

# Program

## Sunday, 25 November 2012

17:00 – 21:00 Registration

from 18:30 BUFFET SUPPER / *Informal get together*

## Monday, 26 November 2012

8:00 *BREAKFAST*

8:45 – 9:00 Scientific Organizers **Welcome and introduction**

Ernst Dreisigacker **About the Wilhelm and Else Heraeus Foundation**

9:00 – 9:45 Ignacio Cirac **Self-organization structures of atoms in 1D**

9:45 – 10:30 Gerhard Rempe **Quantum networks with single-atom memories and single-photon messengers**

10:30 – 11:00 *COFFEE BREAK*

11:00 – 11:45 Jürgen Appel **QND measurements and nonclassical collective states of atomic ensembles**

11:45 – 12:30 Patrice Bertet **Storing a single microwave photon in a spin ensemble**

12:30 **Conference photo** (in front of the Physikzentrum)

12:35 *LUNCH*

# Program

**Monday, 26 November 2012**

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|---------------|---|---|
| 14:30 – 15:15 | Johannes Majer  | <b>Coupling spins and diamond color centers to superconducting cavities</b>       |
| 15:15 – 16:00 | Andreas Wallraff  | <b>Circuit quantum electrodynamics with semiconductor double quantum dots</b>     |
| 16:00 – 16:30 | <i>COFFEE BREAK</i>   |   |
| 16:30 – 17:15 | Edward Hinds  | <b>Coupled cavities and quantum emitters on a chip</b>                            |
| 17:15 – 18:00 | Oliver Benson   | <b>Applications of photonic hybrid systems based on defect centers in diamond</b> |
| 18:30         | <i>DINNER</i>   |   |
| 20:00         | <b>One minute poster flash presentations /<br/>Poster session I</b> |   |

# Program

**Tuesday, 27 November 2012**

8:00	<i>BREAKFAST</i>	
9:00 – 9:45	Darrick Chang	<b>Cavity QED with atomic mirrors</b>
9:45 – 10:30	Oskar Painter	<b>Quantum cavity-optomechanics</b>
10:30 – 11:00	<i>COFFEE BREAK</i>	
11:00 – 11:45	Peter Rabl	<b>NV-phonon interactions in diamond nanostructures</b>
11:45 – 12:30	Philipp Treutlein	<b>Hybrid atom-membrane optomechanics</b>
12:30	<i>LUNCH</i>	
14:30 – 15:15	Fabrizio Illuminati	<b>Entanglement replication at the light-matter interface in driven-dissipative many body systems</b>
15:15 – 16:00	Simon Bernon	<b>Interfacing cold atoms and superconducting microstructures</b>
	Jürgen Volz	<b>Observation of strong coupling of single atoms to a whispering-gallery-mode bottle microresonator</b>
16:00 – 16:30	<i>COFFEE BREAK</i>	
16:30 – 17:15	Mikhail Lukin	<b>Quantum interfaces via nanophotonics: From solid-states systems to ultra-cold atoms</b>
17:15 – 18:00	Tobias Kippenberg	<b>Cavity optomechanics: Exploring the coupling of light and micro- and nanomechanical oscillators</b>
18:30	<i>CONFERENCE DINNER</i>	
20:00	<b>Poster session II</b>	

*Followed by a social evening on invitation of the Wilhelm and Else Heraeus Foundation in the "Lichtenberg cellar" of the Physikzentrum*

# Program

**Wednesday, 28 November 2012**

8:00	<i>BREAKFAST</i>	
9:00 – 9:45	Michael Hartmann	<b>Nanomechanical qubits</b>
9:45 – 10:30	Andrew Briggs	<b>Hybrid spin systems</b>
10:30 – 11:00	<i>COFFEE BREAK</i>	
11:00 – 11:45	Jason Twamley	<b>Designing hybrid quantum systems: Superconducting levitated high-Q motional resonators and synthesis of multiphoton states using nitrogen vacancies in diamond</b>
11:45 – 12:30	Jörg Wrachtrup	<b>Quantum spin sensing</b>
12:30 – 12:40	Scientific Organizers	<b>Concluding remarks and poster awards</b>
12:40	<i>LUNCH and GOODBYE COFFEE</i>	

**End of the seminar and departure**