

Solvay Workshop on 'Quantum Simulation – 2021' (August 29th – 31st, 2022) PROGRAM

VENUE: Flagey – Entrance : Place Sainte-Croix, 1050 Brussels (Studio 1, Ground floor)

MONDAY 29 AUGUST

09:00 – 09:15	Registration
09:15 – 09:30	Opening - welcome speech by Marc Henneaux (Director of the SI)
09:30 – 10:15	Klaus Mølmer: <i>Monte Carlo wave functions – a never ending story</i>
10:15 – 11:00	Andrew Daley: <i>Propagation of information and errors in analogue quantum simulators</i>
11:00 – 11:30	COFFEE BREAK
11:30 – 12:15	Nigel Cooper: <i>Steady states and long-range entanglement in locally driven many-body systems</i>
12:15 – 13:00	Zoran Hadzibabic: <i>Shaken 2D Bose gases</i>
13:00 – 14:45	LUNCH BREAK
14:45 – 15:30	Sebastian Diehl: <i>Measurement induced phase transitions: from theory to observability</i>
15:30 – 16:15	Frank Pollmann: <i>Efficient classical simulation of quantum transport</i>
16:15 – 16:45	COFFEE BREAK
16:45 – 17:30	Francesca Ferlino: <i>Supersolidity and vortices in dipolar quantum gases</i>
17:30 – 18:15	Christian Roos: <i>Learning entanglement in a trapped-ion quantum simulator</i>

TUESDAY 30 AUGUST

09:15 – 10:00	Sylvain Nascimbene: <i>Realisation of an atomic Hall system in four dimensions</i>
10:00 – 10:45	Leonardo Fallani: <i>Flavour-selective localization of interacting fermions and universal Hall response in synthetic dimensions</i>
10:45 – 11:15	COFFEE BREAK
11:15 – 12:00	Julian Leonard: <i>Quantum simulation with optical lattices: avalanche thermalization and fractional quantum Hall physics</i>
12:00 – 12:45	Iacopo Carusotto: <i>Excitations and dynamics of fractional quantum Hall fluids of light and of atoms</i>
12:45 – 13:00	PHOTO
13:00 – 14:45	LUNCH BREAK

14:45 - 15:30	Martin Zwierlein: <i>Geometric squeezing and crystallization of Bosonic Quantum Hall states</i>
15:30 - 16:15	Monika Aidelsburger: <i>Simulating synthetic gauge fields with cold atoms</i>
16:15 - 16:45	COFFEE BREAK
16:45 - 17:30	Tilman Esslinger: <i>Self-oscillating and interacting topological pumps</i>
17:30 - 18:15	Leticia Tarruel: <i>Engineering a topological gauge theory in an optically coupled Bose-Einstein condensate</i>
18:15 - 18:30	Prelude to the banquet
20:00	CONFERENCE DINNER (La Quincaillerie, Rue du Page 45, 1050 Ixelles)

WEDNESDAY 31 AUGUST

10:00 - 10:30	COFFEE
10:30 - 11:15	Antoine Browaeys: <i>Many-body physics with atoms in resonant interaction</i>
11:15 - 12:00	Vladan Vuletic: <i>Quantum simulation and computation with Rydberg atoms</i>
12:00 - 13:45	LUNCH BREAK
13:45 - 14:30	Ana María Rey: <i>Tunable-spin-model generation with spin-orbit-coupled fermions in optical lattices</i>
14:30 - 15:15	Jacqueline Bloch: <i>KPZ universality in driven dissipative polariton condensates</i>
15:15 - 15:45	COFFEE BREAK
15:45 - 17:15	PANEL