

## **Session Program**

**11-16 Dec 2022**



# **24th Australian Institute of Physics Congress**

## ***Poster session***

# Tuesday 13 December

17:30

## Poster session: Poster Session 1

Poster Session | Location: Adelaide Convention Centre, Exhibition Halls F & G

### Investigation of the Extrusion Parameters for Tellurite Optical Fibres

**Speaker**

Jobaida Akhtar

### Technology evaluation of low loss all-fiber fanouts for multicore fibers

**Speaker**

Krzysztof Wilczyński

### Simulating power cable damage through monitoring temperature of multimode optical fibres with a state-of-the-art distributed sensing instrument

**Speaker**

Andreas Ioannou

### Visualization of glass flow during extrusion to track glass deformations

**Speaker**

Anna Radionova

### Determination of Transition Polarisability for Atomic Parity Violation in Cesium

**Speaker**

Jayden Hasted

### Direct Detection of Multi-Component Dark Matter with Gravitational Focusing

**Speaker**

Bill Loizos

### Flavoured Peccei-Quinn symmetry and the DFSZ Axion

**Speaker**

Maaz Hayat

### Constraining Beyond The Standard Model Nucleon Isovector Charges

**Speaker**

Rose Smail

### Exciton dynamics: Beyond thermal equilibrium

**Speaker**

Francesco Campaioli

### Enhancement in NELIBS with silver and gold nanoparticles and N-Graphene QDs

**Speaker**

Carlos Eduardo Nogales Herrera

### Benchmarking of Different Optimizers in the Variational Quantum Algorithms for Applications in Quantum Chemistry

**Speaker**

Mr Harshdeep Singh

**Effect of the silicon substrate on singlet and triplet exciton binding energy in crystalline tetracene****Speaker**

Dr Mykhailo Klymenko

**Magnetic Monopole Response for an Electric Charge Near Multilayer Composites with Topological Insulator****Speaker**

Dr Qiang Sun

**Electrical Detection of Coherent Spin States in a Silicon Carbide Device****Speaker**

Chris Lew

**Visible to Short-Wave Infrared Photodetectors Based on the van der Waals Material ZrGeTe<sub>4</sub>****Speaker**

Wei Yan

**MEMS based silicon-air-silicon long wave infrared spectrometer****Speaker**

Hemendra Kala

**Multi-scale modelling of STM devices with in-plane degenerately doped contacts****Speaker**

Mushita Masud Munia

**An Investigation of MEMS-based Photonic Switch Structure****Speaker**

Yan Liu

**Fabrication and Characterization of Superconducting High-fluence Ga-implanted and In-implanted Silicon Thin Films****Speaker**

Fei Hu

**Inter-laboratory comparisons in support of the development of standards for 2D materials****Speaker**

Mr Malcolm Lawn

**Integrated deflection measurement for electrostatically actuated MEMS****Speaker**

Michal Zawierta

**Atomically Thin Indium Oxide Based Nanosheets for Optoelectronics****Speaker**

Mr Chung Kim Nguyen

**Towards long-wave infrared narrowband tunable FPIs****Speaker**

Gurpreet Singh Gill

**Crystallinity Properties of Ternary III-Oxide Alloys**

**Speaker**

Dr Justin Goodrich

**Coherent multi-mode dynamics of Terahertz Quantum Cascade Lasers in Fabry Perot configuration****Speaker**

Carlo Silvestri

**Enhanced room temperature valley polarization in WS<sub>2</sub> excited above resonance.****Speaker**

Kyle Boschen

**Monolithic Metalenses in Mono-Crystalline Silicon Carbide****Speaker**

Ziwei Yang

**Image and emission spectrum of luminescent nanostructures****Speaker**

Lothar José Carlos Vilchis Martínez

**Real time monitoring of nitrogen vacancy fluorescence during ultrafast pulsed laser heating of diamond****Speaker**

Davin Yue Ming Peng

**Optical lock-in camera for gravitational wave detectors****Speaker**

Mitchell Schiworski

**Monte Carlo modelling of elastic and Raman returns from the water column****Speaker**

Mr Brad Neimann

**Infrared-to-Telecom Frequency Conversion in an Atom-Filled Hollow-Core Fibre****Speaker**

Jed Rowland

**Non-perturbative solution to quantum parametric down-conversion in open optical systems****Speaker**

Mr Aleksa Krstić

**Symmetry of guided mode resonances in 2D nonlocal metasurfaces****Speaker**

Matthew Parry

**Tunable Optical Grating in Magnetic Nanofluid****Speaker**

Urveshkumar Soni

**Enabling the exploration of exotic imaging phenomena triggered by non-linear fluorophores in confocal systems**

**Speaker**

Dr Denitza Denkova

**Nondegenerate internal squeezing: An all-optical, loss-resistant quantum technique for gravitational-wave detection****Speaker**

James Gardner

**Decode NFDQ-QAM signals with carrier phase and frequency offsets using convolutional neural network****Speaker**

Wen Qi Zhang

**Development of a glass-based imaging phantom to model the optical properties of human tissue****Speaker**

Mr Mingze Yang

**Efficient Frequency doubling in LNOI Waveguides using Bounded State in Continuum****Speaker**

Andreas Boes

**Respiratory Rate Monitoring Using Multimode Fibre Specklegram Sensor****Speaker**

Md Nazmul Islam Sarkar

**Laser Stabilisation Techniques for Space Applications****Speaker**

Namisha Chhabra

**Linewidth Measurement and Frequency Control of High Power, Single Frequency, Diamond Raman Laser (DRL)****Speaker**

Richard Pahlavani

**Ray Tracing for Refractive Index Matching Free Optical Projection Tomography****Speaker**

Ms Zixin Liang

**Bound states in microwave QED: Crossover from waveguide to cavity regime****Speaker**

Pradeep Nandakumar

**Optical detection of VOCs using metal-organic framework decorated metasurfaces****Speaker**

Shridhar Manjunath

**Frequency control of diamond Raman lasers for guide star applications****Speaker**

Prof. Rich Mildren

**Dielectric Metasurfaces Based Polarimetry for Satellite Imaging**

**Speaker**

Sarah Dean

**Distance calibration via Newton's rings in yttrium lithium fluoride whispering gallery mode resonators****Speaker**

Joshua Christensen

**A Compact Raman System for the identification of Whisky****Speaker**

Kwang Jun Lee

**Engineered entropic forces allow ultrastrong dynamical backaction****Speaker**

Christopher Baker

**Novel Ultrafast Laser Inscribed Multi-Pass Waveguides for Reduced Bend Losses****Speaker**

Andrew Ross-Adams

**High-precision laser Doppler velocimetry off an airborne target****Speaker**

Benjamin Dix-Matthews

**Towards Bragg-based gravimetry on compact devices: A readout delay free scheme for measuring phase shifts with spatial fringes matter-wave interferometry****Speaker**

Yosri Ben Aicha

**Bouncing droplets and liquid time crystals****Speaker**

Tapio Simula

**Taipan - a versatile thermal neutron scattering instrument for condensed matter and materials research****Speaker**

Kerrily Rule

**Electronic properties of 1T-TiSe<sub>2</sub>, numerical models of the formulation and melting of the charge density wave state****Speaker**

Joshua Gray

**Exploring the Properties and Stabilization of Nanoscale Overlayer/Metal cluster Architectures.****Speaker**

Mohammed Asiri

**Diffuse Scattering Studies from a Martensitic Fe-Pd Alloy****Speaker**

Prof. Trevor Finlayson

**Quench dynamics of the extended Su-Schrieffer-Heeger model**

**Speaker**

Mr Anirban Ghosh

**Self-acceleration of non-Hermitian exciton-polariton wave packets****Speaker**

Yow-Ming Hu

**Exploring the quantum interference of neutral matter waves reflected from ultra-thin films and surfaces****Speaker**

David Cortie

**New developments in the transcorrelated method for multicomponent quantum gases****Speaker**

Chris Bradly

**Towards High-Temperature Light-Induced Spin State Trapping: Insights From the Crystal Field Theory and Molecular Dynamics****Speaker**

Muhammad Nadeem

**A survey of methods for predicting electronic structure****Speaker**

Tanglaw Roman

**Quench dynamics of trapped many-body systems.****Speaker**

Alex Kerin

**X-ray spectroscopy of 3d transition metals****Speaker**

Jonathan Dean

**Convergent close-coupling calculations of electrons scattering on HeH<sup>+</sup>****Speaker**

Prof. Dmitry Fursa

**Cross sections for electron scattering from atomic tin****Speaker**

Haadi Umer

**Coupled mode theory for BECs in a square bipartite optical lattice.****Speaker**

Abbas Hussein

**An Interaction Quench Heat Engine Using a One-Dimensional Bose Gas****Speaker**

Raymon Watson

**A Rubidium Cold Focussed Ion Beam****Speaker**

Kaih Mitchell

**Fluctuation theorem in non-equilibrium vortex systems****Speaker**

Rama Sharma

**Synthetic superfluid chemistry with vortex-trapped quantum impurities****Speaker**

Matthew Edmonds

**Critical Velocity and Vortex Nucleation for Superfluid Flow Past a Finite Obstacle****Speaker**

Charlotte Quirk

**Measuring Rotation in a Bose Einstein Condensate with Phonon Interferometry****Speaker**

Charles Woffinden

**Molecular convergent close-coupling calculations for the ionisation of H<sub>2</sub> and its isotopologues****Speaker**

Dmitry Fursa

**Fully Stripped Beryllium-Ion Collisions with Atomic Hydrogen Initially in an Excited State****Speaker**

Nicholas Antonio

**Shell effects in fission and quasifission****Speaker**

Cedric Simenel

**Evidence from CDF II and Muon  $g-2$  for a new particle at  $80.4287(22)$  GeV/c<sup>2</sup>****Speaker**

Dr Robert Pfeifer

**Measurement of  $B_0 \rightarrow D\pi^+\pi^0$  at the Belle Experiment****Speaker**

Kim Smith

**Rare B-meson decay processes in the ATLAS detector at CERN****Speaker**

Matthew Fewell

**Tensor E-graphs for Lattice QCD Nuclear Correlation Function Calculations****Speaker**

Nabil Humphrey

**Origin of the baryon magnetic polarisability****Speaker**

Thomas Kabelitz

**Simulation of the ATLAS Inner Tracker****Speaker**

Emily Filmer



**Current Status and the Future for Automation and Monitoring of Calibration Procedures at the Belle II Experiment****Speaker**

David Dossett

**On the query complexity of connectivity with global queries****Speaker**

Arinta Auza

**Quantum transduction with atomic three-level systems****Speaker**

Thomas Smith

**Spectroscopy to observe Maxwell's Demon****Speaker**

Rose Manakil

**Information Flow in Non-Unitary Quantum Cellular Automata****Speaker**

Elisabeth Wagner

**Compilation of algorithm specific graph states for quantum circuits****Speaker**

Madhav Krishnan Vijayan

**The shareability of steering in two-producible states****Speaker**

Qiucheng Song

**Quantum Approaches to Combinatorial Optimisation Problems in the Automotive Industry****Speaker**

Gary Mooney

**Optimisation of electron spin qubits in electrically driven multi-donor quantum dots****Speaker**

Abhikbrata Sarkar

**Subsystem criticality & bifurcating entanglement renormalization****Speaker**

Dominic Williamson

**Quantum Machine Learning: Quantum Kernel Methods****Speaker**

Sanjeev Naguleswaran

**Homodyne measurement with a Schrödinger cat state as a local oscillator****Speaker**

Austin Lund

**Optimal mitigation of random-telegraph-noise dephasing by spectator-qubit**

**Speaker**

Behnam Tonekaboni Faghihnasiri

**Phase-space simulations of Gaussian Boson Sampling quantum networks****Speaker**

Alexander Dellios

**Quantum optical levitation of a mirror****Speaker**

Ryan Marshman

**Quantum measurement and control with massive mechanical oscillators****Speaker**

Matt Woolley

**Limitations on feasibility of satellites for distributed quantum computer networks****Speaker**

Srikara Shankara

**Dynamics of Nanotube Electromechanical Oscillator Coupled to Single Electron Transistor****Speaker**

Mr Govind Sasikumar

**System for Toxic Element Analysis (STELA)****Speaker**

Jack Webster

**HF Radar Signatures of Surface Gravity Wave Spectra on Shear Flows****Speaker**

Stuart Anderson

**Storing the sunshine: outer valence ionization potentials of norbornadiene and quadricyclane****Speaker**

Feng Wang

**Techno-economic comparison for productions of hydrogen and synthetic methane from Australian wheat straw****Speaker**

Mr Ross Swinbourn

**Sensitive temperature-dependent spin properties in hBN nanopowders****Speaker**

Fernando Meneses

**Recovering quantum metrology advantage in the presence of noise****Speaker**

Nattaphong Wonglakhon

**Utilising Second-Order Correlation Algorithms for Improved Single Photon Source Measurements**

**Speaker**

Mitchell de Vries

**Quantum Diamond Magnetometers for Precision Vector Magnetic Field Sensing****Speaker**

David Simpson

**Entanglement based probe new macroscopic forces****Speaker**

Ryan Marshman

**Silicon Birefringence Mapping Measurement****Speaker**

Vahid Jaberian Hamedan

**Non-linear simulations of weak gravitational lensing****Speaker**

Adam Stewart

**Nature of inertia and dynamic gravitational field****Speaker**

Branko Kovac

**Volatile Crystalline Semiconductor Core Fibers****Speaker**

Thomasina Zaengle

**Compositionally Manipulating Nonlinearities in Novel Optical Fibers Based on the Molten Core Method****Speaker**

Miranda Stone

**On the evolution of nanoparticles in nanoparticle-doped optical fibers****Speaker**

Mary Ann Cahoon

**Increasing silica loading in fibre preform fabrication by 3D DLP printing****Speaker**

Ms Jiaying WANG

**Fibre optic hydrophone based on pressure sensitive microstructured optical fibre****Speaker**

Wen Qi Zhang

**Modelling of Nonlinear Amplifier in the Mid-IR Region****Speaker**

Bhaswar Dutta Gupta

**Spontaneous high efficiency third harmonic generation in optical fibres****Speaker**

Wen Qi Zhang

**Over 200 mW single-frequency Tm-doped fiber ring laser at 2.05  $\mu\text{m}$**

**Speaker**

Lu Zhang

**Suppressing stimulated Brillouin scattering and speckle effects by adjusting the seed laser wavefront in a high-power multi-mode fibre amplifier system**

**Speaker**

Ori Henderson-Sapir

**Preferential coupling of NV nanodiamond to doped fibre and spliced SMF**

**Speaker**

Dr Shuo Li

**Regenerated Polymer Optical Fibre Bragg Gratings for Cochlear Implantation**

**Speaker**

Dinusha Gunawardena

19:00

# Thursday 15 December

17:30

## Poster session: Poster Session 2

Poster Session | Location: Adelaide Convention Centre, Exhibition Halls F & G

### Microneedles for Biofluid Sampling

**Speaker**

SACHIN KUZHUMBITHAZHATHU SHAJIL

### Microdiamond-Silk Wound Dressings for Early Infection Intervention through Temperature Sensing

**Speaker**

Ethan JG Ellul

### Radiotherapy LINAC Breakdowns in Low- and Middle-Income Countries

**Speaker**

Mr Gregory Peiris

### Printable Micron-Resolution Organic Photocapacitors for Neural Interfacing

**Speaker**

Nathan Matthew Brichta

### Feasibility of Quantum Support Vector Machines for classification problems in Particle Physics

**Speaker**

Jamie Heredge

### Precision Optical Metrology of ATLAS ITk Strip Modules for the HL-LHC upgrade

**Speaker**

Tony Tran

### Simulations and design of a compact beamline for Inverse Compton Scattering at the University of Melbourne X-lab

**Speaker**

Scott David Williams

### Benchmarking in Encoded Magic State Injection

**Speaker**

Nicholas Fazio

### Collisional-model quantum trajectories for entangled qubit environments

**Speaker**

Alexei Gilchrist

### Coupling Nitrogen-Vacancy Centres in Diamond to a Grape Dimer Cavity

**Speaker**

Ali Fawaz

### A quantum model of a time-travelling billiard ball

**Speaker**

Lachlan Bishop

**QuanGuru: A Python Package for Numerical Modelling of Quantum Systems****Speaker**

Cahit Kargi

**LEvitated MAGnets for QUantum METrology****Speaker**

Pavel Fadeev

**Heralded photons over 75km of bright fibre using Type II SPDC****Speaker**

Michael Hencz

**Distributed Quantum Computation on Continental Scales Operates on Kiloherz Clock Cycle with Quantum Satellite Networks****Speaker**

Mr Hudson Leone

**Optical access of Er in Si with 0.5 ms electron spin coherence times****Speaker**

Ian Berkman

**Big time crystals in a bouncing BEC****Speaker**

Mrs CHAMALI GUNAWARDANA

**A Moments Based Estimate of Trial State Fidelity for Variational Quantum Computation****Speaker**

Floyd Creevey

**Building a Real-Time Quantum Random Number Generator****Speaker**

Mikhael Sayat

**Optical homogeneous broadening and site identification of Er in Si****Speaker**

Alexey Lyasota

**Triplet-Triplet Annihilation: Magnetic Field Effects in Solution****Speaker**

Ms Roslyn Forecast

**Latest Developments on the Toroidal Analyser for Angle Resolved Photoelectron Spectroscopy at the Australian Synchrotron****Speaker**

Dr Anton Tadich

**The southern hemisphere's first X-band radio-frequency test facility at the University of Melbourne.**

**Speaker**  
Paarangat Pushkarna

**Unexpected developments in the Plasma Physics of Welding, Lightning and Swirching Arcs.**

**Speaker**  
John Lowke

**Advanced Computational Relativistic Quantum Mechanics for the Investigation of Atomic Structures and Processes**

**Speaker**  
Truong Nguyen

**Discrete-variable Wigner function formalisms and the Weyl-Heisenberg displacements**

**Speaker**  
Lucky Antonopoulos

**Telefilters, telemirrors, and causality**

**Speaker**  
Joshua Foo

**Quantum Rabi model with PT-symmetry**

**Speaker**  
Xilin Lu

**Defining the Quantum Mechanical Time Observable**

**Speaker**  
Khai Bordon

**Interpretation of Dirac Fermions as a Four-Dimensional Gaussian**

**Speaker**  
Mr Ayden Howarth

**Vaidya to Rindler transformation and the Hawking radiation**

**Speaker**  
Mr Pravin Kumar Dahal

**Towards an Australia IACT Array in a Network of Cherenkov Telescopes**

**Speaker**  
Simon Lee

**Using quantum theory to predict dark matter fractions of galactic halos**

**Speaker**  
Allan Ernest

**Consequences of dark neutron decay inside neutron stars**

**Speaker**  
Wasif Husain

**GPS from the ground up - a novel pedagogy for understanding general relativity**

**Speaker**  
Dr Peter Huf

**Scalable and Effective use of Immersive Virtual Reality for Physics Education**

**Speaker**  
John Debs

**Misconception Linked to Missing Information in Figures of a First Year Physics Textbook & How it was Uncovered**

**Speaker**  
Deb Kane

**60 Years of the Australian Institute of Physics**

**Speaker**  
Stephen Collins

**Evaluating the Effectiveness of Virtual Reality in Secondary School Physics Outreach**

**Speaker**  
Madeline Parks

**How Wings Actually Work: Navier-Stokes and Viscosity not Coanda or Others**

**Speaker**  
Graham Wild

**pol-PICTS: a new method to reveal trapping dynamics and energetics of SDR-active defects**

**Speaker**  
Agatha Ulibarri

**Spectrally Resolving the Energy Dependence of Spin Processes in TADF OLEDs**

**Speaker**  
Billy Pappas

**Chiral Electro-Optic Metasurfaces**

**Speaker**  
Luyao Wang

**Hybrid dielectric/plasmonic approach to colour holograms encoded into colour printed images**

**Speaker**  
Seyed Saleh Mousavi Khaleghi

**LNOI ring resonators for synthetic frequency dimension photonics**

**Speaker**  
Mr Xuan Hiep Dinh

**A Machine Learning Chemical Classifier using a Bound-State-in-the-Continuum Dielectric Metasurface Filter Array**

**Speaker**  
Benjamin Russell

**Optical remote sensing of subsurface water temperature and salinity**

**Speaker**  
Dr Glen Douglass

**Accurate modelling of femtosecond-laser direct written fibre Bragg Gratings**



**Speaker**

Saurabh Bhardwaj

**Optical Tomographic Reconstruction of Objects within Diffuse Media****Speaker**

Ms Catherine Merx

**Size reduction of metallic nanoparticles during nanosecond pulsed z-scan experiments****Speaker**

Joshua Davis

**Ultrastable dual frequency comb generation using whispering gallery resonators****Speaker**

Nicholas Lambert

**Optical Limiting and Transient Grating in VO<sub>2</sub> Thin Multilayers****Speaker**

Rocio Camacho

**Aligning a wavelength selective switch with swept-wavelength digital holography****Speaker**

Dr Mickael Mounaix

**Listening to the seismic beats using distributed acoustic sensor over the campus telecommunication network****Speaker**

Shahna Haneef

**Coupling Spin Defects in Hexagonal Boron Nitride to Monolithic Bullseye Cavities****Speaker**

Lesley Spencer

**Experimental Investigation of Ring Cavity Architecture on Holmium Fibre Laser Mode-locked Stability****Speaker**

Alexandros Kolovinos

**A Simple, High sensitivity, Wideband Wavefront Sensor****Speaker**

Thomas Roocke

**Tuning Luminescence Resonance Energy Transfer for Lifetime-Based Multiplexing Detection of Nucleic Acids****Speaker**

Yiqing Lu

**Fiber-coupled multiplexed independent Ho:ZBLAN waveguide chip lasers in a single substrate****Speaker**

Dale Otten

**Structured light in optical tweezers for functional microstructures.**

**Speaker**

Declan Armstrong

**High-dimensional Stokes-space Spatial Beam Analyser****Speaker**

Daniel Dahl

**Femtosecond Laser Written Achromatic Phase Shifters****Speaker**

Glen Douglass

**Next-Gen Tricoupler Device for Exoplanet Detection****Speaker**

Elizabeth Arcadi

**Anti-Resonant Reflecting Acoustic Rib Waveguides for Opto-acoustics****Speaker**

Thomas Dinter

**Photonic radio frequency low pass filter based on lithium niobate on insulator recirculating modulator****Speaker**

Sim Tan

**Solid-immersion lenses integrated into a tunable fiber cavity for enhancing polariton-polariton interactions****Speaker**

Raji Bhaskaran Nair

**Laser Threshold Magnetometry with Diamond Ring Resonator****Speaker**

Christopher Kortholt

**High-order image correlation spectroscopy for fluorescent nanoparticle microscopy****Speaker**

James Chon

**Polarised Neutron Scattering Experiments at the Australian Centre for Neutron Scattering****Speaker**

Andrew Manning

**PELICAN -a Time of Flight Cold Neutron Spectrometer - Recent Scientific Highlights****Speaker**

Dehong Yu

**Microscopic theory of excitons bound by light****Speaker**

Sangeet Santhosh Kumar

**All Optical Initialisation and Readout and Coherent Population Trapping of a Single Germanium Vacancy in Diamond**

**Speaker**

Mr Chris Adambukulam

**The characterization and electronic structure of nanostructured zirconium tellurides****Speaker**

Darryl Jones

**Quench dynamics in the Jaynes-Cummings-Hubbard and Dicke models****Speaker**

Mr Andrew Hogan

**Scalable Nanomechanical Computing****Speaker**

Timothy Hirsch

**Structure and Stability of the Nitrogen-Terminated Diamond Surface****Speaker**

Daniel Roberts

**Quantum entangled states of a classically radiating macroscopic spin****Speaker**

Ori Somech

**Theoretical determination of Zinc  $K\alpha$  spectra using Multiconfigurational Dirac-Hartree-Fock Calculations****Speaker**

Rosemary Zielinski

**State-Selective Electron Capture in  $Ne^{10+} + H(1s)$  Collisions****Speaker**

Mr Aks Kotian

**A degenerate mixture of  $^3He^*$  and  $^4He^*$  with 3D single particle resolution****Speaker**

Kieran Thomas

**On Demand Formation of Polar Core Vortices in Ferromagnetic Spinor Bose Einstein Condensates****Speaker**

Mr Zachary Kerr

**QED radiative corrections to E1 amplitudes in heavy atoms****Speaker**

Carter Fairhall

**High-precision study of E1 transition amplitudes for single-valence atoms and ions****Speaker**

Benjamin Roberts

**Positron Transport in the Positronium Formation Regime**

**Speaker**

Joshua Machacek

**Trace detection of long-lived noble gas isotopes with Atom Trap Trace Analysis****Speaker**

Rohan Glover

**Phase-space stochastic quantum hydrodynamics for interacting Bose gases****Speaker**

Steven Simmons

**A Quantum Theory of Gravity****Speaker**

Prof. Brian Robson

**A New Approach to Low-Mass Dark Matter Detection****Speaker**

Glen Harris

**Efficient multiqubit characterization and control via finite-frame filter functions****Speaker**

Diego Bernal Garcia

**Progress Towards a Fixed Field Beamline in Melbourne****Speaker**

Mr Adam Steinberg

**Characterization of the cosmogenic background in NaI(Tl)****Speaker**

Yi Yi Zhong

**The ATLAS silicon strip tracker upgrade****Speaker**

James Webb

**Overlap Removal at the ATLAS Experiment****Speaker**

Edmund Xiang Lin Ting

**Rare Leptonic Decays at Belle II****Speaker**

Shanette De La Motte

**Hadronic Parton Momentum Fractions from Feynman-Hellmann in Lattice QCD****Speaker**

Tomas Howson

**Hyperon transition form factors from lattice QCD****Speaker**

Mischa Batelaan

**Constraining SWIMP parameters from late decay of WIMPs**

**Speaker**

Meera Deshpande

**UV emission from lanthanide-doped upconversion nanoparticles in super-resolution microscopy: potential for cellular damage****Speaker**

Afshin Karami

**Nanoporous Anodic Alumina based Iontronic Sensing via Structural Engineering****Speaker**

Juan Wang

**Laser Generation via Light-Emitting One-Dimensional Narrow Bandwidth Nanoporous Photonic Crystals****Speaker**

Satyathiran Gunenthiran

**Estimation of quantum state and parameters given past and future information****Speaker**

Qi Yu

**Microwaves with a twist: helical resonators for a new form of ultra-light darkmatter detection****Speaker**

J. Bourhill

**Printable wafer-scale antimony-doped indium oxide nanosheets for high-performance optoelectronics****Speaker**

Dr Ms Nitu Syed

**Optimizing the Thermal characteristics of porous silicon thin films for thermal sensor application****Speaker**

Sobhan Erfantalab

**Prolonging memory retention in optoelectronics devices using compensation model****Speaker**

Thiha Aung

**Single and multilayer metal contacts for chemically and thermally robust interconnects to porous silicon-based sensors****Speaker**

Dr Pritam Sharma

**Impact of the Purcell and Spontaneous Emission Factors in Nanowire Lasers****Speaker**

Ms Parya Reyhanian

**Fluorescent nanodiamonds have disk-like shapes: implications for nanodiamond engineering and quantum sensing applications****Speaker**

Philipp Reineck

**Field-Effect Transistor Device based on Liquid-Metal-Printed Silver-Doped Indium Oxide****Speaker**

Shirui Zhang

**A Neutral Atom Quantum Processor Supporting Long Coherence Times****Speaker**

Kristen Pudenz

**Progress on the fast photoionisation detection of a single Er<sup>3+</sup> ion in Si****Speaker**

Prof. Chunming Yin

**Formation of Superconducting Thin Films and Devices in Silicon Via Phase-Transformation Processes Involving Aluminum or Vanadium****Speaker**

Fshatsion Berhane Gessesew

**Superconducting Gallium-Hyperdoped Germanium from Pulsed-Laser Melting****Speaker**

Shao Qi Lim

**Two-dimensional oxide from surface of liquid chalcogen mixture****Speaker**

Patjaree Aukarasereenont

**Light Beam Induced Current and Electron Beam Induced Current measurements of Mercury Cadmium Telluride n-on-p photodetectors****Speaker**

Daniel Morley

**On-chip high speed photodetectors for microwave photonic filters****Speaker**

Paramjeet Kaur

**Nano/Microstructure for spectra modulation by laser fabrication****Speaker**

JIHONG HAN

19:00