#### **UNIVERSITI PERTAHANAN NASIONAL MALAYSIA**



#### **JABATAN PENDAFTAR**

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#### **CURRICULUM VITAE**



#### I. PERSONAL PARTICULARS

Name	Dr. Siti Hasnawati Binti Jamal
Current Position Faculty / Department	Senior Lecturer / Research Fellow Centre for Defence Foundation Studies (PAP) / Centre for Tropicalization

#### II. ACADEMIC AND PROFESSIONAL QUALIFICATIONS

Year	Degree	Discipline	University
2003	BEng. (Hons) in Chemical	Chemical Engineering	University of Malaya
2009	MEng.Sc	Biochemical Process	University of Malaya
2018	PhD in Chemistry	Polymer	National Defence University of Malaysia

### III. TITLES OF POSTGRADUATE THESES WRITTEN (At MSc/PhD Level)

No.	TITLES OF POSTGRADUATE THESES
1	Fed-Batch Production of Hyaluronic Acid by Streptococcus zooepidemicus
2	Preparation and Characterization of Poly(Lactic acid)/Layered Double
	Hydroxides/Hydroxyl Functionalized Multiwalled Carbon Nanotubes Nanocomposites

### IV. WORK EXPERIENCE

Year	Position	Organisation	Start and End Date
2007-2009	Tutor	Pusat Asasi Pertahanan, UPNM	

### 1.0 TEACHING AND SUPERVISION

# 1.1 Pre-Degree Courses

No	Course Title	Semester	Year
1	Chemistry I	Sem 1	2007 - Current
2	Chemistry II	Sem 2	

### 1.1 MSc (by Research)

No.	Name of Student	Project Title	Date of Registration	Role (Main / Co- Supervision)	Status	University
1.	Nursyafiqah Binti Jori Roslan	Synthesis of Nitrocellulose from Cellulose for Propellant Application	2018	Main Supervisor	Completed	UPNM
2	Nursyakirah Binti Abdul Rahim	Synthesis Of Molybdenum Carbide Based Catalysts By Car- bon Monoxide Carburization Process For Thermochemic al Water Splitting Hydrogen Production	2021	Co-supervisor	Completed	UPNM

#### 1.2 MSc External/Internal Examination

No.	Name of Student	Project Title	External / Internal	Date of Viva	University
1.	Farah Nabila Bint Diauddin	Electrochemical Aptasensor based Polypyyrole-Iron Oxyhydroxide Nanocomposite for Detection of Dimethyl Methylphosphonate	Internal	23 Mac 2022	UPNM

### 1.3 Supervision (Postgraduate Research Project or Final Year Research Project)

No.	Name of Student	Project Title	Date of Registration	Role (Main/Co- Supervision)	Status
1.	Nurul Afiqah Binti Azmi (FKJ UPNM)	Development of field test kit for detection of arsenic in drinking water	2010	Co-supervisor	Completed
2.	Mohammad Masrur Bin Abd Aziz (FKJ UPNM)	Production of Drinking Water by Ultrafiltration Membrane Technology	2010	Co-supervisor	Completed
3.	Muhammad Hasief Azrin (AKP UPNM)	Effective scatt technology for state shooter athlete	2024	Co-supervisor	In progress
4.	Muhammad Irfan Harun (UNIMAP)	Studies of growth n sedimentation of magnetite (Fe <sub>3</sub> 0 <sub>4</sub> ) for heat transfer mechanism	2024	Co-supervisor	Co-supervisor

### 1.4 Award Received from Supervision

Project Title	Award	Level
Detectosafe Smart Gas Detector	Silver	Kebangsaan PIITRAM 2024
Nutranic Hair Product From Beluru Roots	Silver	Kebangsaan PIITRAM 2022

Mobile Application for Emergency Medical Technician (EMT) in Combating delayed Ambulance Response Time	Gold	Kebangsaan PIITRAM 2022
Detachable Comb	Silver	Kebangsaan PIITRAM 2022
Super Dry Spinner Clothes	Bronze	Kebangsaan PIITRAM 2022
Super Dry Spinner Clothes	2 <sup>nd</sup> Best Poster	Kebangsaan PIITRAM 2022
Intelligent TDT-Panel: A Portable and Affordable Instrument for Technical Drawing	Silver	Kebangsaan PIITRAM 2021
Eco-Bio Mask: A biodegradable Facemask for Environment	Bronze	Kebangsaan PIITRAM 2021

# 2.0 RESEARCH, PUBLICATION AND PRESENTATION

# 2.1 Research Projects

Title	List of Researchers • Principal • Members	Grant Year	Source Amount	Status
Development of Novel Cathode Materials based Prussian Blue for Sodium-Ion Battery	Co-researcher	1/1/2024 – 31/1/2026	Industry (IBC) RM20 000	In progress
Study on the Effect of Stabilizer Towards Stability Performance of Oil Palm Mesocarp Fibre (OPMF) - Nitrocellulose Based Propellant	Principal	1/11/2023 – 31/10/2025	GPJP RM20 000	In progress
Effect of Stabilizer in KAPOK- Nitrocellulose based Propellant	Principal	1/2/2023 – 31/3/2024	GPPP RM42 000	In progress
Study on the Effect of Nitrogen Content in Nitrocellulose Based Propellant on the Muzzles Velocity of Small Arms Bullets	Co-reseacher	1/11/2023 – 31/10/2025	GPJP RM20 000	In progress

Title	List of Researchers • Principal • Members	Grant Year	Source Amount	Status
Development of Novel Cathode Materials based Prussian Blue for Sodium-Ion Battery	Co-researcher	1/1/2024 – 31/1/2026	Industry (IBC) RM20 000	In progress
Effect of Nitrogen Content in Nitrocellulose based Propellent on the Muzzles Velocity of 5.56mm Bullets	Co-reseacher	1/2/2023 – 31/3/2024	GPPP RM42 000	In progress
Effect of Hybrid Glycidyltrimethylammonium chloride (GTMAC) - Nanocellulose as Organophosphate Adsorbent in Water	Co-reseacher	1/8/2023 – 31/7/2025	GPJP RM20 000	In progress
Study on Absorption Capacity of Pristine and Modified Nanocellulose towards Malathion in Water	Co-reseacher	2/10/2023 – 31/3/2024	GPPP RM21 000	In progress
Computational Studies and Design of Novel Amidine-based Molecules and Oligomer for Antimicrobial Applications	Co-reseacher	1/2/2023 – 31/3/2024	GPPP RM42 000	In progress
Synthesis and Characterisation of Hard Carbon (HC) from Biowaste of Oil Palm Mesocarp Fiber (OPMF) as Anode for Na-Ion Batteries	Co-reseacher	1/4/2023 – 14/2/2024	GPPP RM21 000	Completed
Development of Real-Time Greenhouse Gasses Nanosensor	Co-reseacher	1/9/2022 – 31/8/2024	GPJP RM20 000	In progress
Enhanced Interfacial Adhesion Of Aramid Fiber With Carboxyl Functionalized Nanocellulose For High Performance Fiber Materials	Principal	1/7/2020 – 30/6/2022	GPJP RM20 000	Completed
Characterization & Evaluation Of Nanohybrid Materials -Pt- Clay And Pedot-Clay For Potential Sensor Application	Co-researcher	1/7/2019 – 30/6/2021	GPJP RM20 000	Completed

Title	List of Researchers • Principal • Members	Grant Year	Source Amount	Status     Completed     In Progress
Development of Novel Cathode Materials based Prussian Blue for Sodium-Ion Battery	Co-researcher	1/1/2024 – 31/1/2026	Industry (IBC) RM20 000	In progress
Detection of Chlorine Gas Using Metal Oxide-Carbon Nanotubes	Co-researcher	1/4/2018 - 31/3/2020	CHEMDEF RM240 000	Completed
Synthesis and Characterization of nitrocellulose from Nanocellulose for Green Propellant Preparation	Principal	15/8/2017 - 14/2/2020	FRGS RM95 700	Completed
Development of Cost Effective, High Efficiency and Environmental Friendly Nanocomposite Coating for Controlled Release Fertilizer Prototype	Co-researcher	10/2016 – 4/2019	PRGS RM200 000	Completed
Synthesis And Characterization Of Nitrocellulose From Natural Resources For Propulsive Application	Principal	15/8/2016 – 14/8/2018	GPJP RM20 000	Completed
Surface Modification of Carbon Nanofibre For The Development Of Volatile Organic Compounds(VOCs) Chemical Sensor	Co-researcher	2016-2018	FRGS RM91 000	Completed
Simple And Rapid Method To Detect Organophosphorus Pesticide (Simulent Of Nerve Agent) Bycolometric Incorporated With Image Processing Technique	Co-researcher	7/2016 – 6/2018	GPJP RM24 000	Completed
Catalytic Conversion Of Algae To Biofuel Using Metal Supported On Zeolite	Principal	26/1/2015 – 26/7/2017	RACE RM50 000	Completed

Title	List of Researchers • Principal • Members	Grant Year	Source Amount	Status     Completed     In Progress
Development of Novel Cathode Materials based Prussian Blue for Sodium-Ion Battery	Co-researcher	1/1/2024 – 31/1/2026	Industry (IBC) RM20 000	In progress
Effect of Modified Carbon Nanotube on Morphology, Thermal And Mechanical Properties Of Poly(Lactic Acid) Nanocomposites	Co-researcher	26/1/2015 – 26/7/2017	RACE RM50 000	Completed
Development of field test kit for detection of arsenic in drinking water	Co-researcher	1/7/2010 – 31/1/2013	FRGS RM44 000	Completed
Synthesis of Carbon Nanotubes for the detection of volatile compounds	Co-researcher	1/8/2010 - 28/2/2013	FRGS RM50 000	Completed
Preparation and Characterization of Poly(lactic acid)/ Modified Layered Double Hydroxides Nanocomposites	Co-researcher	1/2013 – 6/2015	RAGS RM29 850	Completed
Effect of Modified Layered Double Hydroxides and Carbon Nanotube on Morphology, Thermal and Mechanical Properties of Poly(Lactic Acid) Nanocomposites	Co-researcher	5/2013 – 10/2015	FRGS RM 89 000	Completed

#### 2.2 Publications

#### 2.2.1 Academic Journal

Authors, year, title, publisher/journal, volume and number of pages (Please bold your name)		pe of Journal ISI SCOPUS Peer-Reviewed
Nursyafiqah Jori Roslan, <b>Siti Hasnawati Jamal</b> , Jahwarhar Izuan Abdul Rashid, Mohd Nor Faiz Norrrahim, Keat Khim Ong, Wan Md Zin Wan Yunus (2024),		ISI, Q1
Response surface methodology for optimization of nitrocellulose preparation from nata de coco bacterial cellulose for propellant formulation, Heliyon, Vol. 10(4)		

Siti Nor Ain Rusly, <b>Siti Hasnawati Jamal</b> , Alinda Samsuri, Siti Aminah Mohd Noor, Khoirul Solehah Abdul Rahim (2024), Stabilizer selection and formulation strategies for enhanced stability of single base nitrocellulose propellants: A review, Energetic Materials Frontiers, In press, Corrected proof	Scopus, Q1
Alinda Samsuri, Nur Syakirah Abdul Rahim, <b>Siti Hasnawati Jamal</b> , Mohd Nor Latif, Norliza Dzakaria, Fairous Salleh, Tengku Shafazila Tengku Saharuddin, Muhammad Rahimi Yusop (2024), Nickel loading on the isothermal carburation of molybdenum trioxide catalyst, <i>AIP Conference Proceedings</i> . 2925, 020024, Mohd Nor Latif, Norliza Dzakaria, Fairous Salleh, Tengku Shafazila Tengku Saharuddin, Muhammad Rahimi Yusop (2024), Nickel loading on the isothermal carburation of molybdenum trioxide catalyst, <i>AIP Conference Proceedings</i> . 2925, 020024	Scopus
Nur Syakirah Abdul Rahim, Alinda Samsuri, <b>Siti Hasnawati Jamal</b> , Mohd Nor Latif, Muhammad Rahimi Yusop (2024), Influence of carbon monoxide as reducing agent on carburization of molybdenum trioxide, <i>AIP Conference Proceedings</i> . 2925, 020021	Scopus
Khoirul Solehah Abdul Rahim, Alinda Samsuri, <b>Siti Hasnawati Jamal</b> , Siti Aminah Mohd Noor, Siti Nor Ain Rusly, Hafizah Ariff and Nur Shazwani shazwani Abdul Latif (2023), Redefining biofuels: Investigating oil palm biomass as a promising cellulose feedstock for nitrocellulose-based propellant production, Defence Technology, In press, Corrected proof	ISI, Q1
Mohd Nor Faiz Norrrahim, Noor Azilah Mohd Kasim, Victor Feizal Knight, Nurjahirah Janudin, Norhana Abdul Halim, Noor Aisyah Ahmad Shah, Siti Aminah Mohd Noor, <b>Siti Hasnawati Jamal</b> , Keat Khim Ong, Muhammad Zamharir Ahmad, Wan Md Zin Wan Yunus (2022) Recent Achievement On Carbon Nanotube-based Adsorbent For Organophosphorus Pesticides Remediation— A Mini Review, Zulfaqar Journal of Defence Science, Engineering & Technology, Vol. 5(2)	
Mohd Nor Faiz Norrrahim, Noor Azilah Mohd Kasim, Victor Feizal Knight, Norhana Abdul Halim, Noor Aisyah Ahmad Shah, Siti Aminah Mohd Noor, <b>Siti Hasnawati Jamal</b> , Keat Khim Ong, Wan Md Zin Wan Yunus (2022) A mini review on the mechanical performance of nanocellulose reinforced composites, AIP Conference Proceedings, Vol 2653 (1)	Scopus
Siti Hasnawati Jamal, Nursyafiqah Jori Roslan, Noor Aisyah Ahmad Shah, Siti Aminah Mohd Noor, Ong Keat Khim, Wan Md Zin Wan Yunus (2021), Conversion of Bacterial Cellulose To Cellulose Nitrate With High Nitrogen Content As Propellant Ingredient, Solid State Phenomena, Vol. 317,pp 305-311	Scopus, Q3

Scopus, Q3
Scopus, Q3
Scopus, Q3
ISI, Q1
Peer-Reviewed
Peer-Review

Mohd Nor Faiz Norrrahim, Mas Amira Idayu Abdul Razak, Noor Aisyah Ahmad	ISI, Q1
Shah, Herdawati Kasim, Wan Yusmawati Wan Yusoff, Norhana Abdul Halim, Siti	101, 001
Aminah Mohd Nor, Siti Hasnawati Jamal, Keat Khim Ong, Wan Md Zin Wan	
Yunus, Victor Feizal Knight, Noor Azilah Mohd Kasim (2020), Recent developments	
on oximes to improve the blood brain barrier penetration for the treatment of	
organophosphorus poisoning: a review, RSC Advances, Vol. 10(8), pp 4465-4489	
Siti Zulaikha Ngah Demon, Nurul Syahirah Nasuha Sa'aya, Nursaadah Ahmad Poad	Scopus, Q3
and <b>Siti Hasnawati Jamal</b> (2018), Normal and Resonant Raman Spectra of CuPc-	
MWCNT Blend, Key Engineering Materials Vol. 773, pp 113-117 (ISSN: 1662-9795)  Mardhiahtul Iftiah Ariffin, Norli Abdullah, Noor Azilah Mohd Kasim, <b>Siti Hasnawati</b>	Peer Review
Jamal, Noor Aisyah Ahmad Shah (2018), Solid Metal Oxide Catalysts: Synthesis and	reel Neview
Characterisation, ZULFAQAR International Journal of	
Defence Science, Engineering & Technology, Vol. 1 (1) (2018) 28-37	
Siti Hasnawati Jamal, Ong Keat Khim, Noor Azilah Mohd Kasim, Mansor Ahmad,	Peer Review
Wan Md Zin Wan Yunus (2016), Influence of SLES-Layered Double Hydroxides on	
the Mechanical and Biodegradation Properties of Poly(Lactic Acid) Nanocomposites, International Journal of Advanced and Applied Sciences, Vol. 4	
(12),100-104 (ISSN:2313-626X)	
	0 00
Mohd Junaedy Osman, Wan Md Zin Wan Yunus, Ong Keat Khim, Noor Azilah Mohd Kasim, <b>Siti Hasnawati Jamal</b> , Mansor Ahmad, Nor Azowa Ibrahim (2016),	Scopus, Q3
Surface Modification Of Multi-Walled Carbon Nanotube Using Double-Chained	
Quaternary Ammonium Bromide, Key Engineering Materials	
ISSN: 1662-9795, Vol. 701, pp 18-22	
Siti Zulaikha Ngah Demon, Nursaadah Ahmad Poad, <b>Siti Hasnawati Jamal</b> , Noor	Peer Review
Fadhillah Rahmat, Noriah Bidin (2016), Dispersion of Multi-walled Carbon	i eei iveview
Nanotubes Aggregates in Spin Coated PLA Thin Film, Buletin Optik	
(ISSN:2504-8546)	
Siti Hasnawati Jamal, Wan Md Zin Wan Yunus, Noor Azilah Mohd Kasim, Ong	Scopus, Q3
Keat Khim, Mansor Ahmad, Preparation and Characterization of Sodium Lauryl	ουοραδ, Ου
Ether Sulphate Modified Layered Double Hydroxides, Jurnal Teknologi, Vol. 76, No.	
3, 2015, 109-113	
Noor Azilah Mohd Kasim, Siti Hasnawati Jamal, Shafreeza Sobri, Nurjahirah	Q4
Janudin (2012), Optimization of Synthesis of Carbon Nanotubes using Chemical	
Vapor Deposition Method, Advanced Material Research, Vol. 488-489, 1535-1539	

Ong Keat Khim, Neza Ismail, <b>Siti Hasnawati Jamal</b> , Mohd Lip Jabit, Nurul Afiqah Azmi (2010), Development of Arsenic Detection Test Kit for Military Field Thinking Water, The Journal of Defence and Security, Vol. 1., No. 2, 251-257	Peer Review
<b>S.H. Jamal</b> , M.A. Hussain, M.K. Aroua and D. Yaakop (2006), Artificial Neural Network Models applied to Chemical Engineering: a review, Trends in Chemical Engineering, Vol 10	Peer Review

# 2.2.2 Book/Chapter in Book/Module:

Authors, year, title, publisher, volume and number of pages (Please bold your name)	Level     International     National     University
Norli Abdullah, Norherdawati Kasim, <b>Siti Hasnawati Jamal</b> , Intan Juliana Shamsudin, Noor Aisyah Ahmad Shah (2024) Recent Progress of Advanced Nanomaterials in Renewable Energy in Nanofillers for Sustainable Applications, Chapter 19, CRC Press, 353 - 372	International
MNF Norrrahim, Noor Azilah Mohd Kasim, Victor Feizal Knight, Muhammad Syukri Mohamad Misenan, Nurjahirah Janudin, Noor Aisyah Ahmad Shah, Norhana Abdul Halim, Siti Aminah Mohd Noor, <b>Siti Hasnawati Jamal</b> , Keat Khim Ong (2022) Nanocellulose as an adsorbent for heavy metals, Industrial Applications of Nanocellulose and Its Nanocomposites, Woodhead Publishing, 197-211	International
Alinda Samsuri, Intan Juliana Shamsudin, Safura Taufik, Norli Abdullah, <b>Siti Hasnawati Jamal</b> , Norherdawati Kasim, Siti Aminah Mohd Noor, Ong Keat Khim, Noor Azilah Mohd Kasim, Noor Aisyah Ahmad Shah, Jahwarhar Izuan Abdul Rashid, Syed Mohd Shafiq Syed Ahmad, Nor Laili-Azua Jamari, Wan Md Zin Wan Yunus (2018), FCH 0226 Chemistry II Module, Centre for Defence Foundation Studies, UPNM	University
Noor Azilah Mohd Kasim, <b>Siti Hasnawati Jamal</b> , Safura Taufik, Norli Abdullah, Norherdawati Kasim, Siti Aminah Mohd Noor, Ong Keat Khim, Noor Aisyah Ahmad Shah, Alinda Samsuri, Intan Juliana Shamsudin, Jahwarhar Izuan Abdul Rashid, Syed Mohd Shafiq Syed Ahmad, Nor Laili-Azua Jamari, Wan Md Zin Wan Yunus (2018), FCH 0226 Chemistry II Laboratory Manual Semester II 2018/2019 Module, Centre for Defence Foundation Studies, UPNM	University

Safura Taufik, Norli Abdullah, <b>Siti Hasnawati Jamal</b> , Norherdawati Kasim, Siti Aminah Mohd Noor, Ong Keat Khim, Noor Azilah Mohd Kasim, Noor Aisyah Ahmad Shah, Alinda Samsuri, Intan Juliana Shamsudin, Jahwarhar Izuan Abdul Rashid, Syed Mohd Shafiq Syed Ahmad, Wan Md Zin Wan Yunus (2018), FCH 0216 Chemistry I Module, Centre for Defence Foundation Studies, UPNM	University
Norherdawati Kasim, <b>Siti Hasnawati Jamal</b> , Safura Taufik, Norli Abdullah, Siti Aminah Mohd Noor, Noor Aisyah Ahmad Shah, Noor Azilah Mohd Kasim, Alinda Samsuri, Intan Juliana Shamsudin, Jahwarhar Izuan Abdul Rashid, Ong Keat Khim, Syed Mohd Shafiq Syed Ahmad Wan Md Zin Wan Yunus (2018), Laboratory Manual Chemistry I FCH 0216, Centre for Defence Foundation Studies, UPNM	University
Siti Hasnawati Jamal, Siti Aminah Mohd Noor, Ong Keat Khim, Noor Azilah Mohd Kasim, Noor Aisyah Ahmad Shah (2011), Module Chemistry I, Centre for Defence Foundation Studies, UPNM	University
Siti Hasnawati Jamal, Hussain Long, Madinah Mad Ariff, Siti Aminah Mohd Noor, Zuraidah Ithnin, Ong Keat Khim, Noor Azilah Mohd Kasim, Norherdaawati Kasim, Noor Aisyah Ahmad Shah (2011), Chemistry Laboratory I Manual, Centre for Defence Foundation Studies, UPNM	University
Norherdawati Kasim, Noor Azilah Mohd Kasim, <b>Siti Hasnawati Jamal</b> , Hussain Long (2010), Module Chemistry III, Centre for Defence Foundation Studies, UPNM	University

# 2.2.3 Proceeding Articles :

Authors, year, title, publisher/journal/conference, volume and number of pages (Please bold your name)		evel International National University
Shafreeza Sobri, Jasronita Jasni, Noor Azilah Mohd Kasim, <b>Siti Hasnawati Jamal</b> Nurjahirah Janudin, Nanomaterials Technology, UTM (2012), A comparison of Purified and Synthesised Carbon Nanotubes for Gas Sensor using Chemical Vapor Deposition Method, Specialized Conference 2012		National
Khadijah Ismail and <b>Siti Hasnawati Jamal</b> (2010), Introducing a New Learning Methodology: Are Students Ready, Life Long Learning International Conference		International
Hussain Long, Ong Keat Khim, Noor Azilah Mohd Kasim, Norherdawati Kasim, <b>Siti Hasnawati Jamal</b> , Noor Aisyah Ahmad Shah (2009), A mini review: Detection of Nerve Agents, Defence and Security Technology Conference		National

Siti Hasnawati Jamal, Masitah Hasan, Ngoh Gek Cheng (2006), Fed-batch fermentation of hyaluronic acid production using Streptococcus zooepidemicus, 11 <sup>th</sup> APPChE Congress, Asian Pacific Federation of Chemical Engineering, Kuala Lumpur, 415	International
<b>S.H. Jamal</b> , M.A. Hussain, M.K. Aroua and D. Yaakop (2003), Prediction of CO <sub>2</sub> Solubility in Alkanolamine Solutions using Neural Network, 17 <sup>th</sup> Symposium of Malaysian Chemical Engineers 2003 (SOMCHE 2003), 85-91	National

#### 2.3 Presentation:

Event	Title of Paper Presented	Role (Keynote Speaker / Invited Speaker / Presenter)	Date	Organizer
9th International Conference of Solid State Science and Technology 2023,	Response Surface Methodology For Optimization Of Nitrocellulose Preparation From Nata De Coco Bacterial Cellulose For Propellant Formulation	Presenter	5 – 7 Dec 2023	Universiti Malaysia Sabah
Materials Technology Challenges in 7 <sup>th</sup> International Conference of Solid State Science and Technology 2019, Kuala Lumpur	Conversion of Bacterial Cellulose to Cellulose Nitrate with High Nitrogen Content as Propellant Ingredient	Poster Presenter	11-13 Nov 2019	UPNM & MASS
4th Advanced Material Conferene 2018, Kuching, Sarawak	Preparation and Characterization of Nitrocellulose from Bacterial Cellulose for Propellant Uses	Oral Presenter	26-27 Nov 2018	SIRIM

International Conference Of Engineering Management	Influence of SLES- Layered Double Hydroxides on the Mechanical and Biodegradation Properties of Poly(Lactic Acid) Nanocomposites	Oral Presenter	23-24 December 2016	IPN-MDSG Conferences
2nd International Conference on the Science and Engineering of Materials	Biodegradability of Poly(lactic Acid)/Layered Double Hydroxides Nanocomposites	Oral Presenter	16 -18 November 2015	UM
4th Federation of Asian Polymer Societies- International Polymer Congress	Effect of Carbon Nanotubes Functionalized Hydroxyl Loading on Mechanical Properties of Poly(Lactic Acid)	Poster Presenter	5 - 8 October 2015	Institut Kimia Malaysia
4th International Conference on Advances in Mechanical Engineering	Preparation and Characterization of Sodium Lauryl Ether Sulphate Modified Layered Double Hydroxides	Oral Presenter	26 -27 June 2015	UiTM
Kolokium Sains dan Teknologi Pertahanan	Preparation and Characterization of Modified Layered Double Hydroxides by Sodium Lauryl Ether Sulphate Surfactant	Oral Presenter	18 February 2014	UPNM

The Regional Fundamental Science Congress 2014,	Effect of Sodium Lauryl Ether Sulphate-Modified Layered Double Hydroxide Composition on Poly(lactic Acid) Tensile Strength	Oral Presenter	19 – 20 August 2014	UPM
Life Long Learning International Conference	Introducing a New Learning Methodology: Are Students Ready	Oral Presenter	10-12 Nov 2010	UUM
17th Symposium of Malaysian Chemical Engineers 2003 (SOMCHE 2003)	Prediction of CO <sub>2</sub> Solubility in Alkanolamine Solutions using Neural Network	Oral Presenter	29-30 <sup>th</sup> Dec 2003	USM, IChemE

# 3.0 ACADEMIC RECOGNITION AND LEADERSHIP, CONSULTANCY, SERVICE TO THE UNIVERSITY AND SERVICE TO THE COMMUNITY

### 3.1 Academic Recognition and Leadership

Academic Recognition	Year	Level	Awarding Body / Name of Institution
Journal Reviewer	2024	International	International Conference on Advanced Materials and Applied Sciences 2024/ Semarak Ilmu Publishing
Gold Award for Yippie Organo Board Game	2022	National	PIITRAM 2022
2 <sup>nd</sup> Best Poster Award for Yippie Organo Board Game	2022	National	PIITRAM 2022

Internal Reviewer For FRGS Grant For He Effect Of Non- Noble Metal Nanoparticle Supported Tio2 On H2 Evolution Over Photocatalytic Reforming Of Oil- Palm Based Cellulose	2022	Faculty	Pusat Asasi Pertahanan
Journal Reviewer for ZULFAQAR Journal of Defence Science, Engineering & Technology	2021	University	UPNM
Silver Award For Ohsem Organoboard: Interactive Game For Pre University Organic Chemistry	2021	National	PIITRAM 2021
Journal Reviewer for Solid State Phenomena	2020	National	7 <sup>th</sup> ICSSST 2019 / Scienetific.net
Reviewer for Proposal Defence dan Colloqium FSTP	2020	University	FSTP
Reviewer for Proposal Defence dan Colloqium FSTP	2019	University	FSTP
Reviewer for Proposal Defence dan Colloqium	2018	University	Pusat Pengajian Siswazah UPNM
Reviewer Kolokium Siswazah	2017	University	Pusat Pengajian Siswazah UPNM
Journal Reviewer	2010	International	Asia Pacific Journal of Chemical Engineering
Reviewer for 5 <sup>th</sup> Chemical Engineering Undergraduate Research day	2009	National	University of Malaya

# 3.2 Service to the University

Position/Membership	Duration
Research Coordinator for Dept of Chemistry and Biology, PAP	2020 -2021
Editor for Third Edition Buletin@ RIA	2021

0 " 10 " 17 1 1 1 1 1	2024
Committee for Specification and Technical Evaluation	2021
Coordinator for Chemistry II	Nov 2021- Apr 2022
Chemistry II Module Editor	2019-Present
Fasilitator for Bengkel Training of Trainers Bagi Program Mentor Mentee	2018
Committee Member for Program Pemindahan Ilmu dan Program Sains, Teknologi, Kejuruteraan dan Matematik, PAP	2018
Coordinator for Chemistry II FCH 0226	Nov 2017 – Mar 2018
Assistant Coordinator for Chemistry I FCH 0216	Mei 2016 – Nov 2016
Committee for Curriculum Review for Foundation Program	2010-2011
Coordinator for Chemistry Lab I	2010/2011
Member for Board of Engineers Malaysia, (BEM)	2016 - Current
Member for Persatuan Pegawai Akademik Universiti Pertahanan Nasional Malaysia (NADIMASA)	2014-Current

# 3.4 Service to the community

Organization	Role	Start Date	End Date	Level
Zamrud Apartment	JMB Committee	2017	2019	Community
SK Seri Mega	Member for PIBG	2015	2019	Community
SMK Bandar Tasik Selatan	Committee	2018	-	Community
Gagasan Pendidikan Melayu Malaysia (GAGASAN)	Panel	2018	-	National
Matrikulasi, Kementerian Pengajian Malaysia, Kertas	Examiner Kimia (DS025/2)	2/5/2012	6/5/2012	National
Matrikulasi, Kementerian Pengajian Malaysia	Examiner for Kimia Kejuruteraan	22/4/2011	26/4/2011	National
PSPM, Kementerian Pelajaran Malaysia	Examiner for Kimia Kejuruteraan	27/10/2010	31/10/ 2010	National