



GiRyd Status Workshop, March 23-25, 2020

Program

Hosted online in cooperation with QUANTUM



JOHANNES GUTENBERG
UNIVERSITÄT MAINZ

Online meeting platform: ZOOM

Conference room opening hours:

Monday, 11:00 AM – 22:00 PM

Tuesday, 8:30 AM – 22:00 PM

Wednesday, 8:30 AM – 22:00 PM

Monday, March 23, 2020

11:00 AM – 1:30 PM	Arrival of all participants in the online conference room Participants can familiarize themselves with layout, tools, etc.
1:30 PM	Tilman Pfau: Welcome and Workshop Opening
Session Chair: Tilman Pfau	
1:45 PM	<ul style="list-style-type: none"> • Invited Speaker: Rosario González-Férez “Triatomic ultralong range Rydberg molecules” • Hollerith: “Characterizing molecular quantum states with quantum gas microscopy” • Deiglmayr: “Heavy-Rydberg molecules and precision spectroscopy of potassium”
3:15 PM Break	
Session Chair: Christian Gross	
3:45 PM	<ul style="list-style-type: none"> • Steinert & Lesanovsky: “Rydberg Dressing in Microtraps - Status and Outlook” • Zeier: “Optimization of control pulses for Rydberg atoms”
4:30 PM	Online Poster Flash Session I: <ul style="list-style-type: none"> • Andrijauskas: “Precise determination of ionization potential from Rydberg-series of a single trapped 40Ca^+ ion” • Drori: “Rapid, low-optical-power, high-contrast Rydberg spectroscopy in a magneto-optical trap” • Ertl: “Semiclassical Approaches to Excitons in Cuprous Oxide” • Fey: “Exciton-electron scattering in atomically thin semiconductors” • Haze: “Rydberg spectroscopy in an atom-ion hybrid trap: towards creation of charged long-range Rydberg molecules” • Krüger: “Interaction of charged impurities and Rydberg excitons in cuprous oxide” • Veit: “An ion microscope to study Rydberg physics and ultracold ions”

Tuesday, March 24, 2020

8:30 – 9:00 AM	Arrival of all participants in the online conference room
Session Chair: Tilman Pfau	
9:00 AM	<ul style="list-style-type: none"> • Invited Speaker: Michael Doser “(Anti)(Rydberg) atoms at the Antiproton Decelerator at CERN” • Whitlock: “Self-organization and universal dynamics with Rydberg atoms” • Deiß: „Exploring Rydberg physics in a combined atom-ion trap“
10:30 AM Break	
Session Chair: Patrick Windpassinger	
11:00 AM	<ul style="list-style-type: none"> • Ott: “A reaction microscope for few-body Rydberg physics” • Meinert: “Probing negative ions w/ Rydberg spectroscopy” • Schmidt: “Rydberg Impurities in a Fermi sea”
12:00 PM Lunch Break	

Session Chair: Stephan Dürr	
1:30 PM	<ul style="list-style-type: none"> • Invited Speaker: Hossein Sadeghpour “Simulating indirect spin-spin interactions with Rydberg atoms” • Mokhberi: “Trapped Rydberg ions: single-ion spectroscopy, multi-ion interactions” • Fleischhauer: „Implementation of lattice gauge theories using arrays of Rydberg atoms“ • Kraus: “Superfluid phases induced by the dipolar interactions”
3:15 PM Break	
Session Chair: Tilman Pfau	
3:45 PM	Tilman Pfau: GiRyd Coordination – Report by SPP Coordinator, Funding opportunities for GiRyd members and associates
4:15 PM	Online Poster Flash Session II <ul style="list-style-type: none"> • Noaman: “Towards Non-linear quantum optics with ultracold Yb” • Tebben: “Interacting Stationary Light Polaritons in a Rydberg EIT Medium” • Tiwari: “Tracking Rydberg atoms with Bose-Einstein Condensate” • Vogel: “Trapped Rydberg ions exposed to fast electric field ramps” • Wagner: “Rydberg Excitations as a Probe of Quantum Matter”

Wednesday, March 25, 2020

8:30 – 9:00 AM	Arrival of all participants in the online conference room
Session Chair: Richard Schmidt	
9:00 AM	<ul style="list-style-type: none"> • Scheel: “Rydberg excitons in external fields” • Rommel: “Second harmonic generation and exciton resonances in cuprous oxide” • Giessen: “Breaking dipolar selection rules with Rydberg excitons in Cu₂O”
10:00 AM Break	
Session Chair: Tilman Pfau	
10:30 AM	<ul style="list-style-type: none"> • Eiles: “Pandora’s little box of Rydberg Molecules” • Dürr: “Dephasing in Rydberg EIT” • Hofferberth: “Photons interacting with Rydberg superatoms”
11:30 PM	End of workshop