 - 10:20 | Ivette Fuentes |
| 9:55 - 10:35 | Juan José García Ripoll<br>Ultrastrong light-matter interaction | 10:20 - 11:00 | Pietro Silvi<br>Simulating lattice gauge theories with Tensor Networks: from non-Abelian 1D to Abelian 2D | Miguel Ángel García March<br>Classical and quantum kinetic Ising models for nonergodic subdiffussion in Complex Media | David von Lindenfels<br>Free-programmable quantum computing in a segmented ion trap and experimental demonstration of a heat engine in the quantum regime | 10:20 - 11:00 | Antonio Urbina<br>Dynamics of poly-alkyl-thiophene conjugated polymers studied by neutron scattering experiments |
| 10:35 - 11:15 | Rosario Fazio<br>Signatures of many-body localisation in the dynamics of two-site entanglement | 11:00 - 11:40 | Coffee break | Coffee break | Coffee break | 11:00 - 11:40 | Coffee break |
| 11:15 - 11:55 | Coffee Break | 11:40 - 12:20 | Animesh Datta<br>Nonadaptive fault-tolerant verification of quantum supremacy with noise | Manuel Calixto<br>Topological Insulators and Characterization of their Phases | Gerard Higgins / Myung-Joong Hwang<br>Coherent control of a single trapped Rydberg ion / Finite-system phase transitions: theory and proposed Ion-trap experiment | 11:40 - 12:20 | Manuel Pino / Krzysztof Jachymski<br>Non-ergodic and insulating phases of Josephson Junctions Arrays / Quantum sensing with cold atoms trapped in tubes |
| 11:55 - 12:35 | Valentina Parigi<br>Simulation of complex quantum networks with quantum multimode resources based on optical frequency combs | 12:20 - 13:00 | Simone Felicetti / Eduardo Mascarenhas<br>Superradiant phase transition in the ultrastrong coupling regime of the two-photon Dicke model / Transport in boundary driven chains | Ameneh Sheikhan Soudani<br>Cavity-induced generation of non-trivial topological states in a two-dimensional Fermi gas | Iannis Kominis<br>Quantum Biology, the new Synthesis | 12:20 - 13:00 | Geza Toth<br>How long does it take to obtain a physical density matrix? |
| 12:35 - 13:15 | Pablo Arrighi<br>Quantum Causal Graph Dynamics | 13:00 - 15:30 | Lunch | Lunch | Lunch | 13:00 - 13:40 | Gonzalo Muga<br>Energy consumption in shortcuts to adiabaticity |
| 13:15 - 15:30 | Lunch | 15:30 - 16:10 | Marcello Dalmonte<br>Dynamics of lattice gauge theories: string breaking and many-body localization | Luis Correa<br>High-precision low-temperature quantum thermometry | Niek van Hulst<br>Tracking Dynamics of Individual Quantum Systems | 13:40 - 16:10 | Lunch |
| 15:30 - 16:10 | Benjamin Yadin / Aurelia Chenu<br>Quantum processes which do not use coherence / Structure-spectra relationship in multi-chromophoric complexes and a scheme for simulation of many-body decoherence. | 16:10 - 16:50 | Erez Zohar<br>Gauge Theories with Cold Atoms and Tensor Networks | Mark Mitchison / Victor Mukherjee<br>Non-additive and non-Markovian noise induced by two unstructured reservoirs / Speed limits of heat engines based on quantum systems | Alex Chin<br>Multidimensional open quantum dynamics in a novel singlet fission system | | |
| 16:10 - 16:50 | Miguel Ortuño<br>Many-body localization from the perspective of integrals of motions | 16:50 - 17:30 | Coffee Break | Coffee Break | Coffee Break | | |
| 16:50 - 17:30 | Coffee Break | 17:30 - 18:10 | Tommaso Calarco<br>Quantum Technologies and Quantum Control | Ángel Rivas<br>Topological Heat Transport in Open Quantum Systems | Brendon Lovett<br>Quantum decoherence in coupled systems can lead to quantum enhanced solar energy harvesting devices | | |
| 17:30 - 18:10 | Francisco García Vidal<br>Modification of Material Properties and Molecular Structure driven by QED phenomena | 18:30 - 20:30 | Boat trip | Raam Uzdin (18:10h - 18:50)<br>Additional thermodynamic second laws at the microscopic scale | Poster session | | |
| 18:10 - 18:50 | Germán J. de Valcárcel<br>Squeezing optical frequency combs via cavity optomechanics | 20:30 | | Conference dinner (20:30h) | | | |
| 18:50 - 19:30 | Santiago Oviedo / Matthias Müller<br>Magnetic field enhancement of organic photovoltaic cells performance / Quantum Sensing via Dynamical Decoupling and Stochastic Quantum Zeno Effect | | | | | | |