

PH450 Talks Wednesday 14th February 2018

Room A		Chair: Neil Hunt			1st Sup	2nd Sup
1300	201420553	Cuthbertson	Stuart	Moving a standing wave with an electronically controlled piezo-mirror device	Gail McConnell	David McKee
1315	201404591	Irwin	Edward	Making light-sheets for microscopy and mesoscopy	Gail McConnell	Brian Patton
1330	201316788	Percival	John	Quantification and measurement of marine microbial populations using the Mesolens	Gail McConnell	David McKee
1345	201426973	Doak	Elliot	A Physical Investigation of Protein-drug Binding	Neil Hunt	Daniel Shaw
1400	201502488	O'Hare	Dawn	Uncovering the Early Stages of Protein Folding	Neil Hunt	Maxim Fedorov
1415				Break		

Chair: Gail McConnell

1430	201410697	Hamilton	Julie	Pathological modifications in proteins detected by their intrinsic fluorescence	Olaf Rolinski	Yu Chen
1445	201415493	Jackson	James	Quantum Dots TBC	Olaf Rolinski	
1500	201412851	Maclure	Daniel	Pathological modifications in proteins detected by their intrinsic fluorescence	Olaf Rolinski	Yu Chen
1515	201509008	Jordan	Brian	Three-Dimensional Single-Molecule Based Super-Resolution Imaging	Sebastian van de Linde	Brian Patton
1530	201449565	McFarlane	Mollie	mRNA nanoparticles for cancer detection	Yu Chen	
1545				Break		

Chair: Zhengming Sheng

1600	201411148	Benson	Philippa	Simulations of magnetic turbulence in plasma	Bengt Eliasson	Kevin Ronald
1615	201409979	Moir	Connor	Stochastic Particle Heating of Charged Particles by Plasma Waves	Bengt Eliasson	Kevin Ronald
1630	201401402	MacLean	Cameron	Plasma optical modulators for intense lasers	Zhengming Sheng	
1645	201319605	Pettigrew	Graham		Zhengming Sheng	

Room B		Chair: Kevin O'Donnell			1st Sup	2nd Sup
1300	201313756	Graham	Stuart	Phosphorescence of glowstones™	Kevin O'Donnell	Paul Edwards
1315	201314451	Taylor	Ahna	Hysteretic Photochromic Switching (HPS) of europium-magnesium (Eu-Mg) defects in GaN	Kevin O'Donnell	
1330	201426525	Webster	David	RE-doped III-nitrides for solid state lighting applications	Kevin O'Donnell	Paul Edwards
1345	201547258	Burns	Elise	Investigation of Polytypism in nitride semiconductors	Carol Trager-Cowan	Naresh Kumar, Jochen Bruckbauer
1400	201413556	Waters	Dale	Investigation of Polytypism in nitride semiconductors	Carol Trager-Cowan	Naresh Kumar, Jochen Bruckbauer
1415				Break		

Chair: Jonathan Pritchard

1430	201449573	Lesniewska	Magdalena	Large scale lattice-Boltzmann simulation of colloid-liquid crystal composite materials	Oliver Henrich	Neil Hunt
1445	201427636	Quinn	Gary	Understanding how to exploit diamond in solid-state lasers	Alan Kemp	Rolf Birch, Vasili Savitski, Sean Reilly
1500	201415689	Bommer	Sean	Development of a highly accurate alignment process for multi-stage laser lithography	Michael Strain	Benoit Guilhabert
1515	201409962	McCallum	Jake	Signal processing for Atomic Magnetometry	Paul Griffin	Stuart Ingleby
1530	201417568	Preston	Jack	Long range entanglement in a hybrid atom-superconductor quantum processor	Jonathan Pritchard	
1545				Break		

Chair: Robert Martin

1600	201449468	Salmond	Ben	Colour stability of LEDs from the red to the UV	Jochen Bruckbauer	Robert W. Martin
1615	201449311	Earle	Alasdair	Investigating non-ideal behaviour in current-voltage curves from GaN-based LEDs	Robert Martin	Paul Edwards
1630	201411298	Cannon	Rachel	Computing the inverse square law	Ben Hourahine	Oliver Henrich
1645	201445422	Daffurn	Andrew	Twisted Nanostructures	Ben Hourahine	

Notes:

- Room allocation TBA
- Students encouraged to attend talks of your classmates to act as an audience and give support
- Talks are 10mins+ 5mins questions/discussion. Please keep to time.
- Only Powerpoint or PDF presentations allowed, to be uploaded to MyPlace day before.

Room C		Chair: Kevin Ronald			1st Sup	2nd Sup
1300	201348337	Clarkson	Scott	Design and Measurement of a Mode Converter for a Microwave Amplifier	Wenlong He	Craig Donaldson
1315	201407961	MacDonald	Louise	Design of a Brewster Window for a W-band Gyro-TWA	Wenlong He	Liang Zhang
1330	201342797	Sloan	Sean	Design and simulation of a millimetre wave source based on a pseudospark produced electron beam	Adrian Cross	
1345	201318162	Galbraith	Connor	Numerical simulation of cyclotron maser amplifiers	Kevin Ronald	
1400	201516401	Wilson	Kieran	Simulation of Langmuir probes and sheaths in plasma	Kevin Ronald	David Speirs
1415				Break		
Chair: Bernhard Hidding						
1430	201411873	Campbell	David	Monte Carlo Modelling of Particle Beam-Matter Interaction	Bernhard Hidding	Mark Wiggins
1445	201427385	Kelly	Ellis	Electron beam physics and transport modelling	Bernhard Hidding	Brian McNeil
1500	201449531	McWilliam	Allan	Space Radiation Reproduction and Testing	Bernhard Hidding	Mark Wiggins
1515	201449450	Rutherford	Lorne	Space Radiation Reproduction and Testing	Bernhard Hidding	Mark Wiggins
1530	201342307	Boyle	Michael	Simulations of the Demonstration of Ionisation Cooling Experiment	Alan Young	
1545				Break		
Chair: Francesco Papoff						
1600	201342315	Brodie	Seoras	Atomic Processes for Astrophysical Plasmas	Nigel Badnell	TBC
1615	201344480	Archibald	Stuart	Parametric difference resonance in lasers	Francesco Papoff	Gordon Robb
1630	201306288	McCormack	Robbie	Using angular momentum of light to detect particles in fluids	Francesco Papoff	Alison Yao
1645	201447628	Stevenson	Jack	Investigation of multi-modal flex-tentional transducers	Francesco Papoff	

PH450 Talks Wednesday 28th February 2018. Other students welcome to attend.

Room A		Chair: Mark Wiggins				
1000	201422521	Bruce	Emily	Medical Radioisotope Production using a Laser-Plasma Wakefield Accelerator	Mark Wiggins	Dino Jaroszynski
1015	201407904	McClue	Dylan	Nonlinear waves in plasmas	Adam Noble	Dino Jaroszynski, Samuel Yoffe
1030	201516427	McQueen	Christopher	Radiation Reaction	Dino Jaroszynski	Adam Noble, Samuel Yoffe
1045	201617005	Thiagaraja	Anujan	Nonlinear Vacuum Electrodynamics	Dino Jaroszynski	Adam Noble
1100	201416431	McCorry	Kieran	Ion Channel Laser with Large Oscillation Amplitude	Bernhard Ersfeld	Dino Jaroszynski
Room B						
Chair: Daniel Oi						
1100	201430566	Kinanis	Alexandros	Quantum interference and boson sampler verification	Andrew Daley	Marco Piani
1115	201427767	O'Brien	Ciaran	Magnetic states with long-range interactions	Andrew Daley	Luca Tagliacozzo

PH450 Talks Wednesday 21st February 2018

Room A					Chair: Daniel Oi	1st Sup	2nd Sup
1300	201425202	Brown	James	The scientific applications of X-ray Free Electron Lasers		Brian McNeil	Gordon Robb
1315	201449400	McCourt	Declan	Computational Modelling of X-ray Free Electron Lasers		Brian McNeil	Gordon Robb
1330	201404607	Reid	Michael	Creation and control of continuous-mode optical superposition qubits		John Jeffers	Luca Mazzarella
1345	201411203	Brown	Josh	Floquet theory for trapped atoms in optical lattices.		Luca Tagliacozzo	Daniel Oi

Chair: Marco Piani

1430	201444442	Bintener	Tom	Quantifying the resources of global quantum evolutions and measurements		Marco Piani	Daniel Oi
1445	201424492	Lavan	Declan	Distinguishability of quantum states		Marco Piani	John Jeffers
1500	201449353	Geddes	Daniel	Acquisition, Pointing, and Tracking for CubeSat QKD		Daniel Oi	Luca Mazzarella
1515	201410439	Reddie	Grant	Gravity Gradiometry with Satellite Constellations		Daniel Oi	Nicholas Lockerbie

Room B					Chair: Alision Yao	1st Sup	2nd Sup
1300	201449492	Glass	Helena	Grating magneto-optical trap modelling		Aidan Arnold	Paul Griffin
1315	201424905	Anderson	Stewart	Astigmatic mirror multipass absorption cells for long path length spectroscopy		Nigel Langford	
1330	201449426	McLafferty	Sam	Nonlinear Optical Loop Mirrors Based on 3 X 3 fibre optic couplers		Nigel Langford	A Yao
1345	201417738	Love	Callum	Nonlinear Propagation of Structured Light		Alison Yao	TBC

Chair: Elmar Haller

1430	201427270	McLaughlin	Sean	Grating Magneto-Optical Trap experiments		Paul Griffin	Oliver Burrow
1445	201418425	Steven	Rachael	A Polarisation Analyser for Quantum Optics Experiments		Paul Griffin	Aidan Arnold
1500	201425618	Ballantyne	Calum	Implementation and characterization of optical lattice potentials for ultracold atoms		Elmar Haller	Stefan Kuhr
1515	201441884	Twaddle	William	Design and Construction of a Fabry-Perot Scanning Interferometer		Elmar Haller	Stefan Kuhr

Chair: Paul McKenna

1600	201419625	Highton	Jennifer	An ultrafast, time-resolving ion spectrometer as a diagnostic of intense laser-plasma dynamics		Paul McKenna	Robbie Wilson
1615	201425105	Hunter	Daniel	Intense Laser Pulse Filamentation in Near Critical Density Plasmas		Paul McKenna	Martin King
1630	201438661	Valk	Jilles	Modelling relativistic electron motion in spatially varying intense laser fields		Paul McKenna	Martin King
1645	201424484	Williamson	Murray	High power laser-driven X-ray sources in dense plasma		Paul McKenna	Remi Capdessus

Room C					Chair: Jennifer Hastie	1st Sup	2nd Sup
1430	201424913	Anderson	Steven	Quantum applications of Semiconductor Disk Lasers		Jennifer Hastie	Lucia Caspani
1445	201418784	Wade	Ewan	Photonic Neurons: Spiking information processing with lasers		Antonio Hurtado	Thorsten Ackemann
1500	201449557	Scott	Philip	Neurophotonic Systems for Interfacing with the Retina		Keith Mathieson	Niall McAlinden
1515	201238485	Carroll	Mark	Opto-mechanics of Bose-Einstein Condensates in Optical Cavities		Gian-Luca Oppo	Gordon Robb
1530	201448886	Ferguson	Alistair	Cold Atom-Light Interactions		Gordon Robb	Brian McNeil
1545				Break			

Chair: Gordon Robb

1600	201405003	Catto	Jamie	Bose Einstein Condensate (BEC) Simulations		Gordon Robb	Aidan Arnold
1615	201313764	Smith	Cameron	Interactive Physics Simulations		Gordon Robb	Nigel Langford
1630	201747337	Vandeville	Victor	Four-wave Mixing in Atomic Gases		Gordon Robb	Aidan Arnold