

Solvay Workshop on 'Quantum Simulation' (18 to 20 February 2019)

PROGRAM

VENUE: ULB, Campus de la Plaine, Brussels Building N.O. - 5th Floor - SOLVAY ROOM

MONDAY 18 FEBRUARY

9:00	9:15	Registration
9:15	9:30	Opening by Marc Henneaux
9:30	10:15	Ignacio Cirac: <i>Quantum optics in structured baths</i>
10:15	11:00	Benoit Vermersch: <i>Probing entanglement and scrambling via random measurements</i>
11:00	11:20	COFFEE BREAK
11:20	12:05	Rainer Blatt: <i>Quantum simulation with trapped Ca⁺ Ions</i>
12:05	12:50	Christopher Monroe: <i>TBA</i>
12:50	14:35	LUNCH
14:35	15:20	Duncan Haldane: <i>TBA</i>
15:20	16:05	Steven H. Simon: <i>TBA</i>
16:05	16:50	Dam Thanh Son: <i>TBA</i>
16:50	17:10	COFFEE BREAK
17:10	17:55	Nigel R. Cooper: <i>Topological phases of matter out of equilibrium</i>
17:55	18:40	Maciej Lewenstein: <i>Quantum simulators of topological order and its detection</i>

TUESDAY 19 FEBRUARY

9:15	10:00	Immanuel Bloch: <i>Probing and Controlling Quantum Matter at the Single Atom Level</i>
10:00	10:45	Markus Greiner: <i>TBA</i>
10:45	11:05	COFFEE BREAK
11:05	11:50	Mikhael Lukin: <i>Exploring quantum dynamics with Rydberg atom arrays</i>
11:50	12:35	Antoine Browaeys: <i>Many body physics with individual Rydberg atoms</i>
12:35	12:40	Group Photo
12:40	14:20	LUNCH
14:20	15:05	Peter Brown: <i>Probing transport and spectral properties of Fermi-Hubbard systems with a quantum gas microscope</i>
15:05	15:55	Francesca Ferlaino: <i>Quantum simulation with ultracold magnetic atoms</i>
15:55	16:40	Jean Dalibard: <i>Scale invariance and breathers in a 2D quantum fluid</i>

16:40 17:00

COFFEE BREAK

17:00 17:45

Alexander Szameit: *TBA*

17:45 18:30

Jonathan Simon: *TBA*

19:45

CONFERENCE DINNER

WEDNESDAY 20 FEBRUARY

10:00 10:30

COFFEE

10:30 11:15

Christine Muschik: *Quantum simulation of problems from high energy physics*

11:15 12:00

Markus Oberthaler: *Universal time dynamics: connection between quark gluon plasma and ultracold gases*

12:00 12:45

Ian B. Spielman: *TBA*

12:45 14:30

LUNCH

14:30 15:15

Anatoli Polkovnikov: *Quantum simulations of interacting systems using phase space methods*

15:15 16:00

Norman Yao: *TBA*

16:00 16:20

COFFEE BREAK

16:20 17:05

Lieven Vandersypen: *Simulating magnetism using semiconductor quantum dot arrays*

17:05 17:50

Jacqueline Bloch: *Toward many body physics with light in arrays of semiconductor cavities*

17:50

Concluding remarks