

24th Australian Institute of Physics Congress

Monday 12 December 2022

Conference on Optoelectronic and Microelectronic Materials and Devices: COMMAD 1 - Hybrid Semiconductors and Processing - Room R7 (11:00 - 12:30)

-Conveners: Mariusz Martyniuk

time	[id] title	presenter
11:00	[39] Intrinsic quantum confinement and charge-carrier localisation in metal halide semiconductors	HERZ, Laura
11:30	[76] Enhanced Photodetection with BP – Organic Hybrid	LOW, Mei Xian
11:45	[229] The Application of Gallium Oxide High Power Optical Devices by Etching Process Optimization	Ms ZHOU, Xiting
12:00	[362] MBE growth and mechanical properties of HgCdSe infrared materials	MA, Shuo
12:15	[534] Optimising CVD boron doped diamond with a novel 3D-printed titanium Faraday cage for an all diamond superconducting device platform	JIANG, Yi

Conference on Optoelectronic and Microelectronic Materials and Devices: COMMAD 2 - Quantum Well Devices and Lasers - Room R7 (14:00 - 15:30)

-Conveners: Antoni Rogalski

time	[id] title	presenter
14:00	[267] High-Power Mid-IR Quantum Cascade Lasers grown by MOCVD	Prof. MAWST, Luke
14:30	[82] Structural investigation on epitaxially grown CdTe/Sb ₂ Te ₃ materials	SUN, Xiao
14:45	[773] Hydration imaging with THz Quantum Cascade Lasers: Towards Precision Agriculture	Prof. RAKIĆ, Aleksandar
15:00	[738] Generation of Large-Scale Entanglement on Physical Quantum Devices	MOONEY, Gary
15:15	[744] Nanoscale-Engineered InGaN/GaN Quantum Wells via Machine Learning Design	TANSU, Nelson

Conference on Optoelectronic and Microelectronic Materials and Devices: COMMAD 3 - New Materials Growths and Device Fabrications - Room R7 (16:00 - 17:30)

-Conveners: Deb Kane

time	[id] title	presenter
16:00	[173] Solid-state Nanopore: A Nanoelectronic Sensor for Single-Molecule Diagnostics	Dr KARAWDENIYA, Buddini
16:30	[368] High performance HgCdTe Infrared Photodetectors for Sensing Applications	DEHDASHTI, Nima
16:45	[657] Fabrication challenges towards realization of MEMS-enabled spectrally tunable metasurface filter for long-wavelength infrared	BANNIK, Oleg
17:00	[722] Fabrication of MEMS Silicon Nitride Photonic Switch	SWAIN, Shubhashree

17:15	[59] Engineering of Solid-State Random Lasing in Nanoporous Photonic Crystals	SANTOS, Abel
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Tuesday 13 December 2022

Conference on Optoelectronic and Microelectronic Materials and Devices: COMMAD 4 - Integration and Enabling Technologies - Room R7 (11:00 - 12:30)

-Conveners: Andreas Boes

time	[id] title	presenter
11:00	[901] Integration of MEMS for Scalable Programmable Photonic Circuits	QUACK, Niels
11:30	[121] Time-resolved photoionization detection of a single Er ³⁺ ion in silicon	Dr DE BOO, Gabriele
11:45	[60] Gold nanostars for sensitive molecular detection in biological fluids	TUKOVA, Anastasiia
12:00	[183] A study of mechanical and optoelectronic properties of curved HgCdTe thin films	MA, Shuo

Conference on Optoelectronic and Microelectronic Materials and Devices: COMMAD 5 - Nanoscale Photonics and Devices - Room R7 (14:00 - 15:30)

-Conveners: Nelson Tansu

time	[id] title	presenter
14:00	[902] Development of 1550nm InAs on InP emitting QD Lasers	Prof. REITHMAIER, Johann Peter
14:30	[767] Design of High-Power near-2- μ m Pumped Laser Diodes for Ho Fiber Lasers	LANE, Dominic
14:45	[147] Quantum Confinement of Donor Molecule Systems in Silicon	Mr HUQ, A M Saffat-Ee
15:00	[152] Measurement driven quantum clock implemented with a superconducting qubit	HE, Xin
15:15	[735] Selectively-Grown InGaN/GaN Quantum Dots	MAWST, Luke

Conference on Optoelectronic and Microelectronic Materials and Devices: COMMAD 6 - Wide Bandgap Semiconductors - Room R7 (16:00 - 17:30)

-Conveners: Aleksandar Rakić

time	[id] title	presenter
16:00	[93] Optically addressable spin defects in hexagonal Boron Nitride	KIANINIA, Mehran
16:30	[263] Fabrication of Superconducting Diamond Devices	Dr BOSE, Manjith
16:45	[734] Waveguide Design and Its Impact on Ultraviolet-A III-Nitride Diode Lasers	Prof. MAWST, Luke
17:00	[608] Controllable Fabrication of Blue Quantum Emitters in Hexagonal Boron Nitride	GALE, Angus
17:15	[743] Growth and Characterization of AlGaInN Alloys Lattice-Matched to GaN	Prof. TANSU, Nelson

Wednesday 14 December 2022

Conference on Optoelectronic and Microelectronic Materials and Devices: COMMAD 7 - Novel Devices and Materials - Room R7 (11:00 - 12:30)

-Conveners: Dominic Lane

time	[id] title	presenter
11:00	[122] Scalable multilayer epitaxial lift-off for III-V photovoltaics and optoelectronic devices	HAGGREN, Tuomas
11:30	[467] Superconducting Aluminium-Silicon Ring Devices	BOSE, Manjith
11:45	[411] V3O5: a promising material for solid-state neurons	Mr DAS, Sujan Kumar
12:00	[45] Semiconductor Nanowire THz Photonics	JOHNSTON, Michael

Conference on Optoelectronic and Microelectronic Materials and Devices: COMMAD 8 - 2D Materials and Novel Optical Properties - Room R7 (14:00 - 15:30)

-Conveners: Glenn Solomon

time	[id] title	presenter
14:00	[271] Two-dimensional materials for next-generation electronics, optoelectronics and antipathogenic coatings	WALIA, Sumeet
14:30	[772] Terahertz nanoscopy: a non-destructive characterization tool for nanomaterials and nanostructures	GUO, Xiao
14:45	[516] Integration of black phosphorus photoconductors with lithium niobate on insulator photonics	Mr WANG, Shifan
15:00	[532] Insight into the nature of blue emitters in hexagonal Boron Nitride via Stark effect	ZHIGULIN, Ivan
15:15	[69] Quantum sensing with boron nitride nanopowders	Ms SINGH, Priya

Conference on Optoelectronic and Microelectronic Materials and Devices: COMMAD 9 - Novel Photonics Materials and Lasers Systems - Room R7 (16:00 - 17:30)

-Conveners: Lan Fu

time	[id] title	presenter
16:00	[299] Defining & Optimising Chaos Bandwidth - Semiconductor Laser Systems	KANE, Deb
16:30	[573] UV emission from lanthanide-doped upconversion nanoparticles could promote cell damage in super-resolution microscopy	Mr KARAMI, Afshin
16:45	[721] Polarimetric Imaging Photodetector based on Sb ₂ Se ₃ Nanowires	Ms LUO, Huijia
17:00	[521] Superconducting microwave resonators for spin-photon coupling in silicon	SINGH, upender
17:15	[932] Metamorphic growth for 1550 nm quantum dots by molecular-beam epitaxy.	Dr JABEEN, Fauzia

Thursday 15 December 2022

Conference on Optoelectronic and Microelectronic Materials and Devices: COMMAD 10 - Novel Electronic Devices - Room R7 (11:00 - 12:30)

-Conveners: Lorenzo Faraone

time	[id] title	presenter
11:00	[879] Record-breaking performance of low-dimensional solid photodetectors – Commentary	Prof. ROGALSKI, Antoni
11:30	[775] Low-leakage Top-Gated Field-Effect Transistors with Epitaxial Graphene on SiC/Si pseudosubstrates	PRADEEPKUMAR, Aiswarya
11:45	[42] Liquid metal-assisted synthesis of atomically thin indium nitride films featuring 2D electron gases	SYED, Ms Nitu
12:00	[61] Nonvolatile Resistive Switching in Layered InSe via Electrochemical Cation Diffusion	MAZUMDER, AISHANI
12:15	[562] The Electrical Nature of Au-hyperdoped Si	LIM, Shao Qi