



AUSTRALIAN INSTITUTE OF PHYSICS CONGRESS
CO-LOCATING WITH NFO17, COMMAD 2024 & ANZCOP 2024
MELBOURNE AUSTRALIA 2-5 DECEMBER 2024

Poster Listing: Monday 2nd - Tuesday 3rd December 2024

Poster Number	Poster Title	Poster Presenter	Theme
1	Towards red lasing from Er ³⁺ -Tm ³⁺ co-doped ZBLAN glass	Mr Clement Chan	ANZCOP
2	Impact of fabrication methods on the core/clad interface quality of tellurite optical fibers	Mr Ehab Salih	ANZCOP
3	Rapid daytime deployment capability of a mobile optical ground station	Mr Ayden Mccann	ANZCOP
4	Enhanced coherent control of carrier spin states in a quantum dot using the AC Stark effect	Mr Josiah Hsi	ANZCOP
5	Femtosecond pulse laser cleaning for the preservation of the Sydney Harbour Bridge	Dr Ludovic Rapp	ANZCOP
6	Phase Resetting in the Yamada Model of a Q-Switching Laser	Dr Jacob Ngaha	ANZCOP
7	Femtosecond laser treatments of hard dental tissues and materials	Dr Peiyu Yuan	ANZCOP
8	Coupled waveguides for reducing the fast-axis beam divergence of edge-emitting semiconductor lasers	Mr Jacob Charvetto	ANZCOP
9	Hidden entanglement in 'Phase-Shifted EPR-Bell states'	A/Prof Maarten Hoogerland	ANZCOP
10	Design of a Practical Fiber Laser Hydrophone Array	Mr Harry Schutz	ANZCOP
11	Ultimate responsivity pressure compensated mandrel hydrophone for sea traffic sensing	Mr Harry Schutz	ANZCOP
12	Cross-correlation gas detection based on tunable aperiodic fiber Bragg gratings	Mr Qingshan Yu	ANZCOP
13	Wavefront shaping in a multimode fibre amplifier at 1.5 μ m	Mr Darcy Smith	ANZCOP
14	Simple high-power high-speed GaN semiconductor laser device for photonics applications.	Mr Zixuan Li	ANZCOP
15	Continuous Wave Optical Time and Frequency Comparison Over Rapidly Moving Links	Mr Shawn Mcorley	ANZCOP
16	Diffuse Media Tomography Utilising Near Infrared Electromagnetic Radiation	Ms Catherine Merx	ANZCOP
17	Resonant Tuning of Sb ₂ Se ₃ Metasurfaces for Up-conversion Photoluminescence Enhancement	Mr Zhaoyang Xie	ANZCOP
18	Study of SPAD array geometry in quantum correlation microscopy	Mr Jaret Vasquez-Lozano	ANZCOP
19	Bed-exit prediction using multimode fibre specklegram sensor	Mr Md Nazmul Islam Sarkar	ANZCOP
20	Combining Hanbury Brown-Twiss quantum correlations with stimulated emission microscopy	Mr Ryan Hogg	ANZCOP
21	Metasurface approaches to MIR emission enhancement for thermoradiative power generation	Ms Alice Jiao	ANZCOP



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22	Electron scattering from the LiH molecule	Mr Haadi Umer	ATMOP
23	Towards Discrete Time Crystals with Bouncing Ultracold Atoms	Dr Syed Shah	ATMOP
24	Precision sensing with slow and fast light with atomic vapours	Mr Jayden Webster	ATMOP
25	Satellite lines in Manganese K α and K β X-ray spectra	Prof Christopher Chantler	ATMOP
26	Photoassociation of two atoms in an optical tweezer with asymmetrical trap geometry	Miss Briana Cate	ATMOP
27	Cold atom magnetometry of neuron action potentials	Ms Israa Uday Hameed	ATMOP
28	The Latest on Scandium and Rare Earth Elements: Ab Initio Multiconfiguration Dirac-Hartree-Fock Characteristic X-Ray Spectra	Mr Truong Nguyen	ATMOP
29	Characterisation of GeSn superlattices grown by remote plasma enhanced chemical vapour deposition	Dr Xingshuo Huang	CMM
30	In-situ optical method pH sensing towards understanding nutrient availability in soil	Dr Stephen Warren-Smith	CMM
31	Structural and electronic properties of twisted h-BN flakes on graphene	Mr Yazeed Alnafie	CMM
32	The martensitic transformation in In-Tl alloys revisited	A/Prof Trevor Finlayson	CMM
33	Future Multi-analyser Upgrade for Thermal-Neutron Triple-axis Spectrometer Taipan at ANSTO	Dr Guochu Deng	CMM
34	Fast and effective cleaning of graffiti using femtosecond laser pulses	Dr Ksenia Maximova	CMM
35	Growth mechanism of alumina overlayer deposited via atomic layer deposition on gold nanoclusters Au101/TiO2 catalyst model.	Mr Mohammed Asiri	CMM
36	From single particle to collective excitations –cooperative spin coupling in PrFeO3	Dr Dehong Yu	CMM
37	Modelling the magnetic exchange interactions relative to inelastic neutron scattering results in the quantum antiferromagnet atacamite	Prof Kirrily Rule	CMM
38	Modelling droplet dynamics using the Gross-Pitaevskii equation	Mr Christopher Nahon	CMM
39	Nanomechanical logic with atomically thin graphene resonators	Dr Nishta Arora	CMM
40	Graphene and silver nanowires for mixed-dimensional optoelectronics and their characterisation using quantum sensing	Miss Claire Dawson	COMMAD
41	Towards High-Gain and Low-Noise HgCdTe-based Avalanche Photodetectors for 2- μ m Applications	Mr Pranjal Nobel Mukherji	COMMAD
42	An Electron Beam Induced Current study on Reactive Ion Etch induced pn junctions in Mercury Cadmium Telluride	Mr Daniel Morley	COMMAD



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43	Micro-optics for UV-IR astro-photonics	Dr Haoran Mu	NFO
44	Photoluminescence absorption enhancement by lattice Kerker effect on Si nanostructure	Dr Joshua T. Y. Tse	NFO
45	Understanding thermal effects in the vicinity of plasmonic nanostructures using optical tweezers	Dr Quanbo Jiang	NFO
46	Observation of thermally excited evanescent waves on ultra-thin metal films	Dr Kuan-Ting Lin	NFO
47	Intermediate phases of individual VO ₂ nanoparticles for multilevel nanoscaled memory	Mr Peter Kopic	NFO
48	Multi-material building blocks with VO ₂ for tunable propagation-phase metasurfaces	Dr Filip Ligmajer	NFO
49	Theoretical characterization of tip-enhanced nanocavities for active control of vibrational sum-frequency generation	Miss Isabel Pascual Robledo	NFO
50	Fabrication and optical characterization of SiC nanovoid arrays for Mie-tronics	Mr Hiroya Maruyama	NFO
51	Permittivity imaging through multi-harmonic s-SNOM calibration	Mr Dario Siebenkotten	NFO
52	Surface-enhanced coherent anti-Stokes Raman scattering and nonlinear signal generation on plasmonic chirped gratings	Dr Jer-Shing Huang	NFO
53	Acoustically-driven metalens for time-varying optical trapping	Mr Adem Ozer	NFO
54	On-chip chiral sensor leveraging optical transverse spin in TMDC-plasmonic hybrid platforms	Mr Hae-Seok Jeong	NFO
55	Tunable Liquid Crystal Infiltrated III-V Metasurfaces for Optical Beam Steering	Mr Joshua Jordaan	NFO
56	Low-loss wireless link between an optical nanoantenna and a graphene photodetector	Prof Klas Lindfors	NFO
57	Refractometry of Van der Waals crystals	Mr Martin Nørgaard	NFO
58	Skyrmion Generation in a Plasmonic Nanoantenna through the Inverse Faraday Effect	Dr Mathieu Mivelle	NFO
59	Illuminating the impact of bimetallic structure on the optical properties of silver-platinum plasmonic nanoparticles	Dr Kishan Menghrajani	NFO
60	Strained Low-Loss Plasmonic Metal for Near-Infrared Applications: From Quantum to Macroscopic Optical Simulations	Dr Chun-Yu Lu	NFO
61	Phase-Matching the Second-Harmonic Generation in a Plasmonic Two-Wire Transmission-Line	Ms Komal Gupta	NFO
62	Optical Merons in Free Space and Their Rapid Height Dependent Conversion	Mr Anand Hegde	NFO
63	Temperature tunable metasurface for switchable phase contrast imaging	Mr Lincoln Clark	NFO



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64	Active control of Smith-Purcell radiation emission using 2D nanoribbons	Dr Alvaro Rodriguez Echarri	NFO
65	The Role of Second Harmonic Generation during the Anisotropic-Isotropic Transition	Mr Martin Miculka	NFO
66	Strong coupling of WS ₂ excitons and chiral bound states in the continuum	Ms Sarka Vavreckova	NFO
67	Reprogrammable Infrared Fresnel Zone Plates with Antimony Triselenide	Mr Benjamin Russell	NFO
68	Enhancement of structured light interaction with resonant dielectric metasurfaces	Ms Yiyuan Wang	NFO
69	Novel light emission detectors with temporal material modulation	Dr Ayan Nussupbekov	NFO
70	Synthesis and size control of laser ablated silicon nanoparticles for cancer cell uptake	Mr William McMahon-Puce	NFO
71	A 6G Meta-device for 3D Varifocal	Mr Jingcheng Zhang	NFO
72	Spectroscopic analysis on thermally excited evanescent waves on dielectrics	Prof Yusuke Kajihara	NFO
73	Realization of polarization singularity from bound states in the continuum mode-coupled monolayer tungsten disulfide	Ms Jihae Lee	NFO
74	Directional Photoluminescence from Stacked Metasurfaces Utilizing Out-of-Plane Quadrupole Resonance	Mr Alex Lo	NFO
75	ITk: The Inner Detector Upgrade to the ATLAS Experiment	Miss Isabel Carr	NUPP
76	Design and qualification of a distributed readout system for multidetector arrays	Mr Yuri Venturini	NUPP
77	Optical calibration system for SABRE-South active background veto	Dr Kamiel Janssens	NUPP
78	Search for unambiguous signatures of New Physics in electroweak penguin decays	Miss Rongrong Song	NUPP
79	Gravitational Wave Signals from Early Matter Domination: Q-balls and Primordial Black Holes	Mr Matthew Pearce	NUPP
80	Constraints on the dark sector from electroweak precision observables	Mr Bill Loizos	NUPP
81	Detecting Cherenkov radiation in optical fibres using a streak camera	Mr Paarangat Pushkarna	NUPP
82	Feynman-Hellmann Approach to Calculating Nucleon Polarised Structure Functions from Lattice QCD	Mr Joshua Crawford	NUPP
83	Kerr quantum learning machine for bosonic modes	Mr Deepesh Singh	QST
84	Generating Two-Mode Squeezed Vacuum States in Trapped Ions: Entanglement and Sensing	Mr Maverick Millican	QST



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85	Towards high spatial resolution magnetic imaging with a compact, practical quantum diamond microscope	Dr Kevin Rietwyk	QST
86	A compact device for millimetre-scale magnetic imaging based on diamond quantum sensors	Mr Alex Shaji	QST
87	Quantum-secure time transfer using a quantum dot photon source	Miss Nicole Yuen	QST
88	Qudit system identification and control using graybox models	Mr Yule Mayevsky-Mattiaccio	QST
89	A Quantum Approach to Strategic Information Transmission	Mr Kareem Raslan	QST
90	Taming errors in parameter estimation by localized measurements	Ms Riddhi Ghosh	QST
91	Wiring design tool for optimising thermal and noise budgets for quantum devices in dilution refrigerators	Mr Adrien Di Lonardo	QST
92	Generating random process matrices	Mr Abhinash Roy	QST
93	Experimental open quantum simulation of chemical dynamics with controllable noise injection	Mr Frank Scuccimarra	QST
94	An efficient quantum algorithm for Hermitizing quasi-Hermitian matrices	Dr Salini Karuvade	QST
95	Entangling electrons and nuclei in a four-qubit, two-atom device in silicon	Mr Mark Van Blankenstein	QST
96	Application of frame theory in Resource theory of quantum measurements.	Mr Rakesh Kumar Saini	QST
97	Accounting for temporal artifacts in quantum relaxometry	Ms Ella Walsh	QST
98	Faithful geometric measures for genuine tripartite entanglement	Dr Shuming Cheng	QST
99	Genetic algorithms for quantum circuit compilation in data loading and machine learning applications	Mr Floyd Creevey	QST
100	Sensitivity optimisation and practical demonstration of an NV ensemble-based vector magnetometer	Mr Josh Duff	QST
101	Measuring Quantum Information Leakage Under Detection Threat	Dr Farhad Farokhi	QST
102	Deterministic Grover's algorithm: Finding the needle in the haystack every time ... well most times	Ms Fatemeh Mohit	QST
103	Accelerating Physical Systems with Imagination Models	Mr Arindam Saha	QST
104	Quantum Keynesian Beauty Contest	Mr Hiu Ming Lau	QST
105	Advancing nuclear magnetic resonance spectroscopy using nitrogen vacancy centres in diamond through readout improvements	Mr Di Wang	QST



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106	Production of sensitivity-optimised quantum sensors through isotopically enriched diamond growth	Dr Alexander Healey	QST
107	Crystal field engineering for single erbium ion quantum technologies	Mr Tim Newman	QST
108	A tunable fiber cavity platform for studying light-matter interaction at room temperature	Mrs Meera Mohana Varier	QST
109	The truncated Wigner approximation as a tool for quantum sensing	Mr Thakur Giriraj Hiranandani	QST
110	Investigating silicon-vacancy spins in 4H-SiC for maser applications	Mr Ali Fawaz	QST
111	Strategies for charging open quantum batteries	Dr Josephine Dias	QST
112	Many-body thermal machines enabled by quantum correlations	Mr Raymon Watson	TPG
113	Duality and hidden symmetry breaking in the q-deformed Affleck-Kennedy-Lieb-Tasaki model	Dr Thomas Quella	TPG
114	Analysing the measurement problem: stochastic trajectories of the Q function	Mr Channa Hatharasinghe	TPG
115	Emergent metric from wavelet-regularised QFT	Mr Simon Vedral	TPG
116	Noise reduction in Compton amplitude and pion form factor calculation at large momentum in lattice QCD	Mr Ian Van Schalkwyk	TPG
117	New perspectives in fundamental physics	Dr Peter Lamb	TPG
118	Emu μ eV-resolution neutron spectrometer at the Australian Centre for Neutron Scattering: Capabilities and applications	Mr Nicolas de Souza	CMM
119	Hybrid trap for levitated optomechanics of mesoscopic particles	Mrs Meenakshi Mohana Varier	QST
120	Experimental steps towards the creation of multiphoton states in a fiber cavity	Dr Maarten Hoogerland	QST



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Poster Number	Poster Title	Poster Presenter	Theme
1	Optical power limiting in integrated photonic devices incorporating 2D graphene oxide films	Ms Di Jin	ANZCOP
2	Characterization of optical properties of 2D GO films by using integrated photonic devices	Mr Junkai Hu	ANZCOP
3	Nonlinear optical absorption of 2D MXene films for hybrid integrated photonics	Ms Di Jin	ANZCOP
4	Enhanced optical bistability in microring resonators integrated with 2D graphene oxide films	Mr Junkai Hu	ANZCOP
5	Photo-thermal reduction of graphene oxide in integrated photonic devices	Mr Junkai Hu	ANZCOP
6	Probing the stability of Convolution Neural Networks and Support Vector Machines with transmission low frequency Raman spectroscopic data	Mr Mitchell Chalmers	ANZCOP
7	Optical microresonator thermometry using modulation spectroscopy of coupled resonances	Dr Wenle Weng	ANZCOP
8	Different optical models of oceanic air bubbles for improving LiDAR detection	Joyce Mau	ANZCOP
9	Maximizing the accuracy of RF photonic signal processors using an optical microcomb source	Ms yang sun	ANZCOP
10	Photonic electrometry using piezoelectric-Pockels microresonators	Dr Suwan Sun	ANZCOP
11	Integrated Optomechanical Precision Sensors for Navigation	Dr Benjamin Carey	ANZCOP
12	A single-shot delay space and phase readout map for Digital Interferometry	Mr Jacob Bos	ANZCOP
13	A compact LiDAR to measure water temperature – in a swimming pool!	Dr Ondrej Kitzler & Dr Judith Dawes	ANZCOP
14	Optical properties of coloured airborne microplastics	Mx Stefania Glukhova	ANZCOP
15	Detecting the presence of phycoerythrin in the water column with Fluorescence LiDAR	Dr Carolyn Taylor	ANZCOP
16	Tunable Soliton Crystal Microcombs	Ms Caitlin Murray	ANZCOP
17	Simulating the mode hopping in self-injection locking to a microring resonator	Mr Yonghang Sun	ANZCOP
18	Projection of high fidelity structured light beams through a multimode fibre for advanced endomicroscopy	Dr Ralf Mouthaan	ANZCOP
19	Bringing together vibrational spectroscopy and optical coherence tomography to monitor the ripening of store-bought kiwifruit	Dr Sara Miller	ANZCOP
20	Unlocking the generation of reprogrammable arbitrary exotic beams	Mr Andrew Komonen	ANZCOP
21	Closed form for estimating cascaded difference frequency generation bandwidth	Dr Chawaphon Prayoonyong	ANZCOP
22	Ultra-thin optical elements-enabled ultrafast wavefront shaping	Ms Shiu Hei Lam	ANZCOP
23	Photonic Chip External Cavity Laser Driven Saturated Absorption Spectroscopy	Mr William Morrow	ANZCOP



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24	3D optical sectioning with vibrational infrared photothermal and phase signals	Miss Emma Gill	ANZCOP
25	Trapping on light or dark fringes in a counter-propagating optical trap: an observable mechanical effect in an interferometer	Dr Timo Nieminen	ANZCOP
26	Second harmonic generation (SHG) in x-cut lithium tetraborate (LB4) whispering gallery mode resonators	Mr Chengcai Tian	ANZCOP
27	Atomic companding: high-dynamic-range absorption imaging in a single exposure	Mr Joseph Ward	ANZCOP
28	Efficient terahertz directional coupling to a $\lambda/5000$ nano-waveguide	Prof Alessandro Tuniz	ANZCOP
29	On the global stability of Minkowski spacetimes in string theory	Mr Makoto Narita	ASGR
30	The nature of inertia explained using the field theory	Mr Branko Kovac	ASGR
31	Calculations of positron scattering from F, F ₂ , HF, and various fluorocarbons	Dr Nicolas Mori	ATMOP
32	Analysis of the Link Between Surface Features and Catalytic Performance in Singular Platinum Nanoparticles	Prof Kihyun Shin	ATMOP
33	Fast Gates for Mixed-Species Ion-Trap Quantum Computing	Dr Zain Mehdi	ATMOP
34	Cross sections for electron scattering from atomic gallium	Mr Joel Banks	ATMOP
35	Extension of the radiative potential for QED calculations in superheavy elements	Mr Carter Fairhall	ATMOP
36	Vacuum polarisation corrections to hyperfine structure in many-electron atoms	Mr Jayden Hasted	ATMOP
37	Strain characteristics of Germanium-vacancy centres in diamond.	Mr Joshua Oborn	ATMOP
38	Features of bound muons inside nucleus	Mr Thakur Giriraj Hiranandani	ATMOP
39	Heavy Polarons in Quantum Gases with Macroscopic Degenerated Landau Levels	Dr Jia Wang	ATMOP
40	High light absorption and magnetic properties of biosynthesized nickel oxide nanocoatings	Mr Tesfaslasie Msgina	CMM
41	Femtosecond laser machined surfaces for radiative cooling: black metals	Mr Nan Zheng	CMM
42	Supported 2D-Coordinated Networks for CO ₂ Reduction: Role and Influence of the Substrate	Dr Oliver Conquest	CMM
43	Universal Efimov scaling in the Rabi-coupled few-body spectrum	Mr Anthony Nicholas Zulli	CMM
44	Evaluation of oxygen reduction reaction catalytic properties of Pd ₃ Pb Nanocubes: Interplay between shape and strain	Prof Kihyun Shin	CMM
45	Study on interlayer coupling of L1 ₀ -MnGa/ Cr/ D022-Mn ₃ Ga nano circular dots array by polar magneto-optical Kerr effect	Prof Masaaki Doi	CMM
46	Efficient complex surface structure search via interpolation between chemical elements	Mr Giyeok Lee	CMM



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47	Multiscale complexity of two-dimensional Ising systems with short-range, ferromagnetic interactions	Mr Ibrahim Al Azki	CMM
48	Nanoscale electronic structure shift Induced by anions at surfaces (NESSIAS) to replace doping in nano-Si for VLSI	Dr Dirk Koenig	CMM
49	Quantized vortices in superfluid helium thin films	Miss Nicole Lau	CMM
50	Ergodicity and the performance of reservoir computing in memristive circuits	Dr Valentina Baccetti	CMM
51	Understanding the magnetic gap and spin texture in designer ferromagnet-topological insulator-ferromagnet heterostructures.	Mr Mohammad T. H. Bhuiyan	CMM
52	Electrostatic control of electron-electron interactions in 2D metal-organic materials	Mr Julian Ceddia	CMM
53	Boundary states of Interacting boson gas in a Su-Schrieffer-Heeger (SSH) like system	Mr ANIRBAN GHOSH	CMM
54	Fabrication of nanopillar arrays to enhance biological voltage sensing on diamond substrates	Ms Hunter Johnson	CMM
55	Characterization of edge currents in quantum spin Hall insulators using diamond nanoscale magnetometry	Prof Andrew Greentree	CMM
56	Quantum material research capabilities at the Australian Synchrotron	Dr Anton Tadich	CMM
57	Atomic-scale manipulation of plasmons in twisted Bilayer graphene	Prof Yi SHI	COMMAD
58	Towards Nanomechanical Autonomous Error Correction	Miss Xiaoya Jin	COMMAD
59	Optoelectronic imaging of neuronal action potentials by defect charge-state conversion in diamond	Dr Daniel McCloskey	COMMAD
60	Terahertz Laser Feedback Imaging of Marble Cultural Heritage Structures	Dr Xiao Guo	COMMAD
61	Deep Level Defects in Electron Irradiated GaAs After Three Decades of Storage at Room Temperature	Mrs Damini Rangaswamy	COMMAD
62	Data-driven Discovery for Robust Optimization of Semiconductor Nanowire Lasers	Dr Patrick Parkinson	COMMAD
63	Room temperature bias-selectable, dual-band infrared detectors based on lead sulfide colloidal quantum dots and black phosphorus	Dr James Bullock	COMMAD
64	Electrostatically tuneable metasurface for spectral filtering in Terahertz range	Ms Aayushi Nanda	COMMAD
65	Determining the spontaneous emission rates of particles in eigenstates of Navarro-Frenk-White dark matter gravitational wells	Mr Isaac Lobo	GAP
66	Constraining Asymmetric Dark Matter using Colliders and Direct Detection	Dr Arnab Roy	GAP
67	PhaseTracer2: from effective potentials to transition properties	Mr William Searle	GAP
68	Dark matter from quantized gravity - Schrodinger takes Newton to the dark side	Dr Allan Ernest	GAP
69	Direct search for dark matter axions with "The ORGAN Experiment"	Prof Michael Tobar	GAP



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70	Measurement of $B_0 \rightarrow D^- \pi^+ \pi^0$ at the Belle Experiment	Mr Kim Smith	NUPP
71	Compton Amplitude of the Pion using Feynman-Hellmann	Mr Jordan Mckee	NUPP
72	Constraining beyond the Standard Model nucleon isovector charges	Prof James Zanotti	NUPP
73	Particle Flow reconstruction developments with the ATLAS experiment	Mr Matthew Green	NUPP
74	The axial-vector and vector charge of the nucleon with isospin breaking effects	Mr Joshua Perks	NUPP
75	Physics at Future Circular Collider Electron-Positron	Mr Aman Desai	NUPP
76	LHEReader: Simplified conversion from Les Houches Event files to ROOT File Format	Mr Aman Desai	NUPP
77	Exploring Higgs Physics at the Future Circular Collider	Mr Kael Kemp	NUPP
78	Investigation of Four-top Production within the ATLAS Experiment	Mr James Gallagher	NUPP
79	Measurements of Higgs boson cross-sections and couplings with the ATLAS experiment	Dr Harish Potti	NUPP
80	Validating the ITk Strip Simulation at the ATLAS Experiment	Miss Haylea Purnell	NUPP
81	Oral exams in physics - an art and alternative in the age AI	Prof Hans Bachor	PEG
82	A particle physics toy toolbox for the ABC Model	Mr Aman Desai	PEG
83	50 years of congresses of the Australian Institute of Physics	Prof Stephen Collins	PEG
84	Strong Error Bounds for Trotter & Strang-Splittings and Their Implications for Quantum Chemistry	Mr Alexander Hahn	QST
85	Embedded logical channels in bosonic error correction	Dr Ben Q Baragiola	QST
86	Quantum Microscope using Raman Heterodyne Detection of Nitrogen Vacancy Centres in Diamond	Miss Taylor Christie	QST
87	Counterfactual quantum trajectories: Given that my quantum system just jumped, what would it have been if it had been diffusing instead?	Miss Ingita Banerjee	QST
88	Generating entangled triphoton states in a nonlinear coupled waveguides	Mr Miguel Bacaoco	QST
89	Individual spin-state readout of dynamic 2D ion crystals for quantum simulation in a Penning trap	Mr Julian Jee	QST
90	Full band structure calculation of semiconducting materials on a noisy quantum processor	Mr Shaobo Zhang	QST
91	In situ-tunable spin-spin interaction in dynamic 2D ion crystals	Mr Joseph Pham	QST
92	Deterministic single ion implantation for solid state-based quantum technologies	Dr Paul Racke	QST



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93	Probing Non-Equilibrium Many-Body Dynamics through High-Order Correlation Functions in Bose-Einstein Condensates of Metastable Helium-4 Atoms	Mr Shijie Li	QST
94	Statistical mechanics models of quantum error correction with post-selection	Mr Lucas English	QST
95	Experimental demonstration of relativistic Bohmian trajectories of a single photon	Mr Sayantan Das	QST
96	High fidelity qudit control in a dual-species ion trap	Ms Prachi Nagpal	QST
97	A proof-of-concept memory powered heat engine	Mr Liam McClelland	QST
98	Ground-state-energy calculation for the water molecule on a superconducting quantum processor	Mr Michael Jones	QST
99	Multi-Photon Transport through Optically Deep Ensembles of Atoms	Mr Yangming Wang	QST
100	Electro-absorption switching in nanoplatelets	Miss Kyla Rutherford	QST
101	Integrating high quality 3D microwave resonators with nanodevices for global qubit control	Mr Savi' Apicella	QST
102	Measuring Polariton-Polariton Interactions Via Ultrafast Spectroscopy	Mr Matthew Berkman	QST
103	Diffraction unlimited 2D localisation using photon number resolving detectors	Prof Andrew Greentree	QST
104	Generation of microwave-optical entangled photons in magneto-optic systems	Ms Gargi Tyagi	QST
105	Modelling chiral waveguide QED dynamics using matrix product states	Mr Jacky Luo	QST
106	Optimising Single-Photon Sources via Machine Learning: Enhancing Quantum Dot Emission in Micropillar Cavities	Mr Abhishek Roy	QST
107	Characterisation of diamond surface noise using shallow NV ensembles	Mr Dhilan Vallury	QST
108	Noise modeling in single photons for FBQC	Ms Yuktee Gupta	QST
109	Towards Rydberg Blockade with WS ₂ Heterostructures	Mr Nikhil Pramod Narkhede	QST
110	Quantum stochastic public domain software: xSPDE4	Prof Peter Drummond	QST
111	A Tensor Network Approach to Benchmarking the Surface Code under Realistic Noise	Mr Azar Nakhli	QST
112	A tunable fiber cavity system integrated with Solid-immersion lenses for enhancing polariton-polariton interactions	Ms Raji Bhaskaran Nair	QST
113	Towards single ion addressing of dynamic 2D ion crystals for quantum simulation	Mr Nihar Makadia	QST
114	Retro-estimated quantum states of a continuously monitored mechanical oscillator	Mr Soroush Khademi	QST
115	Temperature and magnetic field dependence of critical current in niobium nitride thin-films grown by atomic layer deposition	Dr Mikhail Patrashin	QST



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116	Resolution of Discrete Quantum Clock-Time Observable	Mr Khai Bordon	TPG
117	A generalised framework for defining discrete Wigner functions via the Gottesman-Kitaev-Preskill code	Mr Lucky Antonopoulos	TPG
118	Intrinsic Time in Quantum Mechanics	Mrs Estelle Asmodelle	TPG
119	Ultrathin 3D-printed Bessel beam probe for intracoronary imaging in live pigs	Dr Alok K. Kushwaha	NFO
120	Dynamics and Thermodynamics of Rabi-driven Fermi gases	Dr Brendan Milkerin	ATMOP