ICAP2024

UNIVERSITY OF CAMBRIDGE | Cavendish Laboratory Department of Physics

Cold atoms and molecules for fundamental physics

ICAP Satellite conference, Cambridge, July 22-24, 2024

	Monday	Tuesday	Wednesday
9.00-9.30	Coffee & Registration	Coffee & Registration	Coffee & Registration
9.30-10.20	**Probing fundamental interactions with molecules and atoms – Overview** David DeMille	**Atomic Clocks and Search for Fundamental Physics - Overview** Tanja Mehlstäubler	**Gravitational effects in atom interferometry** Chris Overstreet - Invited **A recoil measurement scheme in intermediate-scale atom interferometers for determining fundamental constants** Jesse Schelfhout
10.20-11.15	**Searching for a fifth fundamental force using isotope-shift spectroscopy of trapped calcium ions** Diana Craik - Invited **Trapping SrOH for Measurements of Fundamental Physics** Annika Lunstad	**Searching for variations in fundamental constants with an optical clock** Rachel Godun - Invited **Testing fundamental physics with molecular lattice clocks** Mateusz Borkowski	**Multi-photon Clock Atom Interferometry** Jan Rudolph - Invited **Progress towards a new molecular lattice clock to search for time variation of the proton-to-electron mass ratio** Jonas Rodewald
11.15-11.45	BREAK	BREAK	BREAK
11.45-13.00	**Isotopologue-selective laser cooling of barium monofluoride molecules** Tim Langen - Invited **An experiment to measure the electron's electric dipole moment using an ultracold beam of YbF molecules** Freddie Collings **Precision measurements in the mid-infrared with cold molecules** Marylise Saffre	**Searching for new physics on a tabletop with a miniature network of optical atomic clocks** Shimon Kolkowitz - Invited **Hydrogen lattice clocks, isotope shift spectroscopy and bounds on physics beyond the standard model** Robert Potvliege **CeNTREX : A Search for Time Reversal Symmetry Violation using 205TlF molecules** Olivier Grasdijk	**Precision monitoring of classical and quantum fluid interfaces for gravity simulators using optical sensors** Sreelekshmi Ajithkumar **Simulating quantum properties of black holes with neutral atoms in optical lattices** Georgia Nixon **Precision spectroscopy of the 2S-6P transition in hydrogen and deuterium** Vitaly Wirthl
13.00-14.00	LUNCH	LUNCH	LUNCH

14.00-14.50	**False vacuum decay via bubble formation in ferromagnetic superfluids** Gabriele Ferrari - Invited	**Atom Interferometry from Mobile Platforms to Mineshafts: An Overview** Timothy Kovachy	
14.50-15.45	**Cold-atom analogues for vacuum decay** Alex Jenkins – Invited **Towards quantum simulation with random, all-to-all interacting Fermions** Francesca Orsi	**Dark matter searches with atom interferometry** Chris McCabe - Invited **Nuclear Interferometry for Ultra-Light Dark Matter Detection** Hannah Banks	
15.45-16.15	BREAK	BREAK	
	Poster session 16.15-18.30	**Lab Tours, Cavendish West Cambridge**	
19:30		**Conference Dinner - Hall**	