

# Workshop on Quantum Engineering with Neutral Atoms and Light

June 13-16, 2007

Herrsching am Ammersee, Bavaria, Germany

## Speakers:

Victor Balykin, Troitsk, RUS  
Almut Beige, Leeds, GB  
Immanuel Bloch, Mainz, D  
Antoine Browaeys, Orsay, F  
Michael Chapman, Atlanta, USA  
Ignacio Cirac, Garching, D  
Peter Domokos, Budapest, H  
Kris Helmerson, Gaithersburg, USA  
Julien Laurat, Pasadena, USA  
Peter Maunz, Michigan, USA  
Dieter Meschede, Bonn, D  
Jörg Helge Müller, Copenhagen, DK  
Kater Murch, Berkeley, USA  
Jean-Michel Raimond, Paris, F  
Gerhard Rempe, Garching, D  
Ferdinand Schmidt-Kaler, Ulm, D  
Jörg Schmiedmayer, Vienna, A  
Harald Weinfurter, Munich, D  
Reinhard Werner, Braunschweig, D  
Claus Zimmermann, Tübingen, D

## Organizers:

Axel Kuhn, Clarendon Laboratory, University of Oxford, GB  
Arno Rauschenbeutel, Institute of Physics, University of Mainz, D

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Quantum Control and Simulation with Distributed Neutral Atoms Systems  
<http://fo635.iap.uni-bonn.de/> E-mail: [workshop-herrsching@uni-mainz.de](mailto:workshop-herrsching@uni-mainz.de)

In the course of the 20th century, neutral atoms have played an outstanding role for the progress in our understanding of the quantum behaviour of microscopic particles. Countless details of quantum mechanics have been discovered and experimentally investigated with dilute gases of atoms. Following these experimental and theoretical advances, we have now entered a new era, where tight “coherent” or “quantum” control of dynamical processes involving atoms and light is possible in more and more cases. In a sense, we have turned into “quantum engineers”, for whom features of the quantum world have become everyday laboratory reality.

This workshop shall gather both experimental and theoretical groups exploring coherent processes with neutral atom systems. The idea is to learn from each other, to mingle ideas, to investigate new directions in the various fields, and to establish cross connections between technical developments and theoretical vistas. The venue in Herrsching is situated on the shores of Lake Ammersee, only 40 km from Munich. It offers a relaxing atmosphere and beautiful surroundings, inviting participants to informal discussions.

