

BEC 2014

Quantum Gases and Quantum Coherence

May 28 - 31, 2014

Wednesday May 28th

Matter waves

Chair: Isabelle Bouchule		
<i>Senior Lecturer</i>		
15.30	Alice Sinatra	<i>Spin squeezing, phase dynamics and coherence time in cold degenerate gases</i>
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<i>Junior Speakers</i>		
16.30	Lauriane Chomaz	<i>Emergence of coherence in a 2D uniform Bose gas</i>
17.00	Jan Chwedenczuk	<i>Cauchy-Schwarz inequality and particle entanglement</i>
17.30	Coffee break	
18.00	Wolfgang Muessel	<i>Scalable generation, verification and application of entanglement in Bose-Einstein condensates</i>
18.30	Marie Piraud	<i>Anderson localization of matter waves in 3D anisotropic disordered potentials</i>
19.30	Dinner	

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Thursday May 29th

Strongly correlated atomic systems

Chair: Tommaso Roscilde		
<i>Senior Lecturer</i>		
9.00	Immanuel Bloch	<i>From Topological Bloch Bands to Long Range Interacting Rydberg Atoms</i>
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<i>Junior Speakers</i>		
10.00	Michael Knap	<i>Interferometric probes of strongly-correlated quantum matter</i>
10.30	Nir Navon	<i>Thermodynamics and dynamics of Bose condensation in a quasi-homogeneous gas</i>
11.00	Coffee break	
11.30	Luca Tagliacozzo	<i>Physics of long range Ising model</i>
12.00	Christian Trefzger	<i>Complex energy for a moving polaron in a Fermi sea: Singularities in the weakly attractive limit</i>

13.00 **Lunch**

Artificial gauges in atomic systems

Chair: Sandro Stringari

Senior Lecturer

14.30 **Nigel Cooper** *Artificial Gauge Fields for Cold Atoms*

Junior Speakers

15.30 Monika Aidelsburger *Artificial gauge fields with ultracold atoms using laser-assisted tunneling*

16.00 Giovanni Italo Martone *Static and dynamic properties of spin-orbit-coupled Bose gases*

16.30 **Coffee break**

17.00 Enrique Rico Ortega *Atomic Quantum Simulation of dynamical lattice gauge models*

17.30 Isabelle Bouchoule *What we can learn from momentum distribution measurements of 1D Bose gases*

19.30 **Dinner**

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Friday May 30th

Quantum Simulators

Senior Lecturer

9.00 **Ferdinand
Schmidt-Kaler** *Quantum simulation with trapped ions*

Junior Speakers

10.00 Alejandro Bermudez *Spin-boson quantum simulators on the lattice*

10.30 Guido Pagano *New Quantum Simulation with Multi-component Fermi Gases*

11.00 **Coffee break**

11.30 Daniel Greif *Quantum Magnetism and the Haldane model with Ultracold Fermions in an Optical Lattice*

12.00 Christina Kraus *Probing $SU(N)$ physics in a lattice clock based on Alkaline Earth Atoms*

13.00 **Lunch**

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Poster Session

16.00	POSTER SESSION
19.30	<i>Dinner</i>
20.30	Social Evening "The Uncertainty Principle" a performance by Andrea Brunello

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Saturday May 31st

Dipolar Gases

<i>Senior Lecturer</i>		
9.00	Tilman Pfau	<i>Dipolar quantum gases</i>
<i>Junior Speakers</i>		
10.00	Kiyotaka Aikawa	<i>Dipolar quantum gases of erbium atoms</i>
10.30	Luca Barbiero	<i>Dipolar Fermions in a one dimensional optical lattice</i>
11.00	<i>Coffee break</i>	
11.30	Tommaso Macrì	<i>Quantum simulation of correlated solid phases with Rydberg atoms</i>
12.00	Natalia Matveeva	<i>Dipolar fermions in two dimensions: a quantum Monte Carlo study</i>
13.00	<i>Lunch</i>	



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