



GiRyd Status Workshop, 25 – 27 March 2019

GiRyd PhD Workshop, 27 March 2019

hosted by Technische Universität Kaiserslautern

Programme

Monday, 25 March 2019

9:00 am	Welcome and Workshop Opening	Lecture Hall 42-110
Session Chair: Michael Fleischhauer		
9:15 am	<ul style="list-style-type: none"> • Invited Talk - Wenhui Li: Imaging ions in an atomic gas with Rydberg EIT • Hainaut: Experimental observation of nonlinearity enhancement induced by interactions in Rydberg-EIT medium 	Lecture Hall 42-110
10:20 am	Coffee Break	Seminar Room 42-133
10:50 am	<ul style="list-style-type: none"> • Whitlock: Non-equilibrium universality in ultracold Rydberg gases • Zeppenfeld: Efficient detection of cold polar molecules via Rydberg atoms • Weimer: Open system quantum simulation with Rydberg atoms • Panas: Ordered states of Rydberg-dressed ultracold quantum gases in optical lattices: 	Lecture Hall 42-110
12:30 pm	Lunch	Mensa
Session Chair: Herwig Ott		
2:00 pm	<ul style="list-style-type: none"> • Loew: Quantum optics with hot Rydberg atoms • Rui: Quantum gas microscopy of Rydberg macrodimers • Fortagh: Rydberg atoms in a superconducting coplanar microwave cavity • Kraus: Quantum phases in long-range interacting systems • Fleischhauer: Quantum Hall Physics with Rydberg Polaritons 	Lecture Hall 42-110
4:00 pm	Coffee Break	Seminar Room 42-133

4:30 pm	<ul style="list-style-type: none"> • Deiglmayr: Exciting ultracold ion pairs via long-range Rydberg molecules • Schmelcher: Ultralong-range molecules - species and structures • Schmidt: Polaron formation in Rydberg systems and Rydberg excitations as a probe of correlated quantum matter • Eiles: Rydberg states in a two-dimensional monolayer 	Lecture Hall 42-110
7:00 pm	Poster Session and Buffet Style Dinner	Foyer 42

Tuesday, 26 March 2019

Session Chair: Wenhui Li		
9:30 am	<ul style="list-style-type: none"> • Büchler: Photons interacting with Rydberg superatoms • Dürr: Perspectives for a photon-photon gate based on Rydberg interactions in an optical cavity 	Lecture Hall 42-110
10:20 am	Coffee Break	Seminar Room 42-133
10:50 am	<ul style="list-style-type: none"> • Assmann: Towards time-resolved Rydberg exciton blockade • Giessen: Breaking dipolar selection rules with Rydberg excitons • Scheel: Interacting Rydberg excitons and interseries coupling • Main: Rydberg excitons in cuprous oxide 	Lecture Hall 42-110
12:30 pm	Lunch	Mensa
Session Chair: Tilman Pfau		
2:00 pm	<ul style="list-style-type: none"> • Invited Talk - Alexey Gorshkov: Nondestructive Rydberg-interaction-mediated cooling of neutral atoms • Gross and Lesanovsky: Rydberg lattice gases with kinetic constraints • Cui: Preparation of many-body states on Rydberg atoms via optimal control 	Lecture Hall 42-110
3:40 pm	Coffee Break	Seminar Room 42-133
4:00 pm	<ul style="list-style-type: none"> • Pfau: GiRyd Coordination Session 	Lecture Hall 42-110
5:00 pm	End of sessions and walk to conference dinner venue	
7:00 pm	Conference Dinner	

Wednesday, 27 March 2019

Session Chair: Gerhard Rempe		
8:45 am	<ul style="list-style-type: none"> • Schmidt-Kaler: Rydberg ions in motion • Meinert: Rydberg and ion impurities in ultracold quantum matter • Hecker Denschlag: Long-range Rydberg molecules • Ott: A reaction microscope for few-body Rydberg physics 	Lecture Hall 42-110
10:20 am	Coffee Break	Seminar Room 42-133
10:50 am	<ul style="list-style-type: none"> • Patsch: Quantum control of dissipative multi-partite entanglement generation in Rydberg atoms • Görlitz: Towards interacting ytterbium Rydberg atoms • Birkl: Defect-free 2D clusters of single-atom quantum systems for Rydberg physics • Islam: Rydberg excitation of cold atoms inside a hollow core fiber 	Lecture Hall 42-110
12:30 pm	Lunch and departure for PIs and invited speakers	Mensa
2:00 pm - 6:00 pm	<p>GiRyd PhD Workshop</p> <p>2:00 pm Welcome and general discussion</p> <p>2:30 pm Harald Kübler: Rydberg-Based Microwave Standards – From Basic Ideas to Application / <i>Quantum Ideas Lab</i></p> <p>3:00 pm PhD Talks</p> <ul style="list-style-type: none"> • Rebecca Kraus • Patric Rommel • Valentin Walther <p>3:45 pm Coffee Break</p> <p>4:15 pm PhD Talks</p> <ul style="list-style-type: none"> • Frederic Hummel • Sabrina Patsch • Sjard Ole Krüger <p>5:00 pm Summary and Wrap-up</p> <p>5:15 pm Lab Tours</p> <p>6:00 pm End of PhD Workshop</p> <p>7:00 pm Pub crawl in Kaiserslautern</p>	Lecture Hall 42-110