

## Cold Rydberg Gases and Ultracold Plasmas

06 - 17 September 2010

*Scientific coordination*

**Charles S. Adams** (Durham University, Durham, UK)

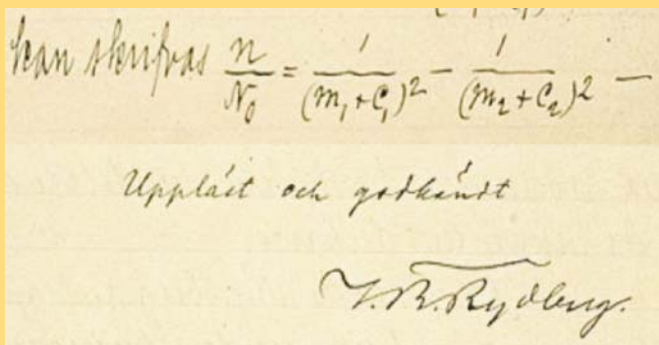
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*Organisation:*

**Claudia Pönisch**, MPIPKS, Dresden, Germany

In recent years there has been an explosion of activity on cold Rydberg gases resulting in a diverse range of exciting developments that combine aspects of atomic and molecular physics, nonlinear optics, statistical physics, quantum information science, condensed matter and plasma physics. The aim of this workshop is to promote scientific exchange and interaction between researchers working in these and related areas.



The workshop will cover a range of topics, including the dynamics and exotic phases of strongly interacting quantum systems, as occurring in ultracold molecular and Rydberg gases, coherent control of Rydberg atoms and molecules, with applications in quantum optics and quantum information, formation of Rydberg and antimatter atoms and their interactions with strong fields and solid state interfaces, as well as ultracold plasma physics.

The two week event is part of a Tandem Workshop program with the Institute for Theoretical Atomic, Molecular and Optical Physics (ITAMP) at the Harvard-Smithsonian Center for Astrophysics (see <http://www.cfa.harvard.edu/itamp/Rydberg09.html>). The first workshop week will consist of invited talks and contributed poster presentations. During the second week we will provide extensive time for informal talks and discussions among a smaller number of researchers, intended to explore common interests and possibly initiate collaborative work.

### Invited speakers

Joachim Burgdörfer (Austria)  
Eugene Demler (USA)  
Gerald Gabrielse\* (USA)  
Thomas Gallagher\* (USA)  
Philippe Grangier (France)  
Ed Grant (Canada)  
Chris Greene\* (USA)  
Serge Haroche\* (France)

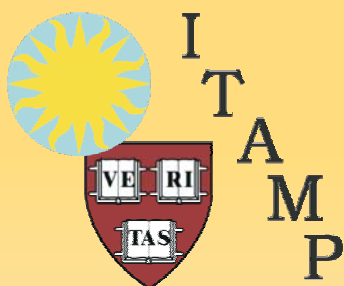
Thomas Killian (USA)  
Igor Lesanovsky (UK)  
Mikhail Lukin (USA)  
Frederic Merkt (Switzerland)  
Klaus Mølmer (Denmark)  
Tilman Pfau (Germany)  
Pierre Pillet (France)  
Georg Raithel (USA)

Francis Robicheaux (USA)  
Steve Rolston\* (USA)  
Mark Saffman (USA)  
Matthias Weidemüller (Germany)  
Yasunori Yamazaki (Japan)

(\* to be confirmed)

Applications are welcome and should be made by using the application form on the seminar and workshop web page (please see URL below). The number of attendees is limited. The **registration fee** is **100 €** and should be paid by all participants. Costs for accommodation and meals will be covered by the Max Planck Institute. Limited funding is available to partially cover travel expenses. Please note that childcare is available upon request.

**Deadline for applications is 15 May 2010.**



For further information please contact:  
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MPIPKS also encourages applications for individual fellowships (phd, postdoc, sabbatical). We offer an exciting and stimulating environment for pursuing cutting-edge research, with about 120 researchers in residence at any time. With four deadlines per year, we accept applications continuously. For details, please check <http://www.pks.mpg.de/visitors>