2020 IEEE International Conference on Semiconductor Electronics (ICSE) Program

Tuesday, July 28

Tuesday, July 28 9:00 - 9:30 (Asia/Kuala_Lumpur)
0A: Opening Ceremony

Tuesday, July 28 9:30 - 11:00 (Asia/Kuala_Lumpur)
1A: Device modeling, simulation and design

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

9:30 Impact of Circuit Parameters on Input Impedance of 433.92MHz ISM Band RF Rectifiers
Nutdanai Swangpattaraphon and Ying-Khai Teh (San Diego State University, USA)

9:45 Device performance of silicene nanoribbon field-effect transistor under ballistic transport
Mu Wen Chuan, Kien Liong Wong, Afiq Hamzah, Mohd Shahrizal Rusli, Nurul Ezaila Alias, Cheng Siong Lim and Michael Loong Peng Tan (Universiti Teknologi Malaysia, Malaysia)

10:00 A comparative study on the performance of 1S-1R and Complementary resistive switching models
Arya Lekshmi Jagath (University of Nottingham Malaysia Campus, Malaysia); Nandha Kumar Thulasiraman (University of Nottingham, Malaysia)

10:15 Electrical Characterization of N-type Cylindrical GAA Nanowire Junctionless Transistor with SiO2 and High-k Dielectrics
Nurul Ezaila Alias (Universiti Teknologi Malaysia, Malaysia); Mohammed Adamu Sule (UTM Malaysia & UTM, Malaysia); Michael Loong Peng Tan and Afiq Hamzah (Universiti Teknologi Malaysia, Malaysia); Kabiru Adamu Sa'idu (Abubakar Tafawa Balewa University, Nigeria); Sanusi Mohammed (UTM, Nigeria); Tijjani Kuda Aminu (Abubakar Tatar Ali Polytechnic Bauchi, Nigeria); Adamu Shehu (Abubakar Tafawa Balewa University Bauchi, Nigeria)

10:30 Analytical Modelling and Benchmarking of Fully Depleted Buried Metal Layer Junctionless Transistor
Mohd Rizwan Uddin Shaikh (Jamia Millia Islamia University, India); Sajad A. Loan (Jamia Millia Islamia, New Delhi, India)

10:45 Germanium Source Double-Gate Tunnel Field Effect Transistor with Metal Drain: Design & Simulation
Anam Khan (Jamia Millia Islamia, New Delhi, India); Sajad A. Loan (Jamia Millia Islamia, New Delhi, India); Abdullah G. Alharbi (Jouf University, Sakaka, Saudi Arabia)

Tuesday, July 28 11:15 - 12:00 (Asia/Kuala_Lumpur)
1Ak: Keynote: Reliability in advanced logic devices and emerging memories- From deterministic to Stochastic

Professor Dr. Zhigang Ji
Chair: Norhayati Soin (University of Malaya, Malaysia)

Dielectric-induced reliability issues have become more serious with both the scaling of CMOS technology and the rising of emerging memory technologies. In this talk, we will focus on the discussion of the defect in the dielectric layer, which is believed to be the common source for all the observed reliability issues. For CMOS technology, Bias Temperature Instability (BTI) will be discussed as an example, Wherein, we show the impact of defects on the conventional lifetime predication and demonstrate the required paradigm shift in characterizing such technology, a comprehensive investigation on the defects is carried out. It is found that BTI degradation contains different types of traps. Clear evidence is given to support their property. A comprehensive As-Grown-Generation model is established that offers the accurate prediction at long term under different operating temperatures. We show this model is not only useful for silicon-based CMOS technology, but also useful for high-mobility channel devices, such as Germanium and III-V material. Since the model is built on defects, we show how this model can be further extended from deterministic to stochastic, which is the key phenomenon for nano-scaled devices. Finally, we give
example how the defect analysis can be used for the reliability analysis for the emerging technology such as resistive memory.

Short Biodata of Prof. Dr. Zhigang Ji

Zhigang Ji received his B. Eng. degree in Electrical Engineering from Tsinghua University in 2003, the M. Eng degree in Microelectronics from Peking University in 2006 and the Ph.D. degree in Microelectronics from Liverpool John Moores University in 2010. He was the Reader of Nanoelectronics with Liverpool John Moores University. In 2019, he joined Shanghai Jiaoong University, where he is currently an Professor in Nanoelectronics with the National Key Laboratory of Science and Technology on Micro/Nano Fabrication. His current research interests include nanoscale CMOS devices, the circuit and device interaction, and emerging technologies for applications such as hardware security and new-paradigm computing. With colleagues, he designed a few reliability characterization methods, which have been integrated commercially into Tektronix equipment and has been widely used in industry and academy. His reliability modelling research activities have been selected into the final list of U. K. national Newton Prize in 2017. In the last 10 years, Dr. Ji has authored or co-authored over 100 scientific papers, including 15 papers published in International Electron Devices Meeting (IEDM) and Symposium on VLSI Technology. He also serves various functions in international conferences including ISCAS, IRPS, EDTM, IPFA and SSDM.

Tuesday, July 28 12:15 - 1:15 (Asia/Kuala_Lumpur)

1B: Device physics and characterization

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

12:15 A Novel Double Co-Transformation for a Simple and Memory Efficient Logarithmic Number System
Muhammad Sufyan Saafwan Mohamad Basir (Politeknik Mukah Sarawak, Malaysia); Rizalafande Che Ismail and Mohd. Nazrin Md Isa (Universiti Malaysia Perlis, Malaysia)

12:30 First Principles Study on Electronic and Optical Properties of Graphene/MoS2 for Optoelectronic Application
Siti Nabila Mohd Halim and Siti Nur Fatin Zuikafly (MJIIT, Universiti Teknologi Malaysia, Malaysia);
Mohamad Fariz Mohamad Taib (Universiti Teknologi MARA, Malaysia); Fauzan Ahmad (MJIIT, Universiti Teknologi Malaysia, Malaysia)

12:45 Humidity Response of Ta2O5 Sensor at Different Bias Voltages
Nur Lili Suraya Ngadiman, Rozina Abdul Rani, Siti Rabizah Makhsin, Muhammad Azmi Ayub, Nor Hayati Saad, Maizatul Zolkapli and Ahmad Sabirin Zoolfakar (Universiti Teknologi MARA, Malaysia)

1:00 An Envelope Domain Probe into Nonlinear Behaviour of a High Frequency Power Transistor
Muhammad Akmal Chaudhary (Ajman University, Ajman, United Arab Emirates)

Tuesday, July 28 2:00 - 3:30 (Asia/Kuala_Lumpur)

1C: Nanoelectronics and Process

Chair: Sharifah Fatmadiana Wan Muhamad Hatta (University of Malaya, Malaysia)

2:00 Gd-doped ZnO Thin Film Grown by Simultaneous Sputtering at Different RF power
Nur Amaliyana Raship, Siti Nooraya Mohd Tawil and Khadijah Ismail (Universiti Pertahanan Nasional Malaysia, Malaysia); Nafarizal Nayan (Universiti Tun Hussein Onn Malaysia & Microelectronic and Nanotechnology - Shamsuddin Research Centre (MiNT-SRC), Malaysia); Muliana Tahan and Anis Suhaili Bakri
(Universiti Tun Hussein Onn Malaysia, Malaysia)

2:15 Characterization of Amorphous GaN Thin Films after Conventional Thermal Anneal
Anis Suhaili Bakri (Universiti Tun Hussein Onn Malaysia, Malaysia); Nafarizal Nayan (Universiti Tun Hussein Onn Malaysia & Microelectronic and Nanotechnology - Shamsuddin Research Centre (MiNT-SRC), Malaysia);
Ahmad Shuhami (University of Malaya, Malaysia); Riyaz Ahmad Mohamed Ali and Mohd Zainizan Sahdan (Universiti Tun Hussein Onn Malaysia, Malaysia); Chin Fhong Soon (Universiti Tun Hussein Onn Malaysia & Microelectronic and Nanotechnology-Shamsuddin Research Center, Malaysia); Wan Haliza Abd Majid (Universiti Malaya, Malaysia); Mohd Khairul Ahmad (University Tun Hussien Onn Malaysia, Malaysia);
Muliana Tahan (Universiti Tun Hussein Onn Malaysia, Malaysia); Nur Amaliyana Raship (Universiti Pertahanan Nasional Malaysia, Malaysia); Muhammad Yazid Ahmad (Nanorian Technologies Sdn Bhd, 40 & 40, 1, Jln Kajang Perdana 3/2, Malaysia); Ali Aldabahi (King Saud University, Saudi Arabia)

2:30 Investigation of The NBTI and PBTI Effects on Multiplexer Circuit Performances
Mohamad Saifuan Shafiq Mohamad Saufi, Hamim Hussin and Maizan Muhamad (Universiti Teknologi MARA,
Investigation of High Reverse Leakage Current of Polysilicon Diode

Joseph Ke and Nur Anati Abd Rahman (Infineon Technologies (Kulim) Sdn Bhd, Malaysia)

Zinc Oxide Quantum Dots as Photoanode for Dye-Sensitized Solar Cell

Muhammad Izdzihar Bin Idris (FKEKK, Universiti Teknikal Malaysia Melaka, Malaysia); Yasmin Zainol Abidin (Universiti Teknikal Malaysia Melaka (UTeM), Malaysia); Huda Binti Abdullah (Universiti Kebangsaan Malaysia, Malaysia); Suhaidi Shafie (UPM, Malaysia); Siti Amaniah Mohd Chachuli (Universiti Teknikal Malaysia Melaka, Malaysia); Marzaini Rashid (School of Physics, Malaysia); Jian Xian Kang (Faculty of Engineering and Built Environment, Malaysia)

Temperature Impact on The ION/IOFF ratio of Gate all around nanowire TFET

Firas Nather Agha (University of Mosul, Iraq); Yasir Hashim (Tishk International University, Iraq); Mohammed Nazmus Shakib (Universiti Malaysia Pahang, Malaysia)

Tuesday, July 28 3:30 - 4:15 (Asia/Kuala_Lumpur)

1Ck: Keynote: An Iterative Simulation Method for the Current Voltage Characteristics of Graphene Field Effect Transistors

Prof. Gananath Dash

Chair: Nowshad Amin (Universiti Tenaga Nasional (@UNITEN), Malaysia)

A simulation method has been formulated to study the characteristics of a Graphene Field Effect Transistor (GFET). The method takes care of the effect of source and drain contact resistances while iteratively solving for the drain current. The results when compared with experimental data validate our modeling and simulation approach. The method has been used to investigate the effect of different gate dielectric materials and their dimensions on the output as well as transfer characteristics of the GFET. Our results open new ways for the possibility of dielectric engineered GFET characteristics suiting to the requirement of a given device application. The convergence of the point of inflexion for dual positive gated GFETs is interesting. The existence of a critical thickness for each dielectric, beyond which the current saturates and the rise in its value with dielectric constant, are some novel features worth attention.

Short Biodata of Prof. Gananath Dash

Prof. Gananath Dash is superannuated as Professor and Head of the Electron Devices Group from Sambalpur University (Odisha) India in Nov. 2015. He obtained his Ph.D. in 1992 in the area of microwave and millimetre wave devices. Later he developed interest in such diverse fields as DSP for Bioinformatics, medical data mining and Graphene Based Electron Devices. He has more than 37 years of teaching and research experience. He has authored/co-authored more than 225 research papers in International/National Journals and Conference proceedings. He has supervised 14 Ph. D. and 37 M. Phil. theses. He has the distinction of guiding Ph.D. degree in the faculty of both Science and Engineering. Dr. Dash has made significant contributions in the development of a simulation method to assess the effect of tunnelling and diffusion current on IMPATT (IMPact Avalanche Transit Time) diode, new design approach for MITATT (MIxed Tunnelling Avalanche Transit Time) and TUNNETT (Tunnelling Transit Time) mode devices, formulation of a noise theory in MITATT diode using computer simulation method and development of a noise theory analytically applicable to mixed mode operation in IMPATT diode. Dr. Dash is not only a Fellow of the Institution of Engineering and Technology (IET) - UK but also a Fellow Assessor of the same Institution. Besides, he is also a Fellow of the Institution of Electronics and Telecommunication Engineers (IETE), India, a Senior Member of the Institution of Electrical and Electronics Engineers- USA (IEEE), and Members of various IEEE societies. He is recognized as a Distinguished Lecturer of the IEEE Electron Devices Society (EDS). He has reviewed extensively for IEEE Transaction on Electron Devices (USA), International Journal of Electronics (U.K.), Circuits, Systems and Signal Processing (Springer), Journal of Computational Electronics (Springer), Journal of Semiconductors (IOP-UK), and Applied Physics - A (Germany). In addition, he has edited a volume of Indian Journal of Physics (Vol. 77A, No. 2, March 2003) and a volume of International Journal of Material Science (ISSN 0973-4589), (Volume 5, Number 5, 2010) as Guest Editor. Dr. Dash has delivered invited talks on more than 30 occasions at different national and international forums and has chaired sessions at several international conferences in India and abroad. Dr. Dash has published a book titled “Electronic Devices and Circuits” which is published by Universities Press, Hyderabad; the first edition has come out of the press in August 2017.

Tuesday, July 28 4:15 - 6:00 (Asia/Kuala_Lumpur)

1D: VLSI Design
Chair: Zubaida Yusoff (Multimedia University, Malaysia)

4:15 A 0.3V, 625Mbps LVDS Driver in 0.18μm CMOS Technology
Hung-Wen Lin (YuanZe University, Taiwan); Tzu-Hao Lin (Yuan Ze University, Taiwan)

4:30 A Wideband Dual-path Reconfigurable Receiver Front-end in 180 nm CMOS
Hongpeng Chen (Uestc, China); Benqing Guo (Chengdu University of Information Technology, China); Jingwei Wu (Uestc, China); Jing Gong (Sichuan unvi, China)

4:45 An Ultra Low Power 2.4GHz Sub-Threshold LNA with Tunable Input Matching for Wireless Sensor Network Applications
Deepali Pathak (IITH, India); Sriharsha Vardhan G (Indian Institute of Technology, India); Aravindh Kumar Ar and Asudeb D (Indian Institute of Technology Hyderbad, India)

5:00 16-bit Fault Tolerant Sparse Kogge Stone Adder using 0.18μm CMOS Technology
Yusmeeraz Yusof, Suhaila Isaak and Chang Chin Kai (Universiti Teknologi Malaysia, Malaysia)

5:15 ASIC Implementation and Optimization of 16 Bit SDRAM Memory Controller
Nurul Ezaila Alias, Koo Jian Hong, Suhaila Isaak, Afiq Hamzah and Michael Loong Peng Tan (Universiti Teknologi Malaysia, Malaysia); Yasmin Abdul Wahab (University of Malaya, Malaysia)

5:30 A 28 GHz Front-End for Phased Array Receivers in 180 nm CMOS
Xuebing Wang (Uestc, China); Benqing Guo (Chengdu University of Information Technology, China); Jingwei Wu (Uestc, China); Jing Gong (Sichuan unvi, China)

5:45 Low Activity-Factor Test Pattern Generation
Azam Beg and Manzoor Khan (UAE University, United Arab Emirates)

Wednesday, July 29

Wednesday, July 29 9:00 - 10:30 (Asia/Kuala_Lumpur)

2A: Electronics Materials and Device Fabrication

Chair: Maizatul Zolkapli (Universiti Teknologi MARA, Malaysia)

9:00 The Effect of Depth on Fabrication of Nanopore using One-step Focused Ion Beam Milling for DNA Sequencing Application
Sufi Nazihah Sabili and Hafizal Yahaya (Universiti Teknologi Malaysia, Malaysia); Fauzan Ahmad (MJIIT, Universiti Teknologi Malaysia, Malaysia)

9:15 Design and Characterization of Impedance based E.coli Sensor
Siow Yen Tey (Universiti Teknologi Malaysia & UTM, Malaysia); Afiqah Muzafar (Universiti Teknologi Malaysia Johor Bahru, Malaysia); Mastura Shafinaz Zainal Abidin and Syafiqah Saidin (Universiti Teknologi Malaysia, Malaysia)

9:30 Simple Fabrication of an Inexpensive Impedance Based Sensor for Contamination Detection
Afiqah Muzafar (Universiti Teknologi Malaysia Johor Bahru, Malaysia); Siow Yen Tey (Universiti Teknologi Malaysia & UTM, Malaysia); Mastura Shafinaz Zainal Abidin (Universiti Teknologi Malaysia, Malaysia)

9:45 Characterization of Titanium Dioxide (TiO2) Nanotubes for Resistive-type Humidity Sensor
Azrif Manut (UiTM & Faculty of Electrical Engineering, Malaysia); Nur Suhada Ab Ghani (UiTM, Malaysia); Ahmad Sabirin Zoolfakar, Maizatul Zolkapli and Mohamad Hafiz Mamat (Universiti Teknologi MARA, Malaysia)

10:00 Study of the Effect of Temperature on Humidity Sensing Properties of Electrochemical Reduced Graphene Oxide (ERGO)
Ahmad Sabirin Zoolfakar and Rozina Abdul Rani (Universiti Teknologi MARA, Malaysia); Azlina Mohd Zain and Nazrah Omar (MIMOS Berhad, Malaysia); Maizatul Zolkapli (Universiti Teknologi MARA, Malaysia); Azrif Manut (UiTM & Faculty of Electrical Engineering, Malaysia); Norhazlin Khairudin (Universiti Teknologi MARA, Malaysia); Norhafizah Burham (Universiti Teknologi Mara, Malaysia); Muaz Al Hakim Mohd and Mohammad Hafiz Mamat (Universiti Teknologi MARA, Malaysia)

10:15 Enhancing humidity sensing performance: the effect of Nitrogen doped on Electrochemical Reduced Graphene Oxide (ERGO)
Norhazlin Khairudin (Malaysia); Norhazlin Khairudin and Ahmad Sabirin Zoolfakar (Universiti Teknologi MARA, Malaysia); Norhafizah Burham (Universiti Teknologi Mara, Malaysia); Rozina Abdul Rani (Universiti Teknologi MARA, Malaysia); Azlina Mohd Zain and Nazrah Omar (MIMOS Berhad, Malaysia); Azrif Manut
2Ak: Keynote: NANO IN SENSOR TECHNOLOGY

Prof. Mohd Nizar Hamidon

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

Smart sensors are increasingly being employed, not only in industrial settings, but in every aspect of human life, where they are telling something about their environment by bridging them with the electronic world. Sensors are used to gather a wealth of information from the process that can improve operational efficiency and product quality which involving a mass of data that need to be analysis especially with the merging of the Internet of Nano-Things (IoNT). They also included with new features such as communication capability and on-board diagnostics. Leading edge research in sensors has been propelled by the advancements made in fabrication, signal processing and material technology in the last decade. With these the scientific world is now on the verge of delivering sensors with radically new capabilities for the human societies. This talk deals with the nanotechnology in sensor application and several research work in Universiti Putra Malaysia related with them.

Biography of Prof. Mohd Nizar Hamidon

Mohd Nizar Hamidon is a Professor at Electrical and Electronic Engineering Department and Director of Institute of Advanced Technology at Universiti Putra Malaysia (UPM). He received the B.Sc in Physics and M.Sc in Microelectronics from Universiti Malaya (Malaysia) and Universiti Kebangsaan (Malaysia) in 1995 and 2001 respectively. Finally, his Ph.D degrees in Electronic and Electrical Engineering from the University of Southampton (U.K.) in 2005. He joined UPM after BSc at Matriculation Center for 5 years before become UPM engineering faculty member in 2000 until now, where he in charge of research program at the department and faculty. Due to his outstanding research activities, UPM have appointed him as a Head of Functional Devices Laboratory at Institute of Advanced Technology in early 2012 but later as Deputy Director in the same year at the same institute. Now he is the Director of the institute staring from July 2017. His research is primarily concerned with the study of electronic and microelectronic devices including the materials (such as oxide and carbon based) and the systems. Specifically, he has contributed significantly to the development of sensor system such as gas and pressure sensor, and wireless applications. His research has been primarily funded by the international body, government and university internal funding. He has published over 200 technical papers and few book chapters related to his research area. He also had graduated in total of 8 PhD and 13 M.Sc students under his supervision. At the same time he had register one Start-up Company known as Serdang Paste Technology Sdn Bhd. Mohd Nizar had a good international networking especially with the researchers from Turkey, Japan, Indonesia and Thailand in which they were working together in several different research projects. At the moment his team was involved in "Smart Livestock Tracking" for the Ministry of Agriculture. His also involved in consultancy work for Ministry of Information, Communication and Culture Malaysia to the Implementation of WSN - Based Structure and Infrastructure Monitoring System and e-halal monitoring system. He has given many lectures, seminars and invited talks at universities, research institutions and international conferences, and has served as a reviewer for several international conferences and journal. He has been the organizing chair and technical member for several IEEE conferences and The Past Chapter Chair for IEEE Electron Device Malaysia Chapter.

Wednesday, July 29 10:45 - 11:30 (Asia/Kuala_Lumpur)

2B: Opto-electronics and photonics technology

Chair: Mastura Shafinaz Zainal Abidin (Universiti Teknologi Malaysia, Malaysia)

11:30 An Investigation of Optical Absorption of Pulsed Nd:YAG laser Texturing on Silicon Solar Cells Surfaces Before and After Post Treatment
Nurul Huda Abdul Razak (Universiti Kebangsaan Malaysia, Malaysia)

11:45 Nanotube Mode-locker with Tunable Wavelength
Nur Hidayah Muhamad Apandi and Fauzan Ahmad (MJIIT, Universiti Teknologi Malaysia, Malaysia); Harith Bin Ahmad (University of Malaya, Malaysia); Siti Nur Fatin Zuikafly (MJIIT, Universiti Teknologi Malaysia, Malaysia); Mohd Haniff Ibrahim (Universiti Teknologi Malaysia, Malaysia)

12:00 Graphene-Based Saturable Absorber for Passive Q-Switching Erbium doped fiber laser
Nur Afiqah Husna Jasni, Siti Nur Fatin Zuikafly and Fauzan Ahmad (MJIIT, Universiti Teknologi Malaysia, Malaysia); Mundzi Abdullah (Universiti Teknologi Petronas, Malaysia); Wan Mohd Fazli Wan Nawawi
Passively Q-Switched Tri-Wavelength Erbium-Doped Fiber laser with Aluminium-Based Saturable Absorber
Nik Nur Anis Awadah Nik Zain (Universiti Teknologi Malaysia (UTM), Malaysia); Siti Nur Fatimah Zaini and Nur Afiqah Husna Jasni (MJIIT, Universiti Teknologi Malaysia, Malaysia); Wan Mohd Fazli Wan Nawawi (International Islamic University Malaysia, Malaysia); Fauzan Ahmad (MJIIT, Universiti Teknologi Malaysia, Malaysia)

Numerical Modelling of MoS2/h-BN/graphene photodetector for self-powering application
Umahwathy Sundararaju and Muhammad Aniq Mohammad Haniff (Universiti Kebangsaan Malaysia, Malaysia); P. Susthitha Menon (Universiti Kebangsaan Malaysia & Institute of Microengineering and Nanoelectronics (IMEN), Malaysia)

A study on detection techniques for honeybee’s authenticity
Maizatul Zolkapli and Ahmad Sabirin Zoofakar (Universiti Teknologi MARA, Malaysia); Azrif Manut (UiTM & Faculty of Electrical Engineering, Malaysia); Rozina Abdul Rani and Nor Farisha Idayu Abdullah (Universiti Teknologi MARA, Malaysia)

Air Gap Based Novel Rectangular Nano Plasmonic Coupler Design and Analysis
Md. Saiful Islam Sumon (Islamic University of Technology, Bangladesh); Sheikh Montasir Mahbub (Primeasia University & Islamic University of Technology, Bangladesh); Md. Sami Imtiaz and Rakibul Hasan Sagor (Islamic University of Technology, Bangladesh)

Wednesday, July 29 2:00 - 3:30 (Asia/Kuala_Lumpur)

2C: Electronics Materials and Device Fabrication & MEMS/NEMS
Chair: Ahmad Sabirin Zoofakar (Universiti Teknologi MARA, Malaysia)

High Performance Vertically Aligned Electrospun PVP:PC71BM Nanofiber for Organic Solar Cells
Mohd Zuhir Hamzah, Ismail Saad and Nurmin Bolong (Universiti Malaysia Sabah, Malaysia); Bablu K. Ghosh (University Malaysia Sabah, Malaysia)

Inkjet-Printed Graphene-based Flexible Humidity Sensor for Environmental Applications
Suraya Sulaiman (MIMOS, Malaysia)

Preliminary Study on Laser Annealed NP Junction in Phosphorus Implanted Germanium
Siti Rahmah Aid and Nur Nadhirah Mohd Rashid (Universiti Teknologi Malaysia, Malaysia); Nur Farhana Arissa Jonny (Malaysia-Japan International Institute of Technology, UTM, Malaysia); Anthony Centeno (University of Glasgow, United Kingdom (Great Britain)); Ikenoue Hiroshi (Kyushu University, Japan)

Design of capacitive Mem Microphone for fully implantable cochlear implants
Somanaathan Muthusamy (Universiti Malaya, Malaysia); Norhayati Soin (University of Malaya, Malaysia)

Ionic Polymer Actuator With Crenellated Structures for RF-MEMS Applications
Xi Liang Chang and Pei Song Chee (Universiti Tunku Abdul Rahman, Malaysia); Eng Hock Lim (Faculty of Engineering and Science, UTAR, Malaysia)

Fabrication of Planar Microcoils for LC-MEMS Pressure Sensor
Norliana Yusof (Universiti Kebangsaan Malaysia & Universiti Sultan Zainal Abidin, Malaysia); Badariah Bais (Universiti Kebangsaan Malaysia, Malaysia); Norhayati Soin (University of Malaya, Malaysia); Muhammad Ramdhan Buyong (UKM, Malaysia); Burhanuddin Yeop Majlis (Universiti Kebangsaan Malaysia, Malaysia)

Wednesday, July 29 3:45 - 5:15 (Asia/Kuala_Lumpur)

2D: Emerging Technologies & Simulation
Chair: Yusmeeraz Yusof (Universiti Teknologi Malaysia, Malaysia)

Adaptive PID Controller Using for Speed Control of the BLDC Motor
S m a Motakabber and Md Mahmud (International Islamic University Malaysia, Malaysia); Ahm Zahirul Alam (International Islamic University Malaysia, Malaysia); Anis Nurashikin Nordin (International Islamic University Malaysia, Malaysia)
4:00 Model analysis on the geometrical and technological aspect of Bi2Te3 based MEMS thermoelectric
Nurkhaizan Zulkepli (Universiti Kebangsaan Malaysia & Universiti Teknologi MARA, Malaysia); Jumril Yunas
(Universiti Kebangsaan Malaysia, Malaysia); Mohd Ambri Mohamed (Universiti Kebangsaan Malaysia (UKM),
Malaysia); Azrul A Hamzah (University Kebangsaan Malaysia, Malaysia)

4:15 FPGA ring oscillator comparisons between conventional and uniform routing hotspot
Zulfikar Zulfikar (Universitas Syiah Kuala, Indonesia); Norhayati Soin, Sharifah Fatimadiana Wan Muhamad
Hatta and Mohamad Sofian Ab Talip (University of Malaya, Malaysia)

4:30 Real time In-Situ Quality Monitoring of Grinding Process using Microtechnology based Sensor Fusion
Isman Khazi (Hochschule Furtwangen & Institut für Mikrosystemtechnik (iMST), Fakultät Mechanical &
Medical Engineering, Germany); Andras Kovacs, Ali Zahedi, Christian Reser, Ulrich M Mescheder and Bahman
Azarhoushang (Hochschule Furtwangen, Germany); Christoph Reich (HS Furtwangen, Germany)

4:45 Comfort Monitoring: A Prototype and Its Impact
Bivin Pradeep, Parag Kulkarni and Manzoor Khan (UAE University, United Arab Emirates)

5:00 Smart Integrated Partner Selection System (SPISS): A Decision Support System for Partner Selection in the
Era of Industry Revolution 4.0
Noor Azliza Che Mat (Universiti Malaysia Terengganu, Malaysia); Noor Maizura Mohamad Noor (Universiti
Malaysia Terengganu & UMT, Malaysia); Rosmayati Mohemad (University of Malaysia Terengganu, Malaysia)

Wednesday, July 29 5:15 - 5:45 (Asia/Kuala Lumpur)

2De: Closing Ceremony