2022 IEEE International Conference on Semiconductor Electronics (ICSE)

Technical Program

Kuala Lumpur Time	Monday, August 15,	Tuesday, August 16
8:45 am - 9:00 am	OPN: *Opening Ceremony*	
9:00 am - 9:30 am		KN2: *Keynote: Contribution of excited states of molecular nitrogen to surface reactions in nitrogen plasmas*
9:30 am - 9:45 am	KN1: *Keynote: Properties and sensing applications of MA3Sb2Br9 bulk crystals and (PEA)2(MA)3Sb2Br9 thin films*	
9:45 am - 10:15 am		KN3: *Keynote 3: Plasmonics in Biosensors and Electronic Devices*
10:15 am - 10:30 am	**Break**	
10:30 am - 10:45 am	1A: *Device modeling, simulation design and Nanoelectronics*	**Break**
10:45 am - 12:45 pm		2A: *VLSI Design*
12:45 pm - 2:00 pm	**Lunch Break**	**Lunch Break**
2:00 pm - 3:30 pm	1B: *Device physics & characterization and MEMS/NEMS*	2B: *Electronics Materials and Device Fabrication*
3:30 pm - 3:45 pm	**Break**	**Break**
3:45 pm - 5:15 pm	1C: *IC testing, Opto-electronics and photonics, Reliability & failure analysis and Semiconductor Manufacturing Process*	2C: *Artificial Intelligence, Internet of Things and Microwave devices*
5:15 pm - 5:20 pm		
5:20 pm - 5:30 pm		CLS: *Closing Ceremony*
5:30 pm - 5:45 pm		

Monday, August 15, 2022 8:45 am - 9:30 am

Opening Remarks

MC: Suhana Mohamed Sultan (Faculty of Electrical Engineering, Universiti Teknologi Malaysia & University of Southampton, Malay, Malaysia)

KN1: Keynote: Properties and Sensing Applications of MA3Sb2Br9 Bulk Crystals and (PEA)2(MA)3Sb2Br9 Thin Films

Prof. Dr. Lung-Chien Chen

Chair: Nafarizal Nayan (Universiti Tun Hussein Onn Malaysia & Microelectronic and Nanotechnology - Shamsuddin Research Centre (MiNT-SRC), Malaysia)

***Abstract*:** In this work, we report two kinds of detectors: one is a perovskite-like (CH3NH3)3Sb2Br9 (MA3Sb2Br9) MSM-type photodetectors; and, the other one is quasi 2-dimensional (PEA)2(MA)3Sb2Br9 transistor-type thin film alcohol detectors. The MA3Sb2Br9 bulk visible photodetector is prepared by inverse temperature crystallization method and the quasi 2-dimensional (PEA)2(MA)3Sb2Br9 transistor-type thin film alcohol detector is prepared by spin coating method. Firstly, we have fabricated a photodetector based on MA3Sb2Br9 perovskite-like single crystal due to the Sb-based perovskite is a material that are more stable in air and moisture than Pb-based perovskites. Here, MA3Sb2Br9 single crystals were synthesized by inverse temperature crystallization process with precursor solution at three different growth temperatures. MA3Sb2Br9 single crystal with an optimum growth temperature of 60 °C presents the best owing to excellent crystal structure and optical absorption properties. On the other hand, recently, we also have fabricated an alcohol detector based on the quasi 2-dimensional (Q2D) (PEA)2(MA)3Sb2Br9 transistor-type thin films. Here, MA3Sb2Br9 films were spin-coated on the glass substrates with ITO pattern. X-ray diffraction (XRD) patterns, absorbance, and current-voltage were employed to examine the characterizations of the Q2D (PEA)2(MA)3Sb2Br9 films and devices. One diffraction peak at 30.2o corresponding to the cubic crystal (022) phase was observed. The position of absorption edges of MA3Sb2Br9 and Q2D (PEA)2(MA)3Sb2Br9 film were around 518 and 500 nm, respectively. It is corresponding to the band gap of MA3Sb2Br9 and Q2D (PEA)2(MA)3Sb2Br9. The MA3Sb2Br9 and Q2D (PEA)2(MA)3Sb2Br9 perovskite-like alcohol detector exhibits high responsivity of 74 and 83 for 5 % of alcohol concentration, respectively. Besides, the rise time and fall time were 1.85 and 0.77 sec for alcohol detection, respectively.

***Biography* of Prof. Dr. Lung-Chien Chen**: Prof. Lung-Chien Chen received his Ph. D degree in the electrical engineering from the National Tsing Hua University, Hsinchu, Taiwan, in 1999. He has a professional career in industrial institution: Manager and Vice Assistance President in Formosa Epitaxy Photonic Incorporation (1999-2002). In 2002, he joined National Taipei University of Technology (Taipei Tech), Taiwan, as a faculty member of Department of Electro-Optical Engineering. Currently, he is a full Professor of Taipei Tech and his main research interests include compound semiconductor growth (GaSb, AlInGaP, III-nitrides, zinc oxide, and perovskites), material analysis, and device fabrication technology, light-emitting diodes (LEDs), photodetectors, and solar cells. He has authored or coauthored more than 160 journal papers and 5 books or book chapters. He is the holder of more than 21 patents in his fields of expertise. Prof. Chen is the Optica (former of Optical Society of American (OSA)) Senior member and the IEEE Senior member. He was elected as the fellow of Royal Society of Chemistry (RSC) in 2019. In 2021, Prof. Chen is selected as the global top 2% of scientists by Elsevier. In 2022, the International Association of Advanced Materials nominated him for Advanced Materials Award.

1A: Device modeling, simulation design and Nanoelectronics

Chair: P. Susthitha Menon (Universiti Kebangsaan Malaysia & Institute of Microengineering and Nanoelectronics (IMEN), Malaysia)

10:30 ***Simulation an Electrical Performance of Aluminium Nitride using Different Material Properties (invited)***
Norhafizah Burham (Universiti Teknologi MARA, Malaysia); Anees Abdul Aziz (Universiti Teknologi MARA, Shah Alam, Selangor, Malaysia); Norhazlin Khairudin and Ainul Basyirah Naseruddin (Universiti Teknologi MARA, Malaysia)

10:45 ***Modeling of The Effective Mobility of ZnO Nanowires: Diameter and Temperature Dependence***
Uddrity Mansur and Shumiya Alam (Bangladesh University of Engineering and Technology, (BUET), Bangladesh); Farseem Mohammedy (Bangladesh University of Engineering & Technology, (BUET)., Bangladesh)

11:00 ***Hydrogen Gas On Carbon-Doped Boron Nitride Nanoribbon Performance***
Ainun Khairiyah Taib, Zaharah Johari and Shaharin Fadzli Bin Abd Rahman (Universiti Teknologi Malaysia, Malaysia); Mohd Fairus Mohd Yusof (Faculty of Electrical Engineering, Universiti Teknologi Malaysia, Malaysia); Afiq Hamzah (Universiti Teknologi Malaysia, Malaysia)

11:15 ***The effect of pH level and annealing temperature on NiO thin films as Hole Transport Material in Inverted Perovskite Solar Cells***
Subathra Muniandy (University of Technical Malaysia Melaka, Malaysia); Muhammad Idzdihar Bin Idris (FKEKK, Universiti Teknikal Malaysia Melaka, Malaysia); Zul Atfyi Fauzan Mohammed Napiah (Universiti Teknikal Malaysia Melaka (UTeM) & Centre for Telecommunication Research & Innovation (CeTRI), Malaysia); Marzaini Rashid (School of Physics, Malaysia)

11:30 ***Performance Analysis of Junctionless Multi-Bridge Channel FET with Strained SiGe Application***
Syafizah Afidah Affandi, Nurul Ezaila Alias, Afiq Hamzah and Michael Loong Peng Tan (Universiti Teknologi Malaysia, Malaysia); Hanim Hussin (Universiti Teknologi MARA, Malaysia)

11:45 ***Modelling of Thin-film Transistor for Glucose Sensing Application***
Sharifah Fatmadiana Wan Muhamad Hatta, Norhayati Soin and Fazliyatul Azwa Md Rezali (University of Malaya, Malaysia)

12:00 ***Ultra-Sensitive Flexible Piezoresistive Strain Sensor Simulation using Carbon Nanotube Composite***
Sharifah Fatmadiana Wan Muhamad Hatta, Norhayati Soin and Yasmin Abdul Wahab (University of Malaya, Malaysia); Syed Muzamil Ahmed (Universiti Malaya, Malaysia)

12:15 ***Study of adsorption isotherms in the detection of acetone and isopropyl alcohol using QCM sensor with chitosan sensing layer***
Nurul Liyana binti Lukman Hekiem, Aliza Aini Md Ralib, Farah B. Ahmad, Maziati Akmal Mohd Hatta and Nor Farahidah Za'bah (International Islamic University Malaysia, Malaysia)

12:30 ***Electrical Performance of Single Thermocouple With Different Types of Materials Using Multiphysics Simulation***
Anees Abdul Aziz (Universiti Teknologi MARA, Shah Alam, Selangor, Malaysia); Norhafizah Burham (Universiti Teknologi MARA, Malaysia); Siti Fadzillah Nurain (Universiti Teknologi Mara (UiTM), Malaysia); Maizan Muhamad (Universiti Teknologi MARA, Malaysia)

Monday, August 15, 2022 2:00 pm - 3:30 pm

1B: Device physics & characterization and MEMS/NEMS

Chair: Hasnizah Aris (Universiti Malaysia Perlis (UniMAP), Malaysia)

2:00 ***Electrochemistry of Green Ag Nanoparticles Modified Electrode Surface (invited)***
Yasmin Abdul Wahab (University of Malaya, Malaysia); Mohammad Al Mamun and M. A. Motalib Hossain (Universiti Malaya, Malaysia); Md. Kamrul Alam Khan (Jagannath University, Bangladesh); Abu Hashem and Mohd Rafie Johan (Universiti Malaya, Malaysia); Hanim Hussin (Universiti Teknologi MARA, Malaysia); Nurul Ezaila Alias (Universiti Teknologi Malaysia, Malaysia)

2:15 ***The effects of Fluorine implantation and ex-situ Nitrogen anneal on Reliability improvement of 5V CMOSFETs***
Hun Jin Lee and Steven John Pilkington (XFAB, Malaysia); Steve Knebel (XFAB, Germany); Chee Meng Loi and Hui Choo Voon (XFAB, Malaysia); Michaelina Ong (X-FAB Sarawak Sdn. Bhd., Malaysia)

2:30 ***Investigating the capacitive properties of all-inorganic lead halides perovskite solar cells using energy band diagrams***
Sameh Osama (Lecturer, BUET, Egypt); Zahraa Ismail (The British University in Egypt, Egypt); Eman Sawires (Helwan, Egypt); Fathy Amer (Helwan University, Egypt)

2:45 ***Micro Accelerometer Built-In Self-Test and Calibration Using Genetic Algorithm and Interpolation Method***
Anwer Sabah Ahmed (University of Babylon & Al-Furat Al-Awsat Technical University (ATU), Iraq)

3:00 ***Design and Simulation of Band 40 RF SAW ladder-type filter***
Aditya R Devaskar, Vanita Agarwal and Vinay Kulkarni (College of Engineering Pune, India)

3:15 ***Design And Simulation of 2D Zinc Oxide Based SAW Gas Sensor for Hydrogen Gas Sensing***
Adib Mohammad (Universiti Teknologi Malaysia, Malaysia); Suhana Mohamed Sultan (S. M. Sultan, Malaysia); Michael Loong Peng Tan (Universiti Teknologi Malaysia, Malaysia)

Monday, August 15, 2022 3:45 pm - 5:30 pm

1C: IC testing, Opto-electronics and photonics, Reliability & failure analysis and Semiconductor Manufacturing Process

Chair: Haslina Jaafar (Universiti Putra Malaysia, Malaysia)

3:45 ***Enhancement of Film Uniformity by Controlling Solution Viscosity on Fabrication of Silsesquioxane Thin Films (invited)***
Mat Tamizi Zainuddin, Farinaa Md Jamil, Syazana Abu Bakar, Nurazilah Mohd Zainon, Nor Shahida Kader Basha and Siti Mariam Mohamad (SIRIM Berhad, Malaysia)

4:00 ***Ultra low Rdson LDMOS with 12V BVDSS***
Brendan Toner and Hafizah Abdul Malik (X-FAB Sarawak Sdn Bhd, Malaysia); Darin Davis, Terry Johnson, William Richards and Gary Dolny (Silicet, Durham, USA)

4:15 ***A March 5n FSM-Based Memory Built-In Self-Test (MBIST) Architecture with Diagnosis Capabilities***

Kok Heng Ng (Intel Microelectronics, Malaysia); Nurul Ezaila Alias, Afiq Hamzah, Michael Loong Peng Tan and Usman Ullah Sheikh (Universiti Teknologi Malaysia, Malaysia); Yasmin Abdul Wahab (University of Malaya, Malaysia)

4:30 ***Comprehensive Analysis of Gate Oxide Short in Junctionless Fin Field Effect Transistor***

Md Wahidur Rahman, Nurul Ezaila Alias, Afiq Hamzah, Michael Loong Peng Tan and Izam Kamisian (Universiti Teknologi Malaysia, Malaysia)

4:45 ***Dark Current Suppression in MoS2/h-BN/Graphene Photodetector for Self-Powering Applications***

Umahwathy Sundararaju (Universiti Kebangsaan Malaysia, Malaysia); Muhammad Aniq Shazni Mohammad Haniff (Insititute of Microengineering and Nanoelectronics, Universiti Kebangsaan Malaysia, Malaysia); P. Susthitha Menon (Universiti Kebangsaan Malaysia & Institute of Microengineering and Nanoelectronics (IMEN), Malaysia)

5:00 ***Ascorbic Acid Detection Using Spectrometer and Deuterium and Halogen Light Source***

Nur Nadia Bachok (Universiti Kebangsaan Malaysia, Malaysia); Norhafizah Burham (Universiti Teknologi MARA, Malaysia); Norhana Arsad and Ahmad Ashrif A. Bakar (Universiti Kebangsaan Malaysia, Malaysia); Nurul Huda Abd Karim (School of Chemical Sciences & Food Technology, Universiti Kebangsaan Malaysia, Malaysia); Ahmad Razi Othman (Universiti Kebangsaan Malaysia, Malaysia)

5:15 ***Study of tapered multimode optical fibre performance for salinity detection***

Norhafizah Burham (Universiti Teknologi MARA, Malaysia); Norazida Ali (National University of Malaysia, Malaysia); Nur Nadia Bachok and Norhana Arsad (Universiti Kebangsaan Malaysia, Malaysia)

Tuesday, August 16, 2022 9:00 am - 9:45 am

KN2: Keynote: Contribution of excited states of molecular nitrogen to surface reactions in nitrogen plasmas

Professor Dr. Koichi Sasaki

Chair: Yasmin Abdul Wahab (University of Malaya, Malaysia)

***Abstract*:** Nitrogen plasmas are utilized in surface nitriding of metallic and semiconductor materials. In addition, the synthesis of ammonia using nitrogen-hydrogen mixture plasmas becomes an active research topic in plasma science. The most important reactive species in nitrogen plasmas is believed to be atomic nitrogen, but in this talk, we will discuss the importance of molecular nitrogen at excited states.In many years ago, we compared the nitriding rates of Si [1] and SiC [2] in nitrogen plasmas with the densities of atomic nitrogen. The experimental results did not indicate the correlation, suggesting that the existence of more effective species for the surface nitriding. We also measured the density of molecular nitrogen at the electronic metastable state. As a result, we observed the better correlation between the nitriding rate and the density of the metastable state.Now, we are working on the synthesis of ammonia using nitrogen-hydrogen mixture plasmas. The synthesis of ammonia is a catalytic reaction, where the adsorption of nitrogen on the catalysis surface is the rate limiting step. We compared the synthesis rate of ammonia with the fluxes of atomic nitrogen and molecular nitrogen at vibrational excited states. The experimental results indicate the better correlation between the synthesis rate and the flux of vibrationally excited molecular nitrogen. We believe that we should consider the contribution of molecular nitrogen at excited states when we design surface reaction processes using nitrogen plasmas. [1] Y. Horikawa, K. Kurihara, and K. Sasaki, Appl. Phys. Express 4, 086201 (2011). [2] M. Shimabayashi, K. Kurihara, Y. Horikawa, and K. Sasaki, Jpn. J. Appl. Phys. 55, 036503 (2016). Short

***Biography of Professor Koichi Sasaki*:** Professor Koichi Sasaki received PhD from Nagoya University in 1991. He is a full professor of Division of Quantum Science and Engineering, Graduate School of Engineering, Hokkaido University. Having an experience as Assistant Professor of Graduate School of Engineering, Nagoya University, Associate Professor of Graduate School of Engineering, Nagoya University and Associate Professor of Plasma Nanotechnology Research Center, Nagoya University.

Tuesday, August 16, 2022 9:45 am - 10:30 am

KN3: Keynote: Plasmonics in Biosensors and Electronic Devices

Assoc. Prof. Dr. P. Susthitha Menon

Chair: Ahmad Sabirin Zoolfakar (Universiti Teknologi MARA, Malaysia)

Abstract: Plasmonics takes advantage of the coupling of light to charges like electrons in metals, and allows breaking the diffraction limit for the localization of light into subwavelength dimensions enabling strong field enhancements. This presentation will give an overview of the design and development of plasmonic biosensors utilizing the Kretschmann configuration with angular interrogation for detecting the presence of biomolecules. Methodology of this study was executed using Finite Difference Time Domain (FDTD) method and experimental characterization was executed using Bionavis Surface Plasmon Resonance (SPR) equipment. Kretschmann-based SPR sensor with 50 nm-thick gold film was used for glucose, urea and creatinine detection at 670 nm and 785 nm electromagnetic (EM) wavelengths. There will also be an overview on plasmonic applications in other biosensors, microring resonators, solar cells and photodiodes.

Biography of Assoc. Prof. Dr. P. Susthitha Menon: P Susthitha Menon is currently an Associate Professor at the Institute of Microengineering and Nanoelectronics (IMEN), Universiti Kebangsaan Malaysia (UKM). She received her BEng degree from UKM in 1999. As an Intel scholar, she worked at Intel Malaysia as a Product Engineer for mobile modules systems from 1999 to 2002. She then received her MSc and PhD (Distinction) degrees in 2005 and 2008 respectively from UKM, for the development of Si- and InGaAs-based interdigitated p-i-n photodiodes. At IMEN, she is specializing in the field of plasmonics, optoelectronics, nanophotonics, and robust engineering optimization. Dr Menon is a Senior Member of SPIE, OSA and IEEE since 2009. She is a member of IEEE Electron Devices Society (EDS) Board of Governers (BoG), the Vice Chair of the IEEE EDS R10 SRC committee and is the Past Chair of the IEEE EDS Malaysia Chapter 2017-2018 which during her tenure as Chair, won the IEEE EDS R10 Best Chapter Award in 2018 as well as the IEEE Malaysia Section's Best Chapter Award in 2017 and 2018 respectively. She also serves various functions in international conferences including EDTM and IFETC.

Tuesday, August 16 2022 10:45 am - 12:45 pm

2A: VLSI Design

Chair: Bernard Kee Weng Lim (Logikhaus Sdn Bhd, Malaysia)

10:45 ***Power Management Circuit for Semi-Passive UHF RFID Transponder (invited)***
Yean Sun Yong (AMD Shanghai, Australia); Faisal Mohd-Yasin (Griffith University, Australia)

11:00 ***Reduced March SR Algorithm for Deep-Submicron SRAM Testing***
Aiman Zakwan Jidin (Universiti Malaysia Perlis & Universiti Teknikal Malaysia Melaka, Malaysia); Razaidi Hussin (Universiti Malaysia Perlis, Malaysia); Mohd Syafiq Mispan (Universiti Teknikal Malaysia Melaka, Malaysia); Weng Fook Lee (Emerald Systems, Malaysia); Wan Ying Loh (Universiti Malaysia Perlis, Malaysia)

11:15 ***A Capacitorless Multi-Voltage Domain Low Dropout Regulator with 400 mA Load Current for Embedded System Application***
Balamahesn Poongan (Universiti Sains Malaysia & Collaborative Microelectronic Design Excellence Center (CEDEC), Malaysia); Jagadheswaran Rajendran (Universiti Sains Malaysia, Malaysia); Selvakumar Mariappan (Universiti Sains Malaysia, Malaysia & QEDT Venture, Malaysia); Pravinah Shasidharan (Universiti Sains Malaysia, Malaysia); Arokia Nathan (University of Cambridge, United Kingdom (Great Britain))

11:30 ***Hardware Design of Combinational 128-bit Camellia Symmetric Cipher using 0.18µm Technology***
Chawalit Udom sak (Malaysia); Siti Zarina Md Naziri (Universiti Malaysia Perlis, Malaysia); Rizalafande Che Ismail (Universiti Malaysia Perlis & Albukhary International University, Malaysia); Mohd. Nazrin Md Isa and Razaidi Hussin (Universiti Malaysia Perlis, Malaysia)

11:45 ***Majority Logic Based In-Memory Comparator***
D Vijaya Lakshmi (Indian Institute of Technology Tirupati, India); John Reuben (Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Germany); Vikram Kumar Pudi (Indian Institute of Technology, Tirupati, India)

12:00 ***Design of Low Power PMOS Biased Sense Amplifier Using LECTOR Approach***
Harshit Verma (VIT Bhopal University, India)

12:15 ***A PVT invariant cascode current reference circuit in 180nm CMOS process***
Payavula Swathi (National Institute of Technology, Tiruchirappalli, India); Bhaskar Manickam (National Institute of Technology, India)

12:30 ***Levenberg-Marquardt Backpropagation model augmented with Prim's algorithm approach (LMBP) to minimize power in FSM synthesis***
Kaushik Khatua (IIT KHARAGPUR, India & Indian Institute of Technology, Kharagpur, India)

Tuesday, August 16, 2022 2:00 pm - 3:30 pm

2B: Electronics Materials and Device Fabrication

Chair: Nurul Ezaila Alias (Universiti Teknologi Malaysia, Malaysia)

2:00 ***Investigation of Hybrid Graphene-hBN and Graphene-GO as a Direct Contact Heat Spreader***
Nur Julia Nazim Bulya Nazim (Universiti Teknologi Malaysia & MIMOS Semiconductor Sdn Bhd, Malaysia); Mohd Faizol Abdullah (MIMOS Semiconductor (M) Sdn Bhd, Malaysia); Mohd Rofei Mat Hussin, Siti Aishah Mohamad Badaruddin and Muhamad Amri Ismail (MIMOS Berhad, Malaysia); Abd Manaf Hasyim (MJIIT, Universiti Teknologi Malaysia, Malaysia)

2:15 ***Thermal Characterization of Mono and Multilayer Hexagonal Boron Nitride Heat Spreaders***
Nur Julia Nazim Bulya Nazim (Universiti Teknologi Malaysia & MIMOS Semiconductor Sdn Bhd, Malaysia); Mohd Faizol Abdullah (MIMOS Semiconductor (M) Sdn Bhd, Malaysia); Mohd Rofei Mat Hussin, Siti Aishah Mohamad Badaruddin and Muhamad Amri Ismail (MIMOS Berhad, Malaysia); Abd Manaf Hasyim (MJIIT, Universiti Teknologi Malaysia, Malaysia)

2:30 ***One-Step Synthesis of Nanostar Shaped Silver Nanoparticles and its Optical Stability***
Azib Haiman Roslan (Universiti Teknologi MARA (UiTM Shah Alam), Malaysia); Siti Rabizah Makhsin (Universiti Teknologi MARA, Malaysia); Khairunisak Abdul Razak (Universiti Sians Malaysia, Malaysia); Rozina Abdul Rani (Universiti Teknologi MARA, Malaysia); Muhammed Zourob (Alfaisal University, KSA, Saudi Arabia)

2:45 ***Investigating Defect-Assisted Emission in BaSi2 by Power Dependent Photoluminescence***
Abdul Rahman Mohmad (Universiti Kebangsaan Malaysia, Malaysia); Zhihao Xu, Yudai Yamashita and Takashi Suemasu (University of Tsukuba, Japan)

3:00 ***Determination of CuO Concentration for ZNR/P3HT/CuO as the Potential Thin Film in Solar Cell Application***
Rohanieza Abdul Rahman (Universiti Teknologi MARA (UiTM), Malaysia); Muhammad AlHadi Zulkefle (NANO-ElecTronic Centre (NET), Malaysia); Rosalena Irma Alip and Sukreen Hana Herman (Universiti Teknologi MARA, Malaysia)

3:15 ***Annealing Effect On Ultraviolet Sensor Performance With Porous Silicon Based***
Muhammad Zuhdi Mohd Yusoff and Rozina Abdul Rani (Universiti Teknologi MARA, Malaysia); Irnie Azlin Zakaria (UiTM, Malaysia); Siti Rabizah Makhsin and Ahmad Sabirin Zoolfakar (Universiti Teknologi MARA, Malaysia); Zainah Md Zain (Universiti Malaysia Pahang, Malaysia); Nur Lili Suraya Ngadiman (Universiti Teknologi MARA, Malaysia)

Tuesday, August 16, 2022 3:45 pm - 5:15 pm

2C: Artificial Intelligence, Internet of Things and Microwave devices

Chair: Ir. Hazian Bin Mamat (Mimos Berhad, Malaysia)

3:45 ***Die-Level Defects Classification using Region-based Convolutional Neural Network (invited)***
Usman Ullah Sheikh Izzat Ullah Sheik (Universiti Teknologi Malaysia, Malaysia); Kwong You (Intel Sdn Bhd, Malaysia); Nurul Ezaila Alias (Universiti Teknologi Malaysia, Malaysia)

4:00 ***Machine Learning Facemask Detection Models For Covid-19***
Anwar Ahmad Zainuddin (Manipal International University Malaysia & MIU, Malaysia); Muhammad Maaz and Rohilah Sahak (Manipal International University, Malaysia); Muhammad Farhan Affendi Mohamad Yunos (International Islamic University Malaysia, Malaysia); Siti Husna Abdul Rahman and Munirah Mohd Ramly (Manipal International University, Malaysia); Wonderful Shammah Kaitane (Software Development, Malaysia); Asmarani Ahmad Puzi (International Islamic University Malaysia, Malaysia)

4:15 ***Analysis and Design of an Efficient and Wideband Common Collector Class B Amplifier for Auxiliary Envelope Tracking Supply Modulator***
Zubaida Yusoff and Md Mushfiqur Rahman (Multimedia University, Malaysia); Mardeni Roslee (MMU, Malaysia); Shaiful Hashim (UPM, Malaysia); Azah Syafiah Mohd Marzuki (TM R&D Sdn Bhd, Malaysia)

4:30 ***A Mixer-First Receiver Frontend with Dual-Feedback Baseband Achieving >300 MHz IF Bandwidth in 65 nm CMOS***
Benqing Guo (Chengdu University of Information Technolog, China); Runwu Fan (Cuit, China); Huifen Wang (Henan University of Technology, China); Haishi Wang (Cuit, China)

4:45 ***A Novel Single-Band Slotted Octagonal Microstrip Patch Antenna For 5G Communications***
Saida Sharmin (Chittagong University of Engineering and Technology, Bangladesh)

5:00 ***Analysis and Design of Safety Perambulator System via Wi-Fi and Blynk Application***
Muhammad Syamil Muttaqin Zulkifli, Ahmad Sabirin Zoolfakar and Rozina Abdul Rani (Universiti Teknologi MARA, Malaysia); Azrif Manut (Universiti Teknologi MARA & College of Engineering, Malaysia); Maizatul Zolkapli, Muhammad Haziq Bin Ilias and Norhazlin Khairudin (Universiti Teknologi MARA, Malaysia); Katrul Nadia Basri (Universiti Teknologi Mara, Malaysia)

Tuesday, August 16, 2022 5:20 pm - 5:45 pm

Closing Ceremony

MC: Azrif Manut (Universiti Teknologi MARA & College of Engineering, Malaysia)