

# CURRICULUM VITAE

## PROF. IR. DR. SRIMALA SREEKANTAN

Lecturer

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Researcher ID : C-6211-2012

Scopus ID : 24077614000



## ACADEMIC/PROFESSIONAL QUALIFICATION

| Year | Degree                    | Discipline                                | University                                                                                                                        |
|------|---------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| 2019 | IMIEA                     | International Entrepreneurial Recognition | International Entrepreneurs Association (IEA, UK)                                                                                 |
| 2014 | IR                        | Materials Engineering                     | Board of Engineer, Malaysia                                                                                                       |
| 2013 | Chartered Engineer        | Materials Engineering                     | Engineering Council, United Kingdom                                                                                               |
| 2006 | Doctor of Philosophy Ph.D | Materials Engineering                     | School of Material and Mineral Resources Engineering, USM with Materials Engineering Department, University of Sheffield (1 year) |
| 2002 | MSc. (by research)        | Materials Engineering                     | School of Material and Mineral Resources Engineering, USM                                                                         |
| 1999 | B.Eng. (Hons)             | Materials Engineering                     | School of Material and Mineral Resources Engineering, USM                                                                         |

## WORK EXPERIENCE

| Year           | Position                                                                                                                   | Field of Work          | Place of Work                                                        |
|----------------|----------------------------------------------------------------------------------------------------------------------------|------------------------|----------------------------------------------------------------------|
| 2021 - current | Director of Centre of Innovation & Commercialization                                                                       | Management             | Canselor II, Universiti Sains Malaysia, Main Campus, USM             |
| 2020 - current | Director of De Eco SR Hygiene                                                                                              | Spin Off-Business      | Science & Engineering Research Centre (SERC) Engineering Campus, USM |
| 2015 - current | Professor C (VK7)                                                                                                          | Education and Research | School of Material and Mineral Resources Engineering, USM            |
| 2010 - 2015    | Associate Professor (DS 54)                                                                                                | Education and Research | School of Material and Mineral Resources Engineering, USM            |
| 2008 - 2010    | Senior Lecturer (DS 52)                                                                                                    | Education and Research | School of Material and Mineral Resources Engineering, USM            |
| 2006 - 2008    | Lecturer (DS 45)                                                                                                           | Education and Research | School of Material and Mineral Resources Engineering, USM            |
| 1999 - 2006    | Fellow of Universiti Sains Malaysia Academic (USM Tutor and Lab Assistant) under Academic Staff Training Scheme Fellowship | Research               | School of Material and Mineral Resources Engineering, USM            |

|             |                                                                                                                          |          |                                               |
|-------------|--------------------------------------------------------------------------------------------------------------------------|----------|-----------------------------------------------|
| 2003 - 2004 | Worked on the conductivity of semiconducting NiO and electrical microstructure modelling work in various heat treatments | Research | Materials Department, University of Sheffield |
|-------------|--------------------------------------------------------------------------------------------------------------------------|----------|-----------------------------------------------|

#### ATTACHMENT WITH OTHER INSTITUTE AND INDUSTRIES

| Year     | Position                                                               | Field of Work                                             | Place of Work                           |
|----------|------------------------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------|
| Oct 2007 | Visiting Lecturer of Collaborative Research Project                    | Research on Magnetic Materials                            | Tokyo Institute of Technology (TIT)     |
| Jan 2008 | Visiting Lecturer of Collaborative Research Project                    | Research on Photocatalyst                                 | Nagaoka University of Technology, Japan |
| Aug 2012 | Visiting Lecturer for Project to Form A Hub With Pacific Rim Countries | Research on Photocatalyst                                 | Nagaoka University of Technology, Japan |
| Oct 2009 | Project Leader                                                         | Industrial Research on Surface Modifications Ti Implants  | Straits Orthopaedics, Malaysia          |
| Jan 2013 | Project leader                                                         | Industrial Research on Antimicrobial Polymer for Catheter | BBraun Medical Industries               |
| Feb 2014 | Project Leader                                                         | Technology Transfer                                       | AnanoSphere Sdn. Bhd.                   |
| Mei 2017 | Sabbatical Attachment - Research                                       | Antimicrobial Surface and Effluent Treatment              | Ananosphere Sdn. Bhd.                   |
| Jan 2019 | Consultant                                                             | Testing & Technical Advisor                               | QDOS Flexcircuits Sdn. Bhd.             |
| Mei 2019 | Consultant                                                             | Testing & Technical Advisor                               | QDOS Interconnect Sdn. Bhd.             |
| Aug 2019 | Project Leader                                                         | Biodegradable Polymer                                     | Fragstar Corporation Sdn. Bhd.          |

#### AREAS OF INTEREST

- Nanomaterials for Environmental, Energy and Biomedical Application,
- Nanocoating
- Nanotechnology
- Advanced Materials

#### TEACHING EXPERIENCE

| No. | Course Code                                   | Course Name |
|-----|-----------------------------------------------|-------------|
| 1.  | Engineering Materials                         | EBB113      |
| 2.  | Engineering Materials Introduction Laboratory | EBB155      |
| 3.  | Engineering Physical Chemistry of Materials   | EBB160      |
| 4.  | Materials Characterization Laboratory         | EBB204      |
| 5.  | Materials Thermodynamic                       | EBB236      |
| 6.  | Characterization of Engineering Materials     | EBB245      |
| 7.  | Computer Methods for Engineer                 | EBB250      |
| 8.  | Microscopy Laboratory                         | EBB325      |
| 9.  | Nanomaterials                                 | EBB339      |
| 10. | Characterization of Engineering Materials     | EBB343      |
| 11. | Fluid Power and Machinery                     | EBB409      |
| 12. | Ceramic Technical                             | EBB443      |
| 13. | Phase Diagram and Equilibrium                 | EBB512      |
| 14. | Ceramic Processing                            | EBB523      |

## PROFESSIONAL QUALIFICATION / MEMBERSHIP

1. Recipient of 10th National Academic Award for Product Innovation and Commercialization (2017)
2. Top Research Scientists in Malaysia 2016
3. Great Women of Our Time 2016 for Science & Technology
4. Member of International Society of Electrochemistry, (2013-present) Member ID 12281
5. Member of American Chemical Society, (2013-present) Member No: 30573555
6. Member of Institution of Mechanical Engineer, UK- Chartered Engineer (2013-present)
7. Professional Engineer (IR) from Board of Engineers Malaysia (2014-present)
8. Member of The Institute of Materials Malaysia (2000-present)
9. Member of Board of Engineers Malaysia (2000-present)
10. Graduate of IEM, membership No: 37287
11. International Membership of IEA (IMIEA), UK (2019-present), Membership No=60-01-IMIEA-6078

## PUBLICATIONS (2010 - 2022)

### Book Chapter Authored

1. Srimala Sreekantan, 2019, Nano TiO<sub>2</sub> for Biomedical Applications, in (Nanotechnology: Applications in Energy, Drug and Food), Springer
2. KA Saharudin, Srimala Sreekantan, Rabiatal Basria S.M.N.Mydin, 2019, Nanotechnology: Applications in Energy, Drug and Food, in (Nano TiO<sub>2</sub> for Biomedical Applications), Springer
3. Rabiatal Basria S.M.N.Mydin , Roshasnorlyza Hazan , Mustafa Fadzil Bin Farid Wajidi , Srimala Sreekantan, 2018, Chapter 23, Titanium Dioxide Nanotube Arrays for Biomedical Implant Materials and Nanomedicine Application, in (Titanium Dioxide: Materials for Sustainable Environment, INTECH), IntechOpen,
4. Khairul Arifah Binti Saharudin, Srimala Sreekantan, Rabiatal Basria S.M.N.Mydin, Norfatehah Basiron, Warapong Krengvirat, 2018, Chapter 6, Factor Affecting Geometry of TiO<sub>2</sub> Nanotube Arrays (TNA) in Aqueous and Organic Eelectrolyte, in (Titanium Dioxide: Materials for a Sustainable Environment, INTECH), IntechOpen,
5. K. A. Saharudin, S. Sreekantan, R.B.S.N.M. Mydin, Siti Nor Qurratu Aini Abd Aziz, G Ambarasan Govindasamy, 2018, Nano TiO<sub>2</sub> for Biomedical Applications, in (Nanotechnology: Applications in Energy, Drug and Food), Springer
6. Khairul Arifah Binti Saharudin, Srimala Sreekantan, Rabiatal Basria S.M.N.Mydin, Norfatehah Basiron, Warapong Krengvirat, 2018, Chapter 6, Factor Affecting Geometry of TiO<sub>2</sub> Nanotube Arrays (TNA) in Aqueous and Organic Eelectrolyte, in (Titanium Dioxide: Materials for a Sustainable Environment, INTECH), IntechOpen,
7. K. A. Saharudin, S. Sreekantan, R.B.S.N.M. Mydin, Siti Nor Qurratu Aini Abd Aziz, G Ambarasan Govindasamy, 2018, Nano TiO<sub>2</sub> for Biomedical Applications, in (Nanotechnology: Applications in Energy, Drug and Food), Springer
8. S. Sreekantan, K. A. Saharudin, Nyein Nyein, Z. Lockman, 2018, Titanium Dioxide Nanotube Arrays for Solar Harvesting Applications to Address Environmental Issues, in (1-Dimensional Metal Oxide Nanostructures: growth, properties and devices), CRC Press New York
9. Ong Jing Hui, Noor Izah Shoparwe, S.A. Rezan, Norlia Binti Baharun, Srimala Sreekantan, Ahmad Fauzi Bin Mohd Noor, 2017, 8th International Symposium on High Temperature Metallurgical Processing, in (Effect of Carbon Reductant on the Formation of Copper Doped Titanium Oxycarbonitride by Carbothermal Reduction and Nitridation), Springer, 237-250
10. Azlan, U. A.-A., Noor, A. F. M., Abd, K., Sreekantan, S., & Krengvirat, W. (2012). Chapter 16: Sintering and Characterization of Rare Earth Doped Bismuth Titanate Ceramics Prepared by Soft Combustion Synthesis: INTECH Open Access Publisher.
11. Umar Al-Amani, A., Sreekantan, S., Ahmad Fauzi, M. N., & Razak, K. A. (2012a). "Chapter 4: Current progress in synthesis and properties of doped bismuth titanate for advanced electronic applications", Bismuth: Characteristics, Production and Applications. pp. 123-144.
12. Umar Al-Amani, A., Sreekantan, S., Ahmad Fauzi, M. N., & Razak, K. A. (2012b). "Chapter 5: Synthesis

### Books/Monographs Authored

1. Sreekantan, S., Chand, A. S., Azmi, K. A., Maghribi, M. M., Abdul Jalil, R., Mohamed, R. , Teh, A. Y., Yeoh, F. Y., Sanusi, Z. A. (2012). Blue Ocean Strategy: Insights and Experiences of Universiti Sains Malaysia: Penerbit Universiti Sains Malaysia. pp 169
2. Sreekantan, S, (2011), Basic of student- Supervisor relationship, Institute of Postgraduate Studies, Universiti Sains Malaysia, 10 pages.
3. Sreekantan, S, (2011), Horizon of Innovation: A way to cash in your research, Institute of Postgraduate Studies, Universiti Sains Malaysia, 13 pages.
4. Sreekantan, S, Lockman Z., (2010), Responsible Conduct- Research Integrity, Institute of Postgraduate Studies, Universiti Sains Malaysia, 16 pages.

### Intellectual Properties

#### Patent

1. Srimala Sreekantan, Zainal Arifin Bin Ahmad, Khairul Arifah Saharudin, Roshasnorlyza Hazan, Zainovia Binti Lockman, An Apparatus and Method for Rapid Rate of Titanium Dioxide (TiO<sub>2</sub>) Nanotube Arrays Formation, Malaysia, 31/05/2016- Granted MY157270
2. Ahmad Fauzi Bin Mohd Noor, Alaba Oladeji Araoyinbo, Azizan Bin Aziz, Azmi Bin Rahmat, Srimala Sreekantan, Nanoporous Alumina And Process And System For Producing The Same, Malaysia, 30/01/2014-Granted
3. Khairul Arifah Binti Saharudin, Srimala Sreekantan, Norfatehah Binti Basiron, A Super-Hydrophobic Coating Composition and A Method Thereof, Malaysia, 2018-Granted MY-193721-A
4. Srimala A/p Sreekantan, Ramarao A/I Poliah, A Non-Toxic Nano Crystalline and Stable Disinfectant Coating Of Hybrid Oxide TiO<sub>2</sub>-Mo Composition And Method Thereof, Malaysia, 2022 – Filed
5. Srimala A/p Sreekantan, Rabiatal Basria Binti S.M.N. Mydin, Satisvar A/I Sundera Murthe, A MEDICAL GRADE MONOLAYER FILM AND A METHOD OF PREPARING THE SAME, Malaysia, 2022 – Filed

#### Trademark

1. CACEZ, 2015006713, 12/05/2016
2. myeco POFA Shield, 2018073780, 2018

#### Copyright

1. Srimala A/p Sreekantan, Khairul Arifah Binti Saharudin, Norfatehah Binti Basiron, EnviroShield: A smart self-clean and anti-srick coat, LY2018001232, 29/03/2018
2. Srimala A/p Sreekanta,n Khairul Arifah Binti Saharudin, Norfatehah Binti Basiron, Continuous Flow Adsorption Unit for heavy metals removal, LY2018003501, 10/08/2018
3. Srimala A/p Sreekantan, Khairul Arifah Binti Saharudin, Norfatehah Binti Basiron, Srimala A/p Sreekantan, Batch Flow Photocatalytic oxidation (PCO) Unit for Textile Effluent Treatment, LY2018003500, 10/08/2018
4. Srimala A/p Sreekantan, Khairul Arifah Binti Saharudin, Norfatehah Basiron, 3Zincite-Titania Photocatalyst, LY2018004398, 20/09/2018
5. Srimala A/p Sreekantan , Khairul Arifah Binti Saharudin, Norfatehah Basiron, Bateriostatic 3ZT/LLDPE Nanocomposite, LY2018004397, 20/09/2018
6. Srimala Sreekantan, Norfatehah binti Basiron, Rabiatal Basria binti S.M.N Mydin, Ku Nur Izzati binti Ku Mohamad Faudzi, Polysafe-LLDPE for inactivation of E.Coli, K.Pneumoniae, Shigella Flexneri, S.Aureus, B.Subtilis, B.Cereus, CRLY00019546, 2019
7. Srimala Sreekantan, Norfatehah binti Basiron, Rabiatal Basria binti S.M.N Mydin, Ku Nur Izzati binti Ku Mohamad Faudzi, Polysafe-LLDPE with different wt% of photocatalyst for Bacillus Subtilis ATCC 6633 inactivation, CRLY00019506, 2019
8. Srimala Sreekantan, Norfatehah binti Basiron, Rabiatal Basria binti S.M.N Mydin, Ku Nur Izzati binti Ku Mohamad Faudzi, Polysafe-Polyurethane for inactivation of E.Coli, K.Pneumoniae, Shigella Flexneri, S.Aureus, B. Subtilis and B. Cereus, CRLY00019505, 2019

9. Srimala Sreekantan, Norfatehah binti Basiron, Rabiatal Basria binti S.M.N Mydin, Ku Nur Izzati binti Ku Mohamad Faudzi, Polysafe-Polyurethane with different wt% of photocatalyst for *Bacillus Subtilis* ATCC 6633 inactivation, CRLY00019513, 2019
10. Srimala A/p Sreekantan, Mohammad Hassan, Satisvar A/I Sundera Murthe, ABB-Newly Formulated Asia Blood Bag, LY2020007288, 24/12/2020 – Filed
11. Srimala A/p Sreekantan, Norfatehah Binti Basiron, Yap Saw Yin, RYZOVYLUCKMER-A Natural Fiber-Based Biopolymer, LY2020005175, 23/10/2020
12. Srimala A/p Sreekantan, Mohammad Hassan, Satisvar A/I Sundera Murthe, Hydrophilicity of Blended SEBS: PP as a Potential Candidate for Biomedical Application, LY2021P04155, 12/10/2021
13. Srimala A/p Sreekantan, Mohammad Hassan, Satisvar A/I Sundera Murthe, Cytocompatibility of Blended SEBS: PP as Potential Candidate for Biomedical Application, LY2021P04156, 12/10/2021

#### Indexed Journals as Corresponding Author

##### Year 2022

1. Srimala A/p Sreekantan, Muhamad Yusri Bin Musa, Rabiatal Basria Binti S.m.n.mydin, 2022, Dual Effects of Titania Nanoparticle (TNP) Combination Treatment with a Chemodrug, Cisplatin Targeting for Nasopharyngeal Carcinoma, *Biointerface Research in Applied Chemistry*, 13
2. Sreekantan S, Yong A X, Basiron N, Ahmad F, De'nan F, 2022, Effect of Solvent on Superhydrophobicity Behavior of Tiles Coated with Epoxy/PDMS/SS, *Polymers*, 14/12:, (Impact Factor : 1.687)
3. Satisvar Sundera Murthe, Srimala A/p Sreekantan, Rabiatal Basria Binti S.m.n.mydin, 2022, Study on the Physical, Thermal and Mechanical Properties of SEBS/PP (Styrene-Ethylene-Butylene-Styrene/Polypropylene) Blend as a Medical Fluid Bag, *Polymers*, 14:, 3267 (Impact Factor : 4.967)

##### Year 2021

4. Yap Saw Yin, Srimala A/p Sreekantan, Mohd Hassan, K Sudesh Kumar A/I C Kanapathi Pillai, Ong Ming Thong, 2021, Characterization and Biodegradability of Rice Husk-Filled Polymer Composites, *Polymers*, :, 104-122 (Impact Factor : 4.329)
5. Lee Kar Chun, Khairul Arifah Saharudin, Srimala A/p Sreekantan, 2021, The Morphological Development of Ordered Nanotube Structure Due to the Anodization of Ti Foil with Axial and Radial Current Flow, *Current Nanoscience*, 17 (1):, 109-119 (Impact Factor : 1.824)
6. A.Iqbal, Usman Saidu, FAROOK ADAM, Srimala A/p Sreekantan, N. YAHYA, M.N. AHMAD, R.J.RAMALINGHAM, L.D.WILSON, 2021, Floating ZnO QDs-Modified TiO<sub>2</sub>/LLDPE Hybrid Polymer Film for the Effective Photodegradation of Tetracycline under Fluorescent Light Irradiation: Synthesis and Characterisation, *Molecules*, 26/9:, 1-17 (Impact Factor : 3.267)
7. Anwar Iqbal, Usman Saidu, Srimala A/p Sreekantan, Mohamad Norazmi Ahmad, Mohd Marzaini Bin Mohd Rashid, Naser Mahmoud Ahmed, Wan Hazman Danial, Lee D. Wilson, 2021, Mesoporous TiO<sub>2</sub> Implanted ZnO QDs for the Photodegradation of Tetracycline: Material Design, Structural Characterization and Photodegradation Mechanism, *Catalysts*, 11:, (Impact Factor : 4.146)
8. V.Kumaresan, Srimala A/p Sreekantan, M.Devarajan, Mohamed, K., 2021, Synthesis of dispensable PDMS/Al<sub>2</sub>O<sub>3</sub>/GO thermal gap filler and performance comparison with commercial thermal gap fillers for electronics packaging applications, *Materials Technology*, NA:, 1-10 (Impact Factor : 1.738)
9. V.Kumaresan, Srimala A/p Sreekantan, M.Devarajan, Mohamed, K., 2021, Effect of hybrid filler ratio and filler particle size on thermal conductivity and oil bleed of polydimethylsiloxane/Al<sub>2</sub>O<sub>3</sub>/ZnO liquid thermal filler for microelectronics packaging applications, *Journal of Materials Science: Materials in Electronic*, 32(1):, 1-14 (Impact Factor : 2.220)

##### Year 2020

10. Nelvi Sutanto, Khairul Arifah Saharudin, Srimala A/p Sreekantan, Vignesh Kumaravel, Hazizan Bin Md Akil, 2020, Heterojunction catalysts gC 3 N 4/-3ZnO-c-Zn 2 Ti 3 O 8 with highly enhanced visible-light-driven photocatalytic activity, *Journal Of Sol-Gel Science And Technology*, Springer, 93:, 354-370 (Impact Factor : 2.008)
11. Vigneshwarram Kumaresan, Srimala A/p Sreekantan, Mutharasu Devarajan, Khairudin Bin Mohamed, 2020, Non- oil bleed two-part silicone dispensable thermal gap filler with Al<sub>2</sub>O<sub>3</sub> and AlN filler for effective heat dissipation in electronics packaging, *The Journal of Adhesion*, Q1, IF- 2.576-accepted

12. Vigneshwarram Kumaresan, Srimala A/p Sreekantan, Mutharasu Devarajan, Khairudin Bin Mohamed, 2020, Effect of hybrid filler ratio and filler particle size on thermal conductivity and oil bleed of Polydimethylsiloxane/Al<sub>2</sub>O<sub>3</sub>/ZnO liquid thermal filler for microelectronics packaging applications, *Polymer-Plastics Technology and Materials, Journal of Materials Science: Materials in Electronics* - Springer:, (Q2, IF- 2.220)
13. Srimala A/p Sreekantan, Khairul Arifah Saharudin, Norfatehah Basiron, Lai Chin Wei, 2020, Chapter 8, in (New-generation titania-based catalysts for photocatalytic hydrogen generation), Elsevier Science, 257-292
14. Norfatehah Basiron, Srimala A/p Sreekantan, Rabiatal Basria Binti S.m.n.mydin, Khairul Arifah Saharudin, 2020, Zinc-Nanocomposite Film in Food: Opening Doors to Future Applications, in (Composite Materials: Applications in engineering, biomedical and food science), Springer, 417-430
15. N Basiron, Srimala A/p Sreekantan, Lim Jit Kang, Hazizan Bin Md Akil, Rabiatal Basria Binti S.m.n.mydin, 2020, Coupled Oxides/LLDPE Composites for Textile Effluent Treatment: Effect of Neem and PVA Stabilization, *Polymers*, 12(2):, 394 (Impact Factor : 2.935)
16. K.C. Lee, K.A.Saharudin, Srimala A/p Sreekantan, 2020, The Morphological Development of Ordered Nanotube Structure due to the Anodization of Ti Foil with Axial and Radial Current Flow, *Current Nanoscience*, 2020, 17/1-11 (Impact Factor: 1.836)
17. Yap Saw Yin, Srimala A/p Sreekantan, Mohd Hassan, K Sudesh Kumar A/I C Kanapathi Pillai, Ong MingThong, 2020, Characterization and Biodegradability of rice husk filled Polymer Composites, *Polymers* 2021, 13, 104, (Impact Factor: 3.426)
18. Srimala Sreekantan, Mohd Hassan, Satisvar Sundera Murthe and Azman Seeni, 2020, Biocompatibility and Cytotoxicity Study of Polydimethylsiloxane (PDMS) and Palm Oil Fuel Ash (POFA) Sustainable Super-Hydrophobic Coating for Biomedical Applications, *Polymers* 2020, 12, 3034, 1-13 (Impact factor : 3.426)
19. Shittu Fatimah Bukola, Mohammad Anwar Bin Mohamed Iqbal, Farook Adam, Mohamad Nasir Bin Mohamad Ibrahim, Nur Ruzaina Abdul Rahman, Srimala A/p Sreekantan, Noor Hana Hanif Binti Abu Bakar, Mohd Hazwan Bin Hussin, Hariy Binti Pauzi, 2020, Synthesis and Characterization of Oxygen-Doped Mesoporous Graphitic Carbon Nitride Using Nanodisc Silica From Rice Husk Ash as Hard Templet, *Malaysian Journal of Analytical Sciences*, 24(3):, 320-329 (Impact Factor : 0.53)
20. Mohammad Anwar Bin Mohamed Iqbal, Nur Hanisah, Nur Ruzaina Abdul Rahman, Khairul Arifah Saharudin, Farook Adam, Srimala A/p Sreekantan, Rahimi M Yusop, Lee D Wilson, Nur Farhana Binti Jaafar, 2020, ZnO Surface Doping to Enhance the Photocatalytic Activity of Lithium Titanate/TiO<sub>2</sub> for Methylene Blue Photodegradation under Visible Light Irradiation, *Surfaces*, 3:, 301-318

#### Year 2019

21. Norfatehah Basiron, Srimala Sreekantan, Hazizan Md Akil, Khairul Arifah Saharuddin, Nor Hazliana Harun, Rabiatal Basria SMN Mydin, Azman Seeni, Nur Ruzaina Abdul Rahman, Farook Adam, Anwar Iqbal, Vignesh Kumaravel, Effect of Li-TiO<sub>2</sub> nanoparticles incorporation in LDPE polymer nanocomposites for biodegradability, *Journal of Nano-Structures and Nano Objects*, 2019, Volume 19, Pages 100359.
22. Nor Hazliana Harun, Rabiatal Basria SMN Mydin, Srimala Sreekantan, Khairul Arifah Saharudin, Norfatehah Basiron, Fakhru Radhi, Azman Seeni, Shape dependent Antibacterial Activity against *Escherichia coli* of Zinc Oxide Nanoparticles, *Journal of Biomedical and Clinical Sciences (JBSC)*, 2019, Volume 3, Issues 2, Pages 35- 38.
23. N. Basiron, WW Jin, S. Sreekantan, ZnO incorporated antimicrobial LDPE: Effect of PVA-Neem Functionalization, *Journal of Materials Today: Proceedings*, 2019, Volume 17, Pages 646-654.
24. S Sreekantan, Z Lockman, KA Saharuddin, RM Taib, SR Khimi, N Baharun, SFS Hashim. (1 January 2019). Editorial Preface on the Proceedings of the 6th International Conference on Recent Advances in Materials, Minerals & Environmental in Penang, Malaysia, *Journal of Materials Today: Proceedings*, 2019, Volume 17, Pages 499.

#### Year 2018

25. Khairul Arifah Saharudin, Srimala Sreekantan, Norfatehah Basiron, Khor Yong Ling, Nor Hazliana Harun, Rabiatal Basria S.m.n.mydin, Hazizan Md Akil, Azman Seeni, Vignesh Kumaravel, Bacteriostatic Activity of LLDPE Nanocomposite Embedded with Sol-Gel Synthesized TiO<sub>2</sub>/ZnO Coupled Oxides at Various Ratios, *Polymers*, 2018, 10, 878 (Impact Factor : 2.935)
26. Khairul Arifah Saharudin, Norfatehah Basiron, Kar Chun Lee, Srimala Sreekantan, Kumaravel Vignesh, Tuti Katrina Abdullah, Zainal Arifin Ahmad, Improved super-hydrophobicity of eco-friendly coating from palm oil fuel ash (POFA) waste, *Surface & Coatings Technology*, 2018, 337, 126-135

27. Mustafa Fadzil Farid Wajidi Rabiatal Basria S M N Mydin, Srimala Sreekantan, Roshasnorlyza Hazan, Ekhlaz Qaid Gazem, Mechanosensitivity Response in Epithelial HT29 Cells on Titanium Dioxide Nanotube Arrays Surface via KRT8 Protein Expression, *International Journal of Nano and Biomaterials*, 2018, Accepted
28. Norfatehah Basiron, Srimala A/p Sreekantan, Khairul Arifah Binti Saharudin, Zainal Arifin Bin Ahmad, Kumaravel Vignesh, Improved Adhesion of Nonfluorinated ZnO Nanotriangle Superhydrophobic Layer on Glass Surface by Spray-Coating Method, *Journal of Nanomaterials*, 2018, Article ID: 7824827; (Impact Factor : 2.207)
29. Srimala Sreekantan, Khairul Arifah Saharudin, Norfatehah Basiron, Rabiatal Basria S. M. N. Mydin, Ong Cheok Teng, and Vignesh Kumaravel, Phosphorus and Carbon Co-Doped TiO<sub>2</sub> Nanotube Arrays for Excellent ROS Production, *Reactive Oxygen Species*, 2018, 6, 349-362
30. Khairul Arifah Saharudin, Srimala Sreekantan, Enhanced Visible Light Response of Phosphorus Incorporated TiO<sub>2</sub> Nanotube Arrays Photocatalyst, *International Journal of Current Science, Engineering & Technology*, 2018, 1, 95-100
31. Khairul Arifah Saharudin, Srimala Sreekantan, Norfatehah Basiron, Rabiatal Basria S.M.N. Mydin, Norhazliana Harun, Lim Jit Kang, Md Azman Bin Pkm Seen Mohmed, 3ZnO/TiO<sub>2</sub> coupled oxides LLDPE nanocomposite: Effect of various weight percent of sol-gel synthesized catalyst on structural and bacteriostatic activity against *S. aureus* and *E. coli*, *Biomedical Journal of Scientific & Technical Research*, 2018, 8(4), 1-10 (Impact Factor: 0.548)

#### Year 2017

32. K.C.Lee, S. Sreekantan, Z. A. Ahmad, K.A. Saharudin, M. A. A. Taib, 2017, Nucleation of octahedral titanate crystals using waste anodic electrolyte from the anodization of TiO<sub>2</sub> nanotubes, *Crystal Engineering Communications*, 19; 6406-6411
33. S.M.N. Mydin, R. B., Srimala A/p Sreekantan, Mustafa Fadzil Bin Farid Wajidi, 2017, Cellular Homeostasis and Antioxidant Response in Epithelial HT29 Cells on Titania Nanotube Arrays Surface., *Oxidative Medicine and Cellular Longevity*, 2017., Volume 2017
34. K. C. Lee, S. Sreekantan, 2017, Effect of Temperature towards the Corrosion Behavior of Titania Nanotube Anodized in H<sub>2</sub>O<sub>2</sub>-Based Organic Electrolyte, *Materials Science Forum*, 888; 273-277
35. R. Poliah, S. Sreekantan, 2017, Effect of Morphology of MgO on the CO<sub>2</sub> Adsorption Capacity for Low Temperature Applications, *Materials Science Forum*, 888; 503-507
36. N. SUSANTO, S. Sreekantan, 2017, Photodegradation Improvement of Low-Density Polyethylene Thin Film with gC<sub>3</sub>N<sub>4</sub>/5ZnO/TiO<sub>2</sub> Photocatalysts, *Solid State Phenomena*, 264; 236-239

#### Year 2016

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## RESEARCH GRANTS

### International, National & University Grants

#### Principal Investigator International Grant

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#### Co-Researcher International Grant

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15. Srimala Sreekantan, Hasmaliza Bt Mohamad, Zainal Ariffin Bin Ahmad, A Study on The Growth, Structure and Formation Mechanism of Multi-Functional Titania Nanotubes, FRGS, RM60,000.00, 01/11/2006-30/04/2010

#### Co-Researcher National Grant

1. Fauziah Binti Ahmad, Fatimah Binti De'Nan, Srimala Sreekantan, Investigation on the effect of interfacial and bonding interaction on antifouling property of POFA modified plastering cement, KEMENTERIAN PENDIDIKAN MALAYSIA, RM105,600.00, 01/09/2019-31/08/2021
2. Rabiatal Basria Binti S.M.N.Mydin, Anis Farhan Binti Kamaruddin, Jahangir Bin Kamaldin, Nor Aini Binti Saidin, Srimala Sreekantan, Preclinical Evaluation of Titania Nanotube Arrays focus on Regenerative Properties for Dental Implant-Prostheses, KEMENTERIAN PENGAJIAN TINGGI, RM120,000.00, 01/08/2019-31/07/2021
3. Nadras Binti Othman, Hanafi Bin Ismail, Raa Khimi Bin Shuib, Srimala Sreekantan, Understanding of photo-degradation mechanism in NR latex with the incorporation of surface modified bi-metal oxide, KEMENTERIAN PENGAJIAN TINGGI, RM118,800.00, 01/08/2016-31/07/2019
4. Pung Swee Yong, Pung Yuh Fen, Srimala Sreekantan, Yeoh Fei Yee, The fundamental study of photocatalytic mechanism by semiconductor coupling (ZnO/WO<sub>3</sub>) photocatalysts in degradation of organic pollutants and inactivation of bacteria, KEMENTERIAN PENGAJIAN TINGGI, RM128,000.00, 02/11/2015-28/02/2019
5. Abdul Rahman Bin Mohamed, Ahmad Zuhairi Bin Abdullah, Chai Siang Piao , Azlina Binti Harun @ Kamaruddin, Rizafizah Binti Othaman , Sumathi Sethupathi, Irvan Dahlan, Lee Keat Teong, Mohamad Hekarl Bin Uzir, Bohar Mohd Yamin , Mohd Ambar Yarmo , Nor Aishah Saidina Amin , Srimala Sreekantan,

- Subhash Bhatia, Carbon Dioxide as a Low Renewable Energy : CO<sub>2</sub> Capture and Utilization, KEMENTERIAN PENGAJIAN TINGGI, RM1,350,000.00, 01/08/2011-31/12/2014
6. Pung Swee Yong, Srimala Sreekantan, Fundamental Study of Luminescence Mechanism in ZnO Nanostructures, KEMENTERIAN PENGAJIAN TINGGI, RM53,000.00, 01/04/2011-30/06/2013,
  7. Zainovia Binti Lockman, Srimala Sreekantan, Mechanistic Model of Tungsten trioxide Nanotubes Formation by anodic oxidation of tungsten, KEMENTERIAN PENGAJIAN TINGGI, RM24,000.00, 01/05/2010-30/04/2012
  8. Mohd Fadzil Bin Ain, Sabar Derita Hutagalung, Srimala Sreekantan, Zainal Arifin Bin Ahmad, Investigation on the Coupling effect of the dielectric resonator antenna array, KEMENTERIAN PENGAJIAN TINGGI, RM40,000.00, 01/05/2010-30/04/2012
  9. Julie Juliewatty Binti Mohamed, Sabar Derita Hutagalung, Srimala Sreekantan, Zainal Arifin Bin Ahmad, Development of SHS for Boride and Carbide Intermetallic Compound Formation, KEMENTERIAN SAINS, TEKNOLOGI DAN INOVASI, RM85,000.00, 01/08/2009-30/09/2011
  10. Dahaman Bin Ishak, Mahfoozur Rehman, Soib Bin Taib, Srimala Sreekantan, Syafrudin Masri, Zainal Arifin Bin Ahmad, Theoretical and Conceptual Investigation of Electromagnetic Gears, KEMENTERIAN PENGAJIAN TINGGI, RM80,000.00, 15/10/2007-15/10/2009
  11. Zainovia Binti Lockman, Ahmad Fauzi Bin Mohd Noor, Kamarulazizi Bin Ibrahim, Srimala Sreekantan, Growth Mechanism Study of Nanostructured ZnO Formed by Anodic Oxidation of Zn, KEMENTERIAN PENGAJIAN TINGGI, RM100,000.00, 15/10/2007-15/10/2009
  12. Mandeep Singh A/I Jit Singh, Cheong Kuan Yew, Mohd Fadzil Bin Ain, Srimala Sreekantan, Syed Idris Bin Syed Hassan, Investigation of Microwave Properties of High Permittivity Ceramic Substrate, KEMENTERIAN PENGAJIAN TINGGI, RM80,000.00, 15/10/2007-15/10/2009
  13. Ahmad Fauzi Bin Mohd Noor, Azizan Bin Aziz, Srimala Sreekantan, Zainovia Binti Lockman, Mechanisms and Kinetic Studies for the Growth Formation of Nanocrystals Cu<sub>2</sub>O by Chemical Reduction Method, KEMENTERIAN PENGAJIAN TINGGI, RM120,000.00, 15/10/2007-14/04/2010
  14. Ahmad Fauzi Bin Mohd Noor, Hasmaliza Bt Mohamad, Khairunisak Binti Abdul Razak, Radzali Bin Othman, Srimala Sreekantan, Development of Rare Earths Substituted Mg-Mn Ferrite System for Microwave Application, KEMENTERIAN SAINS, TEKNOLOGI DAN INOVASI, RM152,000.00, 01/10/2007-30/09/2009
  15. Ahmad Fauzi Bin Mohd Noor, Cheong Kuan Yew, Srimala Sreekantan, Zainovia Binti Lockman, Nanostructure Thin Film Tetragonal Zirconia for Semiconducting Application, KEMENTERIAN SAINS, TEKNOLOGI DAN INOVASI, RM98,200.00, 01/10/2007-31/08/2009
  16. Hasmaliza Bt Mohamad, Ahmad Fauzi Bin Mohd Noor, Srimala Sreekantan, Production of Alumina Nanofibers by Sol-Gel Processing and Electrospinning Technique, KEMENTERIAN SAINS, TEKNOLOGI DAN INOVASI, RM171,500.00, 01/10/2007-31/12/2009
  17. Azizan Bin Aziz, Srimala Sreekantan, Zainovia Binti Lockman, Synthesis and Characterization of Magnetic Ni-Au and Co-Au Core-Shell Nanoparticles for Biomedical Applications, KEMENTERIAN SAINS, TEKNOLOGI DAN INOVASI, RM165,710.00, 01/09/2007-31/12/2009
  18. Zainovia Binti Lockman, Cheong Kuan Yew, Srimala Sreekantan, Zainal Arifin Bin Ahmad, Surface Modified Buffer Layer for Superconductors Growth Template, KEMENTERIAN SAINS, TEKNOLOGI DAN INOVASI, RM296,370.00, 01/08/2007-31/07/2009
  19. Cheong Kuan Yew, Khatijah Aisha Binti Yaacob, Sabar Derita Hutagalung, Srimala Sreekantan, Zainovia Binti Lockman, Development of Silicon Dioxide (SiO<sub>2</sub>) Gate on Single-Crystal Silicon Carbide (SiC)-Based Switching Device for High-Power and High-Temperature Applications, KEMENTERIAN SAINS, TEKNOLOGI DAN INOVASI, RM143,994.00, 01/12/2006-30/11/2008
  20. Mohd Fadzil Bin Ain, Sabar Derita Hutagalung, Srimala Sreekantan, Syed Idris Bin Syed Hassan, Zainal Arifin Bin Ahmad, Investigation on Microwave Properties Of The Dielectric Resonators, FRGS, RM100,000.00, 01/11/2006-31/10/2009
  21. Hasmaliza Bt Mohamad, Srimala Sreekantan, Mechanochemical Synthesis of Nanoparticle Cordierite for Electronic Application, FRGS, RM80,000.00, 01/11/2006-31/10/2009

#### Principal Investigator University Grant

1. Srimala Sreekantan, Ong Ming Thong, MSDS Preparation & Upscaling Production Facilities to Manufacture Nano-TiO<sub>2</sub> Photocatalyst, USM, RM25,000.00, 01/05/2019-30/04/2020
2. Srimala Sreekantan, Investigation of Toxicity of Super-hydrophobic Surface Made from Palm Oil Fuel Ash (POFA) Waste, USM, RM25,000.00, 15/12/2018-14/12/2019

3. Srimala Sreekantan, Hazizan Bin Md Akil, Kumaravel Vignesh, Lim Jit Kang, Development of g-C<sub>3</sub>N<sub>4</sub> Supported ZnO Nanotriangles for Super Hydrophobic Self-Cleaning Applications USM (RU), RM100,000.00, 01/03/2016-28/02/2018
4. Srimala Sreekantan, Ong Ming Thong, Studies on the Ag-Zr-TiO<sub>2</sub> Nanosolution for VOC Detoxification, Antibacterial and Antifungal Application, USM (JANGKA PENDEK), RM38,940.00, 15/10/2012-31/05/2015
5. Srimala Sreekantan, Abdul Rahman Bin Mohamed, Pung Swee Yong, Vithyacharan A/L Retnasamy, Zaliman Sauli, Development on Al<sub>2</sub>O<sub>3</sub>-CaO Nanorod by Electrodeposition, USM (RU), RM249,978.00, 15/07/2012-14/10/2015
6. Srimala Sreekantan, Ahmad Fauzi Bin Mohd Noor, Farshid Suheili, Zainovia Binti Lockman, Development Of Anodization Rig System For Formation Of TiO<sub>2</sub> Nanotubes For Air Purification System, USM (RU), RM242,056.00, 01/05/2010-31/12/2012
7. Srimala Sreekantan, Ahmad Fauzi Bin Mohd Noor, Y. Inoue, Zainovia Binti Lockman, Band Gap Tuning of Nanotubular TiO<sub>2</sub> By Incorporation OF Anionic and Cationic Dopant, USM (RU), RM197,000.00, 01/01/2009-31/12/2010
8. Srimala Sreekantan, Ahmad Fauzi Bin Mohd Noor, Khairunisak Binti Abdul Razak, Mohd Fadzil Bin Ain, Zainal Arifin Bin Ahmad, Synthesis and Electrical Microstructure Modeling of Barium Strontium Titanate (BST), USM Jangka Pendek, RM36,238.00, 15/04/2008-14/10/2010
9. Srimala Sreekantan, Zainovia Binti Lockman, Development of TiO<sub>2</sub> Nanotubes as Photoanode Via Anodization Process for High Efficiency Hydrogen Generation, USM Jangka Pendek, RM15,418.00, 15/03/2007-14/03/2009

#### Co-Researcher University Grant

1. Pung Swee Yong, Ong Ming Thong, Saw Kim Guan, Srimala Sreekantan, Yeoh Fei Yee, Development of ZnO based Semiconductor Photocatalyst on Conductive Support via Rapid Direct Heating Method, USM (RU), RM70,000.00, 01/09/2018-31/08/2020
2. Rabiatul Basria Binti S.M.N.Mydin, Mohammad Anwar Bin Mohamed Iqbal, Shafiquzzaman Siddiquee, Srimala Sreekantan, Titania Nanotube Arrays as Nanotherapeutic Agent: Targeting the Mitochondrial Redox Regulation, USM (JANGKA PENDEK), RM38,750.00, 01/08/2017-31/07/2019
3. Pung Swee Yong, Chuah Lee Siang, Pung Yuh Fen, Srimala Sreekantan, Sunlight-Driven Water Purifier Based on Semiconductor Photocatalysts That Grown on Polymer Fiber for Degradation of Organic Pollutants and Bacteria Removal, USM (RU), RM238,080.00, 01/12/2013-31/07/2017,
4. Abdul Rahman Bin Mohamed, Ahmad Zuhairi Bin Abdullah, Irvan Dahlan, Lee Keat Teong, Srimala Sreekantan, Nanomaterials for CO<sub>2</sub> Reduction Towards Alleviation of Global Warming, USM (RU), RM1,000,000.00, 15/01/2011-31/05/2015
5. Khairunisak Binti Abdul Razak, Srimala Sreekantan, Teng Wan Dung, Wei Gao, Fundamental Studies Of Lead Free Rare Earth Doped – Bi<sub>2</sub>Na<sub>1-x</sub>TiO<sub>3</sub> (BNT) Piezoelectric Material Synthesize Using A Wet Chemical Technique, USM (RU), RM101,300.00, 01/10/2009-30/09/2011,
6. Khairunisak Binti Abdul Razak, Mohd Fadzil Bin Ain, Srimala Sreekantan, Syed Idris Bin Syed Hassan, Zainal Arifin Bin Ahmad, Funtionalty of Thick Film Composites as Potential Candidates in Antenna Applications, USM JANGKA PENDEK, RM35,939.00, 01/03/2008-28/02/2010
7. Zainovia Binti Lockman, Cheong Kuan Yew, Lukas Schmidt-Mende, Srimala Sreekantan, Zainal Arifin Bin Ahmad, Studies of Self-Organised Nanotubes Array of TiO<sub>2</sub> by Anodisation, USM JANGKA PENDEK, RM0.00, 15/03/2007-14/03/2009

#### POSTGRADUATE STUDENT SUPERVISION

##### Ph.D & MSc. Students

#### Active Ph.D - Main Supervisor

1. Ku Nur Izzati Binti Ku Mohamad Faudzi, 2018, Doctor of Philosophy, Research - Full Time, Nanocatalyst Inspired Antimicrobial Polypropylene Nanocomposite for Biomedical Application, Main Supervisor
2. Satisvar A/L Sundera Murthe, 2020, Doctor of Philosophy – Full Time, Fabrication of Antimicrobial Polymer Composite for Viable Whole Blood Storage, Main Supervisor

#### Active Ph.D - Co-Supervisor

1. Ibrahim Bin Hussin Khan, 2019, Doctor of Philosophy, Research - Full Time, Co-supervisor
2. G Ambarasan A/I Govindasamy, 2019, Doctor of Philosophy, Research - Part Time, Antimicrobial Polymer Nanocomposite Targeted for Wound Healing, Co-supervisor
3. Usman Saidu, 2018, Doctor of Philosophy, Research - Full Time, Metal Oxide Quantum Dots Decorated TiO<sub>2</sub> Nanocomposite for Photocatalytic Degradation of Antibiotics, Co-supervisor
4. Nor Hazliana Binti Harun, 2018, Doctor of Philosophy, Research - Full Time, Nanotoxicogenomic Studies of TiO<sub>2</sub> Nanocatalyst/Polypropylene Nanocomposite with Enhanced Bactericide Activity for Biomedical Application., Co-supervisor

#### Graduated Ph.D - Main Supervisor

1. Vigneshwarram Kumaresan, 2019, Doctor of Philosophy, Research - Full Time, Design and Thermal Characterization of SSD Drive for High Performance Enterprise Server Application, Main Supervisor
2. Norfatehah Binti Basiron, 2017, Doctor of Philosophy, Research - Full Time, Development of ZnO nanoparticles for superhydrophobic self-cleaning application, Main Supervisor
3. Nwe Ni@nwe Ni Hlaing, 2016, Doctor of Philosophy, Research - Full Time, Synthesis, Characterization and CO<sub>2</sub> Adsorption of CaCO<sub>3</sub>, Ca(OH)<sub>2</sub> and Inert Materials Incorporated Ca(OH)<sub>2</sub>, Main Supervisor
4. Farah Diana Binti Mohd Daud, 2015, Doctor of Philosophy, Research- Full Time, Synthesis and Characterization of Calcium Oxide and Magnesium Oxide Supported Calcium Oxide for Carbon Dioxide Adsorbent, Main Supervisor
5. Siti Aida Binti Ibrahim, 2015, Doctor of Philosophy, Research - Full Time, Development of Titanium Dioxide Nanoparticles/Nanosolution for Photocatalytic Activity, Main Supervisor
6. Khairul Arifah Binti Saharudin, 2015, Doctor of Philosophy, Research - Full Time, Development of Nonmetal-Doped TiO<sub>2</sub> Nanotube Photocatalyst for Decolorization of Methyl Orange, Main Supervisor
7. Roshasnorlyza Binti Hazan, 2014, Doctor of Philosophy, Research - Full Time, Surface Engineering of Titanium Based Metal for Cell Interaction, Main Supervisor
8. Umar Al-amani Bin Haji Azlan, 2013, Doctor of Philosophy, Research - Full Time, The Effect of Rare- Earth Substitution on The Properties of Bismuth Titanate Prepared by Low Temperature Combustion Technique, Main Supervisor
9. Lai Chin Wei, 2013, Doctor of Philosophy, Research - Full Time, Development of WO<sub>3</sub>-TiO<sub>2</sub> Nanotube Arrays for Water Electrolysis, Main Supervisor
10. Warapong Krengvirat, 2013, Doctor of Philosophy, Research - Full Time, Development of Carbon and Potassium - incorporated Titanium Dioxide Nanotube Arrays for Solar Energy Harvesting Applications, Main Supervisor
11. Nelvi Sutanto, 2020, Doctor of Philosophy, Research - Full Time, Photodegradation Performances of Low-Density Polyethylene Composites Loaded with Photocatalysts, Main Supervisor
12. Ramarao Poliah, 2020, Doctor of Philosophy, Research - Full Time, Synthesis, Characterization and Carbon Dioxide Adsorption of Pristine and Alkaline Metal Incorporated Magnesium Oxide, Main Supervisor

#### Graduated Ph.D - Co-Supervisor

1. Rabiatal Basria Binti S.M.N. Mydin, 2016, Doctor of Philosophy, Research - Full Time, Cellular and Molecular Impacts of Titania Nanotube Arrays Interaction with Human Colorectal Cancer Cell Lines HT-29, Human Osteosarcoma Cell Lines SAOS-2 and Human Dermal Fibroblast Cell Lines HDF-A , Co-supervisor
2. Mohd Hasmizam Bin Razali, 2015, Doctor of Philosophy, Research - Full Time, Hydrothermal Synthesis and Characterization of Doped, Co-doped Titanium Dioxide Nanotubes for Methyl Orange Degradation, Co-supervisor
3. Nilar Lwin, 2013, Doctor of Philosophy, Research - Full Time, Physical and Electromagnetic Properties of Tm and Gd Substituted Mg-Mn Ferrites, Co-supervisor
4. Aye Aye Thant, 2010, Doctor of Philosophy, Research - Full Time, Synthesis and Characterization of Magnesium Ferrite by Conventional Ceramic Method and Sol-Gel Auto-Combustion Method, Co-supervisor

#### Active Master Degree - Main Supervisor

1. Niresha A/P Perumal, 2021, Master, Research – Full Time, Investigation On Interaction Mechanism of Chemically Functionalized Rice Husk Filler and PBAT in Biodegradable Polymer Composite, Main Supervisor

#### Active Master Degree - Co-Supervisor

1. Wan Nuramiera Faznie Bt Wan Eddis Effendy, 2018, Master, Research - Full Time, Cancer Nano-Therapeutics: The Study of Modified Titania Nanotube Array as a Platform for siRNA delivery, Co-supervisor

#### Graduated Master Degree - Main Supervisor

1. Yap Saw Yin, 2019, Master, Research - Full Time, an alternative compounding blend made by TPS/PLA/PBAT/CC for production of affordable biodegradable and compostable plastic bag production, Main Supervisor
2. Lee Kar Chun, 2018, Master, Research - Full Time, Anodization of Titania Nanotube Arrays in Electrolyte Containing Hydrogen Peroxide, Main Supervisor
3. G Ambarasan A/I Govindasamy, 2015, Master, Research - Part Time, Studies on Inorganic Oxide Incorporated Polypropylene for Antimicrobial Application, Main Supervisor
4. Syazwani Binti Mohd Zaki, 2014, Master, Research - Full Time, The Effect of Cu Based TiO<sub>2</sub> Nanotubes Array for Heavy Metal Removal, Main Supervisor
5. Nur Hidayati Binti Ahmad Barudin, 2014, Master, Research - Full Time, Antibacterial and Cell Interaction of TiO<sub>2</sub> - Based Nanoparticles and Nanotubes, Main Supervisor
6. Ramarao A/I Poliah, 2013, Master, Research - Full Time, Formation of TiO<sub>2</sub>/SiO<sub>2</sub> Nanostructured Materials for Photocatalytic Activity, Main Supervisor
7. Warapong Krengvirat, 2011, Master, Research - Full Time, Synthesis and Characterization of Bismuth Titanate and Praseodymium-Substituted Bismuth Titanate Produced by Low-Temperature Self-Combustion Synthesis, Main Supervisor

#### Graduated Master Degree - Co-Supervisor

1. Le Anh Thi, 2019, Master, Research- Full Time, Reusability of Zinc Oxide Nanorod for Photocatalytic Decomposition of Rhodamine B Dye After Copper Metal Deposition, Co-supervisor
2. Chan Yim Leng, 2014, Master, Research - Full Time, Synthesis and Characterization of ZnO, V<sub>2</sub>O<sub>5</sub> and MnO<sub>2</sub> Nanostructures Photocatalysts on Polyethylene Terephthalate (PET) Fiber for Degradation of RhB, Co-supervisor
3. Mohd Noor Bin Ismail, 2011, Master, Research - Part Time, The Design of Yagi Dielectric Resonator Antenna using CCTO and TiO<sub>2</sub>, Co-supervisor
4. Liong Wai Lap, 2011, Master, Research - Full Time, Silicon Nanoparticles Synthesized Via Microemulsion with Various Parameters, Co-supervisor
5. Nik Akmar Bin Rejab, 2010, Master, Research - Full Time, Synthesis and Characterization of Nd Doped BaTiO<sub>3</sub> as Dielectric Resonator Antenna (DRA), Co-supervisor
6. Le Anh Thi, 2019, Master, Research- Full Time, Reusability of Zinc Oxide Nanorod for Photocatalytic Decomposition of Rhodamine B Dye After Copper Metal Deposition, Co-supervisor

### Undergraduate Students

#### Graduated Undergraduate Supervision - Main Supervisor

1. Ang Xue Yong, 2019, Final Year Project, Investigation on graphene base superhydrophobic coating for self-cleaning application, Main Supervisor, Completed
2. Khishn Kumar A/I Kandiah, 2019, Final Year Project, Fabrication of photocatalyst polymer nanocomposites for biomedical application, Main Supervisor, Completed
3. Lim Sin Jou, 2019, Final Year Project, Synthesis of TiO<sub>2</sub> nano solution in neutral condition using TTiP precursor, Main Supervisor, Completed

4. Mohamad Afiffudin Bin Karim, 2018, Final Year Project, Synthesis and Characterization of Superhydrophobic Coating for Self-cleaning Surface, Main Supervisor, Completed
5. Woo Wei Jin, 2018, Final Year Project, Incorporation of Photocatalyst Nanoparticle in Polyethylene for Antimicrobial Application, Main Supervisor, Completed
6. Khor Yong Ling, 2016, Final Year Project, Development of Nanoparticle Incorporated Polymers for antimicrobial application, Main Supervisor, Completed
7. Noor Suhaiza Binti Che Endut, 2016, Final Year Project, Investigation of Nanoparticles Incorporate In Silane To Improve Super hydrophobicity, Main Supervisor, Completed
8. Luqmanul Hakim Bin Ameran, 2015, Final Year Project, DEVELOPMENT OF SUPER HYDROPHOBIC SURFACES FROM OIL-PALMWASTE ASH, Main Supervisor, Completed
9. Leong Qiao Lin, 2015, Final Year Project, DEVELOPMENT OF BIMETAL OXIDE (ZNO/TIO<sub>2</sub>) PHOTOCATALYST FOR LOW DENSITY POLYETHYLENE DEGRADATION, Main Supervisor, Completed
10. Teng Jin Wen, 2015, Final Year Project, FABRICATION AND CHARACTERIZATION METAL ION DOPED BIVO<sub>4</sub>/TIO<sub>2</sub> PHOTOANODE FOR HYDROGEN EVOLUTION UNDER VISIBLE LIGHT IRRADIATION, Main Supervisor, Completed
11. Rabitul Adawiyah Kamazahruman, 2014, Final Year Project, Fabrication of Flexible Dye Synthesized Soalr Cells, Main Supervisor, Completed
12. Lee Kar Chun, 2014, Final Year Project, Studies on Group II Metal Oxides for Carbon Dioxide Adsoption, Main Supervisor, Completed
13. Ng Choo Yee, 2013, Final Year Project, Studies on Various Oxides and composite for carbon dioxide adsoption, Main Supervisor, Completed
14. Nurul Farlizatul Fiza Binti Jaafar, 2013, Final Year Project, Study on the formation of one-dimensional materials by electrodeposition process, Main Supervisor, Completed
15. Lee Chee Yang, 2012, Final Year Project, Possible formation of CaO-TiO<sub>2</sub> nanotubes for CO<sub>2</sub> adsorption, Main Supervisor, Completed
16. Lye Jin Hoon, 2012, Final Year Project, Photocatalytic efficiency and antibacteria strength of tuned titania (TiO<sub>2</sub>) nanoparticles, Main Supervisor, Completed
17. E Pei San, 2011, Final Year Project, Effect of WO<sub>3</sub> loaded on TiO<sub>2</sub> nanotubes for water electrolysis process, Main Supervisor, Completed
18. Siti Nor Qurratu Aini Bt Abd Aziz, 2011, Final Year Project, Formation of TiO<sub>2</sub> nanotubes on Ti-6Al- 4V Alloy in Ethylene glycol electrolyte, Main Supervisor, Completed
19. Nur Hidayati Bt Ahmad Barudin, 2011, Final Year Project, Studies of Cell Growth on TiO<sub>2</sub> nanotubes, Main Supervisor, Completed
20. Ainol Syapinaz Mohd Rodhi, 2010, Final Year Project, Preparation TiO<sub>2</sub> nanotubes studies for apatite formation and cell growth, Main Supervisor, Completed
21. Nur Syafinaz Binti Ridhuan, 2010, Final Year Project, Preparation of TiO<sub>2</sub> nanoparticles and study on photocatalytic activity for paint application, Main Supervisor, Completed
22. Phan Chee Kong, 2010, Final Year Project, Formation of TiO<sub>2</sub> nanotubes arrays and copper incorporation for water electrolysis application, Main Supervisor, Completed
23. Ong Cheok Teng, 2010, Final Year Project, Effect of anionic doping on the phtocatalytic activity of TiO<sub>2</sub> nanotubes arrays, Main Supervisor, Completed
24. Choo Boon Leong, 2009, Final Year Project, Development of goldpalladium coated TiO<sub>2</sub> nanotubes for degradationof methyl orange via anodization, Main Supervisor, Completed
25. Lai Chin Wei, 2009, Final Year Project, Synthesis and Characterization of Titanium Dioxide nanotubes via hydrothermal method, Main Supervisor, Completed
26. Nur Azimah Binti Abd Samad, 2009, Final Year Project, Formation of Nanostructured Tungsten Oxide by Anodization Process, Main Supervisor, Completed
27. Ahmad Ehsan Bin Ahmad Shuhaini, 2009, Final Year Project, Synthesis and Dielectric Properties of Bismuth Titanate and Neodymium Doped Bismut Titanate, Main Supervisor, Completed
28. Khairul Arifah Saharudin, 2009, Final Year Project, Development of TiO<sub>2</sub> nanotubes via anodization for degradationof methyl orange, Main Supervisor, Completed
29. Chong Wee Loon, 2008, Final Year Project, Synthesis and Characterization of La, Ce and Y doped Mg-Mn ferrite preparedby mixedoxide method., Main Supervisor, Completed
30. Yong Khai Ling, 2008, Final Year Project, Studies on Design of the dielectric materials for antenna application, Main Supervisor, Completed
31. Tan Chao Kyn, 2008, Final Year Project, The Synthesis and Characterization of Nd doped BismuthTitanate by mixed oxide and wet chemical method, Main Supervisor, Completed

32. Mohd Aiman Najmy Bin Mohd Bukhari, 2008, Final Year Project, Studies on titania Coating Technique On Quartz Glass and ITO substrate, Main Supervisor, Completed
33. Leong Chui Mun, 2008, Final Year Project, the effect of in-situ and ex-situ doping on photocatalytic activity of titania nanotube prepared by anodization on a p-type substrate, Main Supervisor, Completed
34. Mohd Firdaus Bin Redzuan, 2008, Final Year Project, Synthesis and Characterization of Titania Nanotube prepared by wet chemical method, Main Supervisor, Completed
35. Lee Ren Gee, 2007, Final Year Project, the formation of ZnO Nanostructures on Zn Foil Via Anodisation in NaOH electrolyte, Main Supervisor, Completed
36. Chan Siang Loon, 2007, Final Year Project, The formation of ZnO Nanostructures on Zn Foil Via Anodisation in KOH electrolyte, Main Supervisor, Completed
37. Ling Mee Hung, 2007, Final Year Project, A Study on The Growth of Self Organized Titania Nanotubes, Main Supervisor, Completed
38. Tan Chun Hau, 2007, Final Year Project, Synthesis, Structural and Magnetic Characterization of Y Doped Mg-Mn Ferrite, Main Supervisor, Completed

#### Graduated Undergraduate Supervision - Co Supervisor

39. Cheah Mei Ling, 2012, Final Year Project, Synthesis of lead-free piezoelectric Bismuth Sodium Titanate (BNT) and Lanthanum-doped Bismuth Sodium Titanate (BNLT) using the soft combustion technique, Co-supervisor, Completed
40. Nur Atiqah Bt Hamzah, 2011, Final Year Project, Optimization of Electrochemical Parameter for formation of Tungsten Trioxide (WO<sub>3</sub>) Nanostructures, Co-supervisor, Completed
41. Lim Ee Sin, 2009, Final Year Project, Structural and Property of Samarium and Neodymium Doped Bismuth Titanate using wet chemical technique, Co-supervisor, Completed
42. Khoo Fei San, 2009, Final Year Project, Studies on the formation of Barium Zirconium Titanate (BZT) composite via solid state reaction and electrophoretic deposition, Co-supervisor, Completed
43. Goh Phei Ying, 2008, Final Year Project, Kajian struktur dan morfologi bismut titanat terdop lantanid yang dihasilkan melalui teknik larutan kimia, Co-supervisor, Completed
44. Chin Hui Kit, 2008, Final Year Project, Pencirian Struktur bagi Titania Nanotub yang terbentuk dengan Kaedah Pengonodan, Co-supervisor, Completed
45. Ng Chee King, 2008, Final Year Project, Perbandingan sifat-sifat serbuk Barium Strontium Titanate (BST) yang dihasilkan melalui Teknik Hidoterma Suhu Rendah dan Teknik keadaan Pepejal Konvensional, Co-supervisor, Completed
46. Lee Jo Sheng, 2007, Final Year Project, Synthesis, Structural and Magnetic Characterization of Gd Doped Mg-Mn Ferrite, Co-supervisor, Completed

#### AWARDS / RECOGNITION

##### International & National Awards

| No. | Title                                                                                                                                                                                                  | Awarding Authority                                                                                    | Level/Medal                  | Year |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|------------------------------|------|
| 1.  | The Best Award for Ecodifesa Under Medical & Healthcare cluster: A long-lasting antivirus coating                                                                                                      | Ministry of Higher Education Malaysia together with its partner institutions of higher learning (IHL) | Anugerah Terbaik             | 2022 |
| 2.  | A Rice Husk Base Biodegradable Polymer to Combat Agro Waste and White Pollution, PROTEMP, Malaysia Technology Expo, The International Expo on Innovation & Technology (MTE 2022), 2022 (International) | PROTEMP                                                                                               | Outstanding Innovation Award | 2022 |
| 3.  | Ecodifesa: A long lasting Antivirus Coating                                                                                                                                                            | Ministry of Higher Education Malaysia together with its partner institutions of higher learning (IHL) | Gold Award                   | 2022 |

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|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|------|
| 4.  | A rice husk base biodegradable polymer to combat agro waste and white pollution, PROTEMP, Malaysia Technology Expo, The International Expo on Innovation and Technology (MTE 2022), 2022 (International) | PROTEMP                                                                                                                            | Silver Award                                                     | 2022 |
| 5.  | Ecodifesa: Air & Surface Disinfectant to Combat Phatogens                                                                                                                                                | FHNW School of Business, Switzerland                                                                                               | 1st Prize winner of start-up category                            | 2022 |
| 6.  | Protemp Exhibitions and Conferences Sdn Bhd, Malaysia Technology Expo 2021- Inconjunction with The Malaysia-Croatia Technology Exchange 2021,                                                            | Protemp Exhibitions and Conferences Sdn Bhd                                                                                        | International Innovation Award of Merit from Republic of Croatia | 2021 |
| 7.  | Mirobuster                                                                                                                                                                                               | The Ministry of Science, Technology and Innovation Malaysia, International Invention, Innovation & Technology Exhibition ITEX 2018 | Gold Medal, Best Local Invention HomeDec Award                   | 2020 |
| 8.  | PPO Waste Water Treatment Technology for Sustainable Aquatic Environment                                                                                                                                 | Ministry of Higher Education, PENCIPTA Exhibition                                                                                  | Gold Medal                                                       | 2019 |
| 9.  | Myeco-POFA Shield: A Remedy for Fungi Growing World,                                                                                                                                                     | The Malaysian Association of Research Scientists (MARS), Malaysia Technology Expo, 2019                                            | Silver Medal                                                     | 2019 |
| 10. | Enviroshield: The Smart Clean & Anti Stick Pofa Coat                                                                                                                                                     | The Ministry of Science, Technology and Innovation Malaysia, International Invention, Innovation & Technology Exhibition ITEX 2018 | Silver Medal                                                     | 2018 |
| 11. | Outstanding Woman in Engineering                                                                                                                                                                         | Venus International Foundation, India                                                                                              | Venus Award                                                      | 2017 |
| 12. | 10th National Academic Award (AAN)                                                                                                                                                                       | Ministry of Higher Education                                                                                                       | Innovation and Product Commercialization Award                   | 2017 |
| 13. | Great Women of Our Time 2016 Science & Technology Award                                                                                                                                                  | The Malaysian Women's Weekly                                                                                                       | Science & Technology Award                                       | 2016 |
| 14. | CACEZ-Next Generation CO2 Adsorbents to Go Green                                                                                                                                                         | Ministry of Higher Education, PENCIPTA Exhibition                                                                                  | Gold Medal                                                       | 2015 |
| 15. | Top Research Scientists in Malaysia                                                                                                                                                                      | Academy of Sciences Malaysia                                                                                                       | Top Research Scientist                                           | 2015 |
| 16. | G-Coat the new revolution coating for glass era                                                                                                                                                          | International Trade Fair Ideas-Inventions-New Products, Nuremberg IENA                                                             | Gold Medal                                                       | 2014 |
| 17. | SMARTCOAT: Remedy for VOC, Bacteria and Fungi growing world.                                                                                                                                             | Korea International Women's Invention Exposition (KIWI) 2012, Seoul, Korea                                                         | Silver Medal                                                     | 2012 |
| 18. | SMARTCOAT- for natural earth category                                                                                                                                                                    | British Invention Show (BIS)                                                                                                       | Gold Medal                                                       | 2012 |
| 19. | SMARTCOAT- for consumer category                                                                                                                                                                         | British Invention Show (BIS)                                                                                                       | Gold Medal                                                       | 2012 |

|     |                                                                                                  |                                                                                                |                                           |      |
|-----|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|-------------------------------------------|------|
| 20. | Nanopurifier- A sustainable way of destroying contaminants in air and water.                     | Korea International Women's Invention Exposition (KIWIE)                                       | Gold Medal                                | 2011 |
| 21. | Hybrid Transition Oxide Nanotube - A Bridge to Sustainable Economy Energy.                       | British Invention Show (BIS) 2011 in London                                                    | Gold Medal                                | 2011 |
| 22. | Titano: An Excellent Air Purifier.                                                               | International Trade Fair: Ideas- Inventions-New Products, Nuremberg, Germany                   | Gold Medal                                | 2011 |
| 23. | Titano: An Excellent Air Purifier.                                                               | International Trade Fair: Ideas-Inventions-New Products, Nuremberg, Germany                    | Ecology Medal                             | 2011 |
| 24. | Titano: An Excellent Air Purifier                                                                | International Warsaw Inventions Show (IWIS 2011), Warsaw, Poland                               | Silver Medal                              | 2011 |
| 25. | TNT A novel photocatalyzer                                                                       | 37th International Exhibition of Inventions New Techniques and Products in Geneva, Switzerland | Gold Medal<br>Congratulations of the jury | 2009 |
| 26. | TiO <sub>2</sub> nanotubes arraysan excellent smoke purifier                                     | 20th International Invention, Innovation & Technology Exhibition (ITEX 2009)                   | Silver Medal                              | 2009 |
| 27. | SMARTCOAT: Remedy for VOC, Bacteria and Fungi growing world                                      | Malaysia Technology Expo (MTE)                                                                 | Gold Medal                                | 2013 |
| 28. | NANOCOAT: An Inspired Molecular Solutions for ultimate protection against indoor air pollutants. | National Research & Innovation Competition                                                     | Gold Medal                                | 2012 |
| 29. | Titano-An excellent air purifier.                                                                | Malaysia Technology Expo                                                                       | Gold medal<br>The best award              | 2010 |
| 30. | TNT A novel photocatalyzer                                                                       | Malaysia Technology Expo                                                                       | Gold Medal                                | 2008 |
| 31. | Malaysian for Women In Science                                                                   | L'Oreal with the support of the Malaysian National Commission for UNESCO                       | Malaysian for Women in Science Fellowship | 2007 |

## COMMERCIALIZATION

| No. | Year | Title                                 | Company                                       | Mode                 |
|-----|------|---------------------------------------|-----------------------------------------------|----------------------|
| 1.  | 2014 | Nano TiO <sub>2</sub>                 | Anano Sphere Sdn. Bhd.                        | Technology Licensing |
| 2.  | 2019 | Enviroshield                          | International Entrepreneurs Association (IEA) | Outright sale        |
| 3.  | 2020 | Nano TiO <sub>2</sub>                 | Anano Sphere Sdn. Bhd.                        | Product              |
| 4.  | 2020 | Enviroshield                          | International Entrepreneurs Association (IEA) | Product              |
| 5.  | 2021 | Ecodifesa                             | De Eco SR Hygiene                             | Product              |
| 6.  | 2021 | PCO Reactor Model                     | De Eco SR Hygiene                             | Product              |
| 7.  | 2021 | Virocare                              | De Eco SR Hygiene                             | Product              |
| 8.  | 2022 | Virocare-Antifungal Disinfectant      | De Eco SR Hygiene                             | Technology/Product   |
| 9.  | 2022 | Virocare-Easy Clean Care Disinfectant | De Eco SR Hygiene                             | Technology/Product   |
| 10. | 2022 | Virocare-VOC Remover                  | De Eco SR Hygiene                             | Technology/Product   |

**PROFESSIONAL SERVICES / CONSULTATION**
**Selected Major Activities**

| No. | Year | Title                                                                                           | Company                                 |
|-----|------|-------------------------------------------------------------------------------------------------|-----------------------------------------|
| 1.  | 2022 | Vickers Microhardness, Water Contact Angle and Atomic Force Microscope Testing and Consultation | QDOS Interconnect Sdn. Bhd.             |
| 2.  | 2022 | FESEM Analysis and consultation                                                                 | QDOS Interconnect Sdn. Bhd.             |
| 3.  | 2022 | AFM Analysis and consultation                                                                   | QDOS Interconnect Sdn. Bhd.             |
| 4.  | 2022 | FESEM Analysis and consultation                                                                 | QDOS Interconnect Sdn. Bhd.             |
| 5.  | 2021 | FESEM Analysis and consultation                                                                 | QDOS Interconnect Sdn. Bhd.             |
| 6.  | 2021 | FESEM Analysis and Consultation                                                                 | QDOS Interconnect Sdn. Bhd.             |
| 7.  | 2021 | FESEM Analysis and consultation                                                                 | QDOS Interconnect Sdn. Bhd.             |
| 8.  | 2021 | AFM Analysis and Consultations                                                                  | QDOS Interconnect Sdn. Bhd.             |
| 9.  | 2021 | AFM Analysis for LN7444-HC and LN7999-HN and consultation                                       | QDOS Interconnect Sdn. Bhd.             |
| 10. | 2021 | AFM Analysis and Consultations                                                                  | QDOS Interconnect Sdn. Bhd.             |
| 11. | 2021 | FESEM Analysis                                                                                  | QDOS Interconnect Sdn. Bhd.             |
| 12. | 2020 | Vickers Microhardness Testing for HC                                                            | QDOS Interconnect Sdn. Bhd.             |
| 13. | 2020 | Charges for Court Attendance on Optical Lenses Witness Analysis Report                          | JP Optical, Taiwan                      |
| 14. | 2020 | Consultation Work on Optical Lens (PORTION 2-FINAL)                                             | JP Optical, Taiwan                      |
| 15. | 2019 | Consultation on Lens coating                                                                    | JP Optical, Taiwan                      |
| 16. | 2019 | Knoop Hardness on CQ                                                                            | QDOS Interconnect Sdn. Bhd.             |
| 17. | 2019 | AFM Analysis                                                                                    | QDOS Interconnect Sdn. Bhd.             |
| 18. | 2019 | AFM Analysis                                                                                    | QDOS Interconnect Sdn. Bhd.             |
| 19. | 2019 | Knoop Hardness                                                                                  | QDOS Interconnect Sdn. Bhd.             |
| 20. | 2019 | DSC analysis & Consultation                                                                     | QDOS Interconnect Sdn. Bhd.             |
| 21. | 2019 | AFM Analysis                                                                                    | QDOS Interconnect Sdn. Bhd.             |
| 22. | 2019 | AFM Analysis                                                                                    | QDOS Interconnect Sdn. Bhd.             |
| 23. | 2019 | Particle Size Analysis & Consultation                                                           | Suri Cempaka Sdn. Bhd.                  |
| 24. | 2019 | AFM Analysis for 3 spot per sample                                                              | QDOS Flexcircuits Sdn. Bhd.             |
| 25. | 2019 | DSC Analysis                                                                                    | QDOS Flexcircuits Sdn. Bhd.             |
| 26. | 2019 | Thermal Analysis DSC                                                                            | QDOS Flexcircuits Sdn. Bhd.             |
| 27. | 2018 | Consultation Service for Test Site Survey for PPO treatment system installation                 | Perbadanan Kemajuan Kraftangan Malaysia |
| 28. | 2014 | Antibacterial agent filled polypropylene or polyurethane for antimicrobial application          | Bbraun Medical Sdn. Bhd., Phase III     |
| 29. | 2014 | Antibacterial agent filled polypropylene or polyurethane for antimicrobial application          | Bbraun Medical Sdn. Bhd., Final Review  |
| 30. | 2014 | UV Testing                                                                                      | Bbraun Medical Sdn. Bhd.                |
| 31. | 2014 | X RF & UTS Testing                                                                              | Everlast Acess Tech                     |
| 32. | 2013 | AFM adherence testing on coated and uncoated surface (wood)                                     | Advance Green Tech Sdn. Bhd             |
| 33. | 2013 | FESEM & EDAX on wood sample                                                                     | Advance Green Tech Sdn. Bhd,            |
| 34. | 2013 | SEM-EDX, AFM adherence Test, XRD, Antimicrobial Test                                            | Titanium World Technology Sdn. Bhd.     |
| 35. | 2013 | Antibacterial agent filled polypropylene or polyurethane for antimicrobial application          | Bbraun Medical Sdn. Bhd., Phase II      |
| 36. | 2013 | Antibacterial agent filled polypropylene or polyurethane for antimicrobial application          | Bbraun Medical Sdn. Bhd., Phase I       |
| 37. | 2012 | Cube compression test                                                                           | CHUBB Malaysia Sdn. Bhd.                |

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|-----|------|---------------------------------------------------------------------------------------------------------|-------|
| 38. | 2012 | C117-Kursus AKEPT Research Leadership Think Tank Series: Blue Ocean Strategy in Research Sustainability | AKEPT |
| 39. | 2011 | K980-Strategi Lautan Biru-Program Kejurulatihan                                                         | AKEPT |
| 40. | 2011 | K981-Strategi Lautan Biru untuk pembangunan modal insan di AKEPT                                        | AKEPT |
| 41. | 2011 | K960-Strategi Lautan Biru-Program Pengurusan                                                            | AKEPT |
| 42. | 2013 | Consultation for C224 Blue Ocean Strategy workshop                                                      | AKEPT |

#### REVIEWER FOR INTERNATIONAL JOURNAL

##### International Journal

1. Advanced Materials Research
2. Applied Surface Science
3. Arabian Journal of Chemistry
4. Catalysis Today
5. Chemical Engineering Journal
6. Electrochimica Acta
7. International journal of hydrogen energy
8. International Journal of Photoenergy
9. Journal Alloys and Compounds
10. Journal of Applied Physics
11. Journal of Energy Chemistry
12. Journal of Energy Engineering
13. Journal of Hazardous Materials
14. Journal of Hydrogen Energy
15. Journal of Materials Processing Technology
16. Journal of Material Science
17. Journal of Photochemistry and Photobiology A: Chemistry
18. Materials Chemistry and Physics
19. Materials Letters
20. Materials Research Bulletin
21. Materials Science & Engineering B: Solid-state Materials for Advanced Technology
22. Materials Science and Engineering
23. Materials Science In Semiconductor Processing
24. Microelectronic Engineering
25. Photochemical & Photobiological Sciences
26. Photochemistry and Photobiology A: Chemistry
27. Surface and Coating Technology
28. The Electrochemical Society Journals
29. The Journal of Physical Chemistry
30. Thin Solid Film

##### National Journal & International Conference

1. Journal of Nuclear and Related Technologies
2. Malaysian Journal of Microscopy
3. ASEAN Engineering Journal
4. Sains Malaysiana
5. International Conference on X-Rays & Related Techniques in Research & Industry 2014
6. 5th International Conference on Recent Advances in Materials, Minerals & Environment (RAMM) & 2nd International Postgraduate Conference on Materials, Mineral and Polymer (MAMIP)
7. ICoBE 2015 - International Conference on Biomedical Engineering
8. Internal conference on X-rays and related techniques in research and industry (ICXRI 2012)
9. International Conference on Materials Processing Technology 2011

10. International symposium on Mechanical Science and Technology
11. 1st International Conference on Engineering and Technology Innovation 2011

## INTERNAL & EXTERNAL EXAMINER

### Ph.D & MSc Dissertation

#### External Examiner

##### Ph.D Dissertation - Research Mode

1. Ala'eddin Ahmad Jaber Saif, 2012, Ph.D Thesis , Universiti Malaysia Perlis, Sol-gel BST Thin Film for FeFET Applications: Fabrication and Characterization (ALA'EDDIN AHMADJABER SAIF) (National)
2. Kanageswary Sockalingam, 2017, Ph.D Thesis , Universiti Tun Hussein Onn Malaysia, Extraction and Characterization of Halal Gelatin Biopolymer From Black Tilapia Bones and Scales (National)
3. Teh Yen Chin, 2018, Ph.D Thesis , Universiti Malaysia Perlis, Fabrication And Characterisation of Sol-Gel Ba1-xGDxTiO3 Thin Film For Photovoltaics (National)
4. Brungesh K V, 2018, Ph.D Thesis , Visvesvaraya Technological University, Synthesis, Characterization of Low Cost & Nano Adsorbents And Their Application In Removal Of Cr(VI) Ion From Aqueous Solution (International)
5. Mustafa Anwar, 2019, Ph.D Thesis , Universiti Kebangsaan Malaysia, Structural and Electrical Properties of Doped Ceria Based Electrolyte Materials For Solid Oxide Fuel Cells (National)

##### MSc. Dissertation - Research Mode

1. Noor Harlina Binti Hassan, 2008, Master Thesis, Universiti Malaysia Perlis, Carbon from Agricultural Waste as an Absorbent in the removal of Heavyin Aqueous Solution (National)
2. Raudah Binti Othman, 2010, Master Thesis, Universiti Malaysia Perlis, Physical properties and corrosion behavior of Co-Cr-Ni biomaterial developedby power metallurgy (National)
3. Miss Mojgan Ahmaddrezaei, 2012, Master Thesis, Universiti Kebangsaan Malaysia, Synthesis and Characterization of BaxSr1-xCoyFe1-yO3 (BSCF) for cathodes in solid oxide fuel cells. (Miss Mojgan Ahmaddrezaei) (National)
4. Muhammed Ati S. A, 2013, Master Thesis, Universiti Kebangsaan Malaysia, Development of doped Ceria-Carbonated Based Composite Electrolyte and Lanthanum Strontium Based Cathode for Soild Oxide Fuel Cells (National)
5. Nurul Akidah Baharuddin (P62670), 2014, Master Thesis, Universiti Kebangsaan Malaysia, Pembangunan Katod Komposit LSCF-SDC Karbonat Melalui Kaedah Pengendapan Elektroforetik (National)

##### MSc. Dissertation - Course Work

1. Easter Joseph, 2016, Master Thesis - Course Work, Universiti Teknologi Petronas, Study on the Properties of N-Doped Graphene for Photoanode Aplication (National)

#### Internal Examiner

##### Ph.D Dissertation - Research Mode

1. Mohd Warikh Bin Abd Rashid, 2007, Ph.D Thesis , Universiti Sains Malaysia, Optimization of calcination and sintering process to produce CaCu3Mn4O12 through solid state reaction technique.
2. Banjuraizah Johar, 2010, Ph.D Thesis , Universti Sains Malaysia, Phase analysis, thermal and dielectric study on non-stoichiometric cordierite
3. Liu Wei Wen, 2011, Ph.D Thesis, USM, Synthesis of Single -walled Carbon nanotube and its Growth Mechanism
4. Ahmad Zahirani Bin Ahmad Azhar, 2012, Ph.D Thesis , Universti Sains Malaysia, Improvement of hardness and fracture toughness of Zirconia toughened Alumina through MgO and Cr2O3 addition.
5. Muhammad Azwadi bin Sulaiman, 2012, Ph.D Thesis , USM, Effect of electrode materials on electrical properties of CaCu3Ti4O12 at frequencies of 100 Hz- 1GHz.

6. Khe Cheng Seong, 2013, Ph.D Thesis, Universiti Sains Malaysia, Synthesis and characterization of cobalt and cobalt/gold bimetallic hierarchical nanostructures: Effect of synthesis parameters on size, morphology and magnetic properties
7. Muhammad Azawadi bin Sulaiman, 2013, Ph.D Thesis, Universiti Sains Malaysia, Effect of electrode materials on electrical properties of  $\text{CaCu}_3\text{Ti}_4\text{O}_{12}$  at frequencies of 100 Hz - 1 GHz
8. Banu A/P Poobalan, 2013, Ph.D Thesis, Universiti Sains Malaysia, Development of  $\text{SiO}_2$  Thin Film on 4H-SiC By Direct thermal oxidation and Post oxidation Annealing Techniques in  $\text{HNO}_3$  &  $\text{H}_2\text{O}$  vapour
9. Ng Chai Yan, 2014, Ph.D Thesis, Universiti Sains Malaysia, Synthesis and Characterization of Tungsten Oxide ( $\text{WO}_3$ ) Nanostructures for Electrochromic Application
10. Saad Omar Alsharif, 2014, Ph.D Thesis, Universiti Sains Malaysia, Fabrication and Evaluation of Dental Resin Composites Developed From Bis-GMA/TEGDMA with Ceramic Fillers
11. Wan Fahmin Faiz Bin Wan Ali, 2015, Ph.D Thesis, Universiti Sains Malaysia, Optimization the Formation of Yttrium Iron Garnet (YIG) Via Response Surface Method (RSM) for Dielectric Resonator Antenna (DRA) Application
12. Ng Soo Ai, 2015, Ph.D Thesis, Universiti Sains Malaysia, Fabrication of Gold Nanoparticles Using Low Hydrothermal Reaction for Memory Application
13. Monna Rozana, 2017, Ph.D Thesis, Universiti Sains Malaysia, Formation of Iron Oxide Nanopores and Zirconia Nanotubes by Anodization of Iron and Zirconium Metal as Photoactive Materials
14. Myo Thuya Thein, 2016, Ph.D Thesis, Universiti Sains Malaysia, Synthesis and Characterization of  $\text{ZnO}$  based Nanocomposite
15. Cheong Yuit Ling, 2016, Ph.D Thesis, Universiti Sains Malaysia, The Study of Morphological Characteristic of  $\text{TiO}_2$ , Nanostructures for Dye Sensitized Solar Cell Application
16. Ubaid Ullah, 2016, Ph.D Thesis, Universiti Sains Malaysia, Design and Investigation of New Inhomogeneous Dielectric Resonators for Linearly/ Circularly Polarized Wideband Antenna Application
17. Rosyaini binti Afendi Zaman, 2017, Ph.D Thesis, Universiti Sains Malaysia, Dielectric properties modification of  $\text{CaCu}_3\text{Ti}_4\text{O}_{12}$  (CCTO) by various oxide addition for Wideband Dielectric Resonator Antenna Application
18. Nadiah Bte Ameram, 2016, Ph.D Thesis, Universiti Sains Malaysia, The heterogenation of iron-carbonyl thiourea complex on toric husk silica and its catalytic oxidation of limonene with hydrogen peroxide
19. Lingesswari A/L Muniandy, 2017, Ph.D Thesis, Universiti Sains Malaysia, The Use of Activated Carbon Nanotubes in the Thermomodification of Titania for the Photocatalysis of Methylene Blue and Copper Modified Graphitic Carbon Nitride in the Liquid Phase Oxidation of Benzene
20. Syed Muhammad Al-Amsyar, 2017, Ph.D Thesis, Universiti Sains Malaysia, Penghasilan Pemangkin Asid Pepejal Daripada Sekam Padi Untuk Penukaran Gula Heksosa Kepada Metil Levulinat dan 5 - hidroksimetilfurfural 5-hidroksimetilfurfural
21. Nadiah Bte Ameram, 2017, Ph.D Thesis, Universiti Sains Malaysia, Pengheterogenan Kompleks Ferum-Karbonil Tiourea ke atas Sekam Padi dan Aktiviti Pengoksidaan Limonin Dengan Hidrogen Peroksida
22. Leong Sim Siong, 2017, Ph.D Thesis, Universiti Sains Malaysia, Hydrodynamic Effect on Low Field Gradient Magnetophoresis of Superparamagnetic Nanoparticles
23. Nurul Farhana Bt Ibrahim, 2017, Ph.D Thesis, Universiti Sains Malaysia, Melt Derived Bioactive Glass Powder Based on  $\text{SiO}_2$ - $\text{CaO}$ - $\text{Na}_2\text{O}$ - $\text{P}_2\text{O}_5$  System
24. Mohsen Ahmadipour, 2018, Ph.D Thesis, Universiti Sains Malaysia, Fabrication, Characterization and Humidity Sensing Property of Radio Frequency Magnetron Sputtered Calcium Copper Titanate (CCTO) Thin Film
25. Nur Syafinaz Binti Ridhuan, 2019, Ph.D Thesis, Universiti Sains Malaysia, The Development Of Zinc Oxide Nanorods For Glucose Biosensor Application
26. Nor Fatin Khairah Binti Bahanurddin, 2019, Ph.D Thesis, Universiti Sains Malaysia, Piezoelectric Properties Enhancement Of  $\text{Li}_0.035(\text{K}_{0.5}\text{Na}_{0.5})_0.965(\text{Nb}_{0.86}\text{Sb}_{0.08}\text{Ta}_{0.06})\text{O}_3$
27. Nurul Farhana Binti Ibrahim, 2018, Ph.D Thesis, Universiti Sains Malaysia, Serbuk Kaca Bioaktif Daripada Leburan Berasaskan Sistem  $\text{SiO}_2$ - $\text{CaO}$ - $\text{Na}_2\text{O}$ - $\text{P}_2\text{O}_5$
28. Norain Binti Isa, 2019, Ph.D Thesis, Universiti Sains Malaysia, Synthesis And Characterization of Silver Nanoparticles And Titanium Dioxide Nanotubes Decorated Silver Nanoparticles For Degradation of Methylene Blue Dye

#### MSc. Dissertation - Research Mode

1. Fimandika Harda, 2008, Master Thesis, Universiti Sains Malaysia, Zirconia Reinforced Hydroxyapatite Biocomposite for improved Strength and Toughness.

2. Chan Pooi Quan, 2010, Master Thesis, Universiti Sains Malaysia, Development of Thin film tetragonal zirconia for semiconducting application.
3. Jeremy Koh Chee Hao, 2010, Master Thesis, Universiti Sains Malaysia, Synthesis of titania nanotubes and application of Agar Based Gel polymer electrolyte for dye sensitized solar cell application.
4. Jeremy Koh Chee Hao, 2011, Master Thesis, USM, Synthesis of titania nanotubes and application of agar-based gel polymer electrolyte for dye synthesized solar cell application
5. Yeo Chiew Hwee, 2011, Master Thesis, Universti Sains Malaysia, Synthesis and characterization of calcium phosphate nanoshells using DOPA and DPPA liposome templates
6. Norfadhilah Binti Ibrahim, 2012, Master Thesis, Universti Sains Malaysia, Effect of Dolomite Addition on the  $\alpha$ -Cordierite Formation
7. Mohd Fariz bin Ab Rahman, 2013, Master Thesis, USM, Investigation of magnesium doped calcium copper titanate ( $\text{CaCu}_3\text{Ti}_4\text{O}_{12}$ ) electroceramic prepared by solid state reaction method
8. Sharifah Aishah binti Syed Salim, 2013, Master Thesis, Universiti Sains Malaysia, Dielectric properties modification of  $\text{NiO}_2$  using  $\text{ZrO}_2$  and  $\text{CaO}$ .
9. Thiphanit Phommixay, 2014, Master Thesis, Universiti Sains Malaysia, Study on the Preparation of Antibacterial Tiles
10. Nor Fatin Khairah Binti Bahanurddin, 2014, Master Thesis, Universiti Sains Malaysia, Optimization of PZT Dielectric and Piezoelectric Properties Via  $\text{La}_2\text{O}_3$  and  $\text{SrCO}_3$  Additions Without Calcination Step
11. Nur Jassriatul Aida Binti Jamaludin, 2018, Master Thesis, Universiti Sains Malaysia, Sintesis, Analisa Dan Penyelidikan Keutuhan Prestasi Bagi Filem Nipis Oksida Logam Terenap Diatas Al Substrat Menggunakan Pelbagai Kaedah Enapan Bagi Aplikasi Pengurusan Terma
12. Muhammad Syazwan Mohd Noor, 2019, Master Thesis, School of Materials & Mineral Resources Engineering, Understanding the Mechanism of Multi-Doping Ions in Carbonated Hydroxyapatite (CHA) Scaffolds to Induce Rapid Bone Formation

#### MSc. Dissertation - Mix Mode

1. Wan Nur Fadzilah Wan Mustapha, 2007, Master Thesis - Mixed Mode, Universiti Sains Malaysia, Synthesis of silicon carbide (SiC) nanowires via catalyst-free routes
2. Illie Fadzilah Hashim IPPT, USM, 2009, 2009, Master Thesis - Mixed Mode, Universiti Sains Malaysia, Study on interaction of immune cells with nano materials.
3. Lee Ting, 2010, Master Thesis - Mixed Mode, Universiti Sains Malaysia, Development of photoluminescent glass derived from rice husk.
4. Hai Qing Yu, 2010, Master Thesis - Mixed Mode, Universiti Sains Malaysia, Non-isothermal reduction behavior and kinetics of activated  $\text{Fe}_2\text{O}_3$ -C powder mixtures and pellets
5. Quah Ai Li (P-GM0018/13), 2014, Master Thesis - Mixed Mode, Universiti Sains Malaysia, Natural Dye as Sensitizer in Dye Sensitized Solar Cells
6. Wong Chung Leng, 2011, Master Thesis - Course Work, USM, Hydrothermal Synthesis of Silica Gel-Supported Titania Nanotubes and its Photocatalytic Degradation of Phenol
7. Chan Pooi Quan, 2011, Master Thesis- Course Work, USM, Development Tetragonal Zirconia Thin Film for Semiconductor Application
8. Norfadhilah Binti Ibrahim, 2011, Master Thesis - Course Work, USM, Effect of Dolomite Addition on the  $\alpha$ -Cordierite Formation
9. Lim Wei Qiang, 2017, Master Thesis - Course Work, Universiti Sains Malaysia, Synthesis of  $\text{Al}_2\text{O}_3$  (aluminium oxide) Thin Film as Thermal Interface Materials (TIMs) using Chemical Vapor Deposition (CVD) Method for Solid State Lighting Applications

#### TECHNICAL ASSESSOR / ASSESSOR FOR GRANT APPLICATION

#### Assessor for Grant Application

##### International

1. Qatar International Research Grant-Novel Structures and Devices for Solar Energy Generation, Storage, and  $\text{CO}_2$  Reduction, NPRP 7-814-2-304, 2014, (International)
2. Qatar International Research Grant-Fine-Tuning the Photoelectrochemical Properties of  $\text{TiO}_2$  Nanotube Arrays by Doping and Decoration, NPRP 7-1614-2-591, 2014, (International)

3. United Arab Emirates University (UAEU Grant; Synthesis of length-controlled zinc-oxide nanorods for water purification, 2015, (International)

### National

1. Science fund-Development of Enhanced Sensitivity Iron Oxide Nanoparticles-Based Electrode for Glucose Biosensors for Research grant of Science Fund Phase 1/2014, 2014, (National)
2. Science fund-Synthesis of the Carbon Nanotubes Based Mixed Matrix Nanocomposite by Electrospinning and their Application in Pre-vaporization Process for Research grant of Science Fund Phase 1/2014, 2014, (National)
3. Science fund-Preparation of tunable or Adjustable dielectric Constant material Using epoxy Hybrid Nano-Composites for Printed Circuit Board Application, 2014, (National)
4. Science fund-Photoconversion of CO<sub>2</sub> using catalytic thin films engineered from transparent and gas selective silicone, 2014, (National)
5. FRGS 2015-Synthesis and Characterization of thermo-responsive Cationic Graft Copolymers Containing 2-(2-Methoxyethoxy) ethyl Methacrylate and Oligo (ethylene glycol) Methacrylate via ATRP, 2015, (National)
6. Enhancing the Photocatalytic Activity of Highly Active Locally Developed Titanium Dioxide Using the Growth Mechanism, 2018, Kementerian Pengajian Tinggi (National)
7. Photocatalytic activity of composite catalyst compound (Fe<sub>2</sub>O<sub>3</sub>/TiO<sub>2</sub>) using solar irradiation towards degradation path of pharmaceutical pollutants in heterogeneous photocatalysis process., 2018, Kementerian Pengajian Tinggi (National)
8. Kinetic Study of Thorium Dioxide Extraction from Malaysian Monazite Sands Via Alkaline Digestion, 2018, Kementerian Pengajian Tinggi (National)
9. [Sub-Project] Program ID: 243205 Dynamic behavior of water contaminants in water purification process by deep UV LEDs, 2018, Kementerian Pengajian Tinggi (National)
10. [Program] Program ID: 243205 Energy-efficient deep ultraviolet light emitting diode (DUV LED) water purification for public health and economic development., 2018, Kementerian Pengajian Tinggi (National)
11. The influence of gel microparticles on the textural and rheological properties of texture-modified food model system, 2018, KEMENTERIAN PENGAJIAN TINGGI (National)
12. Interfacial interaction and chondrocytes cell response of 3D printed polylactic acid/polyethylene glycol/cellulose nanocrystals scaffolds, 2018, Kementerian Pengajian Tinggi (National)
13. [Sub-Project] Program ID: 239719 Improving efficiency of AlGaN based deep ultraviolet light emitting diode for water purification., 2018, Kementerian Pengajian Tinggi (National)
14. Graded Nano-Composite Ceramic Cutting Tool Inserts For Turning Of Natural Fiber Reinforced Composites, 2018, Kementerian Pengajian Tinggi (National)
15. Safe Methane Storage through Low Pressure Adsorption by Nanoporous Activated Carbon Fibre (ACF) converted from Waste Mesocarp Fibre of Palm Oil Production: From Technical Fundamental to Business Feasibility Studies, 2019, KEMENTERIAN PENDIDIKAN TINGGI (National)
16. Interaction Correlation of Morphology and Composition on the Cell Behaviour and Antimicrobial Properties of Asymmetrical Polycaprolactone-based Composite Membrane, 2019, Kementerian Pendidikan Tinggi (National)
17. Investigation of Growth Mechanism and Metal-Oxide-Semiconductor Characteristics of Different Gate Oxide Configuration in the Passivation of Silicon Carbide Surface, 2019, KEMENTERIAN PENDIDIKAN TINGGI (National)
18. The correlation of the crystallization properties to the triacylglycerol partitioning during fractional crystallization of palm oil for production of high oleic palm oil, 2019, Kementerian Pendidikan Tinggi (National)
19. Characteristics of graphene oxide produced from biochar of oil palm wastes., 2019, Kementerian Pendidikan Tinggi (National)
20. I-V characteristics of Tin Doped Zinc Oxide Nanowires Grown by Hot-tube Thermal Evaporation Method, 2019, Kementerian Pendidikan Tinggi (National)
21. Behavioral response of osteoclast and osteoblast cells on bi-layer dicalcium phosphate dihydrate-coated  $\beta$ -tricalcium phosphate bioceramics, 2019, Kementerian Pendidikan Tinggi (National)
22. Shape memory mechanism of segmental polyurethane: influence of soft segment length/entanglements and hard segment symmetry, 2019, Kementerian Pendidikan Tinggi (National)

## EDITORIAL BOARD

1. Editorial Board Member, Reactive Oxygen Species, International
2. Editorial Board Members, Journal of Advanced Biotechnology and Bioengineering, - (International)

## MEMBER OF A PANEL DISCUSSION / FORUM

1. Panel for Nanotech Malaysia 2007 & Asia Nano Forum Summit 2007 (AnFo 2007)
2. Panel for RCM 1st AUN-SEED/Net Regional Conference on Material Regional Conference on Materials Engineering Forum 2009
3. Panel for Workshop: Strategy future on nanotoxicology research, 17-19 December 2009
4. Panel for Bengkel Penyediaan Pelan Tindakan Accelerated Programme for excellence (APEX) bagi tahun 2011
5. Panel for Agensi Inovasi Malaysia (AIM) forum for Industry Driven Innovation Session 1 (Agriculture), 6th Nov 2012
6. Panel for Agensi Inovasi Malaysia (AIM) forum for Industry Driven Innovation Session 2 (Healthcare), 28th Nov 2012

## KEYNOTE SPEAKER (CONFERENCE / SEMINAR / SYMPOSIUM AND OTHER SIMILAR ACADEMIC FORUMS)

### Keynote Speaker

#### International

1. 2011, Keynote Speaker, Formation of TiO<sub>2</sub> Nanotubes via Anodization and Its Potential Application: Photocatalyst, Biomedical Material and Photoelectrochemical, , Nagaoka University of Technology, The International Symposium global multi-disciplinary engineering (International)
2. 2011, Keynote Speaker, Anodic Growth of Nanostructured TiO<sub>2</sub> and WO<sub>3</sub>: Morphology and Photoelectrochemical Response, , Thammasat University , Pathumtani Thailand, 6. The International Symposium on Materials Science Engineering and Energy Technology(International)

#### National

1. 2009, Keynote Speaker, TNT as a Novel Photocatalyzed, Advanced materials Research Centre (AMREC), SIRIM Berhad, Photocatalyst Seminar (National)
2. 2009, Keynote Speaker, Studies on Formation of TiO<sub>2</sub> Nanotube Arrays with Various Anodization Parameter and Photocatalytic Application, X-Ray Applications Malaysia (Xapp Malaysia-MNS), Nanomaterials Synthesis & Characterization Conference nMSC (National)
3. 2011, Keynote Speaker, Workshop of Nanomaterials Synthesis and Characterization - Nanotubular Transition Metal Oxide for Hydrogen Production, Xapp Malaysia MNS, International conference for nanomaterials synthesis and characterization (INSC), (National)
4. 2011, Keynote Speaker, Improving Indoor Air Quality with Titanium Dioxide (TiO<sub>2</sub>) with Special Address on Green Building, Mechanical Engineering Technical Division, IEM, nano Yo's seminar (National)
5. 2016, Keynote Speaker, Insights on Photocatalyst Development and the Significance of Addressing Various Issues in Environment, Energy and Biomedical Field., Microscopy Society Malaysia, Putrajaya Bangi (National)

### Invited Speaker

#### International

1. 2007, Invited Speaker, Collaborative Research- Preparation and Magnetic properties of Spinel Oxides, Tokyo Institute Technology, AUN/SEED-Net Project (International)
2. 2007, Invited Speaker, International Conference on Neutron and X-Ray Scattering 2007 "World Database of Crystallographers", ICNX 2007, (International)

3. 2011, Invited Speaker, Anodic growth of Nanostructured TiO<sub>2</sub> and WO<sub>3</sub>: Morphology and photoelectrochemical response, Faculty of science and Technology Thammasut University (Rangsit Campus), International Symposium on material Science Engineering and Energy Technology (International)
4. 2011, Invited Speaker, Nanotubular Transition Metal Oxide for Hydrogen Production, XAPP, Malaysia, The International Conference for Nanomaterials Synthesis and Characterization 2011 (International)
5. 2013, Invited Speaker, Studies on Antibacterial Agent Filled Polypropylene or Polyurethane For Antimicrobial Application, Materials and Mineral Resources Engineering, USM, 3rd International Conference on the Advancement of Materials and Nanotechnology (International)
6. 2015, Invited Speaker, An Environmental Benign Approach towards Improvement of Indoor Air Quality in hospitals, All India Institute of Medical Sciences, New Delhi, International Conference on Hospital Waste Management and Infection Control (ISHWMCON 2015) (International)

### National

1. 2009, Invited Speaker, Nano Materials: Synthesis and characterization Conference, Malaysian Nuclear Agency, X-Ray Applications Malaysia (National)
2. 2009, Invited Speaker, TNT as a Novel Photocatalyzer, Advanced Materials Research Center (AMREC), Photocatalyst Seminar (National)
3. 2009, Invited Speaker, Studies of formation of TiO<sub>2</sub> nanotube arrays with various anodization parameters and photocatalytic application, XAPP Malaysia MNS, Nanomaterials Synthesis & characterization conference (NMSC 2009) (National)
4. 2011, Invited Speaker, Half day Course on "Improving Indoor Air Quality with Nanotechnology -Titanium dioxide with special address on Green Buildings" - Institute of Engineers Malaysia (IEM), Arc Flash Marketing (M) SDN. BHD, (National)
5. 2011, Invited Speaker, Nanomaterials synthesis and Characterization (INSC 2011), Workshop (National)
6. 2011, Invited Speaker, Half day Course on "Improving Indoor Air Quality with Nanotechnology Titanium dioxide with special address on Green Buildings" - Pertubuhan Arkitek malaysia (PAM) and Malaysia Green Building Confederation (MGBC), Arc Flash Marketing (M) Sdn. Bhd., (National)
7. 2012, Invited Speaker, Awareness Talk on Smartcoat TiO<sub>2</sub> for improved Indoor Air Quality (Inovar Industries Sdn. Bhd.), Inovar Industries Sdn. Bhd., SMART COAT Presentation to Inovar Industries Sdn. Bhd. (National)
8. 2012, Invited Speaker, Awareness Talk on Smartcoat TiO<sub>2</sub> for improved Indoor Air Quality (Bangkok), NanoYo, Invitation to give a smartcoat TiO<sub>2</sub> presentation at Bangkok, Thailand (National)
9. 2012, Invited Speaker, Awareness Talk on Smartcoat TiO<sub>2</sub> for improved Indoor Air Quality (Singapore), NanoYo, Invitation to give a smartcoat TiO<sub>2</sub> presentation to ISO Team in Singapore (National)
10. 2012, Invited Speaker, Industry Driven Innovation Initiative (Health Care), Agensi Inovasi Malaysia, Industry - University Collaboration Forum: Health Care Sector (National)
11. 2012, Invited Speaker, Industry Driven Innovation Initiative (Agriculture), Agensi Inovasi Malaysia, Industry - University Collaboration Forum: Agriculture Sector (National)
12. 2013, Invited Speaker, Nano technology Towards Improvement of Health, MMA Society of Occupational and Environmental Medicine, MMA-SOEM Seminar (National)
13. 2015, Invited Speaker, Innovation Vs Humanity: How Humane Are We? (Chemical Evolution), St. George' S Girls' School, 6th SGGs International Students' Conference (SISC) 2015 (National)
14. 2016, Invited Speaker, Awareness Talk on Photocatalyst and Indoor Air Quality (IAQ) of Melaka Hospital, Jawatankuasa Keselamatan & Kesihatan Pekerjaan Hospital Melaka, Kursus Kesedaran Keselamatan & Kesihatan Pekerjaan Hospital Melaka (National)
15. 2018, Invited Speaker, Titanium Dioxide Photocatalyst Technology: A Remedy for Air and Water Pollution, RAMM 2018, Bayview Hotel, Universiti Sains Malaysia, 6th International Conference on Recent Advances in Materials, Minerals & Environment (RAMM 2018) (National)

### Others

1. 2011, Invited Speaker, Formation of TiO<sub>2</sub> nanotubes via anodization and its potential application: Photocatalyst, Biomedical material and photoelectrochemical, Nagaoka University of Technology, International Symposium on global Multidisciplinary Engineering 2011 (University)
2. 2011, Invited Speaker, Seminar Transdisiplinari "Internal Networking Session", Universiti Sains Malaysia, (University)

3. 2016, Invited Speaker, Pengurusan Risiko Bencana-Pembangunan Lestari Untuk Bencana Jerebu 2016, Pusat Kajian Kelestarian Global (CGSS), Dewan Pembangunan Siswa 1, Universiti Sains Malaysia, Pulau Pinang (University)
4. 2017, Invited Speaker, Seminar Teknologi Fotopemangkin Untuk Merawat Sisa Industri Batik Di Negeri Kelantan, Jabatan Alam Sekitar, Kelantan, Seminar on Green Technology to Address Batik Effluents (State)
5. 2018, Invited Speaker, Sesi Perkongsian Penulisan Geran, Universiti Sains Malaysia, CDAE, Siri Seminar Penyelidikan Staf (University)
6. 2018, Invited Speaker, The Quest for Excellence, Universiti Sains Malaysia, Centre For Development of Academic Excellence & Student Development (CDAE), Kursus Sijil Pengajaran Dan Pembelajaran Usm 2018 (University)
7. 2018, Invited Speaker, Commercialization: The challenges and tribulation of commercializing, Universiti Sains Malaysia, CDAE, USM (University)

#### MEMBER IN PROFESSIONAL / ACADEMIC ASSOCIATIONS

1. Member of International Society of Electrochemistry, (2013-present) Member ID 12281
2. Member of American Chemical Society, (2013-present) Member No: 30573555
3. Member of Electron Microscopy Society of Malaysia (2000-present)
4. Member of The Institute of Materials Malaysia(2000-present)
5. Member of Board of Engineers Malaysia (2000-present)
6. Member of X-Ray Applications Malaysia of Malaysian Nuclear Society (MNS)( 2007-present)
7. Member of Materials Research Society of Singapore (2007-2009)
8. Graduate of IEM, membership No: 37287
9. Member of IMM Northern Region (2011-present)
10. Board Member of SMMRE, USM (2007-present)
11. Board Member of School of Chemical Engineering, USM (2010-2012)
12. Member of Institution of Mechanical Engineer, UK- Chartered Engineer (2013-present)
13. International membership of IEA (IMIEA), UK (2019-present), Membership No=60-01-IMIEA-6078
14. Professional Engineer (IR) from Board of Engineers Malaysia (2014-present)

#### SERVICE TO THE UNIVERSITY AND COMMUNITY

1. Project Leader/Coordinator,Head Of Cluster (Green Technology & Advance Materials),Community, 01/01/2022-31/12/2023
2. Programme Chairperson, Coffee with CIC Session 15/2022 - Empowering MyRAAspiration for Section E and F, 04/10/2022-04/10/2022)
3. Programme Chairperson, Coffee with CIC Session 12/2022 - External Funding for startup: Sharing on success story, 29/08/2022-29/08/2022
4. Programme Chairperson, Coffee with CIC Session 14/2022 - From an education researchto a social innovation start up, 08/08/2022-08/08/2022
5. Programme Chairperson, Coffee with CIC Session 11/2022 - Participation in Pecipta'22,08/08/2022-08/08/2022
6. Programme Chairperson, Coffee with CIC Session 10/2022 - How to pitch (HybridSession), 10/06/2022-10/06/2022
7. Programme Chairperson, Coffee with CIC Session 9/2022 - Leave a nest: The techplanter exhibition, 21/04/2022-21/04/2022
8. Programme Chairperson, Coffee with CIC Session 8/2022 - Sharing session requirementfor patent filing, 11/04/2022-11/04/2022
9. Programme Chairperson, Coffee with CIC Session 7/2022 - Double Tax Exemption Clinic,24/03/2022-24/03/2022
10. Programme Chairperson, Coffee with CIC Session 6/2022 - Start Up Spin Off FormationClinic, 24/03/2022-24/03/2022

11. Programme Chairperson, Chairman of Coffee with CIC Session 5/2022- Design ThinkingWorkshop, 21/03/2022-22/03/2022
12. Programme Chairperson, Coffee with CIC Session 4/2022-Sesi Taklimat Inisiatif Startp/SpinOff 2022, 14/03/2022-14/03/2022
13. Programme Chairperson, Coffee with CIC Session 2/2022 - Innovation and Commercialisation, 10/03/2022-10/03/2022
14. Programme Chairperson, Coffee with CIC Session 3/2022 - Technology Sharing Session with Upsilon Holding, 21/02/2022-21/02/2022
15. Programme Chairperson, Chairman for Coffee with CIC Session 1/2022 – Technology sharing session with MRANTI Collaboration, 16/02/2022-16/02/2022
16. Director, Centre of Innovation and Consultation 2022 MyRa achievement-11 Product Commercialisation for University, 01/01/2022-31/12/2022
17. Director, Centre of Innovation and Consultation 2022 MyRa achievement-14 Double Tax Exemption Initiative of Industrial Grant for University, 01/01/2022-31/12/2022
18. Director, Centre of Innovation and Consultation 2022 MyRa achievement-2 Technology licensing for University, 01/01/2022-31/12/2022
19. Director, Centre of Innovation and Consultation 2022 MyRa achievement-25 PatentGranted for University, 01/01/2022-31/12/2022
20. Director, Centre of Innovation and Consultation 2022 MyRa achievement- 35 InnovationAwards for University form PECIPTA (19 golds, 1 silver, 2 best cluster awards, 1st & 3rdplace mytech pitch award) 5 RISE (5 gold award) 6 MTE SDG (4 gold, 2 outstanding, 1silver, 1 bronze), 01/01/2022-31/12/2022
21. Director, Centre of Innovation and Consultation 2022 MyRa achievement-12 TradeSecret Registered for University, 01/01/2022-31/12/2022
22. Director, Centre of Innovation and Consultation 2022 MyRa achievement-468 filedCopyright for University, 01/01/2022-31/12/2022
23. Director, Centre of Innovation and Consultation 2022 MyRa achievement-33 PatentFilled for University, 01/01/2022-31/12/2022
24. Director, Centre of Innovation and Consultation 2022 MyRa achievement-8 New Spin OffFormation, 01/01/2022-31/12/2022
25. Director, Centre of Innovation and Consultation 2022 MyRa achievement-5 filed and 7Registered Trademark for University, 01/01/2022-31/12/2022
26. PENGARAH, PUSAT INOVASI DAN PERUNDINGAN, 01/01/2022-31/12/2024
27. Programme Chairperson, Cradle Insights Program for the Start-Up Residency Program,06/07/2021-12/08/2021
28. PENGARAH, PUSAT INOVASI DAN PERUNDINGAN, 01/07/2021-31/12/2021
29. PEMANGKU PENERUSI RANCANGAN, PUSAT PENGAJIAN KEJURUTERAAN BAHAN DANSUMBER MINERAL, 21/09/2018-19/11/2018
30. Programme Chairperson, PEMANGKU PENERUSI RANCANGAN (KEJURUTERAANBAHAN), 21/09/2018-19/11/2018
31. Programme Chairperson, 5th International Conference on Recent Advances in Materials,Minerals & Environment (RAMM), 04/08/2015-06/08/2015
32. University Committee,Elucidation of physico-chemical properties of algin incorporatedtricalcium silicate bioactive glass sealer - FRGS Assessor 2022, 05/05/2022-25/05/2022
33. University Committee,Effects of ventilation mechanism on the diffusion of aircontaminants for the nonresidential indoor area - FRGS Assessor 2022, 02/03/2022-31/03/2022
34. University Committee,Theoretical prediction on the physicochemical and photocatalystproperties of lignocellulose film integrated with BiFeO3 nanoparticle - FRGS Assessor2022, 01/04/2022-29/04/2022
35. University Committee,Chairman for University Research Exhibition EvaluationCommittee 2022 For Pencipta, Rise and MTE SDG, 01/01/2022-31/12/2022
36. University Committee,Pengerusi Ganti Pengkomersilan Dan Perlesenan (JKPP) UniversitiSains Malaysia Bagi Tahun 2020-2022, 01/01/2022-31/12/2022
37. University Committee,Pengerusi Ganti Pengurusan Harta Intelek (IPMC) Universiti SainsMalaysia Bagi Tahun 2020-2022, 01/01/2022-31/12/2022
38. University Committee,Panel Penilai Peringkat Universiti Bagi Permohonan Skim GeranPenyelidikan Fundamental (FRGS) Fasa 1/2022, Domain Penyelidikan: Natural andCultural Heritage, 01/01/2022-31/12/2022
39. University Committee,Chairman Of Spin Off/ StartUp Committee for 2021-2023,01/01/2022-31/12/2023

40. University Committee,Ahli Jawatankuasa Pembangunan Strategi Lonjakan USM Ke-100Teratas QS World University Rankings (QSWUR), 18/04/2022-31/12/2022
41. University Committee,Panel Penilai Sesi Pembentangan Pemantauan Prestasi Program Penyelidikan Strategik Translational Research Kementerian Pengajian Tinggi(TR@M) Tahun 2020 Peringkat Universiti, 03/10/2022-03/10/2022
42. University Committee,Panel Penilai Peringkat Universiti Bagi Permohonan Skim GeranPenyelidikan Fundamental (FRGS) Fasa 1/2022, Domain Penyelidikan: Technology and Engineering, 26/01/2022-16/03/2022
43. University Committee,Panel Temu Duga Bagi Projek Pitch Tahun 2022 (Cycle 1),01/06/2022-01/06/2022
44. University Committee,Panel Penilai Sesi Pembentangan Laporan Prestasi Bagi ProgramPenyelidikan Di Bawah Skim Geran Penyelidikan Transdisiplinari (TRGS) Fasa 1 Tahun2018 - Peringkat Universiti, 16/08/2022-16/08/2022
45. University Committee,Panel Penilai Sesi Pembentangan "Mock Presentation" BagiPembentangan Permohonan Projek Malaysia Laboratories for Academia-BusinessCollaboration (MyLAB) 1/2022, 22/08/2022-22/08/2022
46. University Committee,Panel Temu Duga Bagi Projek Pitch Tahun 2022 (Cycle 2.0),12/09/2022-12/09/2022
47. University Committee,Panel Penilai Sesi Pembentangan Pemantauan Laporan PrestasiDan Kewangan Projek Penyelidikan Di Bawah Skim Geran Penyelidikan PembangunanPrototaip (PRGS) Fasa 1 Tahun 2021 - Peringkat Universiti, 19/09/2022-19/09/2022
48. University Committee,Panel Penilai Projek "Public-Private Research Network"(PPRN) 2.0 Fasa 1 Tahun 2022-Peringkat Universiti, 15/02/2022-25/02/2022
49. University Committee,Ketua Seksyen Bagi Pengauditan Pencapaian UniversitiPenyelidikan (MYRA) Universiti Sains Malaysia Tahun 2021, 15/03/2022-31/12/2022
50. University Committee,Ahli Jawatankuasa Pemilihan Anugerah Sanggar Sanjung (MASS)2021, 01/01/2022-31/12/2022
51. University Committee,Chairman Jawatankuasa Sebutharga Pusat Tanggungjawab (PTJ)-Pusat Inovasi Dan Perundingan 23 Feb 2022-31 Dec 2023, 23/02/2022-31/12/2023
52. University Committee,Ketua Seksyen Bagi Pencapaian Malaysia Research. AssessmentMyRA Tahun 2021, 15/03/2022-31/12/2022
53. University Committee,Chairman for the StartUp Residency Ecosystem Program,01/09/2021-31/12/2021
54. University Committee,USM Graduate Recruitment Program on Digital marketing withKakitangan.com and Openlearning.com, 30/07/2021-01/09/2021
55. University Committee,Chairman of Technopreneurship Start Up Business DevelopmentProgram-How to write a Business Plan for Start Up Company, 07/06/2022-10/06/2022
56. University Committee,Assessor for RUTrans (Water & Food Cluster) -Intelligent SensingSystem of Heavy Metals in Water Resources for Sustainable Water Supply Chain,16/02/2021-16/02/2021
57. University Committee,Assessor for RUTrans (Water & Food Cluster) -Therapeutic Effectof Novel Gamma-Oryzanol Brown Rice-Based Whole Food in Improving CognitiveFunction Among Adults with Mild Cognitive Impairment (MCI): The Oryzanol CognitiveStudy Assisted by Machine Learning System, 16/02/2021-16/02/2021
58. University Committee,Assessor for RUTrans (Water & Food Cluster) -Study on UntreatedWater Quality: Effect on Thyroid Epidemiology, Biomarker Discovery, and Developmentof Diagnostics Platform, 16/02/2021-16/02/2021
59. University Committee,Assessor for RUTrans (Water & Food Cluster) -Emerging Pollutantsin Wastewater: Integrating Advance Treatment, Analytical, Ecotoxicological, and IllicitDrug Assessment, 16/02/2021-16/02/2021
60. University Committee,Tailoring the TiO2-carbon matrix bonding in graphene oxidenano hybrid as a solar-light driven material- ASSESSOR FRGS 2021, 26/02/2021-31/03/2021
61. University Committee,Upscaling and evaluation of dermal nutmeg oil-loadednanoemulsion as a safe and controlled release mosquito repellent- ASSESSOR FRGS2021, 10/03/2021-31/03/2021
62. University Committee,Elucidation of physico-chemical properties and adhesion failuremechanisms of novel algin incorporated calcium silicate bioactive glass sealer in rootcanal treatment- FRGS ASSESSOR, 26/02/2021-31/03/2021
63. University Committee,The properties and mechanism of functionalized-inducedgraphene oxide by laser irradiation on bamboo char as starting graphite material- FRGS Assessor, 26/02/2021-31/03/2021
64. University Committee, Elucidation of the hydrodynamic mechanisms of oil droplet-gas bubble of a stable oil-water emulsion in a flotation process- ASSESSOR FRGS 2021,26/02/2021-31/03/2021

65. University Committee, Development of Bio-compatible Hybrid Conductive Ink Based on Reduced Graphene Oxide, Carbon Nanotubes and Silver Nanoparticles for Wound Management System-TRGS SUBPROJECT ASSESSOR, 02/01/2020-26/10/2020
66. University Committee, PELANTIKAN SEBAGAI PANEL PENILAI BAGI PERMOHONAN TOPDOWN MRUN BAGI TAHUN 2021, 18/01/2021-26/01/2021
67. University Committee, Replacement Chairman of University Committee for Commercialization and Licensing (JKPP), 12/11/2021-31/12/2022
68. University Committee, Committee Member for identification of Research Opportunity forRMK 12, 26/10/2021-25/01/2022
69. University Committee, Chairman of Spin Off/ StartUp Committee for 2021-2023,01/11/2021-31/12/2023
70. University Committee, Chairman of Small Intellectual Property Management Committee (IPMC), 01/07/2021-31/12/2021
71. University Committee, Chairman of Product Innovation & Development Grant (PID),01/07/2021-31/12/2021
72. University Committee, Leader for the SDG9: Industry, Innovation & Infrastructure (THEGIR), 16/08/2021-31/12/2022
73. University Committee, Assessor for RUTrans (Water & Food Cluster) -Development of Malaysia's Superfood-Enriched Smart Snack Targeting Malnourished Orang Asli School Children to Address Related Sustainable Development Goals, 16/02/2021-16/02/2021
74. University Committee, Assessor for RUTrans (Water & Food Cluster)-Empowerment of Stingless Bee Honey Products as A New Commodity for Country via IR-4 Technology, Clinical Evaluation and Nano-based Downstream Product, 16/02/2021-16/02/2021
75. University Committee, Assessor for RUTrans (Water & Food Cluster) -The Development of Climate-Smart-Green Agricultural Framework for Paddy Cultivation Practices in Non-Granary Areas, 16/02/2021-16/02/2021
76. University Committee, Assessor for RUTrans (Water & Food Cluster) -Smart Aquaculture System: Enhancing Fish Farming Sustainability Driven by Technology, Ecosolution and Crowdfunding, 16/02/2021-16/02/2021
77. University Committee, Chairman of University Research Exhibition, 01/07/2021-31/12/2021
78. University Committee, Committee Member of Anugerah Sanggar Sanjung, 15/09/2021-14/09/2022
79. University Committee, The properties and mechanism of functionalized-inducedgraphene oxide by laser irradiation on activated bamboo char as starting graphitematerial- FRGS 2021 ASSESSOR, 10/02/2021-24/02/2021
80. University Committee, Superhydrophobic plant-based coating with carbon storagenanoparticles-PRGS ASSESSOR, 02/01/2020-26/10/2020
81. University Committee, Advancing and Communitizing Deep UV LED Technology towards Future Manufacturing of UV Water Disinfection System-TRGS ASSESSOR, 02/01/2020-26/10/2020
82. University Committee, Development of Clean and High Efficient Indium Gallium Nitride (InGaN) Based Thin Films Solar Cell Technology and Investigation of Its SocialDimension-TRGS ASSESSOR, 02/01/2020-26/10/2020
83. University Committee,Development of a safe and stable curculin containing formulationas an acceptable sugar substitute-TRGS ASSESSOR, 02/01/2020-26/10/2020
84. University Committee,Elucidation on the interaction of nano-fillers with cellulose-basedsuperabsorbent hydrogel's matrix and the correlation with absorption-desorptionkinetics-FRGS ASSESSOR, 02/01/2020-26/10/2020
85. University Committee,3D printed tumour model: Investigation of bioinkmicroenvironment effects and therapeutic responses on Rho/Rock signalling pathway-FRGS ASSESSOR, 02/01/2020-26/10/2020
86. University Committee,Elucidation of wastewater heavy metal adsorption mechanismand behavior of chemical functionalized nanocellulose/crosslinked polymernanocomposites-FRGS ASSESSOR, 02/01/2020-26/10/2020
87. University Committee,Correlation of synthesis parameters and surface functionalizationon platinum nanocolloids stability, catalytic and in vitro properties-FRGS ASSESSOR,02/01/2020-26/10/2020
88. University Committee,Structural-Optical Properties Relationship of Gold NanoparticlesEmbedded in Porous Alumina Membrane for Catalytic Treatment of Wastewater-FRGSASSESSOR, 02/01/2020-26/10/2020

89. University Committee, Elucidation of the interaction mechanism of favorable ROS ( $\text{H}_2\text{O}_2$ ,  $\text{H}_2\text{O}_2$ ,  $\text{H}_2\text{O}_2$  and  $\text{H}_2\text{O}_2$ ) towards the EDC degradation using  $\text{TiO}_2$  and  $\text{Fe}_2\text{O}_3/\text{TiO}_2$  catalyst-FRGS ASSESSOR, 02/01/2020-26/10/2020
90. University Committee, Development of superhydrophobic calcium carbonate coating prototype with antimicrobial properties-PRGS ASSESSOR, 02/01/2020-26/10/2020
91. University Committee, Wound management at home: Self management chronic wound (SMCW) system for diabetic patient-TRGS PROGRAM ASSESSOR, 02/01/2020-27/10/2020
92. University Committee, Juruaudit Dalam Malaysia Research Assesment (MyRA), 01/06/2020-31/10/2020
93. University Committee, AJK Penasihat Koperasi USM Berhad, 01/01/2020-31/12/2020
94. University Committee, AJK Pengurusan Harta Intelek (IPMC) USM, 01/01/2020-31/12/2020
95. University Committee, AJK Penasihat Koperasi USM Berhad, 22/11/2019-21/11/2020
96. University Committee, Panel Jawatankuasa Pameran MTE 2019, 11/02/2019-11/02/2019
97. University Committee, Panel Jawatankuasa Pameran ITEX 2019, 02/05/2019-02/05/2019
98. University Committee, Panel Jawatankuasa Pameran PENCIPTA 2019, 10/10/2019-10/10/2019
99. University Committee, AJK Pengurusan Harta Intelek (IPMC) USM, 01/02/2019-31/12/2019
100. University Committee, PENILAIAN PERMOHONAN GERAN BRIDGING KLUSTER: KEJURUTERAAN, 18/08/2018-18/12/2018
101. University Committee, Panel Temuduga USM Fellowship Ambilan 2018/2019, 30/11/2018-30/11/2018
102. University Committee, Panel Temuduga USM Fellowship Ambilan 2019, 05/04/2019-05/04/2019
103. University Committee, Panel Penilaian Permohonan Geran Dana Inovasi Awal (DIA) 2019, 07/03/2019-08/03/2019
104. University Committee, AJK Penilaian Awal Kenaikan Pangkat Staf Akademik, 01/01/2019-31/12/2019
105. University Committee, PANEL PENILAI GERAN PENYELIDIKAN TRANSDISIPLINARI (TRGS), 14/03/2018-14/03/2018
106. University Committee, PANEL TEMUDUGA USM FELLOWSHIP AMBILAN 1/18, 30/08/2018-30/08/2018
107. University Committee, PANEL PENILAI GERAN PENYELIDIKAN JANGKA PANJANG (LRGS), 14/03/2018-14/03/2018
108. University Committee, AJK Pameran Penyelidikan Universiti Sains Malaysia, 01/01/2017-31/12/2019
109. University Committee, Panel of Judge for Novel Research and Innovation Competition (NRIC) 2017, 15/08/2017-17/08/2017
110. University Committee, Ahli Jawatankuasa Tetap Penilaian Awal Kenaikan Pangkat Staf Akademik, 01/05/2017-31/12/2017
111. University Committee, Scientific Advisory for Science Engineering and Research Centre, 26/01/2016-25/01/2017
112. Penilai Luar Permohonan Kenaikan Pangkat UNIMAP, 29/07/2019-29/07/2019
113. CHAIRMAN OF VIVA-TAN TZE SIN (PhD), 16/12/2016-16/12/2016
114. Pengerusi VIVA-DOKTOR FALSAFAH, 04/06/2018-04/06/2018
115. Pengerusi VIVA-DOKTOR FALSAFAH, 05/06/2018-05/06/2018
116. Panel Penilai Geran FRGS 2019, 14/03/2019-11/04/2019
117. Viva Chairman for PhD level (Samsul Bin Setumin), 30/05/2019-30/05/2019
118. Pengerusi VIVA-DOKTOR FALSAFAH, 02/07/2018-02/07/2018
119. Panel Penilai FRGS Fasa 1/2020, Domain Penyelidikan: Technology & Engineering, 20/02/2020-30/03/2020
120. Panel Penilai FRGS Fasa 1/2020, Domain Penyelidikan: Natural And Cultural Heritage, 20/02/2020-30/03/2020
121. Panel Penilai FRGS Fasa 1/2020 Domain Penyelidikan: Pure Sciences and Applied Sciences, 20/02/2020-30/03/2020
122. Course Coordinator, Final Year Project Coordinator, 01/01/2020-31/12/2020
123. Course Coordinator, Final Year Project Coordinator, 01/01/2019-31/12/2019
124. School Committee, Chairperson of 6th International Conference on Recent Advances in Materials, Mineral & Environment (RAMM 2018), 27/11/2018-29/11/2018
125. School Committee, Pengadil Pertandingan Poster Latihan Industri 2019, 23/10/2019-23/10/2019 (School)
126. Penilai Luar Permohonan Kenaikan Pangkat UTEM, 13/05/2019-12/06/2019
127. Panel Penilai Geran PRGS 2019, 19/08/2019-19/08/2019
128. Moderator for Forum of USM Alumni@Industry, Reconnect@50, 14/10/2019-14/10/2019
129. Course Coordinator, Final Year Project Coordinator, 01/01/2016-31/12/2019
130. School Committee, Judge for Pertandingan Poster Latihan Industri 2018, 03/10/2018-03/10/2018

131. Committee, Organizing Committee 6th International Conference of Recent Advances in Materials, Minerals & Environment (RAMM 2018), 27/11/2018-29/11/2018
132. Group Coordinator / Lecturer Laboratory Employee / Time Table Representative, Inspection & Signing of Project Risk Assessment Form and COSHH Form 2018/2019, 25/11/2018-25/11/2018
133. KETUA PENGAWAS PEPERIKSAAN KURSUS SEMASA CUTI PANJANG, SIDANG AKADEMIK 2017/2018, 02/08/2018-02/08/2018
134. KETUA PENGAWAS PEPERIKSAAN SEMESTER PERTAMA, SIDANG AKADEMIK 2017/2018, 05/01/2018-14/01/2018
135. KETUA PENGAWAS PEPERIKSAAN SEMESTER KEDUA, SIDANG AKADEMIK 2017/2018, 23/05/2018-08/06/2018
136. University Representative (Sports and Non-Academic Activities), Program University-Industry Dialogue With The Minister of Higher Education, , 06/11/2017-06/11/2017
137. University Representative (Sports and Non-Academic Activities), Exhibitor-3rd Asia-Pacific University-Community Engagement Network Summit, Jen Hotel, Penang , 19/04/2017-21/04/2017
138. University Representative (Sports and Non-Academic Activities), Exhibitor-International Greentech & Eco Products Exhibition and Conference Malaysia (IGEM 2017), KL Convention Centre , 12/10/2017-12/10/2017
139. Project Leader/Coordinator, Academic & Research Collaborator for IEA, UK, Community, 02/01/2020-31/12/2020
140. Project Member, JURI PERTANDINGAN PROJEK PENYELIDIKAN INOVASI NANOTEKNOLOGI (PIN), Community, 08/10/2018-08/10/2018
141. Project Member, Malaysian Indian Future Under Malaysia Baharu, Community, 24/11/2018-24/11/2018
142. Project Leader/Coordinator, Bimbingan for Tunas Saintis MRSM Se-Malaysia 2020, Community, 30/11/2019-30/12/2019
143. Project Leader/Coordinator, Collaboration Project with QDOS, Industry, 25/02/2019-24/02/2020
144. Project Member, MAJLIS AMANAT YB MENTERI PENDIDIKAN TINGGI BAGI TAHUN 2018, Community, 22/12/2017-22/12/2017
145. Project Leader/Coordinator, Photocatalyst Technology Treatment for Batik Effluent, Industry, 02/01/2017-21/08/2017
146. Titian Kreatif: TUNAS " Memelihara Sains, Teknologi , Seni Warisan dan Kebudayaan Negara 2016, -, 09/03/2016-09/03/2016
147. Project Leader/Coordinator, Bimbingan Kepakaran Membuat Kajian Fotokatalisis untuk Membunuh Bacteria kepada MRSM Taiping, Community, 06/06/2016-15/08/2016
148. Project Leader/Coordinator, Bimbingan Kepakaran Membuat Kajian Air Sisa Industri Batik kepada MRSM Taiping, Community, 06/06/2016-15/08/2016
149. Project Leader/Coordinator, Qdos Technical Advisor, Industry, 15/06/2020-31/12/2020
150. Project Member, Judge for the Innovation Exhibition Fair (IEF) 2022, Kolej Mara Kulim, Community, 17/02/2022-17/02/2022
151. Project Leader/Coordinator, Strategic Partnership with Skymind for 7 projects under the Strat-up Residency Program, Industry, 01/09/2021-31/12/2022
152. Project Leader/Coordinator, Strategic Partnership with Crest for USM Spin-Off under the Strat-up Residency Program, Industry, 01/08/2021-31/12/2022
153. Project Leader/Coordinator, Industry Partnership with One Meds Sdn Bhd for commercialising 3 technology of USM, Industry, 10/06/2021-31/12/2021
154. Project Leader/Coordinator, Strategic Partnership with Technology Park Malaysia (TPM) for the Strat-up Residency Program, Industry, 01/10/2021-31/12/2022
155. Project Member, Auditor & AJK PIBG SK Methodist, Community, 01/01/2021-31/12/2021
156. Project Leader/Coordinator, Motivational Talk for SPM students, Community
157. Project Member, JUDGE NOVEL RESEARCH & INNOVATION COMPETITION, Community, 15/08/2017-17/08/2017
158. Project Member, Auditor & AJK PIBG SK Methodist, Community, 01/01/2020-31/12/2020
159. Project Leader/Coordinator, MRSM Taiping Project Coordinator For Silver Nanoparticles Project, Community, 22/05/2019-27/07/2019
160. Project Member, AUDITOR TO PIBG OF SK METHODIST, Community, 01/01/2018-31/12/2018
161. Project Member, SCIENCE AND ARTS FEST@MGTF 2018 "REVIVING SCIENTIFIC THINKING IN SOCIETY", Community, 05/03/2018-20/04/2018
162. Project Leader/PI, Penghargaan sebagai Hakim Innovation Exhibition Fair (IEF) 2022, Community, 16/03/2022-16/03/2022

163. Project Member, Persatuan Ibu bapa dan guru Sekolah Kebangsaan Methodist Parit Buntar, Perak, Community, 15/06/2022-15/06/2022
164. Project Leader/Coordinator, Program Minggu STEAM bersama USM, Community, 21/09/2022-22/09/2022
165. Committee Member of 5th International Conference on Recent Advances in Materials, Minerals & Environment RAMM 7 & 2nd International Postgraduate Conference On Materials MAMIP 2015, 4th-6th Aug 2015
166. Advisor for Tunas Saintis 2015 for MRSM Taiping
167. Chairman of Short Course -One Dimensional Materials towards A New Dimension of Nanotechnology World- 2015
168. Advisor for MRSM Taiping Program School Enrichment, 2014
169. Advisor for Science Project for Politeknik Sultan Idris Shah, Selangor, 2014
170. Chairman of Innovation Science Camp 2014
171. Committee member of School of Materials and Mineral Resources Engineering Accreditation, 2014
172. Committee Member for Workshop of ICAMN III, 19th Nov 2013
173. Committee Member of 3rd International Conference on the Advancement of Materials and Nanotechnology, 20th -22nd Nov 2013
174. Committee Member of Mini Symposium USM-NUT, 21 Oct 2013
175. Advisor for Maktab Rendah Sains Mara Taiping Students for a project entitle: TiO<sub>2</sub> nanotubes as dye waste management, 2011
176. Committee Member for Hari Terbuka Program Pengajian Kejuruteraan, 10 Mar 2012
177. Chairman for Short Course of Nanotechnology: Through old-school approach part 2: Break the barrier (micro to nanoworld) 14-16th Feb 2012.
178. Chairman for Short Course "Nanostructures & Nanomaterials; Synthesis, Properties and Application" 5-7th Jul 2012
179. Facilitator for Research Leadership Think Tank Series: Blue Ocean Strategy in Research Sustainability (28-29th May 2012)
180. Advisor for Maktab Rendah Sains Mara Taiping Students in completing a Project for International Engineering, Invention and Innovation Exhibition (I-Envex) 2012 dan International Sustainable World Engineering, Energy And Environment Project (ISWEEEP) 2012.
181. Committee Member Joint Research Seminar USM-NUT 2011, INFORMM USM, 17 Oct 2011.
182. Chairman for Half-day seminar on Nano-TiO<sub>2</sub> for green building, 2011, organized by NanoMIG, SMMRE, USM 22 Jul 2011.
183. Fasilitator for Strategi Lautan Biru-Program Kejurulatihan (25-27 July 2011)
184. Fasilitator for Strategi Lautan Biru untuk pembangunan modal insandi AKEPT (22-23 Sep 2011)
185. Fasilitator for Strategi Lautan Biru -Program Pengurusan(11-12 July 2011)
186. Fasilitator for Strategi Lautan Biru -Program Kejurulatihan (25-27 July 2011)
187. Fasilitator for Strategi Lautan Biru untuk pembangunan modal insandi AKEPT (22-23 Sep 2011)
188. Fasilitator for Strategi Lautan Biru -Program Pengurusan(11-12 July 2011)
189. Panel bagi Bengkel penyediaan pelan tindakan accelerated programme for excellence (APEX) bagi Tahun 2011.
190. Committee Member for NanoMIG, SMMRE USM booth for Nano Malaysia Summit and Expo 2011, PWTC, Kuala Lumpur, Malaysia 14-16th June 2011.
191. Committee Member for Asia Nanocamp 2010, 13th Oct 2010.
192. Committee Member for CEE Strategic Planning Workshop 2010.
193. Committee Member for Anugerah Sanggar Sanjungan 2010 (Buku Cenderamata)
194. AJK for Blue Ocean Strategy Formulation Programme, 2010
195. Committee Member for Young's Lecturer Competition 2010 (National Level) 23rd June 2010.
196. Committee Member for 1st Regional Conference of Materials by SMMRE and AUN/SEED-Net, JICA 16th-17th Feb 2009
197. Organizer for Overview of Synthesis, Fabrication and Characterization of Ceramic and Electronic Materials with TRIZ application 7th-8th October 2009
198. Committee Member for Workshop On Nanoparticles & Polymer Nanocomposites Synthesis by SMMRE, USM, 13th- 15th Jan 2009
199. Committee Member for Short course On Sol-gel Science & Tech: Coating In Nanocentury 10th-11th Feb 2009
200. Committee Member of Half Day Seminar on Biomaterials, Penang, Malaysia, Jan 2008
201. Committee Member of Workshop on "Technical Problem Solving" (IMM Northern Region)-28 Jan 2008

202. Committee Member of 10th AUN/SEED-Net, Field Wise Seminar, Pulau Pinang, Malaysia, (4-8 Jun 2007)
203. Committee Member of Seminar on Thin Film and Nanotechnology 7th Feb 2007
204. Committee Member of Seminar on Nanotechnology in Biotechnology 15th Mac 2007
205. Committee Member of Characterization for Nanostructured Material 22nd March 2007
206. Committee Member of Sample Preparation & Microstructural Analysis Workshop
207. Committee Member of Short Course on Nanotechnology: Through Old-School Approach
208. Committee Member of Young Person Lecture Competition 2007, Malaysia, Penang, June 2007
209. Committee Member for CEE Strategic Planning Workshop 2010.
210. Committee Member for Anugerah Sanggar Sanjungan 2010 (Buku Cenderamata)
211. AJK for Blue Ocean Strategy Formulation Programme
212. Panel bagi Bengkel penyediaan pelan tindakan accelerated programme for excellence (APEX) bagi Tahun 2011.
213. Contributor for program penggalakkan sains dan teknologi 2009/2010 di kampus kejuruteraan USM.
214. Contributor in career fair 2010 exhibition at Engineering Campus USM.
215. USM Representative for IP and Innovation Camp (i-camp) 2010.
216. USM Representative for capacity building in Innovation, Technology Transfer and University start-up workshop by UKM, Malaysia and Steven Institute of Technology, USA, 2011.
217. Pengerusi bagi Viva Sarjana Sains- Asaed F Mohamed
218. Pengerusi bagi Viva Sarjana Sains- Shafida Azwina binti Mohd Shafie.
219. Pengerusi bagi Viva Sarjana Sains- Khor Guat Kheng
220. Pengerusi bagi Viva Sarjana Sains - Yeo Chiew Hwee
221. Pengerusi bagi Viva Sarjana Sains - Mohd Faiz Muaz b. Ahmad
222. Pengerusi bagi Viva Sarjana Sains - Mohamad Nazrin Kooy Bin Mohd Danieal Kooy
223. Pengerusi bagi Viva Sarjana Sains - Wong Wah Seng
224. USM Representative for SMIDEX 2013
225. USM Representative for Entrepreneurship Carnival Product Exhibitor
226. USM Representative for SC Synergy And Crowdfunding Forum
227. USM Representative for Malaysia - CLMV (Cambodia, Laos, Myanmar, Vietnam) Regional Cooperation In Technology Transfer and R & D Commercialization
228. Board member of School of Materials and Mineral Resources (2 Mac 2010- 31 Dec 2012)
229. Board member of School of Chemical Engineering -Representative from School of Materials and Mineral Resources for (2 Mac 2010- 31 Dec 2012).
230. Committee Member of Kelab Sukan dan Rekreasi PPKBSM-since 2006
231. Committee Member of Nanomaterials Initiative Group (NanoMIG) -since 2006
232. Committee Member of Publisiti PPKBSM-since 2006
233. Committee Member of Hari Warga Staf Kampus Kejuruteraan-since 2007
234. Committee Member of Perlaksanaan Minggu Suai Kenal PPKBSM-2007/08
235. Committee Member of OBE-2007
236. Judge For Scanning Electron Microscope Image Competition 2010.
237. Chairman of Half Day Seminar on Nano-TiO<sub>2</sub> for Green Building 2011.
238. Committee Member for NanoMIG SMMRE Booth for Nano Malaysia Summit and Expo 2011, PWTC Kuala Lumpur.
239. Judge for Industrial Training Poster Presentation 2007
240. Judge for Industrial Training Poster Presentation 2008
241. Judge for Industrial Training Poster Presentation 2009
242. Judge for ICXRI Conference 2012's Poster Presentation Session (July 3rd 2012).
243. Committee Member for Seminar on One dimensional nanoxides, 2011.
244. Industrial Training Visiting Lecturer 2006-
245. Industrial Training Visit of Silterra Malaysia Sdn. Bhd.
246. Industrial Training Visit of Sirim Berhad (Kulim) – Advanced Materials Research Centre (AMREC)
247. Industrial training of Fuji Electric (Malaysia) Sdn. Bhd..
248. Industrial Training Visiting Lecturer 2011-
249. Industrial Training Visit of Plexus Manufacturing Sdn. Bhd.
250. Industrial Training Visit of Intel Technology Sdn. Bhd.
251. Industrial Training Visit of Fairchild Semiconductor (M) Sdn. Bhd.
252. Industrial Training Visit of Knowles Electronics Sdn. Bhd.
253. Industrial Training Visit of Osram Opto Semiconductor Malaysia Sdn. Bhd.

254. Industrial Training Visit of Flextronic Technology (M) Sdn. Bhd.
255. Industrial Training Visit of Jabil Circuit Sdn. Bhd.
256. Industrial Training Visit of Straits Orthopaedics Mfg Sdn. Bhd.
257. Industrial Training Visit of Advanced Micro Devices Export Sdn. Bhd.
258. Jawatankuasa Kecil Pengawasan Peperiksaan peringkat kampus kejuruteraan USM 2012.
259. Chairman for International on Materials Science Engineering and Energy Technology, 2011 (Date: 30 June 2011).
260. Chairperson for International Conference on X Rays and Related Techniques in research and Industry 2012 (ICXRI 2012), 4th July 2012.
261. Chairman for SHORT COURSE OF NANOTECHNOLOGY: Through old-school approach part 2: Break the barrier (micro to nanoworld) 14-16<sup>th</sup> Feb 2012.
262. Chairman for SHORT COURSE "Nanostructures & Nanomaterials; Synthesis, Properties and Application" 5-7<sup>th</sup> Jul 2012.
263. Chairperson in Joint Research Seminar USM-NUT 2011, 17th Oct 2011.
264. Chairperson in RCM 2009 Materials: Leading the path of Engineers.
265. Chairperson in The international Conference for Nanomaterials Synthesis and Characterization 2011
266. Committee Member for Young Person's Lecture Competition 2009 (USM Level) 25th May 2009
267. Committee Member for Young Person's Lecture Competition 2009 (National Level) 22nd July 2009
268. Committee Member IMM Northern Region (2007-2009)
269. Committee Member and contributor in Exhibition of Nanotech Malaysia 2009 at Kuala Lumpur Convention Centre, Malaysia.
270. Committee Member for Young's Lecturer Competition 2010 (National Level) 23rd June 2010.
271. Committee Member for NanoMIG, SMMRE USM booth for Nano Malaysia Summit and Expo 2011, PWTC, Kuala Lumpur, Malaysia 14-16<sup>th</sup> June 2011.
272. Committee Member for Hari Terbuka Program Pengajian Kejuruteraan, 10 Mar 2012
273. Chairman of Innovation Science Camp 2014
274. Committee member of School of Materials and Mineral Resources Engineering Accreditation, 2014
275. Chairman of Nano Short course:
276. Judge for State Level Science Fair for Young Children 2012.
277. USM Representative in Business Plan Clinic, Organized by Cradle Investment Programme, Kuala Lumpur, 22-24th July 2009.
278. USM Representative in "Capacity Building in Innovation, Technology Transfer and University Start-up" workshop, organized by UKM in collaboration with stebens Institute of Technology, New Jersey, USA, 7-10 Jun 2010 (Module 1&2) and 26- Jul- 4 Aug 2010 (Module 3) at UKM Bangi, Selangor Malaysia.
279. USM Representative for Nanotech Malaysia 2007 & Asian Nano Forum of Summit 2007 (ANFoS2007) (29<sup>th</sup> Nov-1<sup>st</sup> Dec 2007).
280. Awareness Talk on smartcoat TiO<sub>2</sub> on wood for antibacterial protection to INOVAR INDUSTRIES SDN. BHD. on 13 July 2012.
281. USM Representative for a forum in Agensi Innovation Malaysia - Industry Driven Innovation, 2012.
282. USM Representative for a forum in Industry - University Collaboration Forum: Healthcare Sector, 2012
283. Awareness Talk on the Nanotechnology Towards Improvement of Health, MMA Society of Occupational and Environmental Medicine (MMA-SOEM) 23 Feb 2013,
284. Jury for International Engineering Invention& Innovation Exhibition (i-ENVEX) 2015
285. Advisor for Maktab Rendah Sains Mara Taiping Students in completing a Project for International Engineering, Invention and Innovation Exhibition (I-Envex) 2012 dan International Sustainable World Engineering, Energy and Environment Project (ISWEEEP) 2012.
286. Advisor for Maktab Rendah Sains Mara Taiping Students for a project entitle: TiO<sub>2</sub> nanotubes as dye waste management, 2011
287. Assisted five students from AMIST University to complete their assignment on Ceramic& Glasses (29<sup>th</sup> June 2008)
288. Academic Advisor for 13 students in SMMRE, USM.
289. Committee member for Pertubuhan Sarath Mieiyaragam at nibong tebal.
290. Fasillitator bagi projek lawatan industry 2010 ke OSRAM Semiconductor.
291. Honorary Professional Research Fellow 2011: For LRGS project in SEGi University College entitled "Sustainable energy production towards low carbon economy
292. Speaker (22/9/2010) for professional and personal development workshop - Horizon of innovations - A way to cash your research.

293. Speaker (28/9/2010) for professional and personal development workshop - Public speaking and presentation skill.
294. Speaker (5/10/2010) for professional and personal development workshop - Public speaking and presentation skill.
295. Speaker (16/11/2011) for professional and personal development workshop – Grant Writing
296. AJK for hari warga staf kampus kejuruteraan 2007
297. AJK for pelaksanaan minggu suaikenal PPKBSM, Sidang Akademik 2007/2008.
298. Ahli PIBG of Sekolah Kebangsaan Methodist, Parit Buntar, 2015
299. Advisor for Tunas Saintis 2015 for MRSM Taiping
300. Advisor for MRSM Taiping Program School Enrichment, 2015
301. Advisor for Science Project for Politeknik Sultan Idris Shah, Selangor, 2015
302. Speaker for 'Program Motivasi bersama Mahasiswa USM dan Akujanji Murid Tahun Enam 2014' at Sekolah Kebangsaan Methodist Nibong Tebal, 2014
303. Speaker for 'Ceramah Motivasi dan Kecemerlangan' at Sekolah Menengah Kebangsaan Bagan Serai, 2014
304. Speaker for Motivational Talk at Sri Sithi Vinayagar Devasthanam, Nibong Tebal for SPM students, 2014
305. Auditor Persatuan Ibubapa & Guru SK Methodist, 2016
306. Committee Member Titian Kreatif: IQRA Taman Hikmah " Tamadun Islam Merentas Zaman", Aug 2016
307. Project Coordinator for Science Project 'Photocatalyst Development to Kill bacteria" for MRSM Taiping, 2016
308. Project Coordinator for Science Project 'Batik Effluent treatment using Photocatalyst" for MRSM Taiping, 2016
309. Committee Member Titian Kreatif: TUNAS' Memelihara Sains, Teknologi, Seni Warisan dan Kebudayaan Negara, Mac 2016
310. Scientific Advisory for Science Engineering and Research Centre
311. Project Coordinator for MRSM Pengkalan Hulu under Engineering, Science & Technology Youth Program 2016
312. Final Year Project Coordinator 2015 till present

#### PARTICIPATION (Selected Courses)

1. Participated Safety and Health at Work by IEM 16th -17th Mac 2009
2. Participated Code of Ethics/ Regulations by IEM 21st -22nd April 2009
3. Participated Engineering Management Practice by IEM 7th -8th Mei 2009
4. Participated in GMP Medical Devices ISO 13485:2003/FDA Part 820/ISO 14971:2007, 6 -8 April 2009.
5. Participated in Workshop Strategy Future on Nanotoxicology Research, 17-19 Dec 2009.
6. Participated in Workshop on Good Laboratory Practice (GLP) in Research Archival Elements, 21 -24 Dec 2009.
7. Participated in ISO13485:2003, Quality Management System Documentation at the Quality Management Workshop II, 2-4 December 2009.
8. Participated Training Workshop on Writing Science for easy Communication, 22-23 Sep 2010.
9. Participated in ISO 13485 QMS Internal Auditor Training Course, 30-31 December 2010.
10. Participated in Good Manufacturing Practice (GMP) Phase 3: Technical File and Essential Requirements (ISO 13485:2003), 2-4 June 2010.
11. Participated in GMP Medical Devices Phase 4: Document Harmonization, 14-15 December 2010.