CURRICULUM VITAE

Ir. Dr. MOHD KHAIRUDDIN MD ARSHAD
(SMIEE, MIEM, P.ENG)

Professor
Faculty of Electronic Engineering & Technology (FKTEN)

Research Fellow
Institute of Nano Electronic Engineering (INEE)

Universiti Malaysia Perlis (UniMAP)

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A. BIOGRAPHY

Mohd Khairuddin Md Arshad obtained a Dip.Eng and a B.Eng degrees from Universiti Teknologi Malaysia in 1997 and 1999 respectively. He then received a M.Sc degree from Universiti Kebangsaan Malaysia in 2005 and a Docteur en sciences de l'ingénieur (Doctor of Engineering Science) from the Université Catholique de Louvain (UCL), Louvain-la-Neuve, Belgium in 2013.

He was awarded a MARA scholarship for Dip. Eng, a Hewlett-Packard (HP) Scholarship during his B.Eng, and a Skim Latihan Akademik for his MSc. and Ph.D. studies. In addition to that, he also received a best thesis award for MSc study at Universiti Kebangsaan Malaysia.

Currently, he is a Professor at the Faculty of Electronic Engineering & Technology (FKTEN) and a research fellow at the Institute of Nano Electronic Engineering, Universiti Malaysia Perlis. For the management position at the University, he had served as the Director (Apr'20 – Aug'22), previously as Dean (Apr'18 – Apr'20) at the Centre for Graduate Studies (CGS). He also served as Deputy Director (Mar'13 – Feb'17) at the Institute of Nano Electronic Engineering (INEE). He was also the first Diploma Coordinator at the University level (May' 2005 to Sept' 2008), in which he was involved from the setting-up of the Diploma program and facilities from the beginning until all the diploma programmes received full accreditation by the Malaysian Qualification Agency (MQA).

Before joining UniMAP in 2005, he had worked at Hewlett-Packard (1999), then the company had a spun-off to become Agilent Technologies (M) Sdn. Bhd, Penang (1999-2003). At Agilent, he was involved in the development of the first optical sensors, which were used in Logitech's first optical mouse. After that, he joined ON Semiconductor (M) Sdn. Bhd, Senawang, Malaysia (2003-2004), where he was involved in the development of Flip-Chip Packaging.

His current research is related to transistor devices technology, biosensors and advanced materials. With his experience gained in industry and academics, he had received various national grants, amounting to about RM 2.6 million (RM 830k as main and RM1.75 M as co-researcher), one NGO grant (MAKNA Cancer research award) and three international grants, i.e. Royal Society – Newton Ungku Omar mobility, PHC-Hibiscus – France Malaysia and 'One Belt One Road' Innovative Talent Exchange Foreign Expert Porgram, Ministry of Science and Technology, China grants. He has a project consultation with Infineon Technologies (Kulim) Sdn. Bhd. for three projects (2018-2022) on silicon-on-insulator (SOI) power MOSFET, with a funding amount of RM 152,000.

He has published 106 impact factor papers (as of Dec 2023) indexed in web-of-sciences with an accumulative impact factor of 420 (until Dec 2023), H-index of 36 (Scopus), and 34 (web-of-science) with 45% of the papers are published in Quartile 1 Journals. Just to add to his strong publication, he has published

3 impact factor Journals with an accumulative impact factor of 2.313 during his Master's degree study. During his Ph.D. study, he has published 9 impact factors Journals with an accumulative impact factor of 19.676.

In terms of supervision, he has supervised completed 2 postdoctorate (as main) and 25 postgraduate students with 12 students as main (5 graduated Ph.D., 5 graduated MSc. and 2 MSc by Mixed-Mode) and 13 students as co-supervisor (7 graduated Ph.D., 6 graduated MSc.)

He has also been appointed as evaluation head of panel/panel for several international, national and university grants. At the international level, he has been appointed by Khalifa University of Science and Technology (2 appointments). At the National level, he has been appointed by Jabatan Pengajian Tinggi as HiCOE grant (11 appointments) and Konsortium Kecemerlangan Pendidikan (KKP) (7 appointments). He has served as Panel and Head of Panel for HiCOE and KKP grant since 2022. He also has been appointed as Jawatankuasa Induk (JKI) for HiCOE grant for 2023-2024 and continues to 2025-2026 term. He also has been appointed by Universiti Teknologi Petronas as a panel to review the Yayasan Universiti Teknologi Petronas Fundamental Research Grant (YUTP-FRGS) (3 appointments). In addition to that, he also contributes to UniMAP as a panel, by reviewing the University's evaluation process (since 2017).

He was appointed as Visiting Professor at Shandong University, China (Sept. 2023 – August 2025), Visiting Professor at Institut Teknologi Sepuluh Nopember (ITS), Surabaya, Indonesia (27 Nov 2020), Visiting Professor at Management and Science University (MSU), Malaysia (10th June 2019 – 9th June 2020), Visiting Professor at Universitas Pramita Indonesia, Indonesia for 5 years (1st August 2019 – 31st July 2024) and International Academic Lecture Program at Universitas Airlangga (8th and 22nd November 2022).

He also has been appointed as External Examiner for postgraduate programmes at MSU University, Malaysia (10th June 2019 – 9th June 2020), Bachelor of Computer Engineering Technology (Computer System) programme at Universiti Teknikal Malaysia Melaka (UTeM) (5 Feb 2024 – 4 Feb 2026) and 14 appointments (9 PhD and 5 Master Degree) as External Examiner for Thesis and Viva-Voce.

He is also a Professional Engineer (July 2015) with a practicing certificate, registered with Board of Engineer (BEM) and Corporate Member (since April 2015) of Institute of Engineer Malaysia (IEM) and serves as Head of Delegation / Head of Panel / Panel for Engineering Accreditation Council (EAC) since May 2016 and Engineering Technology Accreditation Council (ETAC) since July 2019. Up to date, he had evaluated 13 B.Eng programmes under EAC, 5 programmes under ETAC and 1 Postgraduate Programme at UTM (swa-accreditation). He is also an Accreditation Panel for the Malaysian Qualifications Agency (MQA) since Nov 2015.

He has delivered invitations, four as a keynote and eight as invited speakers at several International conferences and symposiums. In terms of being the technical/academic peer-review, he has been appointed as book proposal reviewer (paid by Publisher). He is also a regular Journal reviewer for Biosensors & Bioelectronics, Scientific Report, Materials Science and Engineering, and several other Journals in Elsevier and American Chemical Society (ACS). He is also an associate editor (since May'17) for The International Journal of Nanoelectronics and Materials (IJNEAM), a Scopus-Indexed Journal and now (2023) has been indexed by web-of-science (WoS).

He is a senior member of the Institute of Electrical and Electronic Engineer (IEEE M'12, SM'14), the founding members, and Chair (2017-2020), the Past Chair (2020-2022) and currently an advisor (2022-2024) for IEEE Malaysia Section Sensors & Nanotechnology Joint Councils Chapter (CH10820). He is also the first Chair for IEEE SENNANO 2019 Conference, and publication committee for IEEE SENNANO

2021 and 2023 Conferences. He also serves as a committee member for the IEEE Electron Device Society (2014-2016) and IEEE Penang EDS/MTT/SSC (2018-2020). In addition, he also served as a committee member for several conferences (IEEE ICSE, IEEE RSM, IMESS, Sensors & Nano, BOND21, etc).

B. PERSONAL DETAILS

1.	Name:	Mohd Khairuddin Bin Md Arshad
2.	Mobile:	+6019-5541402
3.	IC No	750214026509
4.	E-mail Address:	mohd.khairuddin@unimap.edu.my
5.	Nationality:	Malaysia
6.	Office Address:	Institut of Nano Electronic Engineering, Universiti Malaysia Perlis, Blok A, Tmn Pertiwi Indah, Jln Kangar – Alor Setar, Seriab 01000 Kangar, Perlis
7.	Home Address:	No. 94, Airis 1, Jalan Airis 1, Tmn Tunku Sarina 3, 06000 Jitra, Kedah

C. ACADEMIC QUALIFICATIONS

Oct 2008 - Jan 2013	Dr.Sc.Ing. Docteur en science de l'ingenieur in Nanoelectronics Universite catholique de Louvain (UCL), Belgium – 2013 Thesis: Characterization and Modeling of Ultra-Thin Body Fully-Depleted SOI MOSFETs Supervisors: Prof. Jean-Pierre Raskin & Prof. Denis Flandre
Jan 2004 - May 2005	MSc. (Microelectronics) Universiti Kebangsaan Malaysia (UKM) – 2005 Thesis: Characterization of electroless nickel immersion gold (ENIG) process for under bump metallurgy (UBM) in semiconductor packaging **Best Thesis Award** Supervisors: Assoc. Prof. Dr. Ibrahim Ahmad & Dr. Azman Jalar.
July 1997- April 1999	B.Eng. (Hons)- Electrical Engineering (Mechatronics) – 2nd class upper Universiti Teknologi Malaysia (UTM) – 1999, 3.27/4.00 Hewlett-Packard (M) Scholarship award for undergraduate study.
July 1993 - April 1996	Dip.Eng – Electrical Engineering (Power) – 2nd class upper Universiti Teknologi Malaysia (UTM) – 1996, 3.41/4.00

D. EMPLOYMENT HISTORY

UNIVERSITI MALAYSIA PERLIS (UNIMAP)

1. Since Jan 2023 — **Professor** at Faculty of Electronic Engineering & Technology, Universiti Malaysia Perlis (UniMAP)
2. 1st Dec 2017 - Dec 2022 — **Associate Professor** at Faculty of Electronic Engineering & Technology / School of Microelectronic, Universiti Malaysia Perlis (UniMAP)
3. July 2008 – 30th Nov 2017 — **Senior Lecturer** at School of Microelectronic, Universiti Malaysia Perlis (UniMAP)
4. Apr 2005 – June 2008 — **Lecturer** at School of Microelectronic, Universiti Malaysia Perlis (UniMAP)
5. Jan 2003 – Nov 2003 — **Teaching Engineer** at School of Microelectronic, Kolej Universiti Kejuruteraan Utara Malaysia (KUKUM), PERLIS

UNIVERSITI MALAYSIA PERLIS (UNIMAP) / KOLEJ UNIVERSITI KEJURUTERAAN UTARA MALAYSIA (KUKUM)

6. Since Jan 2023 — **Professor (VK 7)** Faculty of Electronic Engineering & Technology.
7. Apr 2005 – now — **Assoc. Prof/Senior Lecture/Lecturer** at Faculty of Electronic Engineering & Technology/ School of Microelectronic, Universiti Malaysia Perlis (UniMAP)
    - Delivering lectures, tutorials, laboratories, and other forms of academic guidance to students
    - Conducting overall tasks of teaching / learning, such as teaching module lecture / lab, preparing examination papers, checking exam papers, monitoring exams, etc.
    - Review and evaluate the suitability of the syllabus taught from time to time.
    - Delivering Outcome Based Education i.e. identify the Program Educational Objectives (PEO), Program Outcomes (PO) and Course Outcomes (CO). Monitoring and assessing the course outcomes and make continuous quality improvement (CQI)
    - Develop procedures or guidelines for students in handling laboratory equipment safely and effectively. This includes assessment activities, models, approaches, tools, etc.

- Carry out Research and Development activities i.e. apply research funding, supervise postgraduate students, publication and etc.
- Carry out management and other tasks as directed by the management.

8. Dec 2003 – Apr 2005 **Research attachment** at ON Semiconductor Senawang, Negeri Sembilan, Malaysia.
Roles and responsibilities of Researcher:
   - Understanding the process mechanisms of fabrication the flip-chip/wafer scale packaging
   - Design the test wafer with considering the critical dimension (i.e. pitch, bond pad size), bond pad contact material (Al) and thickness, the passivation layer material and its thickness.
   - Fabrication and characterization of electroless nickel immersion gold (ENiG) of under bump metallurgy (UBM)
   - Investigate the impact of critical parameters (bath life cycle, concentration, temperature, number of zincation process, etc) to achieve optimum deposition of electroless nickel immersion gold of under bump metallurgy.
   - Investigation of the adhesion performance between UBM and Al bond pad.
   - Investigation the adhesion performance between UBM and solder ball, and then subject to reliability test.

9. Jan 2003 – Nov 2003 **Teaching Engineer** at School of Microelectronic, Kolej Universiti Kejuruteraan Utara Malaysia (KUKUM), PERLIS
In general, the roles and responsibilities of Teaching Engineer:
   - Develop lab modules and setting-up lab facilities and equipment.
   - Assisting lecturers from time to time to enhance curriculum especially in laboratory modules.
   - Develop procedures or guidelines for students in handling laboratory equipment. This includes assessment activities, models, approaches, tools, etc.
   - Supervise and provide academic guidance to students, especially when students undergo laboratory assignments. These include enhancing motivation, awareness and knowledge of the students about the importance of subjects taken. Moreover, achievement, progress and performance of students were also discussed from time to time during the lab session.
   - Evaluate the practical assignments students report.

AGILENT TECHNOLOGIES (M) SDN. BHD. PENANG, MALAYSIA

10. June 2001 - Dec 2002 **Product Engineer,** Motion Control Department, Agilent Technologies Malaysia Sdn. Bhd.
Product Testing Development:
   - Analyzed exactly how IC is tested in production, and how this relates to the Product's Characterization and Functions.
   - Define all parameters need to be tested, and which are GBD (guaranteed by design), GBD (guaranteed by datasheet), GBC (guaranteed by characterization) and GBT (guaranteed by test).
   - Define and Calibrate with QA department (Quality Assurance) on the testing parameters for product reliability assessment.

Product Advocate:
   - Ensure product produced at manufacturing floor meet the quality/performance required.
   - Make recommendation (recall/hold/scrap) to management for the product that deviate from process, yield and quality which are can affect the form, fit and function of the product.

Customer Support Responsibilities:
   - Bring the Customer's Technical/Function requirements into product Form and Specification. This role covers the Customer – to Factory or the Factory – to Customer.

11. Jan – Jun 2001 **New Product Introduction (NPI) Engineer**, Motion Control Department, Agilent Technologies Malaysia Sdn. Bhd.
   - Be a hub between RND, Product Engineer and Manufacturing.
   - Prepare plan, identify the team member, list down project specification and also time-line of the project.

- Develop prototype samples that are custom made per customer requirement.

12. May 1999 – Jan 2001 **Process (Test) Engineer,** Motion Control Department, Agilent Technologies Malaysia Sdn Bhd.
    - Analyze product performance and capabilities, makes recommendations and executes solution to improve performance, quality and reliability.
    - Monitor yield, performance, quality and reliability of the products, identifies problem or unfavorable deviation, makes recommendation and executes corrective action.
    - Support product development, liaise with NPI engineer. Since the product still under RND development, relate the current product issues to prevent it recurrence to a new product.

13. March – May 1998 Industrial Training, Smidgen/Polyled Department.
    Hewlett-Packard Malaysia Sdn Bhd. Penang
    - Exposed to LED product fabrication processes, from Front Line to End of Line.

E. PROFESSIONAL BODY MEMBERSHIP / SOCIETY /NGO

1. 2024 – 2025 YDP (Yang DiPertua) Persatuan Ibu Bapa dan Guru (PIBG), Sekolah Menengah Sains Kubang Pasu.
2. 2024 - 2025 Advisor, IEEE Malaysia Section Sensor and Nanotechnology Joint Councils Chapter.
   Executive Committee Member, International Networking / Linkages Portfolio.
3. 2023 Advisor, IEEE Malaysia Section Sensor and Nanotechnology Joint Councils Chapter.
4. 2022 Advisor, IEEE Malaysia Section Sensor and Nanotechnology Joint Councils Chapter.
5. 2021-2022 Past Chair, IEEE Malaysia Section Sensor and Nanotechnology Joint Councils Chapter.
6. 2017-2020 Chair, IEEE Malaysia Section Sensor and Nanotechnology Joint Councils Chapter.
   2019 Chair – 3rd term as Chair
   2018 Chair – 2nd term as Chair
   2017 Chair – Interim Chair, The first IEEE Council established in Malaysia.
7. 2018 - 2021 Executive Committee, IEEE Penang Joint Chapter ED/ MTT/ SSC (Electron Devices, Microwave Theory and Technique, Solid State Circuit).
8. Since 2017 Member, IEEE Sensors Council
9. Since 2017 Member, IEEE Nanotechnology Council
10. 2016 *Executive Committee Member:* IEEE Electron Device Malaysia Chapter for 2016 session.
11. 2015 *Executive Committee Member:* IEEE Electron Device Malaysia Chapter for 2015 session.
12. Since July 2015 Professional Engineer with Practicing Certificate, Board of Engineers Malaysia, P.Eng: C116957
13. Since 6th April 2015 Corporate Member, The Institution of Engineers Malaysia, MIEM: 77549
14. Since Dec 2014 Senior Member, Institute of Electrical & Electronics Engineers (IEEE): 92100646
15. 2012 – Dec 2014 Member, Institute of Electrical & Electronics Engineers (IEEE) : 92100646
16. Since 2013 Member, IEEE Electron Devices Society Membership
17. Since 14th Sept 2005 Member, Board of Engineers Malaysia (BEM) : 47181R

F. AWARD, APPRECIATION AND APPOINTMENT

ACCREDITATION PANEL

1. 1 Oct 2024 – 30 Sept 2027 Malaysia Qualification Agency (MQA) Accreditation Panel
2. 1 Oct 2021 – 30 Sept 2024 Malaysia Qualification Agency (MQA) Accreditation Panel
3. Since Sept 2019 Engineering Technology Accreditation Panel (ETAC) for Engineering Technology and Diploma in Engineering Programmes, Board of Engineer (BEM), Malaysia.
4. 1st Oct 2018 – 30th Sept 2021 Malaysia Qualification Agency (MQA) Accreditation Panel
5. 3rd Nov 2016 Malaysia Qualification Agency (MQA) Accreditation Panel
6. Since May 2016 Engineering Accreditation Panel (EAC) for Engineering Programmes, Board of Engineer (BEM), Malaysia.

ACADEMIC

7. 2018 Penghargaan dalam penglibatan Malaysian Code of Responsible Conduct in Research (MCRCR) oleh MiGHT.
8. 2015 Anugerah Perkhidmatan Cemerlang, Anugerah Seri Gemilang Universiti Malaysia Perlis Tahun 2015
9. 2008 - 2013 IPTA Academic Training Scheme for Doctor of Philosophy Study at Universite catholique de Louvain, Belgium.
10. 2007 Anugerah Perkhidmatan Cemerlang, Universiti Malaysia Perlis Tahun 2007
11. 2004 - 2005 IPTA Academic Training Scheme for Master of Science Study at Universiti Kebangsaan Malaysia
12. 2005 MSc. best thesis award in 2005 for School of Engineering, Universiti Kebangsaan Malaysia. Characterization of Electroless Nickel Immersion Gold (ENiG) for Under Bump Metallurgy (UBM) in Semiconductor Packaging.
13. 1996- 1999 Hewlett-Packard (M) Scholarship award for undergraduate study (B.Eng) at Universiti Teknologi Malaysia.

ACADEMIC AWARD RECEIVED BY SUPERVISED POSTGRAD STUDENTS

14. 2022 Nominated for Best PhD Thesis Award. Nur Dalila Bt Rizuan (Matric No: 1841712754). Fabrication and Characterization of Label-Free Biosensing for Detection of CRP. Viva-Voce Date: 11 Oct 2021. Main-supervisor
15. 2021 Nominated for Best PhD Thesis Award. Steven a/l Taniselass (Matric No: 1741712548). Impedimetric-based biosensor: Hybrid rGO and gold interdigitated electrode for cardiac troponin I protein capturing. Viva-Voce Date: 30 Jul 2021. Senate Date: 1 Nov 2021. Main-supervisor
16. 2020 Won the Best PhD thesis award. Santheraleka A/P Ramanathan. (Matric No: 1841812784). Aluminosilicate Nanocomposite on Interdigitated Electrode as Genosensor for determining Epidermal Growth Factor Receptor Mutation in Non-Small Cell Lung Carcinoma. Viva-voce date: 17th Sept 2020. Senate date: 30th Nov 2020. Co-supervisor
17. 2020 Nominated for Best PhD Thesis Award. Conlathan A/l Ibau (Matric No 1631712193). Label-free Gold Interdigitated Microelectrodes Immunosensor for Prostate Cancer Biomarker. Viva-voce date: 22nd April 2020. Senate date: 30th July 2020. Main supervisor
18. 2017 Nominated for Best PhD Thesis Award. Mohamad Faris Bin Mohammad Fathil (Matric No 1441711262). Electrical Label-Free Sensing of Cardiac Troponin Biomarker: FET-Based Integration with Substrate-Gate Coupling. Viva-voce date: 24th March 2017. Senate Date: 2nd June 2017. Convocation date: 28th Oct 2017. Main Supervisor
19. 2017 2017 IEEE Electron Devices Malaysia Chapter Postgraduate Award, for outstanding project in MEMS & Nanoelectronics Cluster, Mohamad Faris B Mohamad Fathil. Main supervisor.
20. 2015 IEEE RSM Student Best Paper Award: Integrated of IDEs with TiO_2 Nanoparticles Thin Films for pH sensors. Muhammad Muaz B. Ahmad Khushaini. Co-supervisor and co-author

RESEARCH

21. March 2023 Anugerah Kecemerlangan Penyelidikan 2022 (Anugerah Inovasi – Produk Penyelidikan). Produk: Modified Interdigitated Microelectrodes for Prostate Cancer's Biomarker Detection. Pingat emas dalam PENCIPTA 2022
22. March 2023 Anugerah Kecemerlangan Penyelidikan – Anugerah Penerbitan Jurnal Berimpak bagi tahun 2022.
23. 12 July 2021 Confirmation of Project Completion for The Newton-Ungku Omar (HUOF) Project. Akademi Sains Malaysia.
24. 23 Mac 2021 Anugerah Penerbitan Jurnal Berimpak bagi tahun 2020.
25. 23 Mac 2021 Anugerah Penerbitan Jurnal Tertinggi Dalam Scopus (Kategori Teknikal) bagi tahun 2020.
26. 23 Mac 2021 Anugerah Sitasi Keseluruhan Tertinggi Dalam Scopus (Kategori Teknikal) bagi tahun 2020.
27. 2020 Anugerah Kecemerlangan Penyelidikan UniMAP 2019- Dana Penerbitan Saintifik RM 3,000
28. March 2018 MAKNA Cancer Research Award (CRA) 2017. Title: Novel Impedimetric Sensors for Early Detection of Prostate Cancer (PCa).
29. 2018 Anugerah Kecemerlangan Penyelidikan UniMAP 2017. Anugerah Kecemerlangan Pameran Penyelidikan 2017. FET-Bioelectronic for Cardiovascular Disease Detection. Silver
30. 2018 Anugerah Kecemerlangan Penyelidikan UniMAP 2017. Anugerah Kecemerlangan Pameran Penyelidikan 2017. Molecular Gate Devices for Detection of Dengue Virus (DENV) at Femtomolar Concentration. Bronze
31. 2018 Anugerah Kecemerlangan Pameran Penyelidikan 2017. Memenangi Pingat Perak (ITEX 2017
32. 2018 Anugerah Kecemerlangan Jurnal Berimpak UniMAP 2016

33. 2018 Anugerah Khas MyRA. Anugerah Kecemerlangan Penyelidikan UniMAP 2017. Geran Industri dan Antarabangsa. Tajuk Penyelidikan. Cancer diagnostic aptasensors using modified interdigitated electrodes.
34. 14th March 2017 Anugerah Kecemerlangan Jurnal Berimpak UniMAP 2015
35. 14th March 2017 Anugerah Seri Gemilang UniMAP 2016. Anugerah Kecemerlangan Penyelidikan,. Title: rGO-CNT hybrid film FET for lung cancer biomarker detection.
36. 14th March 2017 Anugerah Seri Gemilang UniMAP 2016. Anugerah Kecemerlangan Penyelidikan,. Title: High Performance Field-Effect Transistor (FET)-Based Biosensors.
37. 7th March 2017 Royal Society-Newton Mobility Grant Award under Newton-Ungku Omar Fund. Title: Cancer diagnosis aptasensors using modified interdigitated electrodes.
38. March 2016 Royal Society-Newton Mobility Grant Award under Newton-Ungku Omar Fund. Nanodiamond integrated solution-gate field-effect transistor (SGFET) for HIV-1 tat protein aptasensor. Co-researcher
39. 14th June 2016 Anugerah Kecemerlangan Jurnal Berimpak UniMAP 2014, RM 2800
40. 14th June 2016 Anugerah Seri Gemilang UniMAP 2015. Anugerah Kecemerlangan Penyelidikan,. Title: HIV-Tat Protein Sensor.
41. 24th March 2015 Anugerah Seri Gemilang. Anugerah Kecemerlangan Penyelidikan 2014. Title: Asymmetrical Double Gate: Significant Improvement in Ultra-Scaled MOSFETs.
42. 2015 Anugerah Insentif Jurnal Penyelidikan untuk penerbitan tahun 2013. Geran Penyelidikan RM 5,000
43. 2014 Anugerah Insentif Jurnal Penyelidikan untuk penerbitan tahun 2012. Geran Penyelidikan RM 15,000
44. 2013 Anugerah Insentif Jurnal Penyelidikan untuk penerbitan tahun 2011. Geran Penyelidikan RM 10,000.

EXPOSITION, INNOVATION AND INVENTION

45. April 2024 Ekspo Rekacipta UniMAP (EREKA 2024). F-EIS Modified Interdigitated Microelectrodes for Prostate Cancer's Biomarker Detection. Gold Award. Co-researcher.
46. August 2022 Seoul International Invention Fair 2021. Field-Effect Device (FED) For A.M.I Biomarker Detection. Gold Medal. Co-researcher.
47. Feb 2022 Virtual Research & Innovation Exhibtion (e-reka). Impedimetric Immuno Nanosensors for Early Recognition of Heart Attack. Silver Award. Co-researcher
48. Feb 2022 Virtual Research & Innovation Exhibtion (e-reka). Modified Interdigitated Microelectrodes for Prostate Cancer Biomarker Detection. Gold Award. Co-researcher
49. March 2021 Malaysia Technology Expo (MTE). International Innovation Awards. Field-Effect Device (FED) for A.M.I Biomarker Detection. Gold Award. Co-researcher
50. March 2021 Malaysia Technology Expo (MTE). International Innovation Awards. Modified Silicon Nanostructures as Diabetes Melitus Sensor. Gold Award. Co-researcher.
51. Feb 2021 Virtual Research and Innovation Exhibition (UniMAP) (EREKA) 2020, Universiti Malaysia Perlis. Modified Silicon Nanostructures as Diabetes Mellitus Sensors. Gold Award. Co-researcher
52. Feb 2021 Virtual Research and Innovation Exhibition (UniMAP) (EREKA) 2020, Universiti Malaysia Perlis. Field-Effect Device for A.M.I biomarker detection. Gold Award. Co-researcher
53. August 2020 Virtual Research and Innovation Exhibition (UniMAP) (EREKA) 2020, Universiti Malaysia Perlis. Back-Gated Silicon Nanowire FET for detection of dengue virsu (DENV). Bronze Award. Co-researcher
54. Oct 2017 The International Conference and Exposition on Inventions (Pecipta'17) by Institution of Higher Learning. Molecular gate devices for detection of dengue virus (DENV) at femto-molar concentration. Bronze Award. Co-researcher.
55. May 2017 28th International Invention, Innovation & Technology Exhibition 2017 (ITEX 2017). FET-Bioelectronic for Cardiovascular Disease Detection. Silver Award. Main Researcher
56. Mar 2017 Ekspo Rekacipta dan Pameran Penyelidikan UniMAP (EREKA 2016). Molecular gate devices for detection of dengue virus (DENV) at femto-molar concentration. Bronze Award. Co-Researcher
57. Mar 2017 Ekspo Rekacipta dan Pameran Penyelidikan UniMAP (EREKA 2016). High Performance Bioelectronic for Low Detection of Cardiac Troponin Biomarker. Gold Award. Main Researcher
58. Feb 2016 Malaysia Technology Expo 2016, International Innovation Awards. Bronze Award. Product: RGO-CNT Hybrid Film FET for Lung Cancer Biomarker Detection. Co-researcher
59. Feb 2016 Malaysia Technology Expo 2016, International Innovation Awards. Silver Award. Product: High-Performance Field-Effect Transistor (FET)-based Biosensors. Main Researcher.
60. Jan 2016 Ekspo Rekacipta dan Pameran Penyelidikan UniMAP 2015: Gold Award. Product: RGO-CNT Hybrid Film FET for Lung Cancer Biomarker Detection. Co-researcher

61. Jan 2016 — Ekspo Rekacipta dan Pameran Penyelidikan UniMAP 2015: Gold Award. Product: High-Performance Field-Effect Transistor (FET)-based Biosensors. Main Researcher.
62. 2014 — Anugerah Kecemerlangan Penyelidikan 2014. Produk: Asymmetrical Double Gate: Significant Improvement in Ultra-Scaled MOSFETs.
63. 5 – 6th Feb 2015 — Ekspo Rekacipta dan Pameran Penyelidikan UniMAP 2014: Silver Award. Electrical Label-Free Detection of Cardiac Biomarker by using Zinc Oxide Field-Effect Transistor Biosensor. Main Researcher.
64. 5 – 6th Feb 2015 — Ekspo Rekacipta dan Pameran Penyelidikan UniMAP 2014: Silver Award. Field-Effect Transistor Device for Influenza Surveillance. Main Researcher.
65. 20th – 22nd Feb 2014 — 25th International Invention, Innovation and Technology Expo (ITEX 2014). Gold Award. Highly Sensitive Green Wire Sensor. Co-researcher
66. 8 – 10th May 2014 — 25th International Invention, Innovation and Technology Expo (ITEX 2014). Gold Award. Asymmetrical Double Gate: Significant improvement in Ultra – Scaled SOI MOSFETs. Main researcher
67. 7th Jan 2014 — Ekspo Rekacipta dan Pameran Penyelidikan UniMAP 2013. Gold Award. Asymmetrical Double Gate: Significant improvement in Ultra – Scaled SOI MOSFETs. Main researcher.
68. 7th Jan 2014 — Ekspo Rekacipta dan Pameran Penyelidikan UniMAP 2013. Bronze Award. Ultra – Thin Body and Ultra – Thin Buried Oxide SOI MOSFETS: Contender for Low Power Applications. Main researcher
69. 7th Jan 2014 — Ekspo Rekacipta dan Pameran Penyelidikan UniMAP 2013. Bronze Award. Advanced MOS device with high-K gate dielectric. Co-researcher
70. 7th Jan 2014 — Ekspo Rekacipta dan Pameran Penyelidikan UniMAP 2013. Bronze Award. Nanostructure Anodised Aluminium Oxide Sensor for Protein Detection. Co-researcher
71. 7th Jan 2014 — Ekspo Rekacipta dan Pameran Penyelidikan UniMAP 2013. Silver Award. Highly Sensitive Green Wire Sensor. Co-researcher
72. 4-6 Feb 2010 — MTE 2010 Silver Award. Development of n-ISFET using Si_3N_4 as a sensing membrane for pH measurement - Co-Researcher.
73. 7 Jan 2010 — Ekspo Rekacipta & Pameran Penyelidikan UniMAP 2009 Gold Award. Design and fabrication of n-ISFET using Si_3N_4 /SiO_2 Structures for PH measurement - Co-Researcher.
74. 16-19 Nov 2009 — Bio Malaysia 2009. Silver Award. ISFET for Harumanis Ripeness Detection - Co-Researcher.
75. 7-10 Oct 2009 — PECIPTA 2009 Silver Award (ISFET) - Co-Researcher.
76. 2009 — MTE 2009 Silver Award (ISFET For pH Measurement) - Co-Researcher.
77. 2009 — Pameran Inovasi dan Penyelidikan UniMAP 2009 Bronze Award (Prototype ISFET: fabricated using in-house low cost facility) - Co-Researcher
78. 2008 — Bio Malaysia 2008 Bronze Award. ISFET For pH Measurement. - Co-Researcher.

EXHIBITION, INNOVATION AND INVENTION PARTICIPATED BY SUPERVISED STUDENTS

79. 16th May 2018 — Final Year Project Exhibition
Rajaahmoorthi a/l Muniandy receivesd
- Best Poster Award - Overall
- Best Poster Award for BEng (Electronic Engineering)
- Best Project Award for BEng (Electronic Engineering)

Thavamani a/p Tasakaren received
- Best Poster Award for BEng (Microelectronic Engineering)
- Best Project Award for BEng (Microelectronic Engineering)
- IEEE Special Award: Under Track Sensors

80. 7 – 8th June 2015 — The 2nd International Young Awards Award (IYIA 2015). Gold Award. Ultra sensitivity of biosensor detection with gold nanoparticles embedded on the silicon channel. Chang Hui Yi (student)
81. 17 – 19th April 2015 — International Engineering Invention & Innovation Exhibition (i-ENVEX) 2015. Gold Award. Gold Nanoparticles Embedded Silicon Channel Biosensor for Improved Sensitivity. Chang Hui Yui (students)
82. 5 – 6th Feb 2015 — EYReC-MyRIS Young Inventor Show (EMYIS 2015): Silver Award. Gold Nanoparticles Embedded Silicon Channel Biosensor for Improved Sensitivity. Chang Hui Jin (student)
83. 5 – 6th Feb 2015 — EYReC-MyRIS Young Inventor Show (EMYIS 2015): Bronze Award. Numerical Study of Metal Gate and High-K TaN/HfO2/SiO2 and Tan/ZrHfO/SiO2 in High Scaled MOSFET Devices. Kung Hui Jing (student)
84. 5 – 6th Feb 2015 — EYReC-MyRIS Young Inventor Show (EMYIS 2015): Bronze Award. Design, Fabrication and Characterization of Zinc Oxide/ Titanium Dioxide for Biosensor Application. Sin Lye Leng and Teoh Chai Ling (students)

G. UNIVERSITY SERVICES

ADMISTRATION POST

1.	1st July 2022 – 31st August 2022	Director, Centre for Graduate Studies, Universiti Malaysia Perlis, 3rd term appointment.
2.	15th Apr 2020 – 30th Jun 2022	Director, Centre for Graduate Studies, Universiti Malaysia Perlis, 3rd term appointment.
3.	1st Mar 2019 – until 14th Apr 2020	Dean, Centre for Graduate Studies, Universiti Malaysia Perlis, 2nd term appointment.
4.	16th Apr 2018-28th Feb 2019	Dean, Centre for Graduate Studies, Universiti Malaysia Perlis,1st term appointment.
5.	1st Mar 2015-28th Feb 2017	Deputy Director (Research and Innovation) at Institute of Nano Electronic Engineering, UniMAP.
6.	1st Mar. 2013 – 28 Feb 2015	Deputy Director (Research and Innovation) at Institute of Nano Electronic Engineering, UniMAP. o Responsible to the director in carrying out duties on all matters related to research and innovation at Institute of Nano Electronic Engineering (INEE). o Perform duties as directed from time to time by the vice-chancellor.
7.	Mac – Sept 2013	Lab coordinator – Cleanroom and Failure Analysis Labs, School of Microelectronic Engineering
8.	2005 -2007	Program Chairperson for Diploma in Microelectronic Engineering, School of Microelectronic Engineering, UniMAP.
9.	1 March 2007 – 27 Feb 2009	Diploma Program Coordinator at University Level : 2005 – 2009 - University Senate Member - Jawatankuasa Pengurusan Akademik (JPA) Member

TALK

1.	11 Oktober 2024	Penceramah untuk Bengkel bertajuk "Implementation of OBE-mapping of Outcomes" untuk Program Kejuruteraan Elektronik Bioperubatan.
2.	10 Sept 2024	Penceramah bertajuk "Implementation of OBE-mapping of Outcomes" untuk Program Mikroelektronik & Elektronik. Fakulti Kejuteraan & Teknologi Elektronik.
3.	14 Jun 2024	Penceramah bagi Syarahan Bertajuk "Profesionalism and Ethical Responsibilities in Report Writing". Fakulti Kejuteraan & Teknologi Elektronik.
4.	29 Feb 2024	Penceramah Bengkel Pemerkasaan FYP bagi akreditasi EAC, ETAC and ETeAC untuk Fakulti Kejuteraan & Teknologi Elektronik.
5.	29-30 Nov, 14 Dec 2023	Penceramah Bengkel Pemerkasaan Outcome Based Education Peringkat Fakulti Kejuruteraan & Teknologi Elektronik
6.	27 June 2022	Examination and Viva-Voce Postgraduate Supervision Workshop organized by LEAD, Universiti Malaysia Perlis.
7.	17th March 2022	Examination and Viva-Voce Postgraduate Supervision Workshop organized by LEAD, Universiti Malaysia Perlis.
8.	9th Dec 2021	Code of Supervision, organized by Faculty of Electronic Engineering Technology, Universiti Malaysia Perlis
9.	16th Oct 2019	*Penceramah Jemputan,* Ethics in Publication, IMK Postgraduate Research Symposium (IMPResS 2019), Bilik Sumber PPK Mekatronik, UniMAP, Kampus Pauh Putra
10.	29 Ogos 2019	*Penceramah Jemputan,* Assiting Student with Publishing Bengkel Postgraduate Supervision Siri II 2019. Makmal Openconfig, Pusat ICT UniMAP, Pauh Putra.
11.	25th April 2019	*Penceramah Jemputan,* Concern and Good Practices in Supervision. Bengkel Postgraduate Supervision Siri I 2019. Makmal Openconfig, Pusat ICT UniMAP, Pauh Putra.
12.	28th Sept 2018	*Postgraduate Seminar* at Universiti Negeri Makassar (UNM), Makassar, Indonesia.
13.	4hb April 2018	*Ethic in Academic Writing.* Syarahan untuk program pascasiswazah PPK Mikroelektronik semester 1.
14.	14th Oct 2016	*Talk* on FET: From device to bioelectronics at The 1st TAB-RC (PSU) – INEE (UniMAP) Joint Colloqium. Prince Songkhla University, Hat Yat, Thailand.
15.	25th August 2016 (1 hr)	*Talk* on Surviving the games in ISI Journal during Get to Know your ISI Journal programme, Dewan Kuliah PPK Pembuatan, Pauh Putra. Organized by Unit Reputasi Akademik dan Industri (AIRU), UniMAP.
16.	29th June 2016 (3.00 – 5.00 pm)	*Talk* on Integrity in Scientific Research at Wisdom fair: Speak your mind organized by Majlis Professor, Universiti Malaysia Perlis. Bilik Seminar Siantan, PPK Pembuatan, Pauh Putra, Perlis.

17. 1st June 2016 (9.00 am – 12.00 noon) *Invited Talk* on Route to Become a Professional Engineer (P.Eng), Jointly organized by Unit Kelayakan dan Akreditasi (UniKA) and Board of Engineers Malaysia (BEM). Bilik Seminar Tun Dr. Mahathir Mohamad, Blok B, Seriab, Kangar, Perlis.
18. 27th Jan 2016 (2.00 – 5.00 pm) *Penceramah Jemputan* untuk Bengkel Penulisan Tesis Pelajar Siswazah Bil 1/2016. Topik: Research Methodology, bertempat di DK4, Dewan Kuliah Utama, Pauh Putra.

GRANT EVALUATION PANEL

1. 2024 Panel Penilai Peringkat Universiti bagi Permohonan Skim Dana Penyelidikan Kementerian Pendidikan Tinggi (DP KPT) – Universiti Malaysia Perlis
2. 2023 Panel Penilai Peringkat Universiti bagi Permohonan Skim Dana Penyelidikan Kementerian Pendidikan Tinggi (DP KPT) – Universiti Malaysia Perlis
3. 2022 Panel Penilai Dalaman bagi Permohonan Skim Geran Dana Penyelidikan Kementerian Pengajian Tinggi (DKPT) Universiti Malaysia Perlis
4. 2021 Panel Penilai Dalaman bagi Permohonan Skim Geran Dana Penyelidikan Kementerian Pengajian Tinggi (DKPT) Universiti Malaysia Perlis
5. March 2021 Internal Appraisal Panel for the application of FRGS Research Grant 2021, Universiti Malaysia Perlis
6. 2020 Panel Penilai Dalaman bagi permohonan skim geran padanan Malaysia Technical University Network (MTUN) – Industri 2020.
7. 2020 Panel Penilai Dalaman bagi Permohonan Skim Geran Dana Penyelidikan Kementerian Pendidikan Malaysia (DPKKM), Universiti Malaysia Perlis
8. March 2020 Internal Appraisal Panel for the application of FRGS Research Grant 2020, Universiti Malaysia Perlis
9. March 2019 Internal Appraisal Panel for the application of FRGS Research Grant 2019, Universiti Malaysia Perlis
10. March 2018 Internal Appraisal Panel for the application of FRGS Research Grant 2018, Universiti Malaysia Perlis
11. Feb 2018 Internal Appraisal Panel for the application of PRGS Research Grant 2018, Universiti Malaysia Perlis

CHAIRMAN

Viva voce

1. 13 June 2024 Nor Roshidah Binti Yusof. Linear Optical and Quantum Anti-Centifugal Effects in Lithium Niobate on Insulator Rib Waveguide. PhD. Fakulti Kejuruteraan & Teknologi Elektronik.
2. 07 June 2024 Foong Phey Yee. Welding of Thermoplastic using Silicon Carbide Nanomaterials as Susceptor by Microwave Heating. PhD. Institut Kejuruteraan Nano Elektronik.
3. 24 April 2024 Agbolade Lukman Olatomiwa. MSc. Institut Kejuruteraan Nano Elektronik.
4. 20 Mac 2024 Ong Zhi Ying. Enhancing Performance of EEG based Machine Learning Algorithm via Feature Fusion and Dimensional Reduction Technique. PhD. Fakulti Kejuruteraan & Teknologi Elektronik.
5. 20th Sept 2023 Nurul Fadzlin Binti Ghazali. All-photonic reversible gates employs nonlinear effects in SOA based interferometric circuits. PhD. Fakulti Kejuruteraan & Teknologi Elektronik.
6. 26th June 2023 Mustafa Zuhaer Nayef. Development of facial recognition system based on modified local descriptor and multi-set fusion method. PhD. Fakulti Kejuruteraan & Teknologi Elektronik.
7. 4th July 2022 Ali Ibrahim Khaleel Al-Hayali. A Hybrid Compression Method for Medical Images Based on Region of Interest using Artificial Neural Network. PhD. Fakulti Teknologi Kejuruteraan Elektronik.
8. 31st May 2018 Lim Gim Pao. Development of Ca-Alginate-Chitosan capsules for encapsulation and controlled release of imidacloprid as larvaecide delivery system. Phd (Bioprocess Engineering). School of Bioprocess Engineering.
9. 7th March 2018 Mohd Anuar B Rosli. Development of RF to DC conversion circuit for energy harvesting. MSc. (Microelectronic Engineering). School of Microelectronic Engineering

Pre-viva voce

10. 13th July 2018 Azrul Syafiq Bin Zainol Abidin. Functionalization of reduced graphene oxide surface with aptamer targeting cortisol biomarker. MSc. (Nanoelectronic Engineering). Institute of Nano Electronic Engineering
11. 18th Jan 2018 Humaira Bt Md Salleh. Development of Silicon-on-Insulator based nanogap sensor for Escherichia Coli O157:H7 detection. MSc. (Nanoelectronic Engineering). Institute of Nano Electronic Engineering

12. 10th Jan 2018 — Nor Azizah Bt Parmin. Development of Gold Nanoparticle Based Label-Free Biosensor for Early Detection of Human Papillomavirus Cause Cervical Cancer. PhD (Nanoelectronic Engineering). Institute of Nano Electronic Engineering
13. 29th Dec 2017 — Zarimawaty Bt Zailan. Simulation and Characterization of novel planar diodes as high-frequency rectifiers. PhD (Microelectronic Engineering). School of Microelectronic Engineering
14. 24th Nov 2017 — Nik Nur Atiqah, Preparation and Characterization of zinc – oxide light emitting diode. MSc. (Photonic Engineering). School of Microelectronic Engineering.

Proposal Defense / Mini Viva.

15. 21 Nov 2023 — Ayesha Wasim Qureshi. Metamaterial textile coplanar waveguide UWB antenna for breast cancer detection and localization using machine learning. MSc (Communication Engineering). Mini Viva
16. 4th Dec 2018 — Ahmad Faris Bin Hasan. Design of high efficiency millimeter wave CMOS power amplifier for 5G wireless communication. PhD. (Electronic Engineering). School of Microelectronic Engineering. Proposal Defense

ACCREDITATION / AUDITOR PANEL APPOINTMENT

1. 2024 — *Internal Auditor* for Bachelor of Chemical Engineering with Honours, Faculty of Chemical Engineering & Technology, Universiti Malaysia Perlis
2. 2nd Nov 2016 — *Internal Auditor* for Bachelor of Engineering (Honours) Communication Engineering, School of Computer Engineering, Universiti Malaysia Perlis
3. 12th May 2016 — *Internal Auditor* for Master of Science (Embedded System Design), School of Microelectronic Engineering, Universiti Malaysia Perlis
4. 31st March 2016 — *Internal Auditor* for Bachelor of Electronic Engineering Technology (Electronic Network Design), Faculty of Engineering Technology, Universiti Malaysia Perlis

SENATE / JAWATANKUASA PERANCANGAN AKADEMIK / JAWATANKUASA IJAZAH TINGGI UNIVERSITI / OTHER MEMBER

1. 15th Apr 2020 – 31th Aug 2022
   - University Senate Member
   - Jawatankuasa Pengurusan Akademik (JPA) Member
   - Deputy Chairman,Jawatankuasa Ijazah Tinggi (JITU)
2. 1st Mar 2019 – until 14th Apr 2020
   - University Senate Member
   - Jawatankuasa Pengurusan Akademik (JPA) Member
   - Deputy Chairman, Jawatankuasa Ijazah Tinggi (JITU)
3. 15th Apr 2020– 31th Aug 2022
   - Universiti Senat Member
   - Deputy Chairman, Jawatankuasa Ijazah Tinggi (JITU) University.
   - Jawatankuasa Pengurusan Akademik (JPA) Member
4. 16th Apr 2018- 28th Feb 2019
   - Universiti Senat Member
   - Deputy Chairman, Jawatankuasa Ijazah Tinggi (JITU) University.
   - Jawatankuasa Pengurusan Akademik (JPA) Member
5. 1 March 2007 – 27 Feb 2009
   - University Senate Member
   - Jawatankuasa Pengurusan Akademik (JPA) Member

COMMITTEE/MEMBER / APPOINTMENT

Academic Related

6. 2024 — Panel Penilai Latihan Industri bagi Program Ijazah Sarjana Muda Kejuruteraan (Semester 2, 2023/2024). Fakulti Kejuruteraan & Teknologi Elektronik.
7. 1 Sept 23 – 31 August 24 — Jawatankuasa Kecil Ijazah Tinggi (JKIT) Institut Kejuruteraan Nano Elektronik (INEE).

8.	2023	Panel Penilai Latihan Industri bagi Program Ijazah Sarjana Muda Kejuruteraan (Semester 2 2022/2023). Fakulti Kejuruteraan & Teknologi Elektronik.
9.	8 May 2023	Panel Penilai Three Minute Thesis (3MT) Competition, UniMAP 2023.
10.	2023	Panel penilai Tesis Terbaik bagi Konvokesyen UniMAP kali ke-18.
11.	2021/2022	Penyelaras pembangunan borang penawaran kursus baharu HEA-IT -01[C] Program pascasiswazah mod campuran (peringkat Fakulti)
12.	2022	Ahli Jawatankuasa Pemerkasaan Kriteria Kenaikan Pangkat Pensyarah Universiti.
13.	2022	Ahli Jawatankuasa Penghasilan Garis Panduan University Flexible Education Framework (UFEF)
14.	2022	Ahli Jawatankuasa AD-HOC bagi semakan statut (Akademik) Universiti Malaysia Perlis
15.	2022	Ahli Jawatankuasa Task Force Pembangunan Kriteria Kenaikan Pangkat Laluan Secara Pantas (Fast Track).
16.	2022	Ahli Jawatankuasa Teknikal dan Perolehan di Institut Kejuruteraan Nano Elektrik (INEE)
17.	2021	Ahli Jawatankuasa Pemandu kebolehpasaran graduan, jaringan industri dan masyarakat (JKP GEJIM)
18.	1 Nov 2020 – 30 June 2022	Ahli Jawatankuasa Penyelidikan dan Inovasi (JKPI)
19.	1 Nov 2020 - 30 Oct 2022	Ahli Jawatankuasa Penerbitan Universiti, bagi sesi 2020/2021 dan 2021/2022.
20.	2021	Pengerusi, Jawatankuasa kerja pengurusan risiko Pusat Pengajian Siswazah
21.	1 Feb 2020 – 31 Jan 2022	Ahli Jawatakuasa Pemikir Strategik Akademik dan Antarabangsa.
22.	2020	Panel Task Force Struktur Penjanaan Universiti
23.	1st Dis 2019 – 30th Nov 2021	Ahli Jawatakuasa Tatatertib Akademik Pelajar, Universiti Malaysia Perlis
24.	2019	Perlantikan sebagai pegawai pengesahan dokumen (cop pengesahan jurutera profesional beserta tandatangan) pada salinan dokumen pelajar yang bergraduat pada istiadat konvokesyen UniMAP kali ke-14.
25.	2018	*Ahli Jawatankuasa* Penyelidik Ijazah Kehormat Istiadat Konvokesyen ke 13 UniMAP – Prof. Emeritus Dato' Ir. Dr. Zainai Bin Mohamed.
26.	2018	*Ahli Jawatakuasa Bertindak (TASK FORCE)* Sistem Pemeringkatan Institusi – QS STARS. Universiti Malaysia Perlis
27.	2018	Pegawai pengesahan dokumen (cop pengesahan jurutera professiona beserta tandatangan) pada salinan dokumen pelajar yang bergraduat pada Istiadat Konvokesyen UniMAP kali ke-13.
28.	2017	Pegawai pengesahan dokumen (cop pengesahan jurutera professiona beserta tandatangan) pada salinan dokumen pelajar yang bergraduat pada Istiadat Konvokesyen UniMAP kali ke-12.
29.	2016	Pegawai pengesahan dokumen (cop pengesahan jurutera professiona beserta tandatangan) pada salinan dokumen pelajar yang bergraduat pada Istiadat Konvokesyen UniMAP kali ke-11.
30.	Jan - Dec 15	*Organizer (and Chairperson):* Technical Knowledge Sharing i.e. every Friday by the staff (INEE or SoME), students or invited speaker/technical expert from industry at Institute of Nano Electronic Engineering.
31.	15th May 2014	Or*ganizing Committee and Exhibitor*: Biopartnering 2014 (Northern Series): Kulim Golf and Country Resort, Kulim, Kedah.
32.	1 Mar 2007-27 Feb 2009	University Senate Member Jawatankuasa Pengurusan Akademik (JPA) Member
33.	6th July 2007	*Organizer:* Program Wacana Sosial untuk pelajar diploma UniMAP: Utamakan Kesihantan – HIV & AIDS by Dr Hasri Awang Besar at Dewan Kapitol Kangar, Malaysia.
34.	March 2003	*Organizer:* KUKUM Industri Forum 2003. Kulim Hi Tech Park, Kulim, Kedah, Malaysia.

Non-Academic Related

1.	2019	Pasukan Petugas (Task Force) bagi cadangan Pembangunan Kampus Bandar Baru Kangar Jaya, Seriab, Perlis
2.	2019-2020	Ahli Jawatankuasa Pemilihan Tabung-Tabung Amanah UniMAP
3.	2015	Ahli Panel Penggubalan Sukatan dan Soalan Peperiksaan Perkhidmatan Kertas II bagi Jawatan Pegawai Latihan Vokasional (J41) di Institut Kejuruteraan Nano Elektronik.
4.	2013 -	Committee Member, Early Education- Taska Pewaris Generasi UniMAP.
5.	May 2013 -	Committee Member, Pelaksana Projeck Kampus Lestari UniMAP

6.	2008	Ahli Jawatakuasa Induk, Istiadat Konvokesyen Ke-3, Universiti Malaysia Perlis
7.	2007	Ahli Jawatakuasa Induk, Istiadat Konvokesyen Ke-2, Universiti Malaysia Perlis
8.	12-14th Jan 2007	Committee Member, Pesta Kerjaya Peringkat Kebangsaan Zon Utara, Dewan Wawasan 2020
9.	27-29th Sept 2006	Committee Member, Promotion at Sekolah Aminuddin Baki, Kg Pandan, Kuala Lumpur
10.	28th Aug 2006	Committee Member, Pertandingan Bakat Merdeka KUKUM.
11.	14 – 15th Jan 2006	Committee Member, Hari Kerjaya KUKUM 2006, Hotel Putra Palace, Kangar, Perlis
12.	17th Aug – 16th Sept 2005	Committee Member, Program Jalan Kaki 10 km sempena Perayaan Bulan Kemerdekaan ke-46, Peringkat KUKUM.
13.	17th Aug. – 16th Sept 2003	Committee Member, Program Jalan Kaki 10 km sempena Perayaan Bulan Kemerdekaan ke-46, Peringkat KUKUM.

Teaching & Learning

Master of Business Administration (MBA)

Semester	*Session*	*Subjects*
II	2022/2023, 2024/2025	SSP15603/3 – Emerging Engineering Technology

Master of Sciences (M.Sc)

Semester	*Session*	*Subjects*
II	2015/2016	EMT 532/3 – Nanoelectronic Devices

Bachelor of Engineering (B.Eng)

Semester	*Session*	*Subjects*
II	2022/2023	Panel Pelawat Latihan Industri, Ijazah Sarjana Muda Kejuruteraan.
I	2017/2018,2019/2020, 2020/2021, 2020/2021 (sem. tambahan), 2021/2022, 2022/2023, 2023/2024	EMT297/3 – Physics of Semiconductor / EMT 272 Semiconductor Fundamentals ; NMJ 20603 – Semiconductor Physics
II	2014/2015, 2015/2016	EMT 367/3 – Microelectronic Fabrication (3rd year subject)
I	2014/2015, 2015/2016, 2018/2019	EMT 357/3 – Fundamental of Microelectronic Fabrication (3rd year subject)
I & II	2005/2006, 2006/2007, 2007/2008, 2013/2014, 2014/2015, 2015/2016, 2016/2017, 2017/2018, 2018/2019, 2020/2021, 2021/2022, 2022/2023, 2023/2024, 2024/2025	EMT 444/8 - Final Year Project.
II	2013/2014, 2015/2016, 2016/2017, 2017/2018, 2018/2019, 2019/2020, 2020/2021, 2021/2022, 2022/2023, 2023/2024	EUT 440/3 – Engineers in Society (4th year subject), NMJ30602 Professional Engineers
II	2012/2013, 2015/2016	EMT 249/4 – Electronic Analog II (2nd year subject)
I	2005/2006, 2006/2007, 2007/2008, 2013/2014	EMT 453/4 - Semiconductor Packaging. (4th year subject)
II	2005/2006	EMT 462/4- Electrical System Technology (4th year subject)
I	2005/2006	EMT 361/3 - Reliability and Failure Analysis. (3rd year subject)
I	2003/2004	EMT 111/4 - Electronic Devices. (1st year subject)
I	2003/2004	EKT 121/4 - Digital Electronic I. (1st year subject)

Diploma in Engineering (Dip.Eng)

II	2006/2007	DMT 121/3 - Electronic I. (1st year subject)

Others

UniMAP

2006 - 2008

- Setting up syllabus and lab facilities i.e. Reliability and Failure Analysis Lab and Semiconductor Packaging at Kuala Perlis
- Development of Diploma in Engineering Programmes at UniMAP. Involved in early documentation, getting approval from Ministry of Higher Education (MoHE), syllabus and facilities (Pusat Pengajian Diploma di Taman Semarak and Jalan Serawak, Kuala Perlis) and finally accredited by Malaysia Quality Assurance (MQA)

KUKUM

2003 Setting up syllabus and lab facilities i.e. Electronic Devics, Analog Electronic and Digital Electronic at KWSP Building, Kangar, Perlis.

H. CONSULTANCY / PROFESSIONAL SERVICES

ACADEMIC CONSULTANCY

5. 19 Oct 2020 – 18 Oct 2022 — Project: Characterization of process induced charges on silicon-on insulator low voltage and high power devices. Student: Teh Kah Heng. Amount = RM 48,000.00. Company: Infineon Technologies (Kulim) Sdn. Bhd.
6. 7 Jan 2019 – 6 Jan 2021 — Project: Characterization of Power SOI by CV and IV measurement. Student: Ras Shadatul Natasha. Amount = RM 48,000.00. Company: Infineon Technologies (Kulim) Sdn. Bhd.
7. 13 Aug 2018 – 12 Jan 2021 — Project: Electrical Characteristics of High Voltage Lateral Double Diffused MOSFET (HVLDMOS) on Silicon-on-Insulator (SOI) technology. Student: Nur Azmina Bt Md Sakri. Amount = RM 56,000.00. Company: Infineon Technologies (Kulim) Sdn. Bhd.
8. 1 Jan 2014- 2016 — Project Nanowire and Interdigitated Electrode (IDE). Company Silterra Malaysia Sdn Bhd.

VISITING PROFESSOR

9. Sep. 23 – Aug. 25 — Visiting Professor at School of Microelectronics, Shandong University (SDU), China.
10. 8th & 22th Nov 2022 — International Academic Lecture Program in the Faculty of Advanced Technology and Multidiscplinary, Universitas Airlangga, Indonesia
11. 27 Nov 2020 — Visiting Professor for Guest Lecture Series at Institut Teknologi Sepuluh Nopember (ITS), Surabaya, Indonesia
12. 1st August 2019 – 31st July 2024 — Visiting Professor at Universitas Pramita Indonesia (UNPRI),Tangerang, Indonesia
13. 10th June 2019 – 09th June 2021 — Visiting Professor at Faculty of Information Sciences & Engineering (FISE), Management and Science University (MSU), Kuala Lumpur, Malaysia.

EDITORIAL BOARD MEMBER

14. 1st Jan 2024 – 31st Dec 2025 — Associate Editor for The International Journal of Nanoelectronics and Materials (IJNEAM), Scopus-indexed & WoS indexed Journal
15. 15th March 2022 – 30th Apr 2023 — Associate Editor for The International Journal of Nanoelectronics and Materials (IJNEAM), Scopus-indexed & WoS indexed Journal
16. 1st May 2017 – 30th Apr 2019 — Associate Editor for The International Journal of Nanoelectronics and Materials (IJNEAM), Scopus-indexed Journal
17. 17th Sept 2014 — Appointment as a member of Board of Studies for Master Programme: MSc (Electrical and Electronic Engineering) by UniMAP.

HEAD OF DELEGATION (HOD) / HEAD OF PANEL (HOP) / PANEL MEMBER FOR ENGINEERING ACCREDITATION PROGRAMMES

18. 19 – 20 Feb 2025 — *EAC Head of Panel* for Bachelor of Electronics Engineering with Honours. UTAR Kampar, Perak, Malaysia
19. 23 – 25 Sept 2024 — *ETAC Head of Panel.* Diploma in Electronic Engineering (Computer). Politeknik Seberang Perai (PSP).
20. 27 Jun 2024 — *EAC Head of Panel.* Bachelor of Electrical Engineering with Honours. Universiti Sains Islam Malaysia (USIM).
21. 27-29 May 2024 — *EAC Head of Panel* for Master of Engineering in Electrical and Electronic Engineering. Heriot-Watt University Malaysia (HWUM), Malaysia

22. 5 – 7th May 2024 *EAC Head of Panel* for Diploma in Electronic Engineering (Communication), Politeknik Tuanku Sultanah Bahiyah (PTSB), Kulim Kedah. Malaysia
23. Mac 2024 *Panel* Penilai Audit Akreditasi Sementara Program Doktor Amalan Professional (DPROF), Sekolah Pengajian Siswazah, Universiti Teknologi Malaysia (UTM).
24. 24-27 July 2023 *ETAC Head of Delegation cum Head of Panel* for Diploma in Electronic Engineering. Manipal International University (MIU), Malaysia
25. 04-07 July 2023 *EAC Head of Delegation cum Head of Panel* for Bachelor of Electrical Engineering with Honours. Universiti Sains Islam (USIM), Malaysia
26. 26-27 Oct 2022 *EAC Head of Delegation cum Head of Panel* for Bachelor of Electrical & Electronics Engineering with Honours. Universiti Pertahanan Nasional Malaysia (UPNM), Malaysia
27. 18-19 Mei 2022 *ETAC Panel* for Bachelor of Mechatronics Engineering Technology (Automotive) with Honours. Universiti Kuala Lumpur, Kampus Cawangan Malaysian Spanish Institute (UNIKL MSI).
28. 22 Dec 2022 *ETAC Interim Panel* for Diploma Kejuruteraan Elektronik (Komunikasi) Politeknik Tunku Syed Sirajuddin (PTSS).
29. 30 Sept – 1 Oct 2021 *EAC Panel* for Bachelor of Mechatronics Engineering with Honours. UOW Malaysia KDU.
30. 30 – 31 March 2021 *EAC Panel* for Bachelor of Mechatronics Engineering with Honours. UCSI University, Kuala Lumpur
31. 22-24 Sept 2020 *EAC Panel* for Bachelor of Mechatronics Engineering with Honours. Quest International University, Perak
32. 10-11th March 2020 *EAC Panel* for Bachelor of Engineering (Honours) Electronics (Computer Networking), Universiti Tunku Abdul Rahman (UTAR), Sg Long Campus.
33. 2-3 Oct 2019 *ETAC Head of Panel* for Diploma in Mechatronic Engineering, Politeknik Kota Kinabalu Sabah
34. 12-13th March 2019 *EAC Panel* for Bachelor of Engineering (Hons) in Electronics (Computer), Universiti Malaysia Sarawak (UNIMAS).
35. 1st - 2nd Nov 2017 *EAC Panel* for Bachelor of Electrical and Electronics Engineering (Hons), Nilai University, Negeri Sembilan.
36. 17-18th May 2016 *EAC Panel* for Bachelor of Engineering (Honors) Communication and Electronic Engineering, UCSI University, Kuala Lumpur

KEYNOTE / INVITED SPEAKER/SEMINAR/ TALK /

International Level

37. 06 – 07 Nov 2024 *Invited Speaker:* 3rd International Conference on TREND & RESEARCH IN CHEMISTRY (TRIC 2024 – HYBRID), Department of Chemistry, University of Education, Lahore, Pakistan.
38. 4th Sept 2024 *Keynote Speakers.* 11th International Conference on Mathematics and Natural Science Education (ICMSE 2024). Universitas Negeri Semarang, Semarang City, Indonesia.
39. 12-13th August 2024 *Invited Speaker:* International Conference on Interdiscplinary Physics (ICIPs) in conjunction with BOND21: Joint International onf Nanoscience and Nanoengineering 2024. Belitung Island, Indonesia.
40. 28 Julai 2024 *Penceramah:* Sharing Experiences : Working in E&E Industries and Academic. Sekolah Menengah Sains Kubang Pasu.
41. 29 Mac 2024 *Invited Speaker:* Nanobiosensor Workshop 2024. Bangi Resort Hotel, Putrajaya.
42. 24-26th Feb 2023 *Invited Speaker:* 4th Malaysia-Japan International Conference on Nanoscience, Nanotechnology & Nanoengineering 2023 (MJIC 2023)
43. 8th & 22th Nov 2022 *International Academic Lecture Programme* at Universitas Airlangga, Indonesia
8th November 2022: Engineered Nanomaterials & Devices in Biosensors Applications.
22th November 2022: Nanoelectronics: Definition, History, Current Trends and Future Perspectives
44. 22-23 Sept 2022 *Keynote Speaker:* BOND21 - Joint International Conference on Nanoscience & Nanoengineering. Organized by INEE,, MOSTI, Institut Pertanian Bogor, Indonesia, AIMST University and University of Technology Baghad, Iraq
45. 15 Jun 2022 *Departmental Seminar* at University de Lorrain, Nancy, France.
46. 19 Jan 2022 *Invited speaker.* International Conference (Online) Trends and Research in Chemistry (TRIC-2022). Department of Chemistry, University of Lahore, Pakistan.
47. 17-19th March 2021 *Keynote Speaker:* International Virtual Conference on Recent Advancement in Biomedical Engineering. Chennai India.
48. 27 Nov 2020 *Invited speaker. E*-program session at Institut Teknologi Sepuluh Nopember. Indonesia

49. 10-11th Feb 2020 — *Invited Speaker*, Trace Analysis and Biosensor Symposium I, Organized by Center of Excellence for Trace Analysis and Biosensors (TAB-CoE), Prince of Songkhla University, Hat Yai, Songkhla, Thailand.
50. 4th April 2019 — *Keynote Speaker*. Bureaucracy in digital era, an overview Seminar 2019. "Challenges and barriers to public services in the digital era. Tangerang Selatan, Indonesia. Anjuran Universitas Pramita Indonesia.
51. 9th -10th Oct 2018 — *Invited Speaker* at IEEE International Microwave, Electron Devices & Solid-State Circuit Symposium (IMESS) 2018, PSDC, Penang, Malaysia
52. 29th -30th Sep 2018 — *Invited Speaker* at International Conference on Mathematics, Sciences, Technology, Education and their Applications in conjunction with 1st International Symposium on Green Materials and Technology (ISGMT), Sahid Jaya Hotel, Makassar, Indonesia.
53. 28th Sept 2018 — *Postgraduate Seminar* at Universiti Negeri Makassar (UNM), Makassar, Indonesia.
54. 13th Feb 2018 — *Department seminar* at University of Bath, Electrical & Electronics Department.
55. 9th – 10th August 2017 — *Invited Speaker* at 1st International Conference on Applied Photonics and Electronics (InCAPE 2017), Port Dickson, Negeri Sembilan, Malaysia.
56. 30th April 2017 — *Keynote Speaker* at International Conference on Green Design and Manufacturing (GDM 2017) & Electronic Green Materials (EGM 2017). Title: FET-Based bioelectronic for detection of cardiovascular disease biomarker. Organized by Malaysian Innovation & Research Society (MyRIS) & Center of Excellence Geopolymer & Green Technology (CEGEoGTech), Universiti Malaysia Perlis and World Inventions Intellectual Property Association (WIIPA). Ibis Style Hotel, Krabi, Thailand.
57. 14th Oct 2016 — *Talk* on FET: From device to bioelectronics at The 1st TAB-RC (PSU) – INEE (UniMAP) Joint Colloqium. Prince Songkhla University, Hat Yat, Thailand.
58. 17-19th August 2016 — *Invited Talk* at 12th IEEE International Conference on Semiconductor Electronics 2016. Pullman Kuala Lumpur, Bangsar, Malaysia. Title: Interdigitated Electrodes Integrated with Zinc Oxide Nanoparticles for Cardiac Troponin I Biomarker Detection. Pullman Hotel, Bangsar, Kuala Lumpur. organized by IEEE Electron Devices Society Malaysia

National Level

59. 16th Sept 2021 — *Invited speaker*. Sensors Malaysia Webinar Series 1/2021.
60. 26 Oct 2020 — *Invited speaker*. Sharing Session for International Grant Application: Malaysia Partnership & Alliances in Research (MyPAiR) Program. Organizer: Universiti Sultan Zainal Abidin
61. 27th Disember 2018 — *Penceramah Jemputan* untuk seminar Teknikal CoE-CeTRI UTeM, Melaka.
    - Nano-Scaled MOS: From Transistor to Label-Free Bioelectronics
    - Sharing Experiences: Publication in High Quartile Journals
62. 19th March 2017 — *Invited Talk* at 2nd National Seminar on Sensor 2017. Organized by Persatuan Pembangunan Teknologi Sensor Malaysia. Langkawi Research Centre, Institute for Environment, Universiti Kebangsaan Malaysia, Langkawi.
63. 24th Nov 2013 — *Industrial Lecture*. Title: MOSFETs Device Technology. Lecture to Infineon Engineers at Anjung Kulim, Kulim Hi-Tech Park, Kulim Kedah.
64. 2004 — *Speaker*. Development of Under Bump Metallization (UBM) using Electroless Technique. Oral presentation at Engineering Showcase, ON Semiconductor, Seremban. 28th April 2004.

Jury

65. 26-27th July 2017 — The 1st International Malaysia-Indonesia-Thailand Symposium on Innovation and Creativity (iMIT SiC 2017), Dewan Seri Semarak, UiTM Perlis Branch, Perlis, Malaysia.
66. 4th Dec 2014 — *Jury* for 1st Green Technology Research Exposition, Duxton Hotel, Ho Chi Minh City, Vietnam.
67. 11th – 13st Apr 14 — *Jury* for "*Malaysia International Robot Competitions 2014 (MiRoC 2014)*" at Dewan Peperiksaan, Pauh Putra, Perlis.

I. COMMUNITY SERVICES

JOURNAL EDITORIAL BOARD

1. 1st Jan 2024 – 31st Dec 2025. — *Associate Editor* for The International Journal of Nanoelectronics and Materials (IJNEAM). Web-of-Science and Scopus-indexed Journal.
2. 15th March 2022 – 30th Apr 2023 — *Associate Editor* for The International Journal of Nanoelectronics and Materials (IJNEAM). Scopus-indexed Journal.
3. 1st May'17 – Apr 30th'19 — *Associate Editor* for The International Journal of Nanoelectronics and Materials (IJNEAM). Scopus-indexed Journal.

COMMITTEE / CONFERENCE ORGANIZER

4.	2023-2025	Head of Publication Committee - IEEE International Conference on Sensors and Nanotechnology (SENNANO 2025), 11-12 Sept 2025. Organized by IEEE Malaysia Section Sensors & Nanotechnology Joint Council Chapter, Selangor Malaysia
5.	2024	Expert Committee in the Innovation and Incubation Centre at Sree Balaji Medical College and Hospital Chromepet, Chennai India.
6.	2022-2024	Head of Publication Committee - IEEE International Conference on Sensors and Nanotechnology (SENNANO 2023) 26 – 27 Sept 2021. Organized by IEEE Malaysia Section Sensors & Nanotechnology Joint Council Chapter, at The Everly Hotel Putrajaya.
7.	2022	Ahli Jawatankuasa Penganjur 2022 Joint International Conference on Nanoscience & Nanoengineering (BOND21 2022). 22-23 Sept 2022. Putra Brasmana Hotel, Kangar, Perlis.
8.	2021-2022	Head of Publication Committee - IEEE International Conference on Sensors and Nanotechnology (SENNANO 2021) 23 – 24 Sept 2021. Organized by IEEE Malaysia Section Sensors & Nanotechnology Joint Council Chapter, online conference.
9.	2019	Chair for IEEE International Conference on Sensors and Nanotechnology (Sensors & Nano 2019), 24th – 25th July 2019. Organized by IEEE Malaysia Section Sensors & Nanotechnology Joint Council Chapter, at Bayview Beach Hotel and Resort, Pulau Pinang.
10.	8th -9th Oct 2019	Vice Chair for IEEE International Microwave, Electron Devices, Solid-State Circuit (IMESS2019). Organized by IEEE Penang Joint Chapter (EDS/MTT/SSC.
11.	9th – 10th Oct 2018	EDS Technical Chair: IEEE International Microwave, Electron Devices, Solid-State Circuit Symposium (IMESS 2018). PSDC, Penang.
12.	27 -28th July 2018	Deputy Chairman. International Conference Electronic and Green Materials (EGM 2018), International Conference on Nanoelectronic Engineering (ICNE 2018) in Conjunction with Joint International Conference on Nanoelectonics Eng. and Green Materials (BOND 21). Aston Tropicana Hotel Bandung, Indonesia.
13.	2016	Committee Member: 2016 IEEE International Conference on Semiconductor Electronics (IEEE – ICSE2016), 17-19 Aug 2016, Pullman Hotel, Bangsar, Kuala Lumpur.
14.	2015	Scientific Committee. The 4th International Conference on Electrical Engineering (ICEE 2015), 13-15 Dec, Bourmerdes, Algeria.
15.	2015	Organizing & Technical committee. 2015 IEEE Regional Symposium on Micro and Nanoelectronics (IEEE – RSM 2015), 19-21 Aug 2015, Primula Beach Hotel, Kuala Terengganu, Malaysia.
16.	6th – 9th Oct 13	Organizer (Deputy Chairman) for Asian University Nano-Network Forum (AUNNF) in conjunction with 12th Asian University Presidents Forum (AUPF2013), Resort World Langkawi, Langkawi Island, Malaysia & Universiti Malaysia Perlis, Malaysia.
17.	19th – 21st Aug. 13	Organizer (Deputy Chairman) for BOND21 – Joint International Conference on Nanoscience, Engineering and Management, Bayview Beach Resort, Penang, Malaysia. Jointly Organized between Institute of Nano Electronic Engineering of UniMAP, AMREC of SIRIM Berhad, School of Information Technology and Logistic of UUM and University of Anbar, Iraq.

SESSION CHAIR

18.	26-27th Sept 2023	*Session Chair for Keynote Speaker session 1,* IEEE International Conference on Sensors and Nanotechnology 2023 (IEEE SENNANO 2023), The Everly Putrajaya Malaysia.
19.	24th -25th July 2019	*Session Chair for Keynote Speaker,* IEEE International Conference on Sensors and Nanotechnology 2019 (IEEE Sensors & Nano), Bayview Beach Resort, Penang, Malaysia.
20.	9th -10th Oct 2018	*Session chair,* IEEE International Microwave, Electron Devices & Solid-State Circuit Symposium (IMESS) 2018, PSDC, Penang, Malaysia
21.	9th – 10th August 2017	*Session chair,* 1st International Conference on Applied Photonics and Electronics (InCAPE 2017), Port Dickson, Negeri Sembilan, Malaysia
22.	17-19th August 2016	*Session chair,* 12th IEEE International Conference on Semiconductor Electronics 2016. Pullman Kuala Lumpur, Bangsar, Malaysia
23.	16-18th Nov 2015	*Session Chair:* 11th Asian Conference on Chemical Sensors, Rasa Sayang Resort – Shangri La, Penang, Malaysia.
24.	19th – 21st Aug. 2015	*Session Chair:* 2015 IEEE Regional Symposium on Micro and Nanoelectronics (IEEE – RSM 2015), Primula Beach Hotel, Kuala Terengganu, Malaysia.
25.	19th – 21st Aug 13	*Session Chair* for BOND21 – Joint International Conference on Nanoscience, Engineering and Management.

ACADEMIC RELATED

1. 23rd Aug 2016 Committee Member on Malaysian Code of Responsible Conduct in Research (MCRCR). MiGHT Building, 3517, Jln Teknorat 5, 63000 Cyberjaya

REVIEWER

Book Proposal Review

1. Jun 2020 Title: Nanotechnology in Paper and Wood Engineering: Fundamentals, Challenges and Application. Elsevier Publisher. Paid proposal book review
2. Nov 2016 Title: Nanoelectronics; Subtitle: Devices, Circuits and Systems. Micro & Nano Technology Books: Advanced Nanomaterials Series. Elsevier Publisher. Paid proposal book review

Journal Papers

1. Dec 2024 Development of ultrasensitive Indium Tin Oxide (ITO) electrochemical biosensors for Prostate Specific Antigen (PSA). Journal of Solid State Electrochemistry.
2. Oct 2024 A review: The Response of Fluorine Implantation at Poly-Si Gate, P+/N-junction and Ti-Salicide on Silicon Nanoelectronics Device. International Journal of Nanoelectronics and Materials.
3. Sept 2024 Design and Analysis of Junctionless Dielectric Modulated Double-Gate GaNFET Biosensor for Label-Free DNA Detection. Biosensors and Bioelectronics
4. Sept 2024 Accident Alert System. A Journal of Engineering
5. Aug 2024 Morphology Controlled Fabrication of Zinc Phosphate Hierarchical Microspheres for Room Temperature Ammonia Gas Sensor
   Sensors and Actuators Reports
6. July 2024 Plasmonic Sensing Platform for C-reactive Protein Recognition Via Synthetic Receptors Decorated on Graphene Oxide and Gold Nanoparticles
   Microchemical Journal
7. Mac 2024 Biogenic Production of Eco-Friendly Arjuna-ZnO NPs for Sunlight-Activated Efficient Degradation of Organic Dyes of High Commercial Usages
   Journal of Saudi Chemical Society
8. Oct 2023 Dielectric Modulated Organic TFT Trench Biosensor for Label Free Detection: Modeling and Simulation Analysis
   International Journal of Numerical Modelling: Electronic Networks, Devices and Fields.
9. August 2023 Performance Analysis of Open-Gate Junction FET Sensor: A New Foundry-based Sub-1 V, High-Transconductance, Silicon Transistor for Biochemical Sensing Applications. Scientific Reports.
10. July 2023 A Virtually Doped Hetero Z-shaped Charge Plasma TFET Based Label Free Biosensor
    International Journal of Numerical Modelling: Electronic Networks, Devices and Fields.
11. May 2023 The Chip-Level Integration and Performance Study of Graphene Field-Effect Transistors for Biomedical Sensing of Circulating Nasopharyngeal Carcinoma Tumor Cell. Biosensors and Bielectronics.
12. April 2023 Hydrophobic and Hydrophilic Silicon Surface Produced by Laser Processing. International Journal of Nanoelectronics and Materials.
13. Feb 2023 The Enzymatic Doped/Undoped Poly-Silicon Nanowire Sensor for Glucose Concentration Measurement. Sensors
14. Jan 2023 A miniaturization Scheme of Flexible Ink Printed Ag/AgCl(s) reference electrodes for electrochemical sensing applications. Sensors and Actuators Report.
15. Nov 2022 Enhancing electrochemical biosensors performance for 17β-estradiol determination with short split-aptamers. Biosensors. IF = 5.743; Q1
16. Oct 2022 Current Challenges and Developments in Perovskite-based Electrochemical Biosensors for Effective Theragnostic of Neurological Disorders. ACS Omega. IF=4.132, Q2
17. Oct 2022 Electrochemically Exfoliated Graphene Quantum Dots based Biosensor for CD44 Breast Cancer Biomarker. Biosensors. IF = 5.743; Q1
18. Aug. 2022 Optical Biosensor Based on Graphene and its Derivatives for Detecting Biomolecules. International Journal of Molecular Science. IF=6.208, Q1.
19. Jan 2022 Recent progress in graphene and related carbon nanomaterials-based biosensors for early disease detection. ACS Biomaterials Science & Engineering. IF=4.152, Q2.
20. Nov 2021 Biofunctionalization of graphene-based FET sensors through heterobifunctional nanoscaffolds: Technology validation towards rapid COVID-19 diagnostics and monitoring. Biosensors and Bioelectronics. IF=12.545, Q1.

21. Aug. 2021 Influence of drain metal work function and biomolecules permitivity on doping-less carbon nanotube TFET biosensor. ACS Applied Electronic Materials. IF=4.494, Q2
22. July 2021 2D MoS2 and its heterostructures – Fantastic building blocks for biosensors: Talanta. IF=6.556 Q1
23. June 2021 Handheld Testing Device for the Fast and Ultrasensitive Recognition of Cardiac Troponin I Via an Ion-sensitive Field-effect Transistor. Biosensors and Bioelectronics. IF=12.545, Q1.
24. Apr 2021 Back-gate bias effect on the linearity of pocket doped FDSOI MOSFET. IEEE Transactions on Electron Devices. IF=2.913, Q2.
25. March 2021 The evolutions of microstructures in pressureless sintered silver die attach material. International Journal of Nanoelectronics and Materials (IJNEAM). Scopus-indexed Journal.
26. March 2021 Interface thermal resistance and thermal conductivity of polymer composite at different typs, shape and size of filler: A review. Polymer composites
27. Sept 2020 Silicon thin film transitor-based aptamer sensor for COVID-19 detection. Scientific report. IF=3.998, Q1
28. July 2020 A noncontact microwave sensor based on cylindrical resonator for detecting concentration of liquid solutions. IEEE Sensors Journal. IF =3.073, Q2.
29. May 2020 Detection of cardiac troponin-I by optic biosensors with immobilized anti-cardiac troponin-I monoclonal antibody. Talanta, IF =5.339, Q1
30. May 2020 Finite element modeling of gate leakage in cylindrical gate all around nanowire FETs. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields. IF=0.833, Q4
31. Feb 2020 Effect of forming gas annealing on SnO2 sensing membranes in high-performance silicon-on-insulator extended-gate field-effect transistors. Thin Solid Films. IF = 2.030, Q3
32. Dec 2019 An ion-sensitive field-effect transistor biosensor based on vertically aligned MWCNTs for detection of ABTS. Materials Chemistry and Physics, IF=3.408, Q2
33. Oct 2019 Simultaneous electrochemical determination of dopamine and uric acid based on MoS2 nanoflowers-graphene/ITO electrode. Microchemical Journal, IF=3.594, Q1.
34. August 2019 The acceleration of the carbon nanotube growth by coalescence of iron nanoparticles in aggregation under microwave heating. Materials Chemistry and Physics. IF =3.408, Q2
35. August 2019 Disposable electrodes from waste materials and renewable sources for (bio)electroanalytical applications. Biosensors and Bioelectronics. IF 10.257, Q1
36. May 2019 Design of capacitance based on interdigitated electrode for BioMEMS sensor. Materials Science in Semiconductor Processing, IF 3.085, = Q2
37. April 2019 Hierarchical Cu@CuxO nanowires arrays-coated gold nanodots as a highly sensitive self-supported electrocatalyst for L-cysteine oxidation. Biosensors & Bioelectronics, IF =10.257, Q1
38. Jan 2019 Multiwalled carbon nanotube-based nanosensors for ultrasensitive detection of uric acid, dopamine and ascorbic acid. Materials Science & Engineering C – Materials for Biological Applications. IF=5.880, Q1
39. Nov 2018 Utilization of silicon nanowire field-effect transistors for the detection of a cardiac biomarker, cardiac troponin I (cTnI) and their applications involving animal models. ACS Applied Materials & Interfaces. IF=8.097, Q1
40. Nov 2018 The design of the passive CMOS implantable continuous monitoring biosensors transponder front-end. Microelectronic Journal. IF=3.059, Q3
41. Sept 2018 Galvanic corrosion of electroless nickel/immersion gold plated non-permanent electric contacts used in electronic devices – direct evidence of triggering mechanism. Engineering Failure Analysis. IF=2.157, Q2
42. August 2018 Metallic-semiconducting junctions create sensing hot-spots in carbon nanotube FET aptasensors near percolation. Biosensors and Bielectronic, IF=8.173, Q1
43. July 2018 Optimization of lateral super-junction multi-gate MOSFET for high drive current and low specific on-resistance in sub-100 V applications. Microelectronics Journal. IF=1.322, Q3
44. July 2018 Simultaneous determination of salbutamol and propranolol in biological fluid samples using and electrochemical sensor based on functionalized-graphene, ionic liquid and silver nanoparticles. Journal of Electroanalytical Chemistry, IF= 3.235, Q1.
45. April 2018 Biosensing applications using rapid magnetic nanoparticle target extraction and electrically active nanoparticle labeling with emerging carbohydrate ligand selectivity for improved microbial detection. Biosensors and Bielectronic, IF=8.173, Q1
46. March 2018 Ultra-fast, highly efficient and green synthesis of bioactive forsterite nanopowder via microwave irradiation. Materials Science & Engineering C. IF=5.080, Q1
47. March 2018 Structural Effect of SWCNTs on gas sensing and field emission properties grown by PECVD technique at an operating temperature of 650 °C. Chemical Physics Letter. IF=1.686, Q3

48. March 2018 Integration of organic electrochemical transistors and immune-affinity membranes for label-free sensing of interleukin-6 through antigen-antibody recognition. Biosensors and Bielectronic, IF=8.173, Q1
49. Feb 2018 Investigation on the dependency mechanism of the inverter voltage gain on the current level of photo stressed depletion mode thin film transistors. Scientific reports. IF = 4.122, Q1.
50. Jan 2018 One-by-one imprinting in two eccentric layers of hollow core-shells: sequential electroanalysis of anti-HIV drugs. Biosensors and Bielectronic, IF=8.173, Q1
51. Nov 2017 A review on electrochemical detection of serotonin based on surface modified electrodes. Biosensors and Bioelectronics, IF= 7.780, Q1.
52. Nov 2017 Rapid fabrication of 100 nm or thinner fully-depleted silicon-on-insulator materials of ion-cut processing by hydrogen enhanced solid-phase epitaxial-growth. ACS Applied Nano Materials.
53. Oct 2017 Efficient fabrication of poly(pyrole)-nanowires on thermoplastic films by nanocontact printing: characterization and biofunctionalization. Materials Science and Engineering C. IF = 4.164, Q1.
54. Aug 2017 Modeling, simulation and analysis of novel threshold voltage extraction method for nano MOSFET. Journal of Nanotechnology, Hindawi Publisher. Scopus-indexed Journal.
55. July 2017 High-k gate dielectric selection for germanium based CMOS devices. International Journal of Nanoelectronics and Materials. Scopus-indexed Journal.
56. July 2017 Synthesis and application of a 'plastic antibody' in electrochemical microfluidic platform for oxytocin determination. Biosensors and Bioelectronics, IF= 7.780, Q1.
57. Apr 2017 Performance exploration of asymmetrical dual-k underlap spacer (ADKUS) SOI FinFET: A temperature perspective approach at 20 nm channel length. Engineering Science and Technology, an International Journal. Elsevier, scopus-indexed.
58. Apr 2017 Combined static electromagnetic radiation and plant extract to synthesize green instable nanosilver responsible for the growth of microstructures. Journal of Saudi Chemical Society, IF=2.887, Q2
59. Mar 2017 A low power current mode four-quadrant analogue multiplier based on CNTFET technology. International Journal of Nanoelectronics and Materials. Scopus-indexed Journal.
60. Mar 2017 Characterization of several cancer cell lines at microwave frequencies. Measurement, Elsevier, IF = 1.742, Q2
61. Feb 2017 DC characteristics of AlN spacer based AlGaN/GaN HEMT for high power applications. International Journal of Nanoelectronics and Materials. Scopus-indexed Journal.
62. Feb 2017 Modeling of gate underlap junctionless double gate MOSFET as bio-sensor. Materials Science and Semiconductor Processing, Elsevier Publisher (1 paper), IF=2.264, Q1.
63. Jan 2017 A review on ZnO based electrical biosensors for cardiac biomarker detection. Future Science OA.
64. Dec 2016 Characterization of transparent semiconducting cobalt doped titanium dioxide thin films prepared by sol-gel process. Materials Science and Semiconductor Processing, Elsevier Publisher (1 paper), IF=2.264, Q1.
65. April 2016 The electronic and transport properties of defective bilayer graphene nanoribbon. Journal of Nanoelectronics and Optoelectronics (1 paper), American Scientific Publisher, IF= 0.675, Q3
66. Nov 2015 Exploring the asymmetric characteristics of a double gate MOSFET with linearly graded binary metal alloy gate electrode for enhanced performance. IETE Journal of Research, Taylor & Francis Publisher. IF = 0.185
67. July 2015 2003 to 2015 guidelines on treatment of hypertension in patients with coronary artery disease. Journal of Hypertension (1 paper), Wolters Kluwer Publisher IF = 4.720
68. Dec 2014 Journal of Electrical Engineering & Electronic Technology, SciTechnology Publisher (1 paper)
69. August 2013 Numerical study of the pinch-off junction-less transistor in On state. Sains Malaysiana, Universiti Kebangsaan Malaysia.
70. May 2006 Journal of Engineering Research and Education, UniMAP (1 paper)

Conference Papers

1. 2024 2024 IEEE International Conference on Semiconductor Electronics (ICSE).
   - Effectiveness of Heat Spreader in GaN HEMT Studied by a co-simulation approach.
   - Comprehensive Approach for Dielectrophoresis Experimental Methodology and Validation

2. 2023 2023 IEEE International Conference on Sensors and Nanotechnology (IEEE SENNANO 2023), 26-27th Sept, The Everly, Putrajaya.
   - Impact of Design Parameters on the Performance of MoS2/h-BN/Graphene Photodetector Model for Self-Powering Applications.

- Synthesis and Characterization of Inorganic Perovskite Quantum Dots (CsPbI3) Based Thin Films for Solar Cells Applications.
- A Low Power Nonvolatile DRAM Cell based on ReRAMs.
- Electrochemical detection of ciprofloxacin using Cu-Ag core-shell nanoparticles modified screen-printed electrode.
- Electrical characterization of normal and malaria infected red blood cells by electrorotation.
- Laser Rework Process for Efficient Lead-Free Solder Joints Ball Grid Array Component Rework.
- A Planar Metamaterial Transmission Line Phase Shifter with Embedded Silver-Coated Ferrite Particles.
- Development of Machine Learning Data based Agriculture Monitoring System.
- Electrochemical Aptamer-based Sensor Construction on Functionalised Graphitic Carbon Nitride Screen Printed Carbon Electrode.
- Characterization of Printed Circuit Board Electrode (PCBE) based Electrochemical Aptasensor for Salmonella Hemolysin E Protein Detection.
- Sensor-based Indoor Air Quality (IAQ) Assessment for indoor kitchens in urban India.
- Performance Evaluation of A Unique Distributed Polymer Optical Fiber Sensors in Humidity Monitoring.
- Effect of Channel Length Scalling of TiO2/rGO- IDEs.
- Thick Film Interdigitated Electrode Graphite and Carbon Nanotube on Flexible Substrate for Hydrogen Gas Detection.

3. 2022 International Conference on Future Trends in Smart Communicties 2022 (ICFTSC 2022). 1-2 Dec 2022.
4. 2021 2021 IEEE International Conference on Sensors and Nanotechnology (IEEE SENNANO 2021), 22-24th Sept, Online Conference.
    - Study of electrical conductivity of pyrrole-reduced graphene oxide pellet
    - Electrochemical Detection of Tributyrin using Prussian Blue Functionalized Glassy Carbon Electrode.
    - Investigation of SU-8 as protection layer for prism SPR sensor towards reusable honey adulteration detection.
    - Fabrication of Graphene Electrode via Graphene Transfer Method for Bisphenol A (BPA) Detection.
    - Fabrication of Integrated Electrode for pH Sensor Application.
    - Machine Control via Real Time Eye Detector.
5. 2020 2020 IEEE International Conference on Semiconductor Electronics (ICSE).
    - The Characterization of Two Regulated Cascode Transimpedance Amplifier Topologies in 0.13 μm CMOS Process.
6. 2020 International Conference on Electronic Design (ICED) 2020.
    - Impedance and Modulus Spectroscopy of Polycrystalline Ba0.9995La0.0005TiO3 for Multilayer Ceramic Capacitor.
7. July 2019 IEEE Conference on Sustainable Utilization and Development in Engineering and Technology (CSUDET)
    - Atomization of reduced graphene oxide ultra-thin film for transparent electrode coating.
8. July 2019 2019 IEEE Sensors (a flagship conference under IEEE Sensors Council)
    - Novel conductometric sensor for detecting pollen using semiconductor thin-film.
    - ZnO based screen printed aqueous ammonia sensor for water quality monitoring.
9. July 2019 2019 IEEE Regional Symposium on micro and nanoelectronics (RSM 2019), 21st -23rd August 2019, Putrajaya.
    - A new current-feedback operational-amplifier based shadow notch filter.
    - Fabrication and characterization of PVDF Thin Film.
10. July 2019 2019 IEEE International Conference on Sensors and Nanotechnology, 24-25th July, Bayview Beach Resort, Penang.
    - Replication of semiconductor based junction diode forward biased current-voltage signature by a modeled low dimensional carbon chain device
    - 3D-printed CdTe QDs-based sensor for sensitive electrochemical detection of viral particles.
    - Biophysical analysis of silver nanoparticles prepared by green synthesis and their use for 3D printing of antibacterial material for health care.

- Significant of laser speed and power towards laser scribed polymide.
- Piezoelectric properties of zinc oxide nanostructure deposited via chemical bath solution.
- Development of sustainable FBG sensor for environmental monitoring through vibration energy harvesting.
- Discrete versus system-on-chip (SoC) based wireless sensors node hardware architecture for low-power application.
- Influence of moisture content in paddy on radio signal strength indicator rading at 2.4GHz
- Erasure code and edge computing for providing an optimal platform for storage of IoT data.
- Charge neutrality point shift and ions capture correlation in DNA-graphene field-effect transistor.

11. Aug 2018 — 2018 IEEE International Conference on Semiconductor Electronics (ICSE), 15th -17th August 2018, Pullman Kuala Lumpur.
    - Activation energy of thermal oxidation germanium oxide on germanium substrates.
    - Optimization of p-type emitter thickness for GaSb-based thermophotovoltaic cells.
    - Characterization of permittivity and conductivity for ESKAPE pathogens detection
12. Aug 2018 — The 4th International Conference on Electronic Design (ICED 2018), 9-10th Aug 2018. Bandar Hilir, Melaka.
    - Compact modeling of strained GAA SiNW
    - Influence interaction of optimization of control factors on threshold voltage of 18 nm $HfO_2/TiSi_2$ NMOS using L27 Taguchi
13. Oct 2017 — The 2nd International Conference on New Material and Chemical Industry (NMCI2017), 18-20th Nov 2017, China.
    - Effect of gate bias sweep rate on the threshold voltage of in-plane gate nanowire transistor.
14. Aug 2017 — 2018 2nd International Conference on Recent Advances in Signal Processing, Telecommunication & Computing (SingTelCom2018), Jan29th-31st Ho Chi Minh, Vietnam.
    - Silicon on insulator null convention logic based asynchronous circuit design for high performance low power digital systems.
15. July – Aug 2017 — 2017 5th International Conference on Electrical Engineering – Boumerds (ICEE-B), Algeria
    - Electron transport characteristics in 4H-SIC polytype under high-electric-field.
    - Multi-frequencies low field spin dependent charge pumping technique for defect atomic scale identification.
16. July – Aug 2017 — Malaysian Technical Universities Conference on Engineering and Technology (MUCET 2017), Parkroyal Penang Resort, Penang Malaysia.
    - Electrochemical evaluation of fluorinated MnO2 for supercapacitor application
    - The effect of aptamer concentration towards reduced graphene oxide-field effect transistor surface channel for biosensor application.
17. Apr – July 2017 — International Conference on Emerging Electronic Solutions for IoT 2017 (ICEESI 2017), Penang, Malaysia.
    - Design and development of RF power detector for microwave application.
18. Apr – July 2017 — The International Conference on Applied Photonics and Electronics (InCAPE 2017), Port Dickson, Negeri Sembilan, Malaysia.
    - Gate recess study for high thermal stability pHEMT Devices.
    - Employment of AuNP-kCarrageenan for localized surface plasmon resonance sensor to enhance Pb^{2+} ions detection.
19. Apr 2017 — 2017 International Conference on Electrical and Electronic Engineering (IC3E 2017), 14-15th August 2017, Pulai Spring Resort, Johor, Malaysia
    - Acoustic analysis of Nigerian English vowels based on accents.
20. Apr- Jun 2017 — 2017 IEEE Regional Symposium on Micro and Nanoelectronics (IEEE RSM 2017)
    - Synthesis and enhanced photocatalytic property of CuO nanostructure via dip coating method
    - Straightforward fabrication of low Schottky barrier single-walled carbon nanotube transistors by direct growth method.
    - Silicon co-implantation study of 25 nm PMOS FinFET fabrication
21. August 2016 — 2016 IEEE International Conference on Semiconductor Electronics (IEEE - ICSE 2016) - 2 papers.
    - Effect of gate length on negative bias temperature instability of 32 nm advanced technology HKMG PMOSFET.
    - Improving transport properties of armchair graphene nanoribbon by warping: A first principle study

22. Oct 2015 — 2015 Malaysian Technical Universities Conference on Engineering and Technology, Johor Bahru, Johor, Malaysia. (2 papers)
    - Investigation of multispectral imaging technique for optical monitoring of mean blood oxygen saturation
    - Comparative study of switchable filters and a new technique of bandstop to bandpass filter using lossy resonators
23. August 2015 — 2015 IEEE Regional Symposium on Micro and Nanoelectronics (IEEE-RSM2015) - 4 papers.
    - Modeling of microfluidic network using electric circuit
    - Silicon nanowire interface circuit for biosening applications
    - MEMs swtich as high speed sample and hold circuit
    - Effect of acid concentration and time of sulphate process on synthesizing the titanium dioxide from synthetic rutile waste
24. Jan 2015 — 2nd International Conference on Biomedical Engineering (ICoBE 2015) – 2 papers
    - Effect of doping to the pore structure and pore diameter on silicon membrane surface
    - A promising electro-chemical sensing platform based on graphene nano-materials for sensitive sulfite determination
25. Sept 2014 — 2014 IEEE Student Conference on Research and Development (SCOReD 2014) – 2 papers
    - Atomistic simulation of stone-wales defect position in armchair graphene nanoribbon field-effect transistor.
26. July 2014 — 2nd International Conference on Electronic Design 2014
    - Oxygen-sensing characteristics of nanostructured Al-doped ZnO thin films.
    - P-type nano-structured amorphous carbin film synthesis from hydrocarbon palm oil by substrate bias voltage for heterojunction solar cell.
    - Circuit architectures reviews for portable ECG signal analyzer.
27. Sept 2014 — International Conference on Advanced Material Engineering and Technology 2014 (ICAMET 2014) – 8 papers
    - Three dimensional vibration analysis of carbon nanotubes embedded in elastic medium.
    - Thermo-mechanical shock using nonlocal elasticity theory.
    - Effect of phthalic anhydride content on properties of soy protein isolate/ kapok husk biofilm.
    - Fro rick husk into discreet 0-D Ag/ZnO nanomaterial.
    - Effect of carbon and nitrogen modified TiO_2 on photoluminescence property and photocatalytic activity.
    - The mechanical characterization of bending test for MEMS capacitive pressure sensor based 3C-SiC at high temperature
    - Langmuir-Blodgett film of multi-walled carbon nanotubes for hydrogen sensor on paper.
    - Kinetic mechanism on synthesis of copper nanoparticles from reduction reaction – effect of temperature.
28. March 2014 — International Conference on Mathematics, Engineering & Industrial Applications (ICoMEIA 2014) – 4 papers
29. August 2013 — BOND21 – Joint International Conference on Nanoscience, Engineering and Management.

Others

1. 2 Dec 2023 — Panel temuduaga – Mock Interview 2023 MRSM Kubang Pasu
2. 2021 – 2023 — *Juruaudit dalaman* - Persatuan Ibu Bapa dan Guru (Sek. Keb. Institut Pendidikan Guru Malaysia)

J. EVALUATION / ASSESSMENT WORKS

PROMOTION ASSESSMENT

1. 07 2024 — Assessement for Associate Professor (DM54) Appointment. Ir. Ts. Dr. Samsul Setumin, Universiti Teknologi MARA.
2. 05 2024 — Assessment for Professor (VK7) Appointment. Assoc. Prof. Ir. Dr. Ahmad Sabirin Bin Zoolfakar, Universiti Teknologi MARA.
    -

INTERNATIONAL GRANT EVALUATION

3. 2019 — Appointment as External Reviewers for Competitive Internal Research Award. Khalifa University of Science & Technology, Abu Dhabi, United Arab Emirates. Paid Grant Review

Title:

- Selective surface chemistry enhancement of microfluidic devices using Zeolites and MOFs
- Particle-based design of in vitro microfluidics for early detection of blood-clotting-induced cardiovascular diseases.
- Graphene based compact "all-in-one" device for sensing and monitoring different ions for health care applications.

4. 2018 Appointment as External Reviewers for Competitive Internal Research Award. Khalifa University of Science & Technology, Abu Dhabi, United Arab Emirates.
   - Title: Innovative microwave absorption 3D meta-metarials based on nanocomposites film.

NATIONAL GRANT EVALUATION PANEL

Appointment of Jabatan Pendidikan Tinggi, Kementerian Pengajian Tinggi

1. 2023 – 2024 Ahli Jawatankuasa Induk Pusat Kecemerlangan Pendidikan Tinggi (HiCoE)
2. 2023 – 2024 Ahli Jawatankuasa Teknikal (Taskforce) Pusat Kecemerlangan Pendidikan Tinggi (HiCoE) dan Konsortium Kecemerlangan Penyelidikan (KKP)
3. 2023 - 2024 Panel Penilai Konsortium Kecemerlangan Penyelidikan (KKP)
4. 2022 Ahli Jawatankuasa Teknikal (Taskforce) Panel Penilai Pusat Kecemerlangan Pendidikan Tinggi (HiCOE) dan Konsortium Kecemerlangan Penyelidikan (KKP)
5. Since 2020 Panel Penilai Pusat Kecemerlangan Pendidikan Tinggi (HiCOE) dan Konsortium Kecemerlangan Penyelidikan (KKP)

Panel Penilaian Geran Pusat Kecemerlangan Pendidikan Tinggi (HiCOE). Jabatan Pendidikan Tinggi

6. 9 Dec 2024 Panel Penilai Pembentangan Akhir Pelan Tindakan dan Hala Tuju bagi Pusat Kecemerlangan Pendidikan Tinggi (HiCOE) 2024 – Fasa I. Online.
7. 4 Nov 2024 Panel Penilai Sesi Pemantauan Prestasi Pusat Kecemerlangan Pendidikan Tinggi (HiCOE) Tahun 2024, INOR USM. Bilik Mesyuarat Al-Thanrani, JPT, KPT, Putrajaya.
8. 21 Julai 2024 Sesi Pembentangan Pelan Tindakan dan Hala Tuju HiCOE (Kali Kedua) bagi Permohonan Pusat Kecemerlangan Pendidikan Tinggi (HiCOE) Tahun 2024. Online.
9. 7-9 Mei 2024 Panel Penilaian bagi Permohonan Pusat Kecemerlangan Pendidikan Tinggi (HiCOE) Tahun 2024.
10. 7 Mac 2024 Panel Pelan Tindakan dan Hala Tuju bagi Pusat Kecemerlangan Pendidikan Tinggi (HiCOE) 2023.
11. 6-7 Feb 2024 Sesi Pemantaun Prestasi Pasca Pentauliahan Pusat Kecemerlangan Pendidikan Tinggi (HiCOE) bagi kumpulan (Batch) 2010.
12. 30-31st Jan 24 Bengkel Penyelarasan dan Taklimat bgi Permohonan Pusat Kecemerlangan Pendidikan Tinggi (HiCOE) 2024.
13. 11-12 Oktober 2023 Ketua Panel. Sesi penilaian tapak serta pembentangan pelan tindakan dan hala tuju HiCoE bagi permohonan Pusat Kecemerlangan Pendidikan Tinggi (HiCoE). Institute of Nano Optoelectronics Research and Technology (INOR).
14. 20 – 22 Jun 2023 Bengkel Latihan Panell dan Penilaian bagi Permohonan Pusat Kecemerlangan Pendidikan Tinggi (HiCOE) Tahun 2023. Hotel Dorsett, Putrajaya
15. 24 Mei 2023 Bengkel Latihan Pengisian Data Instumen Pusat Kecemerlangan Pendidikan Tinggi (HiCoE), KPT Putrajaya.
16. 12 April 2023 Taklimat bagi Permohonan Pusat Kecemerlangan Pendidikan Tinggi (HiCoE) 2023. Movenpick Hotel and Convention Centre, Sepang. Kuala Lumpur.
17. 22 Dec 2022 Bengkel Pemurnian Glosari dan Instrumen Pusat Kecemerlangan Pendidikan Tinggi (Hi-COE). Bilik Mesyuarat Al-Thabrani, JPT, KPT Putrajaya
18. 29 Nov – 1 Dec 22 Bengkel Pemurnian Instrumen, Glosari dan Garis Panduan Pusat Kecemerlangan Pendidikan Tinggi (HiCOE). Hotel Ombak Villa, Langkawi
19. 1 March 2022 Ketua Panel Penilaian Pembentangan Pelan Tindakan dan Halatuju bagi Permohonan Pusat Kecemerlangan Pendidikan Tinggi (HiCOE) 2021, Solar Energy Research Institute (SERI), Universiti Kebangsaan Malaysia.
20. 21 Dec 2021 Panel Penilaian Tapak bagi Permohonan Pusat Kecemerlangan Pendidikan Tinggi (HiCOE) 2021. Institute of Nano Optoelectronics Research and Technology (INOR). Universiti Sains Malaysia
21. 16 Dec 2021 Ketua Panel Penilaian Tapak bagi Permohonan Pusat Kecemerlangan Pendidikan Tinggi (HiCOE) 2021. Solar Energy Research Institute (SERI). Universiti Kebangsaan Malaysia (UKM).

22. 15 Dec 2021 — Panel Penilaian Tapak bagi Permohonan Pusat Kecemerlangan Pendidikan Tinggi (HiCOE) 2021. Nanotechnology and Catalysis Research Centre (NANOCAT). Universiti Malaya.
23. 26-28 Oct. 2021 — Panel Penilai Geran Pusat Kecemerlangan Pendidikan Tinggi (HiCOE) untuk permohonan baru 2021.
24. 28 July - 3 Aug. 2021 — Panel Penilai Geran Konsortium Kecemerlanga Penyelidikan (KKP) 2021. Panel Penilai untuk bidang Knowledge and Discovery of Frontier (KDF). Jabatan Pendidikan Tinggi.
25. 30 Sept 2020 — Panel Penilaian Tapak (Site-Audit) Bagi Permohonan Sebagai Pusat Kecemerlangan Pendidikan Tinggi (HiCOE) 2020. Wireless and Photonics Networks Research Centre (WiPNET). Universiti Putra Malaysia (UPM)
26. 9th -11th Sept 2020 — Panel Penilaian Data serta Dokumen bagi Pusat Kecemerlangan Pendidikan Tinggi (HiCOE) Batch 2020. Jabatan Pendidikan Tinggi.
27. 17th -19th Ogos 2020 — Bengkel Latihan dan Penilaian Data serta Dokumen bagi permohonan Pusat Kecemerlangan Pendidikan Tinggi (HiCOE) 2020 – Panel Penilain Peermohonan baru HiCOE. Hotel Everly, Presint 1, 62000 Putrajaya

Panel Penilaian Geran Konsortium Kecemerlangan Penyelidikan (KKP). Jabatan Pendidikan Tinggi

28. 12 September 2024 — Bengkel Pemantaun Prestasi Konsortium Kecemerlangan Penyelidikan (KKP) Siri Tahun 2021. MUSTAID (UM – UPSI – UTHM), Universiti Malaya.
29. 10-11 Julai 2024 — Sesi Bengkel Pembentangan Rumusan Konsortium Kecemerlangan Penyelidikan (KKP) Tahun 2020. Zenith Hotel Putrajaya.
30. 20-22 Feb 2024 — Sesi Pembentangan Laporan Akhir Pelaksanaan Konsortium Kecemerlangan Penyelidikan (KKP) Tahun 2020. Bilik Mesyuarat Al-Thabrani, JPT, KPT Putrajaya.
31. 17-18 Mei 2023 — Bengkel Pemantauan Prestasi bagi Perlaksanaan Konsortium Kecemerlangan Penyelidikan (KKP) 2021, Hotel Dorsett Hartamas, Kuala Lumpur
32. 16-17 Mei 2023 — Bengkel Pemantauan Prestasi bagi Perlaksanaan Konsortium Kecemerlangan Penyelidikan (KKP) 2020, Hotel Dorsett Hartamas, Kuala Lumpur
33. 14 Sept 2022 — Taklimat Perlaksanaan Konsortium Kecemerlangan Penyelidikan (KKP) 2021
34. 23 June 2022 — Panel Penilai. Lawatan Tapak Panel Penilai Geran KKP. Bidang Nic: 4th Industrial Revolution, COE: Large Volume Additive Manufacturing (LVAM) Consortium. Universiti Malaysia
35. 18 Nov 2021 — Panel Penilai Bengkel Penilaian Prestasi Konsortium Kecemerlangan Penyelidikan (KKP) penerima 2020
36. 28-30 July & 2 August 2021 — Panel Penilai bagi Permohonan Konsortium Kecemerlangan Penyelidikan (KKP) 2021.
37. 27 Oct 2020 — Panel Penilaian Geran Konsortium Kecemerlangan Penyelidikan (KKP) 2020. Penilain pembentangan terhadap 7 geran permohonan untuk 4th Industrial Revolution niche-area. Jabatan Pendidikan Tinggi.
38. 21-22 Oct 2020 — Panel Penilaian Geran Permohonan Konsortium Kecemerlangan Penyelidikan (KKP) 2020. Penilain 14 geran permohonan untuk 4th Industrial Revolution niche-area. Jabatan Pendidikan Tinggi.

Local Universities

39. 29 Jan – 19 March 2021 — IPT Evaluation Panel (FRGS 2021) for Universiti Kuala Lumpur.
40. Jun 2020 — Yayasan Universiti Teknologi Petronas Fundamental Research Grant (YUTP-FRGS) for the following proposals:
    - Design and synthesis of miniaturized chain function dielectric bandpass filter for 5G assisted communication infrastructure for digital energy field.
41. Aug 2019 — Yayasan Universiti Teknologi Petronas Fundamental Research Grant (YUTP-FRGS) for the following proposals:
    - Mathematical design and synthesis of non-contiguos multi-band bandstop filter for addressing the high power interference in FoF 5G communication systems.
42. Dec 2018 — Yayasan Universiti Teknologi Petronas Fundamental Research Grant (YUTP-FRGS) for the following proposals:
    - A new class of parallel connected filter based on chained function in IoT and big-data based platforms for offshore facilities.
    - A new class of mm-wave chained elliptic waveguide filter for the implementation of 5G/IoT FoF (Facilities of Future)

EXTERNAL EXAMINER

Academic Program

1.	21 – 22 Nov 2024	Lawatan sebagai Pemeriksa Luar bagi Program Ijazah Sarjana Muda Teknologi Kejuruteraan Komputer (Sistem Komputer) dengan Kepujian (BERC), Jabatan Teknologi Kejuruteraan (JTK), Fakulti Teknologi Kejuruteraan Elektronik dan Komputer (FTKEK), Universiti Teknikal Malaysia Melaka (UteM).
2.	11-29 Mac 2024	*Panel* Penilai Program Akreditasi Sementara Program Doktor Amalan Professional (DPROF), Sekolah Pengajian Siswazah, Universiti Teknologi Malaysia (UTM).
3.	5 Feb 2024 – 4 Feb 2026	External Examiner for Bachelor of Engineering Technology (Computer System) with Honours. Faculty of Electronic and Computer Engineering and Technology. Universiti Teknikal Malaysia Melaka (UTeM).
4.	2024	Expert Committee in the Innovation and Incubation Centre at Sree Balaji Medical College and Hospital Chromepet, Chennai India.
5.	10th June 2019 9th June 2021	External Examiner for Postgraduate Engineering Programmes (MSc and PhD) at Faculty of Information Sciences and Engineering (FISE), Management & Science University (MSU).

Thesis and Viva

6.	July 2024	Ms Nagasathiya K. Doctor of Philosophy. Evaluation of Neuroprotective Potentials of Natural Alkaloids derived from Nardostachys Jatamansi (D. Don) DC and Enhancement of Alkaloid Production using Biotic and Abiotic Elicitors under Suspension Culture. Department of Biotechnology, Faculty of Engineering & Technology. Institute of Science & Technology, Tamil Nadu, India.
7.	March 2024	Al Rajhi Adnan Hamed Mohammed. Doctor of Philosophy. Comparative Study of ZnO Nanostructure using Different Source of Zinc. USM.
8.	Feb 2024	Al Rikaby Awras Hameed Ajil. Doctor of Philosophy. Synthesis Rare Earth Doped-ZnO Nanoparticles Using CO2 Laser and Blue Laser Decomposition Technique for Water Treatment Application. USM.
9.	Feb 2024	Jahanzeb Khan. Doctor of Philosophy in Electrical Engineering. Frequency Selective Surface for Energy Saving Glass used in Modern Building. UTHM.
10.	Nov 2023	Suhaimi Bin Azizan. Master of Science. A Comprehensive Study of Interface Delamination between Leadframe and Epoxy Mold Compound for Small Outline Semiconductor Packaging.UTeM, Malaysia.
11.	March 2023	Ajit Debnath. Doctor of Philosophy. Fabrication and Characterization of Ferroelectric Materials for Non-Volatile Memory Applications. Department of Electronics and Communication Engineering. Indian Institute of Information Technology.
12.	August 2022	D. Mohana Soundari. Doctor of Philosophy in Inorganic Chemistry. Synthesis of Lignosulfonate Doped Polyaniline and Polypyrrole Protected Silver Nanoparticles and ther Applications: Electrochemical Senso, Removal of Chromium and Degradation of Dyes. University of Madras. India.
13.	4 July 2022	Umar Alhassan Haruna. Doctor of Philosophy (Electrical Engineering). Bioelectrode for non-contact. UTM Skudai, Johor
14.	5 Nov 2021	Nur Afiqah Husna Bt Jasni. MPhil. Graphene Based Passive Q-Switcher in Erbium Doped Fiber Laser. MJIIT, UTM Kuala Lumpur
15.	6 Jan 2021	Mohd Rofei Bin Mat Hussin. PhD. Functionalisation of graphene layer on N-type silicon epitaxy for Schottky barrier formation. Multimedia University
16.	16th March 2020	Lawal Lanre Adebayo. MSc. Synthesis of magnetite-filled nanocomposite as electromagnetic wave absorbing materials at super high frequency. Universiti Teknologi Petronas
17.	4th Feb 2020	Ms Nisha Kumari A/P Devaraj. PhD. Nanostructured Magnetite Materials for Arsenate Removal. Multimedia University.
18.	29th April 2019	Solehah Bt Jasmee. MSc in Mechanical Engineering. Hydrophobicity of polyethylene terephalate thermoplastic polyurethane and aluminum based substrates using self-fabricated contact angle tool. Universiti Teknikal Malaysia Melaka.
19.	17th Sept 2018	Hoe Chee Ling, MSc in Electrical and Electronics. High Sensitivity Leads Ions Sensor using Guanine-Rich ssDNA as Chemical Probes on Micron-sized Graphene Field Effect Transistor. Universiti Teknologi Petronas.

INTERNAL EXAMINER

Thesis and Viva

20. 19th Jan 2016	Veeradasan A/l Perumal, Ph.D (Nanoelectronic Engineering). Nanohybrid Mediated Finely Tuned Novel Nanostructures For Selective Bio-capture towards Nanotheranostics.
21. 25th Sept 2014	Mohd Azizi Bin Chik, PhD. Development of Capacity Scheduling to Accelerate Output Increment for Seasonal Demand Cycle in Semiconductor Fabrication.
22. 12th Sept 2014	Gan Chong Leong, PhD. Wearout Reliability Studies of Bonding Wires used in Nanoelectronic Semiconductor Devices Packaging.
23. 6th June 2014	Qazi Muhammad Humayun. PhD (Nanoelectronic Engineering). Synthesis and Characterization of ZnO Nanostructures for Ultraviolet (UV) Light Sensing Application.
24. August 2007	Mohd Faiz B. Abdul Fatah. MSc (Microelectronic Engineering). Fabrication and Characterization of Ultra Thin Gate Oxide For Sub 0.1 Micron Devices: Electrical and Optical Study

MSc to PhD conversion

25. 13th Nov 2013	Haarinda Prasad A/l Rajintra Prasat. Nanoelectronic Engineering. Investigating the dielectric properties of meat using ZnO bassed biosensor for halal food authentication: Comparison study between Islamic and non-Islamic slaughtering method.
26. 10th July 2013	Sharifah Nadzirah. Nanoelectronic Engineering. Synthesis and Fabrication of Titanium Dioxide Nanowires based Biosensor by Sol-Gel Method for DNA Detection.
27. 1st April 2013	Aaron Koay Terr Yeow. Microelectronic Engineering. Bump Height and Intermetallic Growth Characterization in Electroless Nickel Immersion Gold (ENIG) Process.

Postgraduate Proposal Defense Examiner

28. 13th April 2017	Pang Wai Kee. MSc (Nanoelectronic Engineering). Synthesis and Development of Reduce Graphene Oxide by Improved Hummers Method for Biomolecule Detection.
29. 27th April 2017	Lim Meng Rong. PhD (Kejuruteraan Mikroelektronik). Solder less flip chip interconnection of Cu stud bump using thermosonic process.

Bachelor of Engineering (Final Year Project)

30. 2023/2024	• Sing Chen Chueq (211012077). Structural and Electrical Properties of Carbon Nanotube Doped Titanium Dioxide. • Muhammad Syakir Bin Ahnoar (191010570). The implementation of high-k material as a tunnel barrier for flash memory cell (by simulation). • Rajeswary A/P Rajamoorthi (211011066). The improvement of write and erase time of flash memory cell by optimizing the coupling ratio of the control and floating gates.
31. 2022/2023 Sem 1	• Abdul Muis Bin Mustpha (141240101). Structural and Electrical Properties of Graphite Doped Titanium Dioxide. • Aiman Hakim Bin Marozi (191012162). Structural and Electrical Properties of Carbon Nanotube Doped Zinc Oxide. • Durga Sri A/P Mathialagan (191012163). The Optimization of Concanavalin A (Con A) immobilization on Silicon surface for Lectin Based Biosensor. • Muhamad Najmi Bin Mohamad Sofhi (191012164). The Effect of Gold Nano Particles (GNP) on the immobilization of Peanut agglutinin (PNA) on Silicon surface. • Nurul Hazreen Binti Abd Latip (191010577). Electron mobility enhancement in silicon based electronics. • Seevanantha A/l Muthumanikam (201012215). Structural and Electrical Properties of Graphite Doped Zinc Oxide
32. 2021/2022	• Chikranan A/P I King. Synthesis and Characterization of Graphite Doped Geopolymer For Current-Voltage (I-V) Study. • Mohd Faizal Bin Ab Bahari. Synthesis and Characterization of Fly Ash Geopolymer Binder For Capacitor Application. • Azrul Farhan Bin Mohd Rafie Ravi. Gold Nanoparticles-decorated Silicon Nanowire Biosensors for Sensitivity Enhancement in Diabetes Mellitus (DM) Monitoring.
33. 2020/2021	• Khairol Zayaan Binti Khairol Azmi. A study of the electrical behaviour of A-site doped Batio3 with PTCR Phenomena for Thermistor Applications.

- Nur hidayah Binti Aliyas. Study the electrical behaviour of B-site doped BaTiO3 with PTCR phenomenon for thermistor applications.

34. 2019/2020 Mohamad Ashmal Bin Zainul Abidin. Electrochemical Impedance Spectroscopy for Detection of C-Reactive Protein.

35. 2018/2019
- Anastasha Natalia Binti Muhammad Rosli: Capacitance-based measurement for early detection of cardiovascular.
- Khor Chao Ling: Electrochemical impedance spectroscopy (EIS) and cyclic voltammetric (CV) for detection of prostate cancer (PCa)
- Teh Wei Xin: Physical and Electrochemical characterization of C-reactive protein

36. 2017/2018
- Nurfatin Nazifah Bt Nazri: Fabrication and Characterization of Aluminum Interdigitated Electrode (IDE) Hybrid with ZnO for Cardiac Troponin T (cTnT) Biomarker.
- Muhammad Firdaus Bin Azman: Silicon-on-insulator FET with highly doped source and drain for dengue biosensor application.
- Nur Farzana Binti Mohammad Rodzi: Fabrication and Characterization of Aluminum Interdigitated Electrode (IDE) hybrid with zinc oxide for detection of prostate cancer.
- Rajaahmoorthi A/L Muniandy: Design and Fabrication of silicon on insulator field effect transistor with undoped source and drain for DNA dengue detection.
- Thavamani A/P Tasakaren: Fabrication and characterization of aluminum interdigitated electrode (IDE) hybrid with zinc oxide (ZnO) for detection of cardiac troponin I (cTnI) biomarker.

37. 2016/2017
- Nur Afiqah Bt Nor Azman: Design and fabrication of three channel microfluidic for multiplex delivery.
- Wong Hon Keat: Glucose detection using in-house fabricated interdigitated electrode biosensor.
- Chow Yong Huan: The effect of aptamer concentration towards reduced graphene oxide FET surface channel as biosensor.
- Lee Jun Jie: Surface interaction between graphene oxide-aptamer for cortisol biosensor.

38. 2015/2016
- Goh Shuen Khang: Electrical properties of e-beam deposited zinc oxide nanoparticles on interdigitated electrodes
- Norhalim Mokhtar: Synthesis and electrical properties of reduced graphene oxide on interdigitated electrodes
- Tan Huat Chew: Electrical properties of e-beam deposited titanium oxide nanoparticles on interdigitated electrodes

39. 2014/2015
- Che Noriani Bt Husain @ Muhammad: Fabrication of TiO_2 Particle Based IDE and Hybridization Different Concentration of HPV DNA Target for Cervical Cancer Detection
- Ha Yong Peng: Aluminum Based Interdigitated Electrodes (IDEs) for Glucose
- Roshila Bt Mohd Lazim: Measurement Fabrication of TiO_2 particles based IDE and Immobilization Different Concentration of Synthetic HPV DNA Probe for Cervical Cancer Detection
- Siti Raqeema Bt Ali: Fabrication of TiO2 Particle Based IDE and Inorganic Surface Modification using Organosilane for Cervical Cancer Detection.

40. 2012/2013
- Hanum Noli: Process and Device Simulations of SiO2/Si3N4 Engineered Tunnel Barrier.
- Farehanim Syukhairiyah Bt Mohd Akhir: SiO2/Si3N4 Engineered Tunnel Barrier Optimization
- Nor Akmal Hafira Bt Hassan: Process and Device Simulation of Si3N4/SiO2 Engineered Tunnel Barrier Sin3N4/SiO2 Engineered Tunnel Barrier Optimization – Experimental
- Mohamad Azman Bin Abu Hassan: The Study of Electron Tunneling Through Multiple Dielectric Layers
- Siti Norhafiezah Bt Abdul Mutalib: The Study of Electron Tunneling Through Single Layer Dielectric
- Nor Huda Bt Mohamad: Pattern Transfer Optimization Double Poly MOS in Flash Memory

K. RESEARCH GRANTS

INTERNATIONAL GRANTS

1. 06 Feb 2023 – 05 Feb 2025 — Project Member: Research on Thin Film Transistor based on oxide conductor channel and its performance and design rules. Ministry of Science and Technology of China, under "One Belt One Road" Innovative Talent Exchange Foreign Expert Programme (DL2022150001L). CYN 300,000 Chinese Yuan. Kerjasama dengan Shandong University (SDU), China.
2. 1 May 2020 – 30 Apr 2022 — Project Leader. Label-free detection of glycosylation and MicroRNA (miR-16) for detection of prostate cancer (PCa). Huber Curien Partnership – Hibiscus (MyPAIR). (RM66,000 from MoHE, France Euro15,000)
3. Mar 2017 – Feb 2019 — Project Leader: Cancer diagnosis aptasensors using modified interdigitated electrodes. Royal Society – Newton Mobility Grant. Total ~ RM 70k (£ 6,000 from Royal Society, UK and RM 32,744/year from ASM + MiGHT). 9008-00010. Status completed
4. Mar 2016 – Feb 2018 — Project Member: Nanodiamond integrated solution-gate field-effect transistor (SGFET) for HIV-1 tat protein aptasensor. Royal Society - Newton Mobility Grant. Total ~RM 70k (£ 6,000 from Royal Society, UK and RM 40,200/year from ASM + MiGHT. Status completed

INDUSTRY / NGO GRANTS

5. 19Oct 2020 – 18Oct 2022 — Project: Characterization of process unduced charges on silicon-on insulator low voltageand high power devices. Student: Teh Kah Heng. Amount = RM 48,000.00. Company: Infineon Technologies (Kulim) Sdn. Bhd.
6. 7Jan 2019 – 6Jan 2021 — Project: Characterization of Power SOI by CV and IV measurement. Student: RasShadatul Natasha. Amount = RM 48,000.00. Company: Infineon Technologies (Kulim)Sdn. Bhd.
7. 13Aug 2018 – 12Jan 2021 — Project: Electrical Characteristics of High Voltage Lateral Double Diffused MOSFET(HVLDMOS) on Silicon-on-Insulator (SOI) technology. Student: Nur Azmina Bt MdSakri. Amount = RM 56,000.00. Company: Infineon Technologies (Kulim) Sdn. Bhd
8. March 2018 - Sept 2019 (Mar 2020) — Project Leader: MAKNA Cancer Research Award (CRA) 2017. Novel Impedimetric Sensors for Early Detection of Prostate Cancer (PCa). 9002-00068. RM 27,295.00.

GOVERNMENT AGENCY GRANTS

9. 1 Ogos 2024 – 31 Julai 2026 — Project Member: Unravelling the Polymeric Acoustic Wave Mechanism for Enhancing Human Mesenchymal Stem Cells Chondrocytes Differentiation Ability. FRGS/1/2024/TK07/UNIMAP/03/4. RM 109,400.00
10. 1 Ogos 2024 – 31 Julai 2026 — Project Member: Elucidating Silver Nanoparticles Electrodeposited Silicon Nanowires Interaction with Polystyrene Nanoplastic in Water via Electrical Conductance. RM 112,700.00
11. 1 Oct 2023 – 30 Sept 2025 — Project Member: Elucidating Dual-Cardiac Protein Recognition Mechanism Reinforced by Graphene through Impedimetric for Ischemic Heart Diseases. FRGS/1/2023/STG01/UNIMAP/02/2. RM116696.00
12. 1 Nov 2020 – 31 Oct 2023 — Project Member: Elucidation of Surface Modification and Interaction of Retinol Binding Protein 4 (RBP4) with Gold Nanoparticles-Decorated Silicon Nanowires for Continuous Monitoring of Diabetes Mellitus (DM). FRGS/1/2020/STG01/UNIMAP/02/1. RM111,040.00
13. 1 Sept 19 – 30 Nov 2023 — Project Member: Mechanism of thermoplastic welding using SiC nanomaterials as susceptor by microwave heating for medical implants applications. FRGS/1/2019/TK05/UNIMAP/02/7. RM107,000.00
14. Sept 2019 -30 Nov 2022 — Project Member: High Responsivity of Planar Nano-Diodes by using Curvature Co-Efficient Analysis for Optimal Passive RF-DC Rectification in Energy Harvesting and RFID Application in IOT. FRGS 2019-1 FRGS/1/2019/STG02/UNIMAP/03/1. RM 119,700.00.
15. 15th Aug 2017 – 14th Aug 2019 - — Project Leader: Elucidation of surface modification and interaction of CRP Antigen-Antibody with semiconductor surface for diagnosis of cardiovascular disease risk (9003-00629 or FRGS/1/2017/STG05/UNIMAP/03/3). RM 98,200.00
16. 1st August 2016 – 31st July 2018 — Project Member: Correlation between lectin-specific glycoproteins biorecognition and the generated electrical response on functionalized semiconductor. (FRGS 9003-00585) or FRGS/1/2016/TK04/UNIMAP/02/12. RM 112,800.00
17. 1st August 2016 – 31st July 2018 — Project Member: Interaction and mechanism of FET channel of graphene surface towards aptamer-cortisol biomarker for anxiety disorder. (FRGS 9003-00596) or FRGS/1/2016/STG07/UNIMAP/02/5. RM 105,000.00
18. 1 Oct 2016-Sept 30 2018 — Project Member: Aptamer based Field-Effect Biosensors for HIV-1 TAT protein detection. PRGS/1/2016/STG07/UNIMAP/02/1. RM 117924.53

19. 1st Nov 2015 – 31st Oct 2017) Project Leader: Interaction between mechanism of cardiac troponin and anti-troponin on the transducer surface towards prediction of mild heart attack (FRGS 9003-00536 and FRGS/1/2015/TK04/UNIMAP/02/13). RM 128,700.00.
20. 1st Dec 2015 – 30th Nov 2017 Project Member: Early detection of HPV Cervical Cancer using nanotechnology based biosensor. (PRGS 9013-0027) or PRGS/2/2015/SKK02/UNIMAP/01/1, RM 185,000.
21. Apr 2015 – March 2020 Project Member: Nanofabrication of devices for nanosensing and control of ganoderma boninense. Project 4 under Food & Agriculture Cluster. NanoMITe (Malaysia Institute for Innovative Nanotechnology) RM 600,000.0.
22. Jan 2015 – Jun 2017 Project Member: Fundamental study of cervical cancer screening by molecular detection of specific ssDNA using electrical DNA chip (FRGS 2014- 2) or FRGS/2/2014/TK03/UNIMAP/01/1. RM 118,800.0. Status: Completed
23. June 2014 – May 2017 Project Member: A fundamental study of silicon carbide nanotubes formation by microwaves irradiation assisted shape memory synthesis. (FRGS 2014- 9003-00441) or FRGS/1/2014/TK04/UNIMAP/02/7. RM 112,000.0.
24. 5th Dec 2013 – 4th Dec 2015 Project Leader: Junctionless Transistor: Fundamental study of revolutionized conventional doping in MOSFETs (FRGS 2013: 9003 – 00380) or FRGS/2/2013/SG02/UNIMAP/02/2. RM 131,000.00.
25. 5th Dec 2013 – 4th Dec 2015 Project Member: Elucidation of surface interaction between aptamer abd multiwalled carbon nanotubes (MWCNTs) (FRGS 2013 : 9003-00375) or FRGS/2/2013/TK05/UNIMAP/02/1. RM 100,500.00.
26. 2007 - 2009 Project Member: Development of CMOS ISFET Based pH Sensor for Biomedical Applications. ScienceFund 03-01-15-SF0075/ RM 567,000.00.
27. 2007 - 2009 Project Member: Development of Portable Multi Channel Biosensor Using Nanogap Capacitor for Biomedical (DNA Hybridization) Detection. ScienceFund 03-01-15-SF0046/ RM 498,000.00.
28. 2004 – 2007 Project Member: Fabrication and Characterization of Single Electron Transistor (SET). IRPA Grant 09-02-15-0000 – SR0013/06-06; RM 2,760,240.00.

UNIVERSITY GRANTS

29. 1 July 2022– 30 Jun 2023 Perlantikan sebagai mentor bagi Programme for Excellence & Mentorship in Research (PEER)
30. Mac 2022 – Mac 2023 Project Leader: Dana Penerbitan Saintifik UniMAP 2021 untuk Anugerah Penerbitan Berimpak 2021. RM 1,000.
31. Mac 2021 – Mac 2022 Project Leader: Dana Penerbitan Saintifik UniMAP 2021 untuk Anugerah Penerbitan Berimpak 2020. RM 2,500.
32. Jul 2020 – Jun 2021 Project Leader: Label-Free detection of glycosylation for detection of prostate cancer (PCa) 9001-00592, RM33,000.
33. Jul 2020 – Jun 2021 Project Leader: Dana Penerbitan Saintifik UniMAP 2020 untuk Anugerah Penerbitan Berimpak 2019. RM 3,000.
34. 01 Feb 2015 – 31st Jan 2016 Project Leader: UniMAP : Incentive Research Journal Grant (9007-00244) for the year of 2013. RM5,000. Status: Completed
35. 2nd May 2014 – 1st May 2015 Project Leader: UniMAP : Incentive Research Journal Grant (9007-00145) for the year of 2012. RM15,000. Status: Completed
36. 4th Oct 2013 – 3rd Oct 2014 Project Leader: UniMAP : Incentive Research Journal Grant (9007-00069) for the year of 2011. RM10,000. Status: Completed
37. Oct 2005 - Jun 2007 Project Leader: Characterization of Electroless Nickel Immersion Gold (ENiG) for Under Bump Metallurgy in Semiconductor Packaging (9003 – 00018). University Short Term Grant; Kolej Universiti Kejuruteraan Utara Malaysia (KUKUM); RM 20,000. Status: Completed

L. SUPERVISION WORKS

Summary of Postgraduate Supervision (updated August 2021)

	MSc (Mixed Mode)	**MSc (Research)**		**Ph.D**		**Post-doc**	Total
	Main	Main-Sup.	Co-Sup.	Main-Sup.	Co-Sup.		
Graduated	2	4	6	5	5	-	22
On-going	-	2	5	1	5	2	15

POST-DOCTORAL SUPERVISION

Intake ***Status***

1.	15th June 2021– 14th June 2022	Dr Authman Salim Ibraheam. The Studies of Structural, Optical and Electrical Properties of Compound Cu(Mn, Cd) SnS4 Thin Films Preapred by Pulse Laser.	*Completed*
2.	1st July 2020-30th June 2021	Dr. Siti Fatimah Abd Rahman. Label-free Detection of Glycosylation and microRNA (miR-16) for detection of Prostate Cancer (PCa)	*Completed*

PH.D STUDENTS SUPERVISION

	Registered	***Completed***	***Status***
3.	July 2016 – 16 Nov 2024	Nor Syamimi Binti Mohamad Sabri (Matric No 1641312293). Flexible Thermistor Based on Polypyrole in Maintaining Human Thermoregulation. Viva-Voce Date: 30 Jan 2024. Senate Date: ??. Convocation Date: 09-Nov-2024. Co-supervisor	*Completed*
4.	6 Nov 2020	Hemavathi A/P Krishnann. (Matric No: 2041813321). Aptamer Generation against Gamma–carboxyglutamic Acid-rich Domain by Monolex: Diagnosis of Human Blood Clotting Defect on Nanostructured Aptasensor. Viva-Voce Date: 08 Oct 2023. Senate Date: ??? . Convocation Date: 09-Nov-2024. Co-supervisor.	*Completed*
5.	11th April 2018	Nur Dalila Bt Rizuan (Matric No: 1841712754). Fabrication and Characterization of Label-Free Biosensing for Detection of CRP. Viva-Voce Date: 11 Oct 2021. Senate Date: 26 Nov 2022. Main-supervisor	*Completed*
6.	8th Sept 2017	Steven a/l Taniselass (Matric No: 1741712548). Impedimetric-based biosensor: Hybrid rGO and gold interdigitated electrode for cardiac troponin I protein capturing. Viva-Voce Date: 30 Jul 2021. Senate Date: 1 Nov 2021. Main-supervisor	*Completed*
7.	2nd July 2015	Adilah Bt Ayoib (Matric No 1541811807). Multiple Detection of pathogenic burkolderia pseuddmallei and leptospirosis causing post flood based disease, meliodosis & clinical sample using nanobiosensor technology. Viva-Voce Date: 29 Jul 2021. Co-supervisor	*Completed*
8.	2nd July 2018	Santheraleka A/P Ramanathan. (Matric No: 1841812784). Aluminosilicate Nanocomposite on Interdigitated Electrode as Genosensor for determining Epidermal Growth Factor Receptor Mutation in Non-Small Cell Lung Carcinoma. Viva-voce date: 17th Sept 2020. Senate date: 30th Nov 2020. Co-supervisor	*Completed*
9.	25th May 2016	Conlathan A/l Ibau (Matric No 1631712193). Label-free Gold Interdigitated Microelectrodes Immunosensor for Prostate Cancer Biomarker. Viva-voce date: 22nd April 2020. Senate date: 30th July 2020. Main supervisor	*Completed*
10.	11th April 2018	Iswary A/P Letchumanan (Matric No 1841812752). Gold Nanostructure in Mediating High-Performance Medical Diagnosis of Human Blood Disease Biomarkers. Viva-voce date: 19th Jun 2020, Senate date: 30th July 2020. Co-supervisor	*Completed*
11.	4th Feb 2014	Fatin Nabilah Binti Mohd Faudzi (Matric No 1441711273). Development of Multiwalled Carbon Nanotube Integrated Field Effect Transistor for Highly Sensitive HIV-1 Tat Protein Biosensor. Viva-voce date: 5th April 2019, Senate date: 14th August 2019. Convocation date: 16th Nov 2019. Co-supervisor	*Completed*
12.	9th Sept 2013	Noraini Binti Othman (Matric No 1340111072). Numerical Simulations of Innovative Ground Plane and Double-Gate Configurations in Thin-Body and Buried-Oxide of SOI MOSFETs. Viva-voce date: 19th Oct 2017. Senate Date: 31st Jan 2018. Convocation date: 27th Oct 2018. Main Supervisor	*Completed*
13.	3rd Feb 2014	Mohamad Faris Bin Mohammad Fathil (Matric No 1441711262). Electrical Label-Free Sensing of Cardiac Troponin Biomarker: FET-Based Integration with Substrate-Gate Coupling. Viva-voce date: 24th March 2017. Senate Date: 2nd June 2017. Convocation date: 28th Oct 2017. Main Supervisor	*Completed*
14.	7th Dec 2012	Mohammad Nuzaihan Bin Md Nor (Matric No 1531711775). Development of Novel Silicon Nanowires Biosensor for Detection of DNA Molecules at Femtomolar Concentration. Viva-voce date: 23rd Oct 2016, Senate date: 30th Sept 2016. Convocation date: 22nd Oct 2016. Co-supervisor	*Completed*
		Ongoing	
15.	22 Oct 2020	Lee Boon Thuan. (Matric No: 2040113293). Development of Vertical Trench to Improve the Device Functionality in Power MOSFET. Main-supervisor	On-going
16.	1st July 2016	Mohd Zaki Bin Mohamed Kamarudin (Matric No: 1641712201). Fabrication and characterization of selectivity metal oxide based chemical sensor for ultrasensitive detection of formaldehyde in composite wood products. Co-supervisor	*Terminated*
17.	21st Jan 2015	Mohd Norfazly Bin Mat Ludin (Matric No 1531311684). Temperature Monitor Intraveneous Medical Device. Viva-voce date: 29 July 2021. Co-supervisor	On-going

18. 1st Jan 2015	Adelyn Puah Ying Phing (Matric No 1541711643). Development of novel clinical prenatal care multiple diagnostic nano lab-on-chip for pregnancy, gestational diabetec and pre-eclampsia detection in a single drop urine. Co-supervisor	On-going

MSc – RESEARCH STUDENTS		***Status***
	Completed	
19. 1st Jan 2019	Nur Azmina Bt Md. Sakri (Matric No. 1930112913). A study of breakdown characteristics in high voltage (HV) silicon-on-insulator (SOI) technology. Main supervisor. Viva-voce date : 28th May 2021. Senate Date: 27th May 2021. Convocation date: 26th Nov 2022. Main Supervisor	*Completed*
20. 3rd Jan 2019	Aidil Shazereen Bin Azlan (Matric No. 1931712940). Fabrication and characterization of silicon nanowire biosensors for early detection of zika virus (ZIKV) detection. Viva-voce date:28th May 2021. Co-supervisor	*Completed*
21. 1st Oct 2019	Wan 'Amirah Basyarah Bt Zaino Abidin (Matric No. 1831712845). Fabrication and characterization of FET-based bioelectronics for DNA detection. Co-supervisor	*Completed*
22. 11th Aug 2014	See Jian Hao (Matric No 1431711470). The Optimization of P-i-N Power Switching Diode in term of Reverse Breakdown Voltage and Electrostatic Discharge Performance. Viva-voce date: 19th Oct 2017. Senate Date: 19th Apr 2018. Convocation date: 28th Oct 2017. Main Supervisor	*Completed*
23. 10th Jan 2014	Ahmad Fitri Bin Anuar Mahayudin (Matric No 1430111234). Fabrication of MEMS Piezoresistive Accelerometer for Human Gait Analysis using Laser Micromachining. Viva-voce date:25th Nov 2016. Senate Date: 18th May 2017. Convocation date: 28th Oct 2017. Co-supervisor	*Completed*
24. 1st Jan 2015	Saeed Salem Saeed Ba Hashwan (Matric No 1531711565). Reduced graphene oxide-multi walled carbon nanotubes hybrid material as electrode for DNA biosensor. Viva-voce date: 6th Jan 2017. Senate Date: 18th May 2017. Convocation date: 28th Oct 2017. Co-supervisor	*Completed*
25. 1st Oct 2014	Zaid Tareq Salim Al-Waisi (Matric No 1431711498). Development of surface acoustic wave sensor for female aedes mosquito detection. Viva-voce date: 19th Oct 2016. Senate date: 23rd Dec 2016. Convocation date: 28th Oct 2017. Co-supervisor	*Completed*
26. 20th May 2015	Adzhri Rahmat (Matric No 1531711774). Integration of substrate-gate coupling with p-type anatase TiO_2 for field-effect transistor based biosensor. Viva-voce date: 6th Jan 2017. Senate Date: 23rd March 2017. Convocation date: 28th Oct 2017. Main supervisor	*Completed*
27. 13th Jan 2015	Nurul Huda Bt Abdul Rahman. (Matric No 1531711669). Junctionless Transistor: Parametric study of revolutionized conventional doping in MOSFETs. Viva-voce date: 27th May 2016. Senate Date: 30th Sept. 2016. Convocation date: 22nd Oct 2016. Main supervisor	*Completed*
28. 29th Aug 2014	Cheh Chai Mee (Matric No 1431711484).Optimization of P-i-N Rectifier Diode for Yield and Robustness Improvement using DOE. Viva-voce date: 3rd July 2016. Senate Date: 30th Sept 2016. Convocation date: 22nd Oct 2016. Main Supervisor	*Completed*
29. 8th Aug 2014	Mohd Zaki Bin Mohamed Kamarudin (Matric No 1431711466). Fabrication and Characterization of metal oxide based sensor for detection of formaldehyde gas. Viva-voce date: 29th Dec 2015. Senate Date: 25th May 2016. Convocation date: 22nd Oct 2016. Co-supervisor	*Completed*
30. 18th Sept 2006	Chin Seng Fatt (Matric No 063011008.). Design and Fabrication of CMOS Transistor Using in-house Facilities. Senate Date: 16th July 2010. Convocation date: 07th August 2010. Co-supervisor	*Completed*
	Ongoing	
31. 9 Nov 2021	The Kah Heng (Matric No. 2130113591). Characterization of Process Induced Charge on Silicon-on-Insulator Low Voltage and High Voltage Devices. Co-supervisor	On-going
32. 1st April 2019	Ras Shadatul Natasha Bt Rauzan (Matric No. 1930113010). Characterization of SOI power devices by CV and IV measurement. Main supervisor	On-going
33. 20th May 2015	Muhammad Muaz Bin Ahmad Khushaini (Matric No 1531711775). Label-free electrical biosensor based nanoparticles dioxide (TiO_2) thin film for salmonella detection. Co-supervisor	On-going
34. 18th Apr 2014	Mohamad Azman Abu Hassan (Matric No 1431711382). Fabrication and characterization of ultra thin film silicon dioxide for advance MOS devices. Co-supervisor	*Terminated*

35. 17th Feb 2014	Fazmir Bin Hamzah (Matric No 1430111297). Energy harvesting using MEMs piezoelectric cantilever. Co-supervisor	On-going
36. 20th Feb 2014	Siti Norhafiezah Bt Abdul Mutalib (Matric No 1431711309). The implementation of high-k material as a gate dielectric in advanced MOS device. Co-supervisor	*Terminated*
37. 1st Oct 2013	Nur Hafizah Bt A. Majid (Matric No . Analysis on the failure modes and mechanics of 0.18 μm CMOS technology. Co-supervisor	*Terminated*
38. 1st Apr 2013 -	Noor Faizah Binti Nordin (Matric No 1330111084). Infrared lock-in thermography (IR LIT) Fault Isolation on various Failure Mode and Mechanism for Power Semiconductor Devices. Main Supervisor	*Terminated*
39. Mar 2016	Soo Hoo Kean Aun. Design and Fabrication of E-beam deposited metal-oxide nanostructure for biomolecules detection. Co-supervisor	*Stop*

MSc – Mixed-Mode		***Status***
Completed		
40. 2019	Main Supervisor: Lee Boon Thuan (Matric No 1632521956). CMOS 0.13 μm Interconnect Delay Improvement in Gate Driver Through Via Fabrication Process. MSc in Microelectronic System Design. Senate Date: 14th August 2019. Convocation Date: 16th Nov 2019	*Completed*
41. 2019	Main supervisor: Tan Chiew Ching (Matric No 1632522091). Impact of Channel Orientation due to Shallow Trench Isolation in 0.18 μm CMOS Transistor. MSc in Microelectronic System Design. Viva-voce date: 20th March 2019. Senate Date:11th Oct 2019. Convocation Date: 16th Nov 2019	*Completed*

B. Eng – Final Year Research Project Students

2024/2025	1. Muhammad Ajwaad Khalis Bin Azih (211011057). Design and simulation of IGBT characteristics.
2024/2025	2. Tharmavathi a/p Poobalan (211012614). Design and simulation of laterally diffused metal-oxide-semiconductor (LDMOS)
2023/2024	3. Heng Qi Jun (201011126):. Design and simulation of CoolMOS (high voltage superjunction MOSFETs).
2022/2023	4. H'ng Chee Chang (191010554). Design and simulation of cylindrical silicon nanowire (SiNW) Field-Effect Transistor.
	5. Muhammad Azlisam Bin Mohd Idris (201012210). Design and simulation of rectangle silicon nanowire (SiNW) Field-Effect Transistor.
2021/2022	6. Khoo Choon Boon. Numerical simulation of the impact of silicon and buried oxide thickness in SOI MOSFET
	7. Koay Zeng Yi. Numerical simulation of the impact of back-gate voltage in SOI MOSFETs
2020/2021	8. Khairul Nizam Bin Noh. Numerical simulation of the undoped-body MOSFETs.
	9. Muhammad Taufiq B Bukhari. Numerical simulation of the impact electrostatic doping in nano-scaled devices.
2019/2020	10. Mohamad Ashmal B Zainul Abidin. Electrochemical Impedance Spectroscopy for detection of c-reactive protein.
2018-2019	11. Anastasha Natalia Bt Muhammad Rosli. Capacitance-based measurement for early detection of cardiovascular disease.
	12. Khor Chao Liang. Electrochemical impedance spectroscopy (EIS) and cyclic voltamertic (CV) for early detection of prostate cancer.
	13. The Wei Xin. Physical and electrochemical characterizations for early detection of C-reactive protein.
2017-2018	14. Nurfatin Nazifah Bt Nazri. Fabrication and characterization of aluminium interdigitated electrode (IDE) hybrid with ZnO for cardiac troponin T (cTnT) biomarker detection.
	15. Muhammad Firdaus B. Azman. Silicon-on-insulator FET high highly doped source and drain for dengue biosensor application
	16. Nur Farzana Bt Mohammad Rodzi. Interdigitated electrode (IDE) hybrid withn zinc oxide for detection of prostate cancer.
	17. Rajaahmoorthi a/l Muniandy. Field Effect Transistor with undoped source and drain for DNA dengue detection.
	18. Thavamani a/p Tasakaren. Interdigitated electrode (IDE) hybride with zin oxide (ZnO) for detection of cardiac troponin I (cTnI) biomarker.
2016-2017	19. Claris Ch'ng Jing Wen. FET with underlap structure for biosensing application.
	20. Muhammad Sufri Shofian. Impedimetric label-free sensing: Gold interdigitated electrodes (IDEs) for detection of influenza virus.

21. Wan Mohammad Farith Bin Wan Mohd Zuki. Electrical label-free FET-based biosensors Integration with back-gate for detection of cardiac troponin I.

2015-2016

22. Tan Chee May. Fabrication and Characterization of IDE Integrated with Zinc Oxide Nanoparticles for Detection of Cardiac Troponin-I
23. Tan Chia Yin. Zinc Oxide Nanoparticles Deposited on IDE for Detection of Influenza Virus.
24. Noor Hanizawaty Binti Ayob. Enhanced Sensitivity of FET-Well Based Biosensors.

2014-2015

25. Sin Lye Leng. Design, fabrication and characterization of zinc oxide for biosensor applications – completed.
26. Teoh Chai Ling. Design, fabrication and characterization of TiO_2 for biosensor applications – completed.
27. Chang Hui Yi. Gold nanoparticles embedded silicon channel biosensor for improved sensitivity – completed.
28. Nor Afiah Bt Asyari. Numerical study of junctionless tunnel field-effect transistors (JLTFET)– completed.
29. Nur Ahlina Bt Mohd Lenin. Numerical study of Tunneling field effect transistor (JTFET) – completed.
30. Kung Hui Jing. Numerical study of metal gate and high-k $TaN/HfO_2/SiO_2$ and $TaN/ZrHfO/SiO_2$ in high scaled MOSFETs devices – completed.

2013 - 2014

31. Khor Zhao Xiang: Simulation study of Insulated Gate Bipolar Transistor (IGBT) – completed.
32. Nurul Huda Bt Abdul Rahmah: Simulation study of Tunneling Field Effect Transistor (TFET) – completed.
33. Lim Boon Seong: Simulation study of Junctionless Field Effect Transistor – completed.
34. Yee Chien Chien: Fabrication and characterization of undoped polysilicon nanowire for pH sensor – completed.
35. Stephen Su Chie Chang: Fabrication and characterization of doped polysilicon nanowire for pH sensor – completed.
36. Ang Yew Ming: Fabrication and characterization of polysicon for pork DNA detection – completed.

2007 - 2008

37. Mohd Rosyidi Zakaria; Title: Experimental Study on Gallium Dopant Diffusity in Silicon Using Spin on Dopant Technique – completed.
38. Ahmad Zulfadli Musa; Title: Experimental Study on Aluminum Dopant Diffusivity in Silicon Using Spin On Dopant Technique – completed.
39. Mohd Hazrani Bin Hashim; Title: The Characterization of Electroless Under Bump Metallurgy using Industrial Standard Sample – completed.

2006/2007

40. Lim Moy Fung; Title: Characterization of Intermetallic Growth in Gold Ballbonds on Aluminum Metallization – completed.
41. Mazlee Bin Mazlan; Title: In-house Development of Electroless Under Bump Metallurgy (UBM) on Al Bond Pad – completed.
42. Mohd Hazrani Bin Hashim; Title: The Characterization of Electroless Under Bump Metallurgy using Industrial Standard Sample – completed.
43. Norahmad Barzrul Bin Basaruddin; Title: Characterization of Electroless Under Bump Metallurgy using AlSi Bond Pad Composition – completed.
44. Shaffie Bin Husin; Title: Fabrication of 50 μm Transistor and AlNiAu Interconnection using Lift-Off Process – completed.

2005/2006

45. Chew Ming Choo; Title: The Study of Optical Mouse Sensor – completed.
46. Ahmad Nurhaizan Bin Abdul Shukor; Title: Design and Fabrication MOS Transistor Using Negative Resist – completed.
47. Siti Salwa Binti Mat Isa; Title: The Simulation of EOS and ESD for Semiconductor Packaging – completed.
48. Qhalilah Ismail; Title: Optimization of Decapsulation and Metallurgical Cross Section for Failure Analysis Lab – completed.

B. ENG – INTEGRATED DESIGN PROJECT (IDP)

2018 Title: Exigency Life-Saving Drone

1. Aloysius Thai Li Tze
2. Chew Wei Kang
3. Siti Nasyitah Bt Abd Samat
4. Noraqilah Bt Nasharuddin

M. PUBLICATION

H Index, Citation and No of Papers (Updated Dec 2023)

Web-of-Science (Publon)			Scopus			Google Scholar	
H-index	Paper	Citation	H Index	Papers	Citation	H Index	Citation
31	143	2527	34	295	3784	38	5036

ISI Journal Papers (as of publication in 2021)

Q1	Q2	Q3	Q4	Total Papers	Cumulative IF
41	23	16	9	89	353.777
46%	26%	18%	10%		

Six books Chapter published

ISI Journals Published during my postgraduate studies (MSc. and Ph.D)

MSc	3	2 Q2 and 1 Q3	Cumulative. IF =2.313
Ph.D	9	4 Q1 and 5 Q2	Cumulative IF =19.676

THESIS

1. Jan 2013 Title: Characterization and Modeling of Ultra-Thin Body Fully-Depleted SOI MOSFETs.
   Dr.Sc.Ing (Docteur en sciences de l'ingeneur)
   Université catholique de Louvain (UCL), Louvain-la-Neuve, Belgium.
2. April 2005 Title: Characterization of Electroless Nickel Immersion Gold (ENiG) for Under Bump Metallurgy (UBM) in Semiconductor Packaging.
   Master of Science (Microelectronic)
   Universiti Kebangsaan Malaysia, Bangi , Malaysia.

BOOK/CHAPTER IN BOOK / GUIDELINES

1. 2020 Garis Panduan Pelaksanaan Pengajaran dan Pembelajaran Secara dalam Talian. Prof. Dr. Salleh Abd. Rashid, Prof. Madya Ir. Dr. Ruslizam Daud, Prof. Madya Ts. Dr Azrik Roslan, Prof. Madya Ir. Dr. Mohd Khairuddin Md. Arshad, En. Mohd Sufino Zuhaily Sufian, Cik Aishah Mohd Noor. Version 1.0 (6 April 2020), Version 2.0 (13 April 2020).
2. 2019 Chapter in Book: Chapter 5: Antimicrobial Property of Biosynthesized Silver Nanoparticles Santheraleka Ramanathan, Subash C.B. Gopinath, M.K. Md Arshad, Prabakaran Poopalan, Veeradasan Perumal, Mohamed-Shuaib Mohamed Saheed. In Book titled: Nanomaterials for Healthcare, Energy and Environment. Springer Link. e-ISBN: 978-981-13-9835-3:2016:pp.87-101
3. 2018 Chapter in Book: Chapter 6: Development of Aptamer-Based Colorimetric Analytical Methods. Subash C.B. Gopinath Thangavel Lakshmipriya, M.K. Md Arshad, Chun Hong Voon, In Book titled: Aptamer for Analytical Applications: Affinity Acquisition and Method Design. Wiley-VCH Verlag GMBH & Co. ISBN: 978-3-527-34267-9:2018:pp.205-226
4. 2018 Chapter in Book: Chapter 9: Nanoelectronics in Biosensing Applications. Subash C.B. Gopinath Thangavel Lakshmipriya, M.K. Md Arshad, M.N.A Uda, Yarub Al-Douri, In Book titled: Nanobiosensors for Biomolecular Targeting. A volume in Micro and Nano Technologies Elsevier. ISBN: 978-0-12-813900-4:2018:pp.17-30.
5. 2016 Chapter in Book: Chapter 6: Bioacore – a surface plasmon resonance-based technology. Subash C.B. Gopinath, Uda Hashim and M.K. Md Arshad. In Book titled: Nanobiosensors for personalized and onsite Biomedical Diagnosis. Eds Pranjal Chandra and Ester Segal. The Institution of Engineering and Technology (IET), UK. e-ISBN: 9781849199513.2016:pp.95-108
6. 2016 Chapter in Book: Chapter 2: Influenza viral infection in respiratory system – potential ways of monitoring. Subash Gopinath, Uda Hashim, Mohd Khairuddin Md Arshad, Ramzan Mat Ayub, Lakshmipriya Thangavel, Tijani Adam. In Book entitled: The Microbiology of Respiratory System Infections. Elsevier. ISBN: 978-0-12-804543-5: 2016: pp.33-43
7. 2014 Chapter in Book: Perspective of UTBB FD SOI MOSFETs for Analog and RF Applications Valeriya Kilchytska, Sergej Makovejev, Mohd Khairuddin Md Arshad, Jean-Pierre Raskin and Denis Flandre in Book Entitled: Functional Nanomaterials and Devices for Electronics, Sensors and Energy Harvesting. Editors (Alexei Nazarov, Francis Balestra, Valeriya Kilchytska, Denis Flandre). Springer International Publishing. eBook ISBN:978-3-319-08804-4: p. 27-47
8. Feb 2007 Penerapan dan Penilaian Soft Skills Mahasiswa UniMAP (Editor and Contributor Panel). Published by Universiti Malaysia Perlis (UniMAP). ISBN: 9834237103. Feb. 2007.

ARTICLE IN IMPACT FACTOR JOURNAL			*Impact Factor*	*Quartile (No)*
1.	2024	S.F.A Rahman, M.K.M Arshad, S.C.B Gopinath, Fathil M.F.M. Sarry F. Ibau. C. Elmazria O, Sami-Hage Ali. Interdigitated impedimetric-based Maackia amurensis lectin biosensor for prostate cancer biomarker. Microchimica Acta. 2024 Jan 21. 91(2):118. doi: 10.1007/s00604-024-06189-4.		
2.	2024	Hussaini Adam, Subash C.B Gopinath, M.K Md Arshad, Tijjani Adam, Sreeramanan Subramaniam, Uda Hashim. An Update on Parkinson's Disease and its Neurodegenerative Counterparts. Current Medicinal ChemistryVolume 31, Issue 19, 2024: pp. 2770 - 2787		
3.	2023	Hussaini Adam, Subash C.B Gopinath, M.K. Md Arshad, Uda Hashim, Tijjani Adam. Magnetic Induction Tomography for Brain Tissue Imaging Based on Conductivity Distribution for Parkinson's disease Diagnosis. International Journal of Nanoelectronics and Materials. Vol. 16, Issue 4, Oct 2023:pp. 916 – 970.	0.7	Q4
4.	2023	K.Y. Koay, M. F. M. Fathil, M. Nuzahan, R.M Ayub, M.K Md Arshad. Numerical Simulation on the Impact of Back Gate Voltage in Thin Body and Thin Buried Oxide of Silicon on Insulator (SOI) MOSFETs. International Journal of Nanoelectronics and Materials. Vol. 16, Issue 4, Oct 2023:pp. 819 – 826.	0.7	Q4
5.	2023	Hussaini Adam, Subash C.B. Gopinath, M.K. Md Arshad, Tijjani Adam, N. A Parmin, Irzaman Husein, Uda Hashim. An update on pathogenesis and clinical scenario for Parkinson's disease: diagnosis and treatment. 3 Biotech, Vol. 13, Issue 5, May 2023 : Article number 142	2.6	Q3
6.	2023	Hussaini Adam, Subash C. B. Gopinath, M.K. Md Arshad, Tijjani Adam, Uda Hashim, Zaliman Sauli, Makram A. Fakhri, Sreeramanan Subramaniam, Yeng Chen, Sreenivasan Sasidharan, Yuan Seng Wu. Integration of microfluidic channel on electrochemical-based nanobiosensors for monoplex and multiplex analyses: An overview. Journal of the Taiwan Institute of Chemical Engineers. Vol.146. 2023: Article number 104814	3.7	Q2
7.	2023	P.Y Foong, C.H Von, B.Y Lim, P.L Teh, M.A. Rojan, S.C.B Gopinath, M.K Md Arshad, N.A. Parmin, F.W Low, A. Rahim Ruslinda, U. Hashim. Formation of polypropylene nanocomposite joint using silicon carbide nanowhiskers as novel susceptor for microwave welding. Journal of Reinforced Plastics and Composites. Vol. 42. Issue 9-10, 2023: pp. 413-429	3.383	Q2
8.	2023	Hussaini Adam, Subash C.B. Gopinath, Thirumananseri Kumarevel, M.K. Md Arshad, Tijjani Adam, Zaliman Sauli, Sreeramanan Subramaniam, Uda Hashim, Yeng Chen. Selective detection of amyloid fibrils by a dipole moment mechanism on dielectrode – Structural insights by in silico analysis. Process Biochemistry Volume 126, 2023: pp. 23 – 32.	3.7	Q2
9.	2023	A.S Ibraheam, Jamal M. Rzaij, M.K. Md Arshad. Influence of Magnesium Content on the Structural, Optical, and Electrical Properties of Cu2(Zn1-xMgx)SnS4 Nanostructured Quaternary Thin Film Synthesized Using the Sol–Gel Method. Journal of Electronic Materials. Vol. 52, Issue 1. 2023: p.p 414-421.	2.2	Q3
10.	2022	Tan Yi Liang, Nor Farhani Zakaria, Shahrir Rizal Kasjoo, Safizan Shaari, Muammar Mohamad Isa, Mohd Khairuddin Md Arshad, Arun Kumar Singh. Silicon self-switching diode (SSD) as a full-wave bridge rectifier in 5G network frequencies. Sensors. 2022, 22, 9712.	4.100	Q1
11.	2022	R.N Dalila, M.K Md Arshad, S.C.B Gopinath, C. Ibau, M. Nuzaihan M.N. M.F.M Fathil, U.Z Mohd Azmi, P. Anbu. Faradaic electrochemical impedimetric analysis on MoS_2/Au-NPs decorated surface for C-reactive protein detection. Journal of the Taiwan Institute of Chemical Engineers. Vol. 138. Sept. 2022. Article number 104450	5.477	Q1
12.	2022	S.F Abd Rahman, N.A. Yusof, M.K Md Arshad, U. Hashim, M. N. Md Nor, M.N Hamidon. Fabrication of silicon nanowire sensors for highly sensitive pH and DNA hybridization detection. Nanomaterials, 2022, Vol. 12(15), 2652	5.719	Q1
13.	2022	H. Krishnan, S.C.B Gopinath, M.K Md Arshad, H.I Zulhaimi, P. Anbu, S. Subramaniam. Molecularly imprinted polymer enhances affinity and stability over conventional aptasensor for blood clotting biomarker detection on	9.221	Q1

		regimented carbon nanohorn and gold nanourchin hybrid layers. Sensors and Actuators B: Chemical. Vol 363, July 2022. Article Number 131842.		
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309. 2012 M.K. Md Arshad, V. Kilchystka, S. Makovejev, S. Olsen, F. Andrieu, J.-P. Raskin and D. Flandre. UTBB SOI MOSFETs analog figures of merit: effect of ground plane and asymmetric double-gate regime. in Proc. of EuroSOI Conference, Montpellier, France. 23-25 January 2012. pp.111-112. This paper has been selected for publication in solid-state electronics.

310. 2011 V. Kilchytska, M.K. Md Arshad, S. Makovejev, S. Olsen, F. Andrieu, O.Faynot, J-P Raskin, D. Flandre. Ultra-thin body and BOX SOI Analog Figures of Merit. in Proc. Of EuroSOI, Granada, Andalucia, Spain. 17 – 19 Januari 2011. pp. 143-144. This paper has been selected for publication in solid-state electronics.

311. 2011 T. Rudenko, A. Rudenko, V. Kilchytska, M.K. Md Arshad, J-P Raskin, A. Nazarov, D. Flandre. Impact of mobility variation on the Vth extraction by transconductance change and gm/Id methods in advanced SOI MOSFETs. in Proc. of EuroSOI Conference. 17 – 19 Januari 2011.pp. 25-26. This paper has been selected for publication in solid-state electronics.

312. 2010 M.K. Md Arshad, J-P Raskin, V. Kilchytska, D. Flandre, O. Faynot, P. Scheiblin and F. Andrieu. Improved DIBL in ultra-thin body SOI MOSFETs with ultra-thin buried oxide and inverted substrate. in Proc of Ultimate Integration of Silicon (ULIS), 2010: pp. 113-116.

313. 2007 C.S. Fatt, U. Hashim, M.K. Md Arshad, CMOS ISFET Based pH Sensor Fabrication using Si3N4 Membrane: Towards Biomedical Applications. Proceeding of International Conference on Advancement of Materials and Nanotechnology. Langkawi, Kedah, Malaysia. 29th May – 1st June 2007:pp 176-177.

314. 2007 U. Hashim, M.K. Md Arshad, C.S. Fatt, Development of CISFET based biosensor for biomedical Application. In Abs Proc. Int. Symp. Olfaction Electronic Noses, St Petersburgs, Russia, 2007: pp. 176-177.

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317. 2005 M.K. Md. Arshad, I. Ahmad, A. Jalar, U. Hashim. The Effect of Temperature, pH and Exposure Time to Electroless Nickel Deposition for Under Bump Metallurgy (UBM). Proceeding of International Advanced Technology Congress-ATCi 2005. Conference on Advanced Material 2005. Putrajaya, Malaysia, Dec 6-8, 2005: pp. 297-301.

318. 2004 M.K. Md. Arshad, G. Omar, I. Ahmad, A. Jalar, S.H. Abdullah, M. Mohd Salleh. The Surface Characteristics of Under Bump Metallurgy (UBM) in Electroless Nickel Deposition. Proceeding of 6th International Conference Electronic Materials and Packaging (EMAP 2004), Penang, Malaysia, Dec 2004. pp. 175-181.

319. 2004 S.H. Abdullah, G. Omar, I. Ahmad, A. Jalar, M.K. Md Arshad, M. Mohd Salleh. The Effects of Solder Die Attach Process Integrity on Copper Leadframe in the Absence of Benzotriazole (BTA) Coating. Proceeding of 6th International Conference Electronic Materials and Packaging (EMAP 2004), Penang, Malaysia, Dec 2004: pp. 257-261.

NATIONAL CONFERENCE / PROCEEDING (FULL ARTICLE)

320. 2008 Chin Seng Fatt, Uda Hashim and Mohd Khairuddin Bin Md Arshad. Design, Fabrication and Characterization of ISFETs Using N-Well CMOS Technology for pH Measurement. UniMAP-PSU Research Collaboration Seminar. pp. 13. 30 August 2008.

321. 2008 U. Hashim, M.K. Md Arshad, C.S. Fatt, Modelling of metal-insulator-semiconductor for silicon nitride ISFET fabrication. Proceeding of Malaysia Technical Universities conference on Engineering and Technology, Kangar, Perlis, Malaysia, 2008: pp. 94-96.

322. 2007 Uda Hashim, Chin Seng Fatt, Mohd Khairuddin Md Arshad. Low Cost Mask Processing Technology Concept for Large Dimension ISFET Fabrication 2017 IEEE Regional Symposium on Micro and Nanoelectronics (RSM), Batu Ferringhi, 2017, pp. 227-230, doi: 10.1109/RSM.2017.8069158.

323. 2007 Uda Hashim, Rizalafande Che Ismail, Mohd Khairuddin Md Arshad, Sohiful Anuar Zainol Murad, Microelectronics Teaching Environment at the Universiti Malaysia Perlis. Proceeding of 2nd Regional Conference on Engineering Education. Persada Johor International Convention Centre, Johor Bahru, Malaysia. 3-5 December 2007: pp. 51 – 55.

324. 2007 C.S. Fatt, U. Hashim, M.K. Md Arshad, Development of N-Well CMOS Process in a University Microfabrication Laboratory. Proceeding of 2nd Regional Conference on Engineering Education. Persada Johor International Convention Centre, Johor Bahru, Malaysia. 3-5 December 2007: pp. 51 – 55.

325. 2007 M.K. Md Arshad, R. Che Ismail, S.A. Zainol Murad, M.N. Md Isa, U. Hashim, Z. Sauli, The Curriculum Structure for Diploma in Microelectronic Engineering : A New Approach. Proceeding of AEESEAP Regional Symposium on Engineering Education 2007. Faculty of Science, University of Malaya, Kuala Lumpur, 14th Feb. 2007 : pp. 37 – 40.

326. 2007 S.A.Z. Murad, M.H. Ismail, M.N. Md Isa, M.K. Md Arshad, R. Che Ismail, Z. Sauli and U. Hashim, KUKUM's Industrial Training Evaluation. Proceeding of AEESEAP Regional Symposium on Engineering Education 2007. Faculty of Science, University of Malaya, Kuala Lumpur, 14th Feb. 2007 : pp. 84 – 89.

327. 2006 Uda Hashim, Mohd Khairuddin Md Arshad and Chin Seng Fatt. 2006. Simulation of NMOS in Standard CMOS Process using Synopsys' TSUPREM-4 and MEDICI. Proceeding Abstract 1st Malaysia Technical University Colleges Annual Conference on Engineering and Technology. 19-20 Dec 2006. Batu Pahat, Johor. pp 50.

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Science & Technology: Application in Industry & Education. Universiti Teknologi MARA, Pulau Pinang. 2006: pp. 1096 – 1099.

329. 2005 M.K. Md. Arshad, H.Aris and F.Abu Bakar. The Study of IC Decapsulation in Semiconductor Plastic Package. Journal Solid State Science & Technology Letters (abstract). Volume 12. No. 1 (Suppl.), 2005: pp. 19.

330. 2005 Uda Hashim, Zul Azhar Zahid Jamal, KC Phang, Mohammad Nurzaihan, Nurhamidah Abdul Halim, Mohd Khairuddin and Haffiz Abd Razak. 2005. Design and Construction Of A New Cleanroom For Teaching Microelectronics Undergraduate: KUKUM Experience. Proceeding Konvensyen Teknologi Pendidikan Ke-18. Kuala Terangganu, Terengganu. ISBN 983-42733-0-4. pp. 205-214.

331. 2005 M.K. Md Arshad, U. Hashim, Z. Jamal, H. Aris, F. Abu Bakar, KC Phang. Decapsulation of Semiconductor Plastic Packages: Concentrated vs Fuming HNO3. Proceeding of 2005 IEEE National Symposium on Microelectronics, Kuching, Sarawak. Malaysia,21st -24th Nov 2005: pp. 24-27.

332. 2004 M.K. Md Arshad, I. Ahmad, A. Jalar, G. Omar, S.H. Abdullah, M. Mohd Salleh. Nov 2004. Characterization of the Bond Pad Opening Surfaces in Electroless Nickel Deposition of Under Bump Metallurgy (UBM). Proceeding of 1st Metallurgical Conference, Bangi, Selangor. Malaysia, Nov 2004: pp. 54-63.

333. 2003 Uda Hashim, Norina Idris, Yufridin Wahab, Zul Azhar Zahid Jamal, Zaliman Sauli, Mohammad Nuzaihan, Nurhamidah Abd Hamid, Rizalafande Che Ismail, Mohd Khairuddin Md. Arshad. Microelectronics Engineering Curriculum Development for Undergraduate Study. Proceeding of 2003 IEEE National Symposium on Microelectronics (NSM 2003), Perlis, Malaysia, Sept 2003: pp 252-258.

334. 2003 Uda hashim and Mohd Khairuddin Md Arshad. Swing Curve Evaluation of 1.2um Photoresist Thickness for Photolithography Process Optimization. Proceeding of IEEE National Physics Conference 2003, Pahang Malaysia, Sept 2003: pp. 71-75.

335. 2003 Uda Hashim, Mohd Khairuddin. Photoresist Thickness Optimization Using Swing Curve Method. Proceeding of 2003 IEEE National Symposium on Microelectronics (NSM 2003), Perlis, Malaysia, Aug 2003: pp 278-282.

ABSTRACT / POSTER PRESENTATION

336. 2006 M.K. Md Arshad. Electroless Nickel Immersion Gold (ENiG) Under Bump Metallurgy. Poster Presentation at 3rd Intel Asia Academic Forum, 13-15th Nov 2006, Organized by Intel (M) Sdn. Bhd. The Regent Kuala Lumpur.

N. PERSONAL DEVELOPMENT

CONFERENCE / SHORT COURSE: ATTENDED / PARTICIPANT / PRESENTER

1.	16 Dec 2022	Mxene Course: From Fundamentals to applications by Prof Yury Gogotsi. Sunway University.
2.	13-15 Dec 2022	1st International Conference on Emerging Materials for Sustainable Energy and Environment 2022 (EMSEE2022), Sunway Resort Hotel, Malaysia
3.	22 – 23 Sept 2022	Joint International Conference on Nanoscience & Nanoengineering, Perlis, Malaysia
4.	22-24 Sept 2021	IEEE International Conference on Sensors & Nanotechnology 2021 (IEEE SENNANO 2021). Virtual Conference
5.	18 -20 May 2020	Internationalization of higher education during the COVID-19 crisis. Tehran University of Medical Sciences. Online Conference.
6.	8th – 9th Oct 2019	IEEE International Microwave, Electron Devices, Solid-State Circuit Symposium (IMESS 2019). Organized by IEEE Penang ED/MTT/SSC Joint Chapter, PSDC, Penang.
7.	24th-25th July 2019	IEEE International Conference on Sensors & Nanotechnology (IEEE Sensors and Nano 2019) Bayview Beach Resort, Batu Ferringhi, Pulau Pinang.
8.	9th – 10th Oct 2018	IEEE International Microwave, Electron Devices, Solid-State Circuit Symposium (IMESS 2018). Organized by IEEE Penang ED/MTT/SSC Joint Chapter, PSDC, Penang.
9.	4th – 5th Oct 2017	IEEE International Microwave, Electron Devices, & Solid-State Circuits Symposium. Organized by IEEE Penang ED/MTT/SSC Joint Chapter. PSDC Penang.
10.	10th – 11th July 2017	Graphene Malaysia 2017, Graphene International Conference. Organized by Phantoms Foundation and NanoMalaysia. DoubleTree by Hilton Kuala Lumpur, Malaysia
11.	29th - 30th April 2017	International Conference on Green Design and Manufacturing (GDM 2017) & Electronic Green Materials (EGM 2017). Ibis Style Hotel, Krabi, Thailand. Oral presentation
12.	19th March 2017	2nd National Seminar on Sensor 2017. Organized by Persatuan Pembangunan Teknologi Sensor Malaysia. Langkawi Research Centre, Institute for Environment, Universiti Kebangsaan Malaysia, Langkawi. Oral presentation

13. 17th – 19th Aug 2016 — The 2016 IEEE International Conference on Semiconductor Electronics (ICSE2016), Pullman Hotel Bangsar, Kuala Lumpur, Malaysia. Oral presentation
14. 11th -12th Aug 2016 — The 3rd International Conference on Electronic Design, Phuket Graceland Resort & Spa, Phuket, Thailand. Oral presentation
15. 01st -02nd May 2016 — International Conference on Electronic and Green Materials (EGM 2016), Royal Phuket City Hotel, Phuket, Thailand. Presenter
16. 16th – 18th Nov. 2015 — 11th Asian Conference on Chemical Sensors (ACCS 2015), Rasa Sayang Resort – Shangri La, Penang, Malaysia.
17. 19th – 21st Aug. 2015 — 2015 IEEE Regional Symposium on Micro and Nanoelectronics (IEEE – RSM 2015), Primula Beach Hotel, Kuala Terengganu, Malaysia. Oral presentation
18. 31st July – 1st August 2015 — International Conference on Electronic Green Materials (EGM 2015), Swiss-Belinn Manyar, Surabaya, Indonesia. Oral presentation
19. 4th – 5th Dec 2014 — The 3rd International Conference on Advanced Materials Engineering & Technology (ICAMET 2014), Duxton Hotel, Ho Chin Minh City, Vietnam. Oral presentation
20. 27-29th August 2014 — 2014 IEEE International Conference on Semiconductor Electronics, Berjaya Times Square, Kuala Lumpur. Oral presentation
21. 27 – 30th May 2014 — 24th Anniversary World Congress on Biosensors (Biosensors 2014), Melbourne Convention Centre, Melbourne, Australia
22. 25 – 27th Sept 13 — 9th IEEE Regional Symposium on Micro and Nano Electronics (IEEE – RSM2013), Organized by Electron Devices Society, Malaysia at Holiday Villa Beach Resort & Spa, Langkawi, Malaysia. Oral Presentation
23. 22nd 23rd Jan 2013 — 9th Workshop of the Thematic Network on Silicon on Insulator Technology, devices and circuits (EuroSOI 2013) Conference, Faris, France. Oral presentation
24. 23-25th Jan. 2012 — 8th Workshop of the Thematic Network on Silicon on Insulator Technology, devices and circuits (EuroSOI 2012) Conference, Montpellier, France. Oral presentation
25. 16 -18th Jan 2012 — 12th Topical Meeting on Silicon Monolitic Integrated Circuits in RF Systems (SiRF 2012), Santa Clara, California, USA. Poster presentation
26. 17-19th Jan 2010 — 11th International Ultimate Integration of Silicon (ULIS 2010) Conference, University of Glasgow, Glasgow, Scotland. Oral presentation
27. 15-17th March 2008 — 7th ECS-International Semiconductor Technology Conference (ISTC 2008), Shanghai, China. Oral presentation
28. 3rd -5th Dec 2007 — 2nd Regional Conference on Engineering Education (RCEE 2007) at Persada Johor International Convention Centre, Johor Bahru, Johor, Malaysia. Oral presentation
29. 14th Feb 2007 — AEESEAP Regional Symposium on Engineering Education, Universiti Malaya, Kuala Lumpur, Malaysia. Oral presentation
30. 29th Nov – 1st Dec 2006 — IEEE International Conference on Semiconductor Electronics (ICSE 2006), Organized by Electron Devices Society, Malaysia at Prince Hotel, Kuala Lumpur, Malaysia. Oral presentation
31. 14-15th Nov 2006 — Intel Asia Academic Forum, Regent Hotel, Kuala Lumpur. Poster presentation
32. 7 -10th Nov 2006 — 31st International Conference on Electronics Manufacturing and Technology (IEMT 2006), Sunway Hotel, Kuala Lumpur, Malaysia. Oral presentation
33. 18th – 21st Dec 2005 — The XXII Regional Conference on Solid-State Science and Technology. Hyatt Regency Kuantan, Pahang, Malaysia. Oral presentation
34. 6 – 8th Dec 2005 — International Conference on Advanced Materials & International Advanced Technology Congress. Putrajaya Marriot Hotel, Malaysia. Oral presentation
35. 7-9 Dec 2004 — International Conference on Semiconductor Electronics (ICSE 2004), Organized by Electron Devices Society, Malaysia at Kuala Lumpur, Malaysia. Oral presentation
36. 5- 7th Dec 2004 — 6th International Conference Electronic Materials and Packaging (EMAP 2004), Penang, Malaysia. Oral presentation
37. 10- 11th August 2004 — Seminar Siswazah Fakulti Kejuruteraan, Universiti Kebangsaan Malaysia. ESSET KWSP, Bangi, Selangor. Oral presentation

TECHNICAL TRAINING/ATTENDED TALKS / ATTENDED WORKSHOP

38. 11th July 2019 (10.00 – 12.00 noon) — Taklimat proses akreditasi dan piagam pelangggan baru: Malaysian Qualification Agency (MQA). AlBukhary International University.
39. 13th June 2019 (9.00 – 5.00 pm) — ETAC Panel Training (Conversion). Bengkel Anjuran Majlis Akreditasi Teknologi Kejuruteraan (ETAC), Jab. Akreditasi, Lembaga Jurutera Malaysia, Menara Kelana Parkview, PJ Selangor.

40.	15th – 17th March 2019	Bengkel Pembangunan Set Kompetensi Kepimpinan ke Arah Mencemerlangkan Bakat UniMAP 2025. Anjura Pusat Pembangunan Kepimpinan Pendidikan Lestari (LEAD). The Jerai Hotel, Sg. Petani, Kedah.
41.	18th Sept 2018 (9.00 – 5.00 pm)	Semiconductor in life-Sciences Symposium. Organized by SilTerra and Supported by IMEC. Bangunan U.A.B, Georgetown, Penang, Malaysia.
42.	20th Aug. 2019 (9.00am – 12.00 pm)	Application of Nanotechnology in Industries, Prof. Vladimir Falko (Director of the National Graphene, Institute University of Manchester, UK), Auditorium B, Lower Ground Sains @ USM, Pulau Piang
43.	4th July 2018 (9.00 am – 5.00 pm)	Taklimat COPPA Instrument & MQF 2.0 kepada panel penilai MQA. Pullman Putrajaya Lakeside.
44.	7th August 2017 9.00 am – 12 noon	Electrochemical preparation of oxide semiconductors and the applications to electronic devices. Prof. Izaki Masanobu (Toyohashi University of Technology, Japan), at DPU 1, School of Manufacturing Engineering, Universiti Malaysia Perlis, Pauh Putra, Kangar, Perlis.
45.	21st July 2017 10.00 am – 12.00 noon	Rethinking Academic vs Industry Research Talk by Dr Shahrul Yazid, Research and Development Manager, Intel. Bilik Seminar 2, School of Microelectronic Engineering, Universiti Malaysia Perlis.
46.	2 – 3 May 2017	The IEM PI Training and Certification Workshop Programme at Bilik Seminar Angsana, Pusat Latihan MADA, Alor Setar Kedah . Organized by IEM Kedah/Perlis.
47.	24th Feb 2017 (6.30 – 8.30 pm)	Technical Talk on Overview of IC Packaging Concepts (Materials and Methods). Organized by IEM Penang, IEEE EDS Penang Chapter. Penang Skills Development Center (PSDC).
48.	25th Jan 2017 (9.00 am – 12noon)	Talk by Registrar Board of Engineer Malaysia, Title: Amendments to the registration of engineers act 1967. Dewan Kuliah 7, Pauh Putra, Arau, Perlis
49.	15th – 17th Dec 2016	2016 RBS International Workshop on Biocompatible Nanomaterials and Nanodevices for Bio-Medical Applications, Organizers (UTM, Toyo University & Akademi Sains Malaysia) Venue: Razak Tower, Universiti Teknologi Malaysia, Kuala Lumpur.
50.	19th Oct. – 21st Oct 2016 (9.00 am – 5.00 pm)	Bengkel Jaminan Kualiti – Latihan Kod Amalan untuk Akreditasi Program dan Hasil Pembelajaran. Organized by Malaysian Qualification Agency (MQA), Dewan Utama MQA, Tingkat 12A Menara PKNS-PJ, 46050 Petaling Jaya, Selangor.
51.	23rd August 2016 (8.00 am – 5.00 pm)	Workshop on Malaysian Code of Responsible Conduct in Research (MCRCR). MiGHT Building, 3517, Jln Teknorat 5, 63000 Cyberjaya
52.	20th April 2016 (8.30 am – 12.00 n)	Seminar on Miniaturized Electrochemistry: New Innovative Tools for a Cutting-Edge Electroanalytical Research by Dr David Hernandez Santoz. Pearl View Hotel, Penang.
53.	8th March 2016 (9.00 am – 12.00 n)	International Academic Lecture 2016 by R. Piotr Kolenderski (Poland), Title: Quantum Communication with Single Photons, at Auditorium Perpustakaan Tuanku Syed Faizuddin Putra, Kampus Pauh.
54.	12th Jan 2016	Technical visit to Kuala Lumpur Air Traffic Control Centre (KL ATCC), Subang. Organized by Institute of Engineer Malaysia (IEM).
55.	14-16th Dec 2015	EAC New Panel Evaluators Workshop. Hotel Grand Dorset Subang. Organized by Lembaga Jurutera Malaysia (BEM).
56.	29th July 2015	Colloqium on Nanotechnology in detection and control of ganoderma boninense (CONGRAB 2.0), RHR Hotel, UNITEN, Malaysia. Organized by Institute of Advanced Technology, Universiti Putra Malaysia.
57.	1st April 2015	Industrial Working visit to Perlis Power Plant. Organized by Unit Kelayakan dan Akreditasi UniMAP in collaboration with Board of Engineers Malaysia and Global E-Technic Sdn. Bhd.
58.	28th – 29th Jan 2015	Bengkel Penulisan Geran by Prof. Dr. Abdul Latif Ahmad. Kampus Universiti Malaysia Perlis, Pauh Putra.
59.	21st Jan 2015	Syarahan Penyelidikan by 1: Prof. Dr. Abdul Latif Ahmad : Beyond Boundaries, Beyond Expectation. 2: Prof. Dr. Uda Hashim : From Lab to market at Auditorium Perpustakaan Tuanku Syed Faizudin, Kampus Universiti Malaysia Perlis, Pauh Putra
60.	8th – 9th January 2015	Seminar Pengkomersilan by (Dato' Ghazali Dato' Mohd Yusoff, Prof. Dato' Wira & Prof. Ir. Dr Mohd Jailani Mohd Nor) & Syarahan Penyelidikan by (Prof. Ir. Dr Mohd Jailani Mohd Nor) at Auditorium Perpustakaan Tuanku Syed Faizudin, Kampus Universiti Malaysia Perlis, Pauh Putra.
61.	20th October 2014	Board of Engineers Malaysia Road Show 2014/2015 'Staying Relevant', Hotel Equatorial Penang.

62. 18th Dec 2013 — Talk on route to become professional engineer (PE) & Chartered Engineered (C.Eng) organized by UNIKA, UniMAP at Bilik Seminar Kechor 1, UniMAP.
63. 22nd -23rd Oct 2013 — BEM Mandatory Course: Safety and Health at Works, UniMAP, Bilik Seminar Tun Mahathir, Seriab, Kangar, Perlis
64. 24th Sept 2013 — Short Course organized by IEEE EDS Distinguished Lectures:
    1. Prof. Dr. Albert Chin from National Chiao-Tung University, Taiwan: Low Power Green Electronic Devices
    2. Prof. Dr. Hei Wong from City University of Hong Kong: Silicon Photonics for Microelectronic on-chip optical interconnects

    at School of Microelectonic Engineering, Kampus Pauh, Arau Perlis, Malaysia
65. 22nd August 2013 — Talk by Prof Karl Kohlof, Economy and Teaching in the field of Nanotechnology at Dewan Keikhlasan, Tingkat 10, KWSP, Kangar, Perlis
66. 29th July 2013 — Talk by Prof. Dr. Muhammad Fauzi Mohd Zain on FRGS Grant Application: Do and Don't at Dewan Kuliah 6, Kampus Pauh Putra, UniMAP, Perlis
67. 8- 9th July 2013 — BEM Mandatory Course: Engineering Management, UniMAP, Bilik Seminar Tun Mahathir, Seriab, Kangar, Perlis
68. 23rd May 2013 — Talk on Route to Professional Engineer, by Ir. Ramli Bin Haji Hitam (BEM) at Dewan Kuliah 1, Kampus Pauh Putra, Perlis.
69. 29 – 30th April 2013 — BEM Mandatory Course: Code of Ethics / Regulations, UniMAP, Bilik Seminar Tun Mahathir, Kangar, Perlis
70. 4th June 2012 — Short Course and Colloqium on Electron Devices, IMEC, Leuven, Belgium.
71. 23rd Jan 2012 — Short Course on Advanced SOI Technology (EuroSOI 2012), Montpellier, France.
72. 2nd – 6th May 2011 — Short Course on Nanoscale CMOS Process Technology, IMEC, Leuven.
73. 25th March 2010 — Workshop on Silicon Nanowires. Univesité catholique de Louvain, Belgium.
74. 5th – 9th October 2009 — Short Course on Nanoelectronic modelling – electronic structure and transport at the atomic scale. Universita' di Pisa, Via Caruso 16, Pisa, Italy.
75. 17th March 2009 — Short Course on Exploration of Sub-45 nm CMOS for Analog, RF and mm-wave Applications. IMEC, Leuven.
76. 12th – 14th Nov 2008 — Short Course on Bottom-Up and Top-Down Nanotechnology, IMEC, Leuven.
77. 21st April 2008 — Talk by Prof. Dr. Halimaton Hamdan. Nanotechnology in Malaysia: The way forward at Dewan Keikhlasan, Tingkat 10, Bgn KWSP, UniMAP, Kangar, Perlis
78. 24th August 2007 — Talk by Prof. Dr. Vijay K. Arora. Human Power Development in Nano-engineering: Malaysia and World Perspective. Dewan Kapitol, UniMAP, Kangar Malaysia.
79. 8th March 2007 — Talk by Prof. Jack Singh. Wireless System Design, Bilik Seminar KIK, UniMAP, Kangar, Perlis, Malaysia
80. 2nd Dec 2007 — Global Accreditation Challenges Towards The Washington Accord Path, Grand Bluewave Hotel, Shah Alam, Malaysia.
81. 20 -21st Nov 2007 — Outcome Based Approach: Monitoring & Assessment, Equatorial Hotel, Kuala Lumpur, Malaysia.
82. 8th Nov 2006 — Short Course on Thermal Test Methods for Integrated Circuits. Organized by IEEE Component, Packaging and Manufacturing Technology (CPMT) Malaysia Section at Sunway Hotel, Kuala Lumpur, Malaysia.
83. 8th Nov 2006 — Short Course on Emerging Technology in IC Packaging. Organized by IEEE Component, Packaging and Manufacturing Technology (CPMT) Malaysia Section at Sunway Hotel, Kuala Lumpur, Malaysia.
84. 5th Sept 2005 — Short Course on Semiconductor Advanced Packaging. Jointly - Organized by IEEE - CPMT Malaysia Chapter with ON Semiconductor at Holiday Villa Subang, Kuala Lumpur, Malaysia.
85. 15th June 2005 — Talks by Prof. Sudhanshu Shekar Jamuar. Low Voltage, Low Power Analog Circuit Design.
86. 1st July 2004 — Short Course on Recent Advance on Focused Ion Beam (FIB) in Biology and Materials Sciences. Organized by Unit Instrumentasi PPP, Universiti Kebangsaan Malaysia & Persatuan Mikroskopi Elektron Malaysia, Bilik Majlis, Bangunan Pentadbiran, Universiti Kebangsaan Malaysia.
87. 7th April 2004 — Modern Sample Preparation and Color Etching incorporating Microhardness Testing. Organized by Institute of Material Malaysia (IMM). Dayabumi, Kuala Lumpur.
88. 29 Sept – 3 Oct 2003 — Introduction to Verilog, Kubang Gajah, Arau Perlis, Malaysia.
89. 24 – 26th April 2000 — Short course on Creative Problem Solving & Decision Making. In company programme for Agilent Technologies (M) Sdn. Bhd. Penang.
90. 2-3 Sept 1996 — Basic Safety Training Programme, Pernas OTIS elevator Sdn. Bhd. Damansara Kuala Lumpur, Malaysia.

NON-TECHNICAL TRAINING ATTENDED

91.	14th Dec 2017	Wisdom fair: Speak your mind, organized by Majlis Professor UniMAP. Talk by En. Muhammad Izmer Yusof, Title: Baitulmaqdis milik Israelkah?
92.	07 Oct 2016	Wisdom fair: Speak your mind, organized by Majlis Professor UniMAP. Talks by: - Dr Syed Zulkarnain Syed Idrus Al-Sagoff, title: My French Experience: Le Partage de la Memoire and - Prof. Ir. Dr. Rezuwan Kamaruddin Title: Lonjakan 4: Graduan TVET berkualiti.
93.	23 Sept 2016	Wisdom fair: Speak your mind, organized by Majlis Professor UniMAP. Talks by: - Dr Noormaizatul Akmar Bt Ishak, title: Strategic Leadership: Knowledge management and the art of thinking clearly. - -Prof. Dr. Uda Hashim, Title: Research dilemma among academic staff: toward publication or commercialization?.
94.	06 – 08th March 13	Bengkel Seminar Peraturan Akademik Pengajian Siswazah bagi mod campuran dan kerja kursus, Hotel Seri Malaysia, Kangar, Malaysia.
95.	25 – 29th Oct. 2007	Kursus Kenegaraan Sistem Saraan Malaysia, Biro Tatanegara, Jabatan Perdana Menteri. Ulu Sepri, Negeri Sembilan, Malaysia
96.	6 – 11th Sept 2007	Promotion: Malaysia Education Fair in Jakarta and Makassar, Indonesia.
97.	25th March 2007	Bengkel Kaedah Penyelidikan, Kompleks Pentadbiran Kechor, Kangar, Perlis
98.	June 2006	Kursus Asas Pengajaran dan Pembelajaran (7-9,12-13, 22-23,26,28 & 30 June 2006), Kompleks Pentadbiran KUKUM Kechor Indah, Kangar, Perlis, Malaysia.
99.	3-4th Oct 2005	Kursus Kemahiran Kaunseling Staf Akademik, KUKUM, Hotel Seri Malaysia, Alor Setar, Kedah
100.	22th Oct – 5th Nov 2003	Kursus Induksi Umum (Pengurusan & Professional dan Sokongan I), Pusat Kejuruteraan KUKUM, Kuala Perlis
101.	8 -10th May 2003	Kursus Pengajaran Berkesan, Pusat Kejuruteraan KUKUM, Kuala Perlis

O. INTELECTUAL PROPERTY

1.	2023	Modified Interdigitated Microelectrodes for Prostate Cancer's Biomarker Detection (IP)
2.	2018	A Floating gate flash memory cell. PI 2018704020 (Patent Filing)
3.	2015	Asymmetrical Double Gate Ultra-Thin SOI MOSFETs. 2 March 2015. Malaysia Patent Application No. PI 2015700349 (Patent Filing).
4.	Jan 2014	Assymetrical double gate: significant improvement in ultra-scaled SOI MOSFETs - S/UNIMAP/14MY40/GM (Patent Novelty Search)

P. REFEREES

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