



Monday 27 June 2022

	Mini Oral Theaterette 1	Theme	Mini Oral Theaterette 2	Theme
17:30 - 17:35	868: Phase modulation of self-gating in ionic liquid-functionalized InSe field-effect transistors Dr Shao-Yu Chen	2D materials beyond graphene	483: Spin-based magnetic field imaging with an organic light emitting diode Dr Rugang Geng	Organic semiconductors
17:35 - 17:40	488: Electro-reflectance study of mono/few-layer MoS2 Mr Vishwas Jindal	2D materials beyond graphene	887: Ramped initialisation and measurement of semiconductor spin qubits Dr Daniel Keith	Charge, valley and spin qubits
17:40 - 17:45	833: Effect of various surface conditions on Van der Waals epitaxy of MoS2 Mrs Negar Zebardastan	2D materials beyond graphene	177: Capacitively Coupled Two-qubit Gates In Exchange-only Qubits Mr MengKe Feng	Charge, valley and spin qubits
17:45 - 17:50	978: Effective electron g-factors in electrically gated MoSe2 Mr Kacper Oreszczuk	2D materials beyond graphene	567: Decoherence dynamics of hole spin qubits in self-assembled quantum dots Mr Friedrich Sbresny	Charge, valley and spin qubits
17:50 - 17:55	1020: Exotic currents in nanodevices based on twisted angles in 2D materials Prof Enrique Diez	2D materials beyond graphene	185: Transparent and conducting GaN films grown by reactive sputtering Mr Mohammad Monish	Wide-bandgap semiconductors (GaN, SiC, Ga2O3)
17:55 - 18:00	745: Nonlinear Ballistic Response of Quantum Spin Hall Edge States Dr Pankaj Bhalla	Low dimensional systems (Quantum Hall, transport theory, 1D, 2D)	957: High breakdown voltage of 790V GaN-on-Si Quasi Vertical PiN Diode with Combination of Beveled Sidewall and Fluorine Plasma Treatment Dr Fuchun Jia	Wide-bandgap semiconductors (GaN, SiC, Ga2O3)
18:00 - 18:05	361: Modelling Transport Properties of A Transverse Magnetic Focusing System In A 2DEG with Spin-orbit Coupling Mr Yik Kheng Lee	Low dimensional systems (Quantum Hall, transport theory, 1D, 2D)	524: Manipulation of the electric state of QDs with single magnetic dopants Miss Karolina Połczyńska	Optical properties, optoelectronics, solar cells
18:05 - 18:10	695: Piezoplasmonics: Giant Stress-induced Tunability Of Plasmon Resonance In AlAs Quantum Wells Dr Alina Khisameeva	Low dimensional systems (Quantum Hall, transport theory, 1D, 2D)	246: Charge Trapping States In Red Emitting Sm-doped TiO2 Thin Films: A Junction Spectroscopy Dr Mariko Murayama	Optical properties, optoelectronics, solar cells
18:10 - 18:15	768: Strain-sensitive edge-currents in MoS2 nanoribbons: spin-polarization Miss Suejeong You	Low dimensional systems (Quantum Hall, transport theory, 1D, 2D)	762: Magnetic imaging of internal currents in photovoltaic devices with a quantum diamond microscope Mr Sam Scholten	Optical properties, optoelectronics, solar cells
18:15 - 18:20	994: High-quality two-dimensional electron and hole gases in undoped InSb quantum wells Dr Rüdiger Schott	Low dimensional systems (Quantum Hall, transport theory, 1D, 2D)	227: Peculiarities in the Emission and Absorption Properties of Cs2AgBiBr6 Double Perovskite Crystal Dr Michał Baranowski	Perovskites
18:20 - 18:25	325: Band structure and quantum conductivity corrections in a Dirac semimetal Dr Alexey Shuvaev	Low dimensional systems (Quantum Hall, transport theory, 1D, 2D)	426: High quality metal halide perovskite thin films by Radio-Frequency Magnetron Sputtering Dr Francesco Biccari	Perovskites
18:25 - 18:30			730: High-throughput and multi-modal characterisation for statistically reproducible and holistic modelling of CsPbBr3 nanostructures Dr Patrick Parkinson	Perovskites
18:30 - 19:00	Networking			



**International Conference on the
Physics of Semiconductors 2022**
27 - 30 June 2022 • International Convention Centre, Sydney
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Mini Oral Presentations Program
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Tuesday 28 June 2022

	Mini Oral Theaterette 1	Theme	Mini Oral Theaterette 2	Theme
17:30 - 17:35	781: An integrated widefield probe for practical diamond nitrogen-vacancy microscopy Mr Gabriel Abrahams	Spintronics and spin phenomena	743: Possible Hidden Topology and Quantum Entangled States in Transition Metal Dichalcogenides Mr Jun Jung	Topological states of matter, topological Insulators and Weyl semimetals, Majorana fermions in solid state
17:35 - 17:40	791: Imaging spintronic phenomena in van der Waals magnets using a widefield nitrogen-vacancy microscope Mr Islay Robertson	Spintronics and spin phenomena	263: Lorentz-boost-driven magneto-optics in a Dirac nodal-line semimetal Mr Jan Wyzula	Topological states of matter, topological Insulators and Weyl semimetals, Majorana fermions in solid state
17:40 - 17:45	939: Optimization of the Electrical Readout of Nitrogen Vacancy Centers Ms Lina Todenhagen	Spintronics and spin phenomena	1017: Exploring the bulk-edge interactions in planar bismuthene Dr Yuefeng Yin	Topological states of matter, topological Insulators and Weyl semimetals, Majorana fermions in solid state
17:45 - 17:50	1018: Robust spin coherence with fast optical access for the zinc-vacancy in ZnSe Mr Vitalie Nedelea	Spintronics and spin phenomena	874: Automated, computer-vision enabled fabrication of nanowire devices Miss Teja Potocnik	Electron devices and applications
17:50 - 17:55	63: Spin texture and Larmor precession of holes confined in Si(x) Ge(1-x) two-dimensional quantum well system under Rashba external field Dr Tatsuki Tojo	Spintronics and spin phenomena	956: Hexagonal boron nitride films grown by high temperature molecular beam epitaxy (HT-MBE) with intentional carbon doping. Dr Christopher Mellor	Boron nitride: defect properties, photonics, polaritons and growth
17:55 - 18:00	365: Spin Dependent Transport in Silicon Carbide Devices Dr Brett Johnson	Spintronics and spin phenomena	156: Optical Response Of Ultrathin Periodically Aligned Carbon Nanotube Films: Local Field and Inhomogeneity Effects Prof Igor Bondarev	Carbon: nanotubes and graphene
18:00 - 18:05	377: Probing the cubic crystal anisotropy and spin-orbit interaction in GaAs heterostructures using hole quantum point contacts Prof Alex Hamilton	Spintronics and spin phenomena	935: Twist angle dependent proximity-induced spin-orbit coupling in graphene/WSe ₂ heterostructures Mr Tobias Rockinger	Carbon: nanotubes and graphene
18:05 - 18:10	813: Single-shot photoionisation detection of a single erbium ion with sub-100-ns time resolution Prof Chunming Yin	Spintronics and spin phenomena	804: Real-time ratiometric all-optical nanoscale thermometry Mr Yongliang Chen	Quantum optics, nanophotonics
18:10 - 18:15	921: The effect of oxygen vacancy and the doping concentration on ferromagnetism in Co-doped ZnO thin films Mr Kota Udagawa	Spintronics and spin phenomena	764: Multi-wave mixing for ultimate timing of coherent optical response in InGaAs quantum dot ensembles Mr Stefan Grisard	Quantum optics, nanophotonics
18:15 - 18:20	441: Crystal field model simulations of magnetic response of pairs, triplets and quartets of Mn ions in GaN Dr Dariusz Sztienkiel	Spintronics and spin phenomena	702: All-optical Charging and Charge Transport in Quantum Dots Prof Nika Akopian	Quantum optics, nanophotonics
18:20 - 18:25	478: Effective model of the valence band in antiferromagnetic manganese telluride and anisotropic magnetoresistance Dr Karel Vyborny	Spintronics and spin phenomena	797: T-center ensembles in integrated silicon photonic waveguides Mr Adam DeAbreu	Quantum optics, nanophotonics
18:25 - 18:30	486: Positively charged exciton dissociation energy in (Cd,Mn)Te quantum wells with controlled disorder Miss Aleksandra Łopion	Spintronics and spin phenomena		
18:30 - 19:00	Networking			