



International Workshop on  
**Engineering and Control of Quantum Systems**

October 10 -14, 2011

*Scientific coordination:*

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A prerequisite for quantum technologies is the creation of robust quantum mechanical coherence and entanglement. A major challenge that any implementation of quantum technologies has to face is that coupling to the environment leads to loss of coherence: This problem represents a serious obstacle for realizing scalable protocols. Therefore the search for strategies to combat the detrimental effects of dissipation and decoherence is at the center stage of current theoretical and experimental research and requires the development of novel concepts.

This workshop is devoted to the discussion of the challenges and perspectives for scaling control strategies up to the mesoscopic regime. It brings together scientists from the fields of physical chemistry, atomic, molecular and optical physics, and quantum information science. The objective is to highlight theoretical ideas and experimental methods tackling the current challenges. Current limitations to and future perspectives for scalable control at the quantum level will be discussed.

**List of invited speakers** (\* to be confirmed):

A. Acin (Castelldefells, ES)	S. Huelga (Ulm, DE)	H. Rabitz (Princeton, US)
E. Arimondo (Pisa, IT)	N. Khaneja (Cambridge, US)	C. Rangan (Windsor, CA)
I. Bloch (Garching, DE)	T. Kippenberg (Lausanne, CH)	G. Rempe (Garching, DE)
A. Buchleitner (Freiburg, DE)	R. Kosloff (Jerusalem, IL)*	H. Ritsch (Innsbruck, AT)*
T. Calarco (Ulm, DE)	B. Kraus (Innsbruck, AT)	C. Roos (Innsbruck, AT)
R. de Vivie-Riedle (München, DE)	R. Krams (Vancouver, CA)	F. Schmidt-Kaler (Mainz, DE)
R. Fazio (Pisa, IT)	D. Loss (Basel, CH)	M. Shapiro (Vancouver, CA)
S. Glaser (München, DE)	K. Moelmer (Aarhus, DK)	D. Suter (Dortmund, DE)
P. Gould (Connecticut, US)	K. Ohmori (Okazaki, JP)	I. Walmsley (Oxford, UK)
P. Grangier (Palaiseau, FR)	J. Pablo Paz (Buenos Aires, AR)	B. Whaley (Berkeley, US)
S. Haroche (Paris, FR)	P. Pillet (Orsay, FR)	M. Wollenhaupt (Kassel, DE)

**Applications** for participation and poster contributions are welcome and should be made by using the application form on the event's web page (please see URL below). The number of attendees is limited. The **registration fee** for the workshop is **120 €** and should be paid by all participants. Costs for accommodation and meals will be covered by the Max Planck Institute for the Physics of Complex Systems. Limited funding is available to partially cover travel expenses. Please note that childcare is available upon request.

**Deadline for registration is June 30, 2011.**

**For further information please contact:**

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