

## **Gif COHERENCE workshop: Program**

### **Thursday, the 19th of July**

8h30-9h00: Welcome and introductive remarks

9h00-11h20: Chairman: Matthias Weidemüller, Universität Heidelberg

9h00-9h45: Thomas F. Gallagher, University of Virginia

Rydberg states of one and two electron atoms

9h45-10h10: Marc Cheneau, MPQ, Garching

Dynamical crystallization of a two-dimensional Rydberg gas

10h10-10h30: Pause

10h30-10h55: Paul Huillery, CNR-INO, Pisa

Cooperative excitation and many-body interactions in a cold Rydberg gas

10h55-11h20: Martin Robert de Saint Vincent, Universität Heidelberg

Sub-poissonian statistics of Rydberg-interacting dark-state polaritons

11h20-12h00: Chair: Ennio Arimondo, CNR-INO, Pisa

Round Table on many-body effects in Rydberg ensembles

12h00-13h45: Lunch / discussions and posters

13h45-14h20: COHERENCE MEETING INFORMATION

14h20-15h00: Chair: Frédéric Merkt, ETH Zürich

Round Table on Rydberg applications

15h00-17h20: Chairman: Rosario Gonzalez-Ferez, Universidad de Granada

15h00-15h45: Phillip Gould, University of Connecticut

Cold Rydberg Atoms and Ion-Pair States

15h45-16h05: Pause

16h05-16h30: Rick Van Bijnen, Eindhoven University of Technology, Arbitrarily shaped excitation lasers with a spatial light modulator, application in Rydberg excitation

16h30-16h55: Graham Lothead, Durham University

Spatial distributions in a cold strontium Rydberg gas

16h55-17h20: Johannes Deiglmayr, ETH Zürich

High-resolution millimeter-wave spectroscopy of cesium Rydberg atoms

17h20-18h50: COHERENCE MEETING INFORMATION

19h-22h: Diner

## **Friday, the 20th of July**

8h45-9h00: Welcome and introductory remarks

9h00-11h45: Chairman: Antoine Browaeys, Institut d'Optique, Palaiseau

9h00-9h45: Ioan Schneider, Université du Havre

Molecular Rydberg states: doorways in reactive collisions

9h45-10h10: Robin Côté, University of Connecticut

Rydberg macro-dimers and trimers

10h10-10h30: Pause

10h30-10h55: Ates Cenap, University of Nottingham

Coherent cluster and molecule formation induced by long-range dissipation

10h55-11h20: Robert Löw, Universität Stuttgart

Rydberg excitation in thermal vapor cells

11h20-11h45: Sebastian Wüster, MPG, Dresden

A fat Schroedinger's cat of Rydberg dressed atomic clouds

11h45-14h00: Lunch / discussions and posters

14h00-17h00: Chairman: Thomas Pohl, MPG, Dresden

14h00-14h40: Alex Kuzmich, Georgia Tech, Studies of long-range atomic correlations, single-photon generation, and many-body dynamics in a strongly interacting Rydberg gas

14h40-15h05: Alexey Gorshkov, Harvard University

Quantum Nonlinear Optics with Single Photons

15h05-15h25: Pause

15h25-15h50: Alexei Ourjoumtsev, Institut d'Optique, Palaiseau

Generating non-classical light using Rydberg interactions

15h50-16h30: Chair: Charles Adams, Durham University

Round Table on Quantum Information

16h30-18h50: Posters and discussions

19h-22h: Diner