Program for Bad Honnef Physics School 2023

Ultracold Atoms and Molecules

Sunday, August 6, 2023

14.00 – 18.30 Arrival and Registration
18.30 – 20.00 Dinner
20.00 – 22.00 *Meet and Greet*

Monday, August 7, 2023

07.30 – 08.45 Breakfast
08.45 – 09.00 *Opening and Welcome*
09.00 – 10.00 Nathan Lundblad (Lewiston, USA):
Ultracold atomic physics in microgravity: Survey and rf-dressing techniques
10.00 – 10.30 Coffee Break
10.30 – 11.30 Tilman Pfau (Stuttgart, Germany):
Ultralong-range Rydberg molecules: The past and future of neutral ultralong-range molecules
12.00 – 13.30 Lunch
13.30 – 14.00 *Questions and Answers/Plenary Discussion 1*
14.00 – 15.00 *Plenary for Poster Sessions 1 & 2 (Poster Numbers 1-24)*
15.00 – 15.30 Coffee Break
15.30 – 16.30 Michael Fleischhauer (Kaiserslautern, Germany):
Rydberg-atom physics and technology – Part 1
16.30 – 17.00 Coffee Break
17.00 – 18.00 Lauriane Chomaz (Heidelberg, Germany):
Few-body physics with magnetic dipolar atoms in ultracold gases
18.30 – 20.00 Dinner
20.00 – 21.00 *Poster Session 1 (Poster Numbers 1-12)*

Tuesday, August 8, 2023

07.30 – 09.00 Breakfast
09.00 – 10.00 Nathan Lundblad (Lewiston, USA):
Ultracold atomic physics in microgravity: Bubble dynamics and outlook
10.00 – 10.30 Coffee Break
10.30 – 11.30 Tilman Pfau (Stuttgart, Germany):
Ultralong-range Rydberg molecules: Ultralong-range molecular ions under a pulsed ion microscope
12.00 – 13.30 Lunch
13.30 – 14.00 *Questions and Answers/Plenary Discussion 2*
14.00 – 15.00 *Working Groups 1*
15.00 – 15.30 Coffee Break
15.30 – 16.30 Michael Fleischhauer (Kaiserslautern, Germany):
Rydberg-atom physics and technology – Part 2
16.30 – 17.00 Coffee Break
17.00 – 18.00 Lauriane Chomaz (Heidelberg, Germany):
Many-body physics with magnetic dipolar atoms in ultracold gases
18.30 – 20.00 Dinner
20.00 – 21.00 *Poster Session 2 (Poster Numbers 13-24)*

Wednesday, August 9, 2023

07.30 – 09.00	Breakfast
09.00 – 10.00	Tilman Esslinger (Zurich, Switzerland): *The basics of topological pumping*
10.00 – 10.30	Coffee Break
10.30 – 11.30	Helmut Ritsch (Innsbruck, Austria): *Quantum gas cavity QED – Fundamentals*
12.00 – 13.30	Lunch
13.30 – 14.00	*Questions and Answers/Plenary Discussion 3*
14.00 – 15.00	*Plenary for Poster Sessions 3 & 4 (Poster Numbers 25-47)*
15.00 – 15.30	Coffee Break
15.30 – 16.30	Jacques Tempere (Antwerpen, Belgium): *Ground state properties of Fermi superfluids in the BEC-BCS crossover*
16.30 – 17.00	Coffee Break
17.00 – 18.00	Philipp Preiss (Munich, Germany): *Pairing and Superfluidity in Ultracold Fermi Gases – Part 1*
18.30 – 20.00	Dinner
20.00 –	*Socializing*

Thursday, August 10, 2023

07.30 – 09.00	Breakfast
09.00 – 10.00	Tilman Esslinger (Zurich, Switzerland): *The art of topological pumping*
10.00 – 10.30	Coffee Break
10.30 – 11.30	Helmut Ritsch (Innsbruck, Austria): *Quantum gas cavity QED – Applications*
12.00 – 13.30	Lunch
13.30 – 18.30	Excursion
18.30 – 20.00	Dinner
20.00 – 21.00	*Poster Session 3 (Poster Numbers 25-36)*

Friday, August 11, 2023

07.30 – 09.00	Breakfast
09.00 – 10.00	André Eckardt (Berlin, Germany): *Floquet engineering in isolated quantum systems*
10.00 – 10.30	Coffee Break
10.30 – 11.30	Päivi Törmä (Aalto, Finland): *Bose-Einstein condensation and topological photonics with plasmonic lattices – Part 1*
12.00 – 13.30	Lunch
13.30 – 14.00	*Questions and Answers/Plenary Discussion 4*
14.00 – 15.00	*Working Groups 2*
15.00 – 15.30	Coffee Break
15.30 – 16.30	Philipp Preiss (Munich, Germany): *Pairing and Superfluidity in Ultracold Fermi Gases – Part 2*
16.30 – 17.00	Coffee Break
17.00 – 18.00	Jacques Tempere (Antwerpen, Belgium): *Collective excitations, vortices and solitons in the BEC-BCS crossover*
18.30 – 20.00	Dinner
20.00 – 21.00	*Poster Session 4 (Poster Numbers 37-47)*

Saturday, August 12, 2023

07.30 – 09.00	Breakfast
09.00 – 10.00	Päivi Törmä (Aalto, Finland):
	Bose-Einstein condensation and topological photonics with plasmonic lattices – Part 2
10.00 – 10.30	Coffee Break
10.30 – 11.30	André Eckardt (Berlin, Germany):
	Floquet engineering in open quantum systems
11.30 – 11.45	*Concluding Remarks*
11.45 – 13.30	Lunch
13.30 –	Departure