# Symposium Rydberg Physics in Single-Atom Trap Arrays (SYRY)

jointly organised by
the Quantum Optics and Photonics Division (Q),
the Atomic Physics Division (A), and
the Molecular Physics Division (MO)

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The physics of interacting Rydberg atoms is a very active emerging research field. It not only allows one to study fundamental questions in physics, ranging from molecular physics to strongly-interacting many-body physics, but also provides a versatile platform for quantum technologies, foremost quantum simulation, computation and metrology. This symposium aims to highlight some recent developments in the field, both, on the international and national level. The selection of speakers represents the broad range of topics that emerge from the physics of interacting Rydberg atoms.

## Overview of Invited Talks and Sessions

(Lecture hall Audimax)

### Invited Talks

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| SYRY 2.1 | Wed | 10:30–11:00 | Audimax | **Many-body physics with arrays of Rydberg atoms in resonant interaction** — •Antoine Browaeys |
| SYRY 2.2 | Wed | 11:00–11:30 | Audimax | **Optimization and sampling algorithms with Rydberg atom arrays** — •Hannes Pichler |
| SYRY 2.3 | Wed | 11:30–12:00 | Audimax | **Slow dynamics due to constraints, classical and quantum** — •Juan P. Garrahan |
| SYRY 3.3 | Wed | 14:30–15:00 | Audimax | **New frontiers in quantum simulation and computation with neutral atom arrays** — •Giulia Semeghini |
| SYRY 3.4 | Wed | 15:00–15:30 | Audimax | **New frontiers in atom arrays using alkaline-earth atoms** — •Adam Kaufman |
| SYRY 3.5 | Wed | 15:30–16:00 | Audimax | **Spin squeezing with finite range spin-exchange interactions** — •Ana Maria Rey |

### Sessions

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| SYRY 1.1–1.2 | Mon | 11:00–13:00 | AKjDPG-H17 | **Tutorial Rydberg Physics (joint session AKjDPG/SYRY/Q)** |
| SYRY 2.1–2.5 | Wed | 10:30–12:30 | Audimax | **Rydberg Physics in Single-Atom Trap Arrays 1** |
| SYRY 3.1–3.5 | Wed | 14:00–16:00 | Audimax | **Rydberg Physics in Single-Atom Trap Arrays 2** |