

Surname	First name	Project Title	Supervisor	Independent	Chair
Duncan	Nicholas	Numerical simulation of cyclotron maser amplifiers	Alan Young	Phil MacInnes	Adrian Cross
Parker	Thomas	Analysis of Muon Ionisation Cooling Experiment	Alan Young	TBA	Adrian Cross
Murray	Curtis	Focusing electron beams from a laser-plasma wakefield accelerator	Mark Wiggins	Enrico Brunetti	Adrian Cross
Crompton	Malcolm	Focusing electron beams from a laser-plasma wakefield accelerator	Mark Wiggins	Liang Zhang	Adrian Cross
Olsen	Chloe	Electromagnetic radiation from laser wakefields excited in plasma	Zheng-Ming Sheng	Colin Whyte	Adrian Cross
Jennings	Elizabeth	Electron acceleration assisted by radiation friction in ultra-intense laser fields	Zheng-Ming Sheng	Colin Whyte	Adrian Cross
Lynagh	Conor	Characterisation of Digital Cameras	Daniel Oi	Ross Gray	Aidan Arnold
Dempsey	Fionn	High Precision Timing for Satellite Quantum Communication	Daniel Oi	Sebastian Van de Linde	Aidan Arnold
Gill	Megan	Optical Cavities	Nigel Langford	Paul Griffin	Alan Kemp
Kirkpatrick	Ross	Optical Cavities	Nigel Langford	Paul Griffin	Alan Kemp
MacCuish	Iain	Opto-mechanics of Bose-Einstein Condensates in Optical Cavities	Gian-Luca Oppo	Elmar Haller	Alison Yao
Bartholomew	Stuart	Domain Walls in Optical Fibre Resonators	Gian-Luca Oppo	Daniel Oi	Alison Yao
Dixon	James	How many photons make an image?	John Jeffers	Daniel Oi	Andrew Daley
Kilianski	Romuald	Ghost Displacement	John Jeffers	Alison Yao	Andrew Daley
Johnston	Zak	Thermal Quantum Lidar	John Jeffers	Daniel Oi	Andrew Daley
Stewart	Jamie	Ion Channel Laser with Large Oscillation Amplitude	Bernhard Ersfeld	TBA	Bengt Eliasson
McNeill	Rory	Ortho-mode transducers for polarisation control	Colin Whyte	David Speirs	Bengt Eliasson
Cope	Ellie	Investigation of a Microwave undulator for Free-Electron Laser	Craig Donaldson	David Speirs	Bengt Eliasson
Couttie	Benedict	Simulation and optimisation of a high-k scattering diagnostic for fusion plasma turbulence studies	David Speirs	Craig Robertson	Bengt Eliasson
Graham	Cameron	Scattering of relativistic electrons off electromagnetic ion cyclotron waves	Bengt Eliasson	Craig Donaldson	Bernhard Hidding
Higgins	Mark	Stochastic particle heating of charged particles by plasma waves	Bengt Eliasson	Enrico Brunetti	Bernhard Hidding
Terry	Derek	Quantum Dots Nanolasers	Francesco Papoff	Paul Edwards	Brian McNeil
Poland	Kay	Quantum Dots Nanolasers	Francesco Papoff	Paul Edwards	Brian McNeil
Melville	Stuart	Analysis of Automatic Captioning Software	Francesco Papoff	TBA	Brian McNeil
MacKintosh	Kirsty	Spot Finding Systematic Error	Sebastian van de Linde	Aidan Arnold	Brian Patton
Dallas	Gemma	Photoconduction in wide bandgap semiconductors	Fabien Massabuau	Jennifer Hastie	Carol Trager-Cowan
McLelland	Megan	Luminescence properties of Ga2O3 semiconductors	Fabien Massabuau	Michael Strain	Carol Trager-Cowan
Callan	David	Investigating the effect of gas pressure on the electron diffraction patterns	Naresh Gunasekar	Alessandro Rossi	Carol Trager-Cowan
Williams	Martin	Investigating the origin of red emission in gallium oxide semiconductors	Naresh Gunasekar	Alessandro Rossi	Carol Trager-Cowan
O'Shea	Joshua	Correlating compositional variation to the optical emission properties of tin-gallium oxide semiconductors	Robert Martin	Antonio Hurtado	Carol Trager-Cowan
Kacinskaite	Evelina	Reducing the information gap in standing wave microscopy	Gail McConnell	Jonathan Pritchard	David McKee
Doran	Jordan	Lloyd's mirror in standing wave microscopy	Gail McConnell	Sebastian Van de Linde	David McKee
McAuley	Connor	Electron beam transport modelling and machine learning in particle accelerators	Bernhard Hidding	Liang Zhang	Dino Jaroszynski
Georgiou	Kostas	Laser pulse based ionization of matter	Bernhard Hidding	Craig Robertson	Dino Jaroszynski
Inglis	Matthew	Spectral properties of reflected laser light from expanding plasma targets	Martin King	Ross Gray	Dino Jaroszynski
Arthur	Duncan	Atomic physics of high Z elements in fusion	Martin O'Mullane	Bernhard Ersfeld	Dino Jaroszynski
Gorrie	Alister John	Spiking neurons with resonant tunneling diodes for high speed and energy efficient neuromorphic nanophotonic computing	Antonio Hurtado	Brian Patton	Elmar Haller
Mills	Brandon	3D imaging using time of flight and photometric stereo techniques	Michael Strain	Johannes Herrnsdorf	Elmar Haller
Ivens	George	Photon pair generation in integrated ring resonator devices	Michael Strain	Konstantinos Lagoudakis	Elmar Haller
Cassells	Ross	Photon pair generation in integrated ring resonator devices	Michael Strain	Konstantinos Lagoudakis	Elmar Haller
Bartlett	Brandon	Lenses for cooling atoms	Aidan Arnold	Terry Dyer	Erling Riis
Aguiar Maduro	Richard	Grating magneto-optical trap modelling	Aidan Arnold	Terry Dyer	Erling Riis

Notes

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Ghani	Zubair	Modelling of Optical Lattices	Elmar Haller	Stefan Kuhr	Erling Riis	2nd Report Missing
Ulm	Clemens	Optimising deconvolution of single-atom fluorescence images	Stefan Kuhr	Terry Dyer	Erling Riis	
Koehn	Lennart	Numerical simulation of optical transport	Stefan Kuhr	Terry Dyer	Erling Riis	
Barnard	Fraser	Photon statistics of small lasers	Thorsten Ackemann	Kali Wilson	Erling Riis	
O'Neill	Kyle	Plasmon enhanced fluorescence	Yu Chen	Fabien Massabuau	Francesco Papoff	
Austin	Connor	Photonic neurons with lasers for ultrafast brain-inspired computing	Antonio Hurtado	Lucia Caspani	Gail McConnell	Extension to 2nd Report 13/5/2021
Martinez-Cosentino Blasco	Fernando	Photonic neurons with lasers for ultrafast brain-inspired computing	Antonio Hurtado	Lucia Caspani	Gail McConnell	
Sahi	Gurpreet	Adaptive noise reduction for sCMOS cameras	Brian Patton	Sebastian Van de Linde	Gail McConnell	
Carey	Sarah	Control of spatially rotating structures in diffractive Kerr cavities	Alison Yao	Peter Kirton	Gian-Luca Oppo	
Iqbal	Zoha	Nonlinear Propagation of Fully Structured Light	Alison Yao	Francesco Papoff	Gian-Luca Oppo	
Qazi	Aimon	Measurement of the second-order nonlinear coefficient in waveguides	Lucia Caspani	Antonio Hurtado	Gian-Luca Oppo	
Harrison	Jack	Tamper-indicating quantum seal	Lucia Caspani	Susan Spesytyseva	Gian-Luca Oppo	
Aroca Salom	Jose Enrique	Simulation of non-Markovian dynamics of an impurity in a reservoir gas	Andrew Daley	Kali Wilson	John Jeffers	
Humphreys	Oliver	Building the spectra of quasicrystals in magnetic fields	Andrew Daley	Peter Kirton	John Jeffers	
Muñoz Peligro	Paula	Casimir-Polder Forces and Optical Fibres	Andrew Daley	Gordon Robb	John Jeffers	
Deegan	Emma	Interactive Physics simulations	Gordon Robb	Martin O'Mullane	Jonathan Pritchard	
Kistenberger	Susan	BEC simulations	Gordon Robb	Kali Wilson	Jonathan Pritchard	
MacDonald	Fiona	Innovation and translation of a miniature atomic clock platform	Susan Spesytyseva	Lucia Caspani	Jonathan Pritchard	
Lenart	Arpad	Space radiation reproduction with laser-plasma-accelerators and Monte Carlo codes	Bernhard Hidding	Adam Noble	Kevin Ronald	
Torrance	Ben	Particle-in-cell modelling of laser-plasma acceleration with kHz lasers	Bernhard Hidding	Phil MacInnes	Kevin Ronald	Extension to 2nd Report 23/4/2021
Brown	Mollie	Atomic Processes for Astrophysical Plasmas I	Nigel Badnell	Alan Young	Kevin Ronald	
Yeoman	Neal	Atomic Processes for Astrophysical Plasmas II	Nigel Badnell	Alan Young	Kevin Ronald	
Fayol	Basile	Optimisation of bremsstrahlung radiation from laser-dense plasma interactions	Ross Gray	Phil MacInnes	Kevin Ronald	
Moretti	Rachel	Engineering semiconductor defects for quantum electronics	Alessandro Rossi	Jennifer Hastie	Konstantinos Lagoudakis	
McDougall	Cameron	Coarse-grained DNA simulation of DNA supercoiling	Oliver Henrich	Yu Chen	Konstantinos Lagoudakis	
Vugrinec	Dominik	Coarse-grained DNA simulation of DNA supercoiling	Oliver Henrich	Yu Chen	Konstantinos Lagoudakis	
Donnelly	Joshua	Electron microscope analysis of semiconductor alloys	Paul Edwards	Fabien Massabuau	Konstantinos Lagoudakis	2nd Report Missing
McMillan	Adam	The theory of X-ray Free electron Lasers	Brian McNeil	Craig Donaldson	Nigel Badnell	
Ireland	Paul	Computational Modelling of X-ray Free Electron Lasers	Brian McNeil	Craig Robertson	Nigel Badnell	
Shek	Hon San Callum	Quantum correlations in nano-lasers	Peter Kirton	Gordon Robb	Nigel Badnell	
Cruickshank	Robbie	Synchronisation in open quantum systems	Peter Kirton	Gordon Robb	Nigel Badnell	
Philip Mathew	Calvin	Use of ABCD matrices to design laser resonators	Alan Kemp	Jennifer Hastie	Nigel Langford	Defer to Summer
Ramsay	Keir	Use of ABCD matrices to design laser resonators	Alan Kemp	Jennifer Hastie	Nigel Langford	
Williams	Barnaby	Digital modulation of light-emitting diodes	Johannes Herrnsdorf	Jennifer Hastie	Nigel Langford	Extension to 2nd Report 19/4/2021
Kostial	Andrej	Optical properties of metal-dielectric nanocomposites	Yu Chen	Francesco Papoff	Olaf Rolinski	
Doveiko	Daniel	Numerical modelling of FRET in Human Serum Albumin	Olaf Rolinski	Ben Hourahine	Oliver Henrich	Extension to 2nd Report 19/4/2021
Woodbyrne	Shamar	Numerical modelling of FRET in nanostructures	Olaf Rolinski	Ben Hourahine	Oliver Henrich	
Cashel	Thomas	Numerical modelling of FRET in beta-amyloid	Ben Hourahine	Ben Hourahine	Oliver Henrich	
Calderwood	Connor	Simulating structural defects in α -Ga2O3	Ben Hourahine	Johannes Herrnsdorf	Robert Martin	
Morton	Ross	Correlated quantum transport	Ben Hourahine	Alessandro Rossi	Robert Martin	
Mir	Tariq	Topological Insulators	Ben Hourahine	Fabien Massabuau	Robert Martin	
Shepherd	Calum	Investigation of polytypism in nitride semiconductors	Carol Trager-Cowan	Paul Edwards	Robert Martin	
McConnachie	Gary	Web-based electron diffraction tool	Paul Edwards	Olaf Rolinski	Robert Martin	

Quaack	Charlie	Using quantum sensors to measure human heart activity	Paul Griffin	Thorsten Ackemann	Stefan Kuhr
Cumming	Jack	Simulation of Maxwells equations for optical design of quantum technologies	Paul Griffin	Thorsten Ackemann	Stefan Kuhr
Kerr	Deryn	Atomic Physics Simulation for Outreach and Learning	Stuart Ingleby	Kali Wilson	Stefan Kuhr
Wang	Haofu	Laser specification and design for undersea LIDAR	Alan Kemp	Michael Strain	Thorsten Ackemann
Agnew	Nicola	New schemes for microwave Rydberg sensing	Jonathan Pritchard	Alessandro Rossi	Thorsten Ackemann
Carroll - Canning	Ava	Why do ocean colour chlorophyll products fail in coastal waters?	David McKee	Brian Patton	Yu Chen
Paterson	Ross	Why do ocean colour chlorophyll products fail in coastal waters?	David McKee	Brian Patton	Yu Chen
Bell	Kaitlyn	A coherent synchrotron source based on a laser-plasma wakefield accelerator	Dino Jaroszynski	Enrico Brunetti	Zheng-Ming Sheng
Lockie	Jack	Photoionization modeling of AGN winds	Junjie Mao	Mark Wiggins	Zheng-Ming Sheng
Morrison	Kirsty	Chemical evolution of galaxies	Junjie Mao	Mark Wiggins	Zheng-Ming Sheng
Marshall	Thomas	RF-gated Thermionic Injector Gun for Free-Electron Laser	Liang Zhang	Grace Manahan	Zheng-Ming Sheng

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Note: For students not listed above, we do not expect a reports from them. The viva schedule will be revised based on who has submitted.