

List of presentations for the
International Workshop on Cold Gases in Quantum Information,
UPV/EHU Leioa, Spain, 30 June – 1 July, 2015

Schedule

Tuesday, 30 June

09:00-10:00 Welcome

10:00-10:45 John Calsamiglia (GIQ-Universitat Autònoma de Barcelona)
When occasional answers become ultra-precise

10:45-11:30 János Asbóth (Wigner, Budapest)
Impossible spectra and quantum walks

11:30-11:50 Break

11:50-12:10 Iagoba Apellaniz (UPV/EHU, Bilbao)
Verifying the metrological usefulness of Dicke states with collective measurements

12:10-12:30 Urtzi Las Heras (UPV/EHU, Bilbao)
Digital Quantum Simulations with Superconducting Circuits

12:30-12:50 Péter Sinkovicz (Wigner, Budapest)
Four-flavor Heisenberg model on a fcc lattice

13:00-15:00 Lunch

15:00-15:45 Gergely Szirmai (Wigner, Budapest)
Tunneling dynamics of bosonic Josephson junctions assisted by a cavity field

15:45-16:30 Luca Tagliacozzo (ICFO, Barcelona)
Classical and quantum simulations of Lattice gauge theories

16:30-16:50 Break

16:50-17:35 Iñigo L. Egusquiza (UPV/EHU, Bilbao)
Beyond adiabatic elimination

17:35-18:20 Michele Modugno (UPV/EHU, Bilbao)
Simulating condensed matter with ultracold atoms: the Haldane model and the Peierls substitution

Wednesday, 1 July

10:00-10:45 Edina Szirmai (Wigner, Budapest)
Exotic superfluid states in one-dimensional high spin ultracold atomic systems

10:45-11:30 Tobias Grass (ICFO, Barcelona)
Atomic quantum Hall solver

11:30-11:50 Break

11:50-12:35 Prasanna Venkatesh (IQOQI, Innsbruck,
Back-action driven transport of Bloch oscillating atoms in ring cavities

12:35-12:55 Giuseppe Vitagliano (UPV/EHU, Bilbao)
Generalized spin squeezing in the vicinity of Dicke states

13:00-15:00 Lunch

15:00-15:45 Gonzalo Muga (UPV/EHU, Bilbao)
Shortcuts in a double well

15:45-16:30 Dominique Spehner (Institut Fourier and LPMMC, Grenoble)
Effect of atom loss processes on superpositions of phase states in Bose-Josephson junctions

16:30-16:50 Break

16:50-17:35 Szilárd Szalay (Wigner, Budapest)
Partial separability and multipartite entanglement measures

17:35-18:20 Enrique Rico (UPV/EHU, Bilbao)
Non-Abelian Lattice Gauge Theories in Superconducting Circuits

18:20-19:05 Mikel Sanz (UPV/EHU, Bilbao)
Entanglement Matryoshka: Entanglement Classification with Matrix Product States

19:05-19:15 Closing