

# PH450 Viva Schedule: Version 1 (See notes at end)

| Family Name | First Name  | Project Title                                                                         | Viva Date  | Time  | Supervisor         | Indep Marker           | Chair              |
|-------------|-------------|---------------------------------------------------------------------------------------|------------|-------|--------------------|------------------------|--------------------|
| Cannon      | Rachel      | Computing the inverse square law                                                      | 20/04/2018 | 10:00 | Ben Hourahine      | David McKee            | Carol Trager-Cowan |
| Daffurn     | Andrew      | Twisted Nanostructures                                                                |            | 10:45 | Ben Hourahine      | Brian Patton           | Carol Trager-Cowan |
| MacLean     | Cameron     | Plasma optical modulators for intense lasers                                          |            | 10:00 | Zhengming Sheng    | Brian McNeil           | Dino Jaroszynski   |
| Carroll     | Mark        | Opto-mechanics of Bose-Einstein Condensates in Optical Cavities                       | 23/04/2018 | 10:00 | Gian-Luca Oppo     | Marco Piani            | Ben Hourahine      |
| Ferguson    | Alistair    | Cold Atom-Light Interactions                                                          |            | 10:45 | Gordon Robb        | Antonio Hurtado        | Ben Hourahine      |
| Salmond     | Ben         | Colour stability of LEDs from the red to the UV                                       | 26/04/2018 | 10:00 | Jochen Bruckbauer  | Paul Edwards           | Ben Hourahine      |
| Scott       | Philip      | Neurophotonic Systems for Interfacing with the Retina                                 | 30/04/2018 | 10:00 | Keith Mathieson    | Jonathan Pritchard     | Alan Kemp          |
| Bintener    | Tom         | Quantifying the resources of global quantum evolutions and measurements               |            | 10:00 | Marco Piani        | Luca Tagliacozzo       | Andrew Daley       |
| Lavan       | Declan      | Distinguishability of quantum states                                                  |            | 10:45 | Marco Piani        | Luca Tagliacozzo       | Andrew Daley       |
| Pettigrew   | Graham      | Compact X-ray sources from nonlinear Thomson scattering with intense lasers           |            | 14:00 | Zhengming Sheng    | Marco Piani            | Francesco Papoff   |
| Love        | Callum      | Nonlinear Propagation of Structured Light                                             |            | 14:00 | Alison Yao         | Michael Strain         | Gian-Luca Oppo     |
| Reid        | Michael     | Creation and control of continuous-mode optical superposition qubits                  |            | 14:45 | John Jeffers       | Marco Piani            | Gian-Luca Oppo     |
| Kinanis     | Alexandros  | Quantum interference and boson sampler verification                                   |            | 14:00 | Andrew Daley       | Jonathan Pritchard     | John Jeffers       |
| Thiagaraja  | Anujan      | Nonlinear Vacuum Electrodynamics                                                      |            | 14:00 | Adam Noble         | Bernhard Ersfeld       | Nigel Badnell      |
| McClue      | Dylan       | Nonlinear waves in plasmas                                                            |            | 10:00 | Adam Noble         | Mark Wiggins           | Zhengming Sheng    |
| Brodie      | Seoras      | Atomic Processes for Astrophysical Plasmas                                            |            | 10:45 | Nigel Badnell      | Bernhard Ersfeld       | Zhengming Sheng    |
| McCourt     | Declan      | Computational Modelling of X-ray Free Electron Lasers                                 |            | 11:30 | Brian McNeil       | Luca Tagliacozzo       | Zhengming Sheng    |
| Ballantyne  | Calum       | Implementation and characterization of optical lattice potentials for ultracold atoms | 03/05/2018 | 14:00 | Elmar Haller       | Sebastian van de Linde | Alison Yao         |
| Vandeville  | Victor      | Four-wave Mixing in Atomic Gases                                                      |            | 14:45 | Gordon Robb        | Antonio Hurtado        | Alison Yao         |
| Irwin       | Edward      | Making light-sheets for microscopy and mesoscopy                                      |            | 10:00 | Gail McConnell     | Jennifer Hastie        | Carol Trager-Cowan |
| Preston     | Jack        | Long range entanglement in a hybrid atom-superconductor quantum processor             |            | 14:00 | Jonathan Pritchard | Jennifer Hastie        | Daniel Oi          |
| McWilliam   | Allan       | Space Radiation Reproduction and Testing                                              |            | 10:00 | Bernhard Hidding   | Wenlong He             | Dino Jaroszynski   |
| Wilson      | Kieran      | Simulation of Langmuir probes and sheaths in plasma                                   |            | 14:00 | Kevin Ronald       | Bernhard Ersfeld       | Dino Jaroszynski   |
| Hamilton    | Julie       | Pathological modifications in proteins detected by their intrinsic fluorescence       |            | 14:00 | Olaf Rolinski      | Paul Edwards           | Neil Hunt          |
| Jackson     | James       | Quantum Dots TBC                                                                      |            | 14:45 | Olaf Rolinski      | Paul Edwards           | Neil Hunt          |
| Maclure     | Daniel      | Pathological modifications in proteins detected by their intrinsic fluorescence       |            | 15:30 | Olaf Rolinski      | Paul Edwards           | Neil Hunt          |
| McQueen     | Christopher | Radiation Reaction                                                                    |            | 10:00 | Adam Noble         | Bernhard Ersfeld       | Nigel Badnell      |
| McLafferty  | Sam         | Nonlinear Optical Loop Mirrors Based on 3 X 3 fibre optic couplers                    |            | 10:00 | Nigel Langford     | Sebastian van de Linde | Stefan Kuhr        |
| McCallum    | Jake        | Signal processing for Atomic Magnetometry                                             |            | 10:45 | Paul Griffin       | Elmar Haller           | Stefan Kuhr        |
| McLaughlin  | Sean        | Grating Magneto-Optical Trap experiments                                              |            | 11:30 | Paul Griffin       | Elmar Haller           | Stefan Kuhr        |
| Steven      | Rachael     | A Polarisation Analyser for Quantum Optics Experiments                                |            | 12:15 | Paul Griffin       | Elmar Haller           | Stefan Kuhr        |
| Burns       | Elise       | Investigation of Polytypism in nitride semiconductors                                 | 04/05/2018 | 10:00 | Carol Trager-Cowan | Yu Chen                | Robert Martin      |
| Waters      | Dale        | Investigation of Polytypism in nitride semiconductors                                 |            | 10:45 | Carol Trager-Cowan | Yu Chen                | Robert Martin      |
| Kelly       | Ellis       | Electron beam physics and transport modelling                                         | 08/05/2019 | 10:00 | Bernhard Hidding   | Martin King            | Adrian Cross       |
| Bruce       | Emily       | Medical Radioisotope Production using a Laser-Plasma Wakefield Accelerator            |            | 10:45 | Mark Wiggins       | Wenlong He             | Adrian Cross       |
| Clarkson    | Scott       | Design and Measurement of a Mode Converter for a Microwave Amplifier                  |            | 11:30 | Wenlong He         | Alan Young             | Adrian Cross       |
| MacDonald   | Louise      | Design of a Brewster Window for a W-band Gyro-TWA                                     |            | 12:15 | Wenlong He         | Alan Young             | Adrian Cross       |
| Archibald   | Stuart      | Parametric difference resonance in lasers                                             |            | 10:00 | Francesco Papoff   | Jennifer Hastie        | Aidan Arnold       |
| McCormack   | Robbie      | Using angular momentum of light to detect particles in fluids                         |            | 10:45 | Francesco Papoff   | Antonio Hurtado        | Aidan Arnold       |

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|-------------|-----------|-------------------------------------------------------------------------------------------------|------------|-------|------------------------|------------------------|------------------|
| Stevenson   | Jack      | Investigation of multi-modal flex-tentional transducers                                         |            | 11:30 | Francesco Papoff       | Alan Kemp              | Aidan Arnold     |
| Earle       | Alasdair  | Investigating non-ideal behaviour in current-voltage curves from GaN-based LEDs                 |            | 12:15 | Robert Martin          | Antonio Hurtado        | Aidan Arnold     |
| Anderson    | Steven    | Quantum applications of Semiconductor Disk Lasers                                               |            | 14:00 | Jennifer Hastie        | Jonathan Pritchard     | Alan Kemp        |
| Brown       | Josh      | Floquet theory for trapped atoms in optical lattices.                                           |            | 14:45 | Luca Tagliacozzo       | Jonathan Pritchard     | Alison Yao       |
| Galbraith   | Connor    | Numerical simulation of cyclotron maser amplifiers                                              |            | 14:00 | Kevin Ronald           | Martin King            | Bernhard Hidding |
| Taylor      | Ahna      | Hysteretic Photochromic Switching (HPS) of europium-magnesium (Eu-Mg) defects in GaN            |            | 14:00 | Kevin O'Donnell        | David McKee            | Brian Patton     |
| Percival    | John      | Quantification and measurement of marine microbial populations using the Mesolens               |            | 14:45 | Gail McConnell         | Brian Patton           | Francesco Papoff |
| Jordan      | Brian     | Three-Dimensional Single-Molecule Based Super-Resolution Imaging                                |            | 10:45 | Sebastian van de Linde | Yu Chen                | Gail McConnell   |
| Brown       | James     | The scientific applications of X-ray Free Electron Lasers                                       |            | 15:30 | Brian McNeil           | Luca Tagliacozzo       | Gian-Luca Oppo   |
| Quinn       | Gary      | Understanding how to exploit diamond in solid-state lasers                                      |            | 14:45 | Alan Kemp              | Paul Griffin           | Keith Mathieson  |
| Wade        | Ewan      | Photonic Neurons: Spiking information processing with lasers                                    |            | 15:30 | Antonio Hurtado        | Gordon Robb            | Keith Mathieson  |
| Doak        | Elliot    | A Physical Investigation of Protein-drug Binding                                                |            | 10:45 | Neil Hunt              | Olaf Rolinski          | Kevin O'Donnell  |
| O'Hare      | Dawn      | Uncovering the Early Stages of Protein Folding                                                  |            | 11:30 | Neil Hunt              | Olaf Rolinski          | Kevin O'Donnell  |
| Cuthbertson | Stuart    | Moving a standing wave with an electronically controlled piezo-mirror device                    |            | 10:00 | Gail McConnell         | Brian Patton           | Robert Martin    |
| Twaddle     | William   | Design and Construction of a Fabry-Perot Scanning Interferometer                                | 09/05/2018 | 10:45 | Elmar Haller           | Sebastian van de Linde | Andrew Daley     |
| Sloan       | Sean      | Design and simulation of a millimetre wave source based on a pseudospark produced electron beam |            | 10:00 | Adrian Cross           | Wenlong He             | Kevin Ronald     |
| McCrory     | Kieran    | Ion Channel Laser with Large Oscillation Amplitude                                              |            | 10:45 | Bernhard Ersfeld       | Brian McNeil           | Kevin Ronald     |
| Rutherford  | Lorne     | Space Radiation Reproduction and Testing                                                        |            | 11:30 | Bernhard Hidding       | Daniel Oi              | Kevin Ronald     |
| Campbell    | David     | Monte Carlo Modelling of Particle Beam-Matter Interaction                                       |            | 10:00 | Bernhard Hidding       | Brian McNeil           | Nigel Badnell    |
| Boyle       | Michael   | Simulations of the Demonstration of Ionisation Cooling Experiment                               |            | 10:45 | Alan Young             | Mark Wiggins           | Nigel Badnell    |
| Graham      | Stuart    | Phosphorescence of glowstones™                                                                  |            | 10:45 | Kevin O'Donnell        | David McKee            | Robert Martin    |
| Anderson    | Stewart   | Astigmatic mirror multipass absorption cells for long path length spectroscopy                  |            | 10:00 | Nigel Langford         | Sebastian van de Linde | Stefan Kuhr      |
| Webster     | David     | RE-doped III-nitrides for solid state lighting applications                                     |            | 11:30 | Kevin O'Donnell        | David McKee            | Yu Chen          |
| Geddes      | Daniel    | Acquisition, Pointing, and Tracking for CubeSat QKD                                             | 14/05/2018 | 14:00 | Daniel Oi              | Oliver Henrich         | Alison Yao       |
| Valk        | Jilles    | Modelling relativistic electron motion in spatially varying intense laser fields                |            | 09:30 | Paul McKenna           | Alan Young             | Bengt Eliasson   |
| Highton     | Jennifer  | An ultrafast, time-resolving ion spectrometer as a diagnostic of intense laser-plasma dynamics  |            | 10:15 | Paul McKenna           | Mark Wiggins           | Bengt Eliasson   |
| Hunter      | Daniel    | Intense Laser Pulse Filamentation in Near Critical Density Plasmas                              |            | 11:00 | Paul McKenna           | Mark Wiggins           | Bengt Eliasson   |
| McFarlane   | Mollie    | mRNA nanoparticles for cancer detection                                                         |            | 12:15 | Yu Chen                | Oliver Henrich         | David McKee      |
| Smith       | Cameron   | Interactive Physics Simulations                                                                 |            | 10:00 | Gordon Robb            | Oliver Henrich         | Gail McConnell   |
| Reddie      | Grant     | Gravity Gradiometry with Satellite Constellations                                               |            | 14:45 | Daniel Oi              | Oliver Henrich         | John Jeffers     |
| Lesniewska  | Magdalena | Large scale lattice-Boltzmann simulation of colloid-liquid crystal composite materials          |            | 15:30 | Oliver Henrich         | Brian Patton           | John Jeffers     |
| Moir        | Connor    | Stochastic Particle Heating of Charged Particles by Plasma Waves                                |            | 11:45 | Bengt Eliasson         | TBA                    | Paul McKenna     |
| Glass       | Helena    | Grating magneto-optical trap modelling                                                          |            | 14:00 | Aidan Arnold           | Michael Strain         | Daniel Oi        |
| Catto       | Jamie     | Bose Einstein Condensate (BEC) Simulations                                                      |            | 15:30 | Gordon Robb            | Michael Strain         | Gian-Luca Oppo   |
| O'Brien     | Ciaran    | Magnetic states with long-range interactions                                                    |            | 14:45 | Andrew Daley           | Michael Strain         | John Jeffers     |
| Bommer      | Sean      | Development of a highly accurate alignment process for multi-stage laser lithography            |            | 12:15 | Michael Strain         | Paul Griffin           | Keith Mathieson  |
| Benson      | Philippa  | Simulations of magnetic turbulence in plasma                                                    | 18/05/2018 | 10:00 | Bengt Eliasson         | TBA                    | Dino Jaroszynski |
| Williamson  | Murray    | High power laser-driven X-ray sources in dense plasma                                           |            | 10:45 | Paul McKenna           | TBA                    | Dino Jaroszynski |

**Notes:** a) If there any serious issues with the scheduling of your viva, discuss this with your supervisor as soon as possible.  
b) Details may be subject to change, e.g. marker allocations, due to scheduling conflicts.  
c) Rooms TBA