



SFB/Transregio 21

Workshop 2009

CO.CO.MAT
Common perspectives
of mesoscopic systems
and quantum gases

November, 15th – 19th, 2009
Schloss Reisenburg, Günzburg

Arrival: Sunday , November 15th (evening)
Departure: Thursday, November 19th (morning)



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Program Schedule

Monday, November 16th, 2009

07:30 – 08:30	Breakfast
08:30 – 09:00	M. Plenio (Universität Ulm) <i>"Measuring Measurement: Theory and Practice"</i>
09:00 – 09:30	A. Chin (Universität Ulm) <i>"Noise-assisted quantum transport and its role in bacterial photosynthesis"</i>
09:30 – 10:00	Coffee break
10:00 – 10:30	C. Strunk (Universität Regensburg) <i>"Superinsulation: a novel correlated state at ultralow temperatures in ultrathin TiN films?"</i>
10:30 – 11:00	J. Sankey (Yale University) <i>"Strong and Tunable Optomechanical Nonlinearities"</i>
11:00 – 11:30	D. Porras (Complutense University of Madrid) <i>"Quantum many-body physics with trapped ions "</i>
11:30 – 12:00	C. Latta (ETH Zürich) <i>"Dragging of Quantum Dot Optical Resonances by Bi-Directional Nuclear Spin Polarization"</i>
12:00 – 14:00	Lunch
14:00 – 15:00	J. Reichel (Laboratoire Kastler Brossel, Paris) <i>"Number squeezing and nondestructive single-atom detection"</i>
15:00 – 15:30	S. Scheel (Imperial College, London) <i>"Macroscopic QED and atom-surface interactions"</i>
15:30 – 16:00	P. Domokos (Hungarian Academy of Sciences, Budapest) <i>"Phase transitions of ultracold atoms in optical resonators: from the classical to quantum regime"</i>
16:00 – 16:30	Coffee break
16:30 – 18:00	Poster session
18:00 – 20:00	Dinner
20:00 – 21:00	M. Ueda (The University of Tokyo) <i>"Topological excitations in Bose-Einstein condensation"</i>

Tuesday, November 17th, 2009

07:30 – 08:30	Breakfast	
08:30 – 09:30	P. Neumann (Universität Stuttgart) <i>"Quantum non-demolition measurement of a single nuclear spin"</i>	SFB C4
09:30 – 10:00	Coffee break	
10:00 – 10:30	T. Pohl (Max-Planck-Institute for the Physics of Complex Systems, Dresden) <i>"Correlated quantum states in ultracold Rydberg gases"</i>	
10:30 – 11:00	V. Bendkowsky (Universität Stuttgart) <i>"Ultralong-range Rydberg molecules: Perspectives of a novel binding"</i>	SFB B6
11:00 – 11:30	J. Shaffer (University of Oklahoma) <i>"Exotic Bound States in Cold Cs Rydberg Gases"</i>	
11:30 – 12:00	S. Huber (Weizmann Institute of Science, Rehovot, Israel) <i>"The Landau-Zener process in an interacting multi-mode environment"</i>	
12:00 – 14:00	Lunch	
14:00 – 14:30	M. Hermele (University of Colorado) <i>"Quantum magnetism of ultracold alkaline earth fermions"</i>	
14:30 – 15:00	M. Rigol (Georgetown University, Washington, DC) <i>"Breakdown of thermalization in isolated quantum systems"</i>	
15:00 – 16:00	N. Prokofev (University of Massachusetts) <i>"Diagrammatic Monte Carlo: what happens to the sign-problem?"</i>	
16:00 – 16:30	Coffee break	
16:30 – 18:00	Poster session	
16:30 – 17:30	Meeting of principal investigators SFB/TRR 21	
18:00 – 20:00	Dinner	
20:00 – 21:00	R. Kaiser (Institut NonLineaire de Nice) <i>"Multiple Scattering of Light with Cold Atoms : from Localization to Long Range Interactions"</i>	

Wednesday, November 18th, 2009

07:30 – 08:30	Breakfast	
08:30 – 09:00	Z. Idziaszek (University of Warsaw) <i>"Theory of Ultra-Cold Atom-Ion Collisions"</i>	
09:00 – 09:30	A. Simoni (Université de Rennes 1, France) <i>"Landau Quantization Effects in Ultra-Cold Atom-Ion Collisions"</i>	
09:30 – 10:00	Coffee break	
10:00 – 10:30	T. Busch (University College Cork, Ireland) <i>"Embedding an Ion into a Strongly Correlated, Ultra-Cold Quantum Gas"</i>	
10:30 – 11:00	M. Köhl (University of Cambridge) <i>"Towards Immersing a Single Ion into a Bose-Einstein Condensate"</i>	
11:00 – 11:30	A. Härter (Universität Ulm) <i>"The BaRbI experiment: a progress report"</i>	SFB A8
11:30 – 12:00	S. Montangero (Universität Ulm) <i>"Control of Many Body Quantum Systems"</i>	SFB A7
12:00 – 14:00	Lunch	
14:00 – 14:30	P. Ivanov (Universität Ulm) <i>"New schemes for quantum information processing and simulations with trapped ions"</i>	SFB C5
14:30 – 15:00	A. Günther (Universität Tübingen) <i>"Ultracold atoms near carbon nanotubes"</i>	SFB C9
15:00 – 16:00	C. Roos (Universität Innsbruck) <i>"Quantum measurements with entangled ions"</i>	
16:00 – 16:30	Coffee break	
18:00 – 20:00	Dinner	