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# Monday, April 9 8:40 - 10:10

### S1: KEYNOTE

Room: Crystal Ballroom

# Monday, April 9 10:30 - 12:30

# D1AM-S1: COMMUNICATIONS

#### Meeting Room I

#### Schedule

	Monday, April 9	Tuesday, April 10
8:40 - 10:10	S1: KEYNOTE	
10:10 - 10:30		
	D1AM-S1: COMMUNICATIONS	D2AM-S1: DEVICES
10:30 - 12:30	D1AM-S2: MODELING	D2AM-S2: COMMUNICATIONS
	D1AM-S3: DEVICES	D2AM-S3: MODELING
12:30 - 14:15		
	D1PM-S1: SENSORS	D2PM-S1: DEVICES
14:15 - 16:45	D1PM-S2: DEVICES	D2PM-S2: COMMUNICATIONS
	D1PM-S3: COMMUNICATIONS	D2PM-S3: SENSORS

- D1AM-S1.1 10:30 Digital Signal Processing for Passive Optical Networks and Data Centre Interconnects N/A Werner Rosenkranz
- D1AM-S1.2 11:00 Passive Elements Fault Analysis at the Last Mile of FTTH Network in Malaysia 1 Khairul Anuar Mat Sharif, Norsarah Sofea Saad and <u>Dedy Tarsono</u>
- D1AM-S1.3 11:15 Demonstration of XGS-PON and GPON Co-Existing in the Same Passive Optical Network 4 Khairul Anuar Mat Sharif and Nor Azhadi Ngah
- D1AM-S1.4 11:30 The Study of Tunable Energy Band Gap of Graphene Layer 7 Gunawan Witjaksono
- D1AM-S1.5 12:00 Modal Properties of a Varied High Indexed Large Core 4 Mode Photonic Crystal Fiber 12 Tendai Masunda, Angela Amphawan, Sara Alshwani and Aras Aldawoodi
- D1AM-S1.6 12:15 Modified Asymmetrically and Symmetrically Clipped Optical OFDM for IM/DD Systems 15 Mohammed Salman Baig

### D1AM-S2: MODELING

#### Meeting Room II

- D1AM-S2.1 10:30 Design and Modelling of PANDA Ring Resonator Structure N/A Rohan Katti and Shanthi Prince
- D1AM-S2.2 10:45 Simulating the Annual Energy Yield of a Rotationally Asymmetrical Optical Concentrator 18 Daria Freier, Firdaus Muhammad-Sukki, Siti Hawa Abu-Bakar, Roberto Ramirez-Iniguez, Abu Bakar Munir, Siti Hajar Mohd Yasin, Nurul Aini Bani, Abdullahi Abubakar Mas'ud, Jorge Alfredo Ardila Rey, Md Ershadul Karim and Zulfadzli Yusoff
- D1AM-S2.3 11:15 Eigen-Mode Expansion Analysis of Mode Propagation in Tapered Single Mode Fiber 21 Mas Izyani Md Ali, Mohd Hanapiah Mohd Yusof and Hasnida Saad
- D1AM-S2.4 11:30 Three-dimensional (3D) Reconstruction of Range Gated Imaging 24 Sing Yee Chua, Kuew Wai Chew, Ningqun Guo and Xin Wang
- D1AM-S2.5 11:45 Anti- Burst Flooding Attack Model in Optical Burst Switching Network N/A Mohammed Al-Shargabi

# D1AM-S3: DEVICES

- D1AM-S3.1 10:30 Flexible Solar on Fibers as Substrates Coated with Molybdenum and CZTS 27 Asm Mukter-Uz-Zaman
- D1AM-S3.2 11:00 Development of Tapered Fiber Sensor Coated with Pd and Au Nanocomposite Layer for Detection Aqueous of Ethanol N/A Ali Talah, <u>Ahmad Shukri bin Muhammad Noor</u>, Punithavathi Thirunavakkarasu and Nizam Tamchiek
- D1AM-S3.3 11:15 Fiberized Silicon Devices for All-Optical Signal Processing 30 Fariza Hanim Suhailin, Noel Healy and Anna Peacock

D1AM-S3.4 11:30 Dual Air Core Fibres N/A

<u>S Yoo</u>

D1AM-S3.5 12:00 Photonic Integrated Circuit Design and Packaging for Submarine Optical Amplification 33 Giovanni de Farias, Uiara de Moura, João Januário, Marcio Colazza Argentato and Sandro M. Rossi

D1AM-S3.6 12:15 High Energy L-band Femtosecond Fiber Laser with Carbon Nanotube Saturable Absorber 36 Lau Kuen Yao, Ng Eng Khoon, Muhammad Hafiz Abu Bakar, Ahmad Fauzi Abas, Mohammed Alresheedi, Zulfadzli Yusoff and Mohd. Adzir b. Mahdi

# Monday, April 9 14:15 - 16:45

# D1PM-S1: SENSORS

#### Meeting Room I

D1PM-S1.1 14:15 Hydrogenated Amorphous Silicon for Multi-layer Photonics N/A Harold Chong

- D1PM-S1.2 14:45 Application of Erbium-Doped Fibre Laser Dynamics in Pipeline Leak Detection and Location Estimation 39 Sin Ling Woon, Chang Hong Pua, Horng Sheng Lin and Faidz Abd Rahman
- D1PM-S1.3 15:00 Etched Fiber Bragg Grating Sensor for Nitrate Sensing Application 42 Nazirah Mohd Razali, Sumiaty Ambran, Azura Hamzah, Norhayati Abdullah, Osamu Mikami, Muhammad Quisar Lokman and Mohd Hanif Yaacob
- D1PM-S1.4 15:15 Smart Water Quality Monitoring Technologies Tahmina Ajmal
- D1PM-S1.5 15:45 Differential Cross Spectrum Technique for Improving the Spatial Resolution of BOTDR Sensor 45 Mohd Saiful Dzulkefly Zan, Yuki Masui and Tsuneo Horiguchi
- D1PM-S1.6 16:00 High Temperature Sensor Based on Tapered Few Modes All-Solid Photonic Bandgap Fiber 48 Siti Noraina Sanusidin, Mas Izyani Md Ali, Mohd Hanapiah Mohd Yusof and Hasnida Saad
- D1PM-S1.7 16:15 From Laboratory to Spin-off Company N/A Hairul A. Abdul-Rashid

# D1PM-S2: DEVICES

#### Meeting Room II

- D1PM-S2.1 14:15 Integrated Optical Fiber: A Fresh Approach to Planar Photonics 51 Christopher Holmes, Alex Jantzen, Alan Gray, Stephen Lynch, Lewis Carpenter, Paul Gow, James Gates and Peter Smith
- D1PM-S2.2 14:30 Ductile Mode Dicing for Integrated Optics Facet Preparation 54 Lewis Carpenter, Sam Berry, Christopher Holmes, James Gates, Peter Smith and Corin Gawith
- D1PM-S2.3 14:45 Acoustic Wave Management with Brillouin Scattering N/A Kien Phan Huy
- D1PM-S2.4 15:15 Velocity Measurement by Self-Mixing Laser Diode Using Direct Modulation 56 Amalina Athira Ibrahim, Sumiaty Ambran, Fauzan Ahmad, Osamu Mikami and Chiemi Fujikawa
- D1PM-S2.5 15:30 Optical Characterisation of LEDs with Radiation Effects Nurul Fadzlin Hasbullah
- D1PM-S2.6 16:00 Hybrid Integration of a Tunneling Diode and a 1310 nm DFB Semiconductor Laser 59 Yajie Li, JiaQi Wang, Pengfei Wang, Huolei Wang, Weixi Chen, Hongyan Yu, Xuliang Zhou and Jiaoqing Pan

## D1PM-S3: COMMUNICATIONS

- D1PM-S3.1 14:15 On Photonic Spectral Entanglement Improving Quantum Communication 62 Piotr Kolenderski
- D1PM-S3.2 14:45 Saturation Behavior of Fiber Optical Parametric Amplifier in Presence of Dispersion Fluctuations 65 Nurulanati Othman, Kim Gaik Tay, <u>Noran Azizan Cholan</u>, Rahmat Talib, Nor Shahida Mohd Shah and Hassan Pakarzadeh

D1PM-S3.3 15:00 An Overview on Security Issues in the Optical Access Network N/A Fadila Mohd Atan, Nadiatulhuda Zulkifli, Nor Affida M Zin, Sevia Mahdaliza Idrus and Nur Asfahani Ismail

- D1PM-S3.4 15:15 Demonstration of Receiver Generated Optical Duobinary and VSB-NRZ for Next-Generation PON 68 Sevia Mahdaliza Idrus, Shahid Ur Rehman, Nadiatulhuda Zulkifli, Farabi Iqbal and Atsushi Kanno
- D1PM-S3.5 15:45 Chromatic Dispersion Compensation for Offset-QAM/FBMC Based Coherent WDM Using Digital Filter 71 Khaled Alaghbari, Heng Siong Lim, Tawfig A Eltaif and Naif Alsowaidi
- D1PM-S3.6 16:00 Performance Evaluation of XG-PON with DBA Based-Watchful Sleep Mode 74 Nor Affida M Zin, Sevia Mahdaliza Idrus, Arnidza Ramli, Rizwan Aslam Butt, Fadila Mohd Atan and Nur Asfahani Ismail

# Tuesday, April 10

# Tuesday, April 10 10:30 - 12:30

# D2AM-S1: DEVICES

#### Meeting Room I

- D2AM-S1.2 10:45 Enhancing Optical Millimeter Waves Signal in Radio over Fiber System by Stimulated Brillouin Scattering 81 Muhd Haziq Husaini Bin Mazelan, Mohd Rashidi Che Beson, Syed Alwee Aljunid, Anuar Mat Safar and Rosdisham Endut
- D2AM-S1.3 11:00 Power Consumption Modeling in Integrated Optical-Wireless Access Network 84 Nadiatulhuda Zulkifii, Arnidza Ramli and Sevia Mahdaliza Idrus Sutan Nameh
- D2AM-S1.4 11:30 Fabrication and Characterization of a Bismuth-doped Phosphosilicate Fiber 89 Amilia Mansoor, Nasr Omar, Katrina Dambul, Hairul A. Abdul-Rashid and Zulfadzli Yusoff
- D2AM-S1.5 11:45 "1 Versus N" Optical Pin Splitter for Optical Printing Circuit Board 92 Nur Najahatul Huda Saris, <u>Osamu Mikami</u>, Azura Hamzah, Sumiaty Ambran and Chiemi Fujikawa
- D2AM-S1.6 12:00 High Bandwidth Simplicity VCSELs 95 James Lott, Ricardo Rosales, Nasibeh Haghighi, Gunter Larisch and Martin Zorn

# D2AM-S2: COMMUNICATIONS

#### Meeting Room II

- D2AM-S2.1 10:30 Optical Imaging, Filtering and Encrypting with Strongly Scattering Media 98 Cuong Dang
- D2AM-S2.2 11:00 Implementation of Universal Dynamic Bandwidth Allocation Algorithm in Smart Grid Environment N/A Mohammad Azmi Ridwan, Nurul Asyikin Mohd. Radzi, Fairuz Abdullah and Mohammed Hayder Al-Mansoori
- D2AM-S2.3 11:15 Influence of Raman Pump Direction on the Performance of Serial Hybrid Fiber Amplifier in C+L-Band 101 Fairuz Abdullah, Md Zaini Jamaludin, Mudhafar Hussein Ali, Thamer Fahad Al-Mashhadani, Mohammed Hayder Al-Mansoori and Abdulla Khudiar Abass
- D2AM-S2.4 11:30 Network Assessment for Radio over Fiber System N/A Romli Mohamad
- D2AM-S2.5 12:00 Novel Carrier Extraction for Pump Phase-Locking to Polarized PDM-PCTWs in Phase-Sensitive Optical Amplifier Repeaters 104 Yasuhiro Okamura, Ikuya Nagatomi and Atsushi Takada

# D2AM-S3: MODELING

D1PM-S3.7 16:15 Deuterium Passivated Amorphous Silicon on Insulator: A Robust Nonlinear Photonic Platform N/A Peter Girouard

D2AM-S1.1 10:30 Cascaded Dual Drive MZM and Dual Parallel MZM Architecture for Optical Linearization of MZM Nonlinearity 77 Shankar Duraikannan, Siti Barirah Ahmad Anas, Borhanuddin M Ali, Zuraidah Zan and Vinesh Thiruchelvam

D2AM-S3.1 10:30 Design and Simulation of Two-Dimensional (2D) Gallium Nitride (GaN) Photonic Crystal on Sapphire 107 Nur Dalila Mohd Zamani, Ahmad Rifqi Md Zain, Sahbudin Shaari, Burhanuddin Yeop Majlis and Mohd Nawi

D2AM-S3.2 10:45 Multi-element Nano-Engineered Glass Based Er-doped Optical Fibers for Broadband Optical Communication System and LIDAR Applications N/A

<u>Mukul Paul</u>

D2AM-S3.3 11:15 On the Probability Density Function of the Signal Strength in Free-Space Optical Communications Systems with Diversity Reception 110

Kamran Kiasaleh

D2AM-S3.4 11:30 Formation of quasi-2D Layered Crystallite Using Long Chain Halide to Form Hybrid Perovskite Film 113 Rebecca Leong, Mohamed Shuaib Mohamed Saheed, Zainal Arif Burhanudin and Mohamed Salleh

# Tuesday, April 10 14:15 - 16:45

# D2PM-S1: DEVICES

#### Meeting Room I

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- D2PM-S1.2 14:30 Characterizing Inhibitor Content of Transformer Oil in the UV-Visible Waveband 119 Leong Yang Sing, Pin Jern Ker, Md Zaini Jamaludin, Nomanbhay Saifuddin, Aiman Ismail, Fairuz Abdullah, Looe Hui Mun and Lo Chin Kim
- D2PM-S1.3 14:45 Recent Advancement in Graphene-Based Photo-Detector from near to Far Infra-Red Wavelength N/A Ahmad Rifqi Md Zain, Mohd Nuriman Nawi, Mohd. Adzir b. Mahdi and Burhanuddin Yeop Majlis
- D2PM-S1.4 15:15 *Multiwavelength Brillouin-erbium Fiber Laser in Linear Cavity* 122 Mirsa Azhan, Noran Azizan Cholan, Rahmat Talib and <u>Abdul Hadi Sulaiman</u>
- D2PM-S1.5 15:30 Design of a Grating Assisted Mode-Division Multiplexer 125 Manoranjan Minz, Darpan Mishra and Ramesh Kumar Sonkar
- D2PM-S1.6 15:45 Advanced Functions for Signal Processing and Sensing Harnessing On-Chip SBS 128 Ativeh Zarifi, Birgit Stiller and Benjamin Eggleton
- D2PM-S1.7 16:15 Experimental Analyses of Confined Thermal Effect on Chirped Fiber Bragg Grating 130 Noor Shafikah Md Rodzi, Mohd Ridzuan Mokhtar and Zulfadzli Yusoff
- D2PM-S1.8 16:30 Polarization and Probe Power Optimisation in Brillouin Optical Time Domain Analysis System 133 <u>Muhammad Lukman Jamaludin</u> and Mohd Ridzuan Mokhtar

### D2PM-S2: COMMUNICATIONS

#### Meeting Room II

- D2PM-S2.1 14:15 Millimeter- And Terahertz-Wave Radio Systems Enabled by Photonics Technology for 5G/IoT and Beyond 136 <u>Atsushi Kanno</u>
- D2PM-S2.2 14:45 Mode and Loss Analysis of an Ultra-Small Graded-Index Strip Waveguide for Multimode Datacenter Applications 139 Darpan Mishra, Manoranjan Minz and Ramesh Kumar Sonkar
- D2PM-S2.3 15:00 Antennas for Photons Light-Matter Coupling at Nanoscale 142 Karolina Słowik, Jakob Straubel and Carsten Rockstuhl
- D2PM-S2.4 15:30 Investigation on Performance of Large Area Low Loss Fiber in High Capacity Multichannel Systems 145 Sirisha Jeripothula

D2PM-S2.5 15:45 OFDM Transmission in A Converged 60 GHz MMW RoF over OFDM-PON 149 Taha Dahawi, Zulfadzli Yusoff, Mohd Shahril Salleh and John Senior

# D2PM-S3: SENSORS

- D2PM-S3.1 14:15 Pipeline Monitoring and Vibrational Sensing Using Loop Integrated Mach Zehnder Interferometer Optical Fiber Sensor 152 Wen Hao Png, Horng Sheng Lin, Chang Hong Pua and Faidz Abd Rahman
- D2PM-S3.2 14:30 Sensitivity Enhancement of 1-D Photonic Crystal by Waveguide Width Variation for Biosensing Application 155 Mohamad Hazwan Haron, Dilla Duryha, Sahbudin Shaari, Burhanuddin Yeop Majlis and Ahmad Rifqi Md Zain
- D2PM-S3.3 14:45 Opto-acoustic Chemical Sensor Based on Forward Brillouin Scattering in Optical Fiber 158 Desmond Chow and Luc Thevenaz
- D2PM-S3.4 15:15 Assessment of Palm Oil Fruit Bunch Maturity Based on Diffuse Reflectance Spectroscopy Technique 161 Latifah Supian, Ahmad Ashrif A. Bakar and Norhana Arsad
- D2PM-S3.5 15:30 Detection of Power Transformer Fault Conditions Using Optical Characteristics of Transformer Oil N/A <u>Nur Afini Fauzi</u>, Vimal Angela Thiviyanathan, Leong Yang Sing, Pin Jern Ker, Md Zaini Jamaludin, Nomanbhay Saifuddin, Looe Hui Mun and Lo Chin Kim
- D2PM-S3.6 15:45 High Temperature Stable Polymer Planar Waveguide Bragg Grating Sensors 167 Manuel Rosenberger, Steffen Hessler, Maiko Girschikofsky, Stefan Kefer, Stefan Belle, Ralf Hellmann and Bernhard Schmauss
- D2PM-S3.7 16:15 Signal to Noise Improvement Ratio of TDM-FBG Sensor Based on Golay Complementary Codes 170 Mohamed Elgaud, Ahmad Ashrif A. Bakar, Mohd Saiful Dzulkefly Zan, Ku Nur Adzmina Hassan and Mohd Sukor Su'ait

D2PM-S3.8 16:30 Design of Optical Frequency Domain Reflectometer (OFDR) Interferometer Based on Fiber Bragg Grating (FBG) for Passive Optical Network (PON) Monitoring 173

Ahmad Faris Aiman Asha'ari, Naim Nani Fadzlina and Ahmad Ashrif A. Bakar