

Atomtronics@Benasque2022 – Week 1: May 2-6

	Monday	Tuesday	Wednesday	Thursday	Friday
9:00 am	Registration				
9:15 am					
9:30 am	Opening remarks				
9:45 am	Dana Anderson <i>Oscillatory Matterwaves and the Atomtronic Transistor Oscillator</i>	Aidan Arnold <i>Enhanced optical geometries for atoms</i>	Philippe Bouyer <i>TBA</i>	Frederic Chevy <i>Ultracold fermions in quantum wires</i>	Federica Surace <i>Ab initio derivation of lattice gauge theory dynamics for cold gases in optical lattices</i>
10:00 am					
10:15 am					
10:30 am	Mark Edwards <i>A Double-Target-Potential BEC Array Atomtronic Rotation Sensor</i>	Lorenzo Piroli <i>Nonequilibrium states in attractive 1D Bose gases</i>	Katarzyna Krzyzanowska <i>Towards quantum sensors with ultracold atoms: An application of atomtronics</i>	Kevin Wright <i>Control and measurement techniques for rings of ultracold fermions</i>	Oliver Morsch <i>Engineered dissipation for Rydberg quantum simulators</i>
10:45 am					
11:00 am		Coffee Break	Coffee Break	Coffee Break	Coffee Break
11:15 am	Coffee Break				
11:30 am					
11:45 am	Ludwig Mathey <i>Atomtronic implementation of SQUIDs and Josephson junctions</i>	Nick Proukakis <i>Persistent current oscillations in a double-ring quantum gas</i>	Murray Holland <i>Using Machine Learning for the Quantum Design of a Matter-Wave Interferometer</i>	Luigi Amico <i>Fractional angular momentum quantization in Atomtronic circuits</i>	Alejandro Bermudez <i>TBA</i>
12:00 noon					
12:15 pm				Niclas Luick <i>Observation of Josephson oscillations and superfluidity in a strongly correlated 2D Fermi gas</i>	Wayne Chetcuti <i>Probe for bound states of SU(3) fermions and colour deconfinement</i>
12:30 pm	Axel Perez-Obiol <i>Coherent phase slips in coupled matter-wave circuits</i>	Reinhold Walser <i>Matter waves in traps, beam-splitters and optical circuits</i>	Giannis Drougakis <i>TBA</i>	Michele Filippone <i>Observation of Universal Hall Response in Strongly Interacting Fermions</i>	Juan Polo <i>Interference of matter-waves of SU(N) fermions</i>
12:45 pm					
1:00 pm	Lunch	Lunch	Lunch	Lunch	Lunch
1:15 pm					
1:30 pm					
1:45 pm					
2:00 pm					
2:15 pm					
2:30 pm					
2:45 pm					
3:00 pm	Vijay Singh <i>Dynamics of atomtronic Josephson junctions in 2D Bose gases</i>	Alexander Yakimenko <i>TBA</i>	Tobias Haug <i>Aharonov-Bohm Multiport Interferometer for Ultracold Atoms</i>	Nick Sauerwein <i>Cavity-QED Quantum Simulator of Random Spin Models</i>	Francesco Scazza <i>TBA</i>
3:15 pm					
3:30 pm					
3:45 pm	Coffee break	Coffee break	Coffee break	Coffee break	Coffee break
4:00 pm					
4:15 pm	Karsten Pyka <i>Quantum research and applications at TII</i>	Yan, Zoe <i>Site-resolved measurements of real- and momentum-space correlations of ultracold molecules in an optical lattice</i>		Open discussion Future of Atomtronics	
4:30 pm					
4:45 pm					
5:00 pm		Poster Session 5:30pm to 8pm			
5:15 pm					
5:30 pm		Dinner/Bufferet at 6:30pm	Charles Clark (after dinner) 19-20h <i>Ettore Majorana and the birth of autoionization</i>		
5:45 pm					
6:00 pm					

Atomtronics@Benasque2022 – Week 2: May 9-12

	Monday	Tuesday	Wednesday	Thursday	Friday
9:00 am					Bus at 9am
9:15 am					
9:30 am					
9:45 am	Maxim Olshanii <i>Creating a massive minimal uncertainty wavepacket using Gross-Pitaevskii breathers</i>	Veronica Ahufinger <i>Complex tunnelling amplitudes for ultracold atoms carrying orbital angular momentum in lattices</i>	Giacomo Roati <i>A quantum vortex collider</i>	Ron Folman <i>Matter-wave interferometers on the atom chip</i>	
10:00 am					
10:15 am	Donatella Cassettari <i>Holographic Realization of the Prime Number Quantum Potential</i>	David Guéry-Odelin <i>Quantum State Control of a Bose-Einstein Condensate in an Optical Lattice</i>	Giovanni Pecci <i>Universal spin mixing oscillations in a strongly interacting one-dimensional Fermi gas</i>	Cass Sackett <i>Bragg Interferometer Gyroscope in a Time-Orbiting Potential</i>	
10:30 am					
10:45 am					
11:00 am					
11:15 am	Coffee Break	Coffee Break	Coffee Break	Coffee Break	
11:30 am					
11:45 am	Tyler Neely <i>The (optimised) birth and death of a superfluid persistent current</i>	Barry Garraway <i>Quantum bubbles and rings with ultra-cold atoms</i>	Andrea Richaud <i>Dynamics of vortices with filled massive cores in binary mixtures of Bose-Einstein condensates</i>	Rainer Dumke <i>Quantum Physics and the Living</i>	
12:00 noon					
12:15 pm	Edmond Orignac <i>Formation and fate of quantum droplets in a quasi-1D dipolar Bose gas</i>	Travis Nicholson <i>Laser cooling of a Group III atom</i>	Thomas Fernholz <i>State-dependent potentials for trapped atom interferometry</i>	David Wilkowski <i>An Atomtronics Spin Field Effect Transistor</i>	
12:30 pm					
12:45 pm					
1:00 pm	Lunch	Lunch	Lunch	Lunch	
1:15 pm					
1:30 pm					
1:45 pm					
2:00 pm					
2:15 pm					
2:30 pm					
2:45 pm					
3:00 pm	Mathias Mikkelsen <i>Resonant superfluidity in the Rabi-coupled spin-dependent Fermi-Hubbard model</i>	Boris Malomed <i>Wave functions of tunnel-coupled systems with confining and expulsive potentials</i>	Matteo Ferraretto <i>Interaction-resilient metal of ultracold fermionic atoms</i>	Mengzi Huang <i>Superfluid transport through a lossy channel</i>	
3:15 pm					
3:30 pm	Natan Andrei <i>Kondo Effect and Topological phases in charge conserving 1-D superconductors</i>	Helene Perrin <i>Superfluid quantum Bose gases on a shell</i>	Piero Naldesi <i>Multipoint correlations from randomized measurements in atomic quantum systems</i>	Closing remarks	
3:45 pm					
4:00 pm	Coffee break		Coffee break	Coffee break	
4:15 pm					
4:30 pm					
4:45 pm					
5:00 pm					
5:15 pm					
5:30 pm		Poster Session 5:30pm to 8pm			
5:45 pm					
6:00 pm					
	Dinner/Buffer at 6:30pm				