



CURRICULUM VITAE



I. PERSONAL PARTICULARS			
Name	Assoc. Prof. Dr. Siti Zulaikha Binti Ngah Demon		
Current Position Faculty / Department	Associate Professor DS54 Centre for Defence Foundation Studies National Defence University of Malaysia		
II. ACADEMIC AND PROFESSIONAL QUALIFICATIONS (Please list all academic qualifications, from your first degree, in chronological order)			
Year	Degree	Discipline	University
2008	Bachelor of Science (Physics)	Physics	Universiti Teknologi Malaysia (UTM)
2011	Master of Science (Physics)	Laser Technology/ Non-linear Optics	Universiti Teknologi Malaysia (UTM)
2014	Doctor of Philosophy (Materials Science)	Materials Science/Non-linear Optics	Japan Advanced Institute of Science and Technology (JAIST)
III. TITLES OF POSTGRADUATE THESES WRITTEN (At MSc/PhD Level)			
No.	TITLES OF POSTGRADUATE THESES		
1	Design of Q-Switch Driver Based on Switch Mode Power Supply (SMPS) Technique		
2	Interfaces of Indium Tin Oxide and Organic Semiconductor Thin Film Studied by Optical Second Harmonic Generation.		

IV. WORK EXPERIENCE (Please list your relevant experience in chronological order)

Year	Position	Organisation	Start and End Date
2009	Tutor DA41	Department of Physics, Centre for Defence Foundation Studies, National Defence University of Malaysia (UPNM)	17/8/2009 – 1/1/2015
2015	Senior Lecturer DS51		2/1/2015-30/1/2023
2023	Associate Professor DS54		1/2/2023 - current

1.0 TEACHING AND SUPERVISION**1.1 Postgraduate Courses**

(Please list in chronological order and state: course title, semester and year)

No.	Course Title	Semester	Year
1	Research Methodology: Oral Communication and Poster Presentation	I	2021

1.2 First Degree Courses

(Please list in chronological order and state: course title, semester and year)

No.	Course Title	Semester	Year

1.3 Diploma Courses

(Please list in chronological order and state: course title, semester and year)

No.	Course Title	Semester	Year

1.4 Pre-Degree Courses

(Please list in chronological order and state: course title, semester and year)

No	Course Title	Semester	Year
1	Physics Laboratory II	2	2009-2011
2	Physics Laboratory I	1	2010-2011
3	Basic Physics in Medicine	1	2011
4	Physics II	2	2014-2021
5	Physics I	1	2015-2021

1.5 PhD Supervision

(Please list in chronological order)

No.	Name of Student	Project Title	Date of Registration	Role (Main / Co-Supervision)	Status <ul style="list-style-type: none">• Completed• Submitted• In Progress	University
1	Nursaadah Binti Ahmad Poad (Physics)	Third Order NLO of Gold Doped P3HT Nanowires for Low Power Laser	July 2021	Main supervision	In progress	UPNM
2	Nurul Farhana Binti Abu Kasim (Physics)	Optical and Surface Plasmon Resonance of Gold Nanoparticle Decorated Graphene Oxide for Nerve Agent Fiber Optics Sensor	September 2021	Main supervision	In progress	UPNM
3	Nurul Syahirah Nasuha Binti Saáya (Chemistry)	3D Carbon Nanostructures Supported TiO ₂ Nanoparticles For Sustainable Volatile Organic Compound Sensing	January 2023	Co-supervision	In progress	UPNM

1.6 PhD External/Internal Examination

(Please list in chronological order)

No.	Name of Student	Project Title	External / Internal	Date of Viva	University
1	Ahmad Firdaus Bin Zainal Abedin	Simulation of Landmine Detection by Fast Neutrons Backscattering Method Due to The Resonances In The Cross Section of C, N and O	Internal Examiner	2018	UPNM
2	Wan Nor Suhaila Binti Wan Aziz	Optical Trapping and Manipulation of Microcrystalline Cellulose Microcluster (MCCM) for Microtool Applications	External Examiner	2023	UPSI
3	Norjulyanti Binti Hamzah	First-Principles Study on Structural, Electronic and Optical Properties of Cu-Ag And Ti-Ag Codoped ZnO For Dye-Sensitized Solar Cells Using Density Functional Theory	External Examiner	2024	UiTM

1.7 MSc (by Research)

(Please list in chronological order)

No.	Name of Student	Project Title	Date of Registration	Role (Main / Co-Supervision)	Status • Completed • Submitted • In Progress	University
1	Nursaadah Binti Ahmad Poad (Physics)	Effect of Polylactic Acid Addition on Properties of Spin Coated Quaterthiophene Film	1/6/2015	Main supervision	Completed	UPNM
2	Nurul Syahirah Nasuha Binti Saáya (Chemistry)	Design of Hybrid Carbon Nanotubes/Polythiophene Based Chemiresistive Sensor for VX-type Nerve Agent Stimulants	1/6/2018	Co-supervision	Completed	UPNM
3	Nur Atikah Binti Shaari (Physics)	Nanostructure Materials for High Efficiency Thin Film Solar Cells	1/6/2018	Co-supervision	Completed	UPNM

4	Nur Dinie Syahirah Binti Sanusi (Physics)	The Optimization Condition of AB Mix Nutrient and Microwave Properties Relationship with Soil Fertility	July 2021	Co-supervision	In progress	UPNM
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1.8 MSc External/Internal Examination

(Please list in chronological order)

No.	Name of Student	Project Title	External / Internal	Date of Viva	University
1	Rusaini Athirah Binti Ahmad Rusdi	Characterization and Mechanical Studies on Laminated Bacterial Cellulose/Kevlar Composite	Internal	19/2/2020	UPNM
2	Asyraf Hakimi bin Azmi	The Study of Synthesis, Characterization and Fabrication of Bismuth Oxyiodide (BiOI) Thin Film for Non Toxic Perovskite Solar Cells	Internal	20/5/2022	UPNM

1.9 Supervision (Postgraduate Research Project or Final Year Research Project)

(Please list in chronological order)

No.	Name of Student	Project Title	Date of Registration	Role (Main/Co-Supervision)	Status • Completed • Submitted • In Progress

2.0 RESEARCH, PUBLICATION AND PRESENTATION

2.1 Research Projects

(Please list in chronological order and state: title, list of researchers, grant/year, source/amount and status)

No.	Title	List of Researchers • Principal • Members	Grant Year	Source Amount	Status • Completed • In Progress
1	The Perturbation of Backscattered Fast Neutrons Flux Caused by Resonance in the Cross Section of C, N and O for Possible Use in Explosive Detection	Siti Zulaikha Ngah Demon , Ahmad Firdaus Zainal Abedin, Noorddin Ibrahim, Norhana Abdul Halim, Noriza Ahmad Zabidi, Abqari Luthfi Albert Abdullah	RAGS 1/1/2013-30/6/2015	RM 29 850.00	Completed
2	Electronic structure of metal oxide/organic semiconductor interface by optical second harmonic generation measurement	Siti Zulaikha Ngah Demon , Noor Aisyah Ahmad Shah, Wan Yusmawati Wan Yusoff, Noriah Bidin, Fauziah Hj Abdul Aziz	FRGS 1/11/2015-30/4/2018	RM 116 000.00	Completed
3	Study of intermolecular interaction between carbon nanotubes and π -conjugated molecules for ultrafast optical switching.	Siti Zulaikha Ngah Demon , Noor Aisyah Ahmad Shah, Wan Yusmawati Wan Yusoff, Noriah Bidin, Muhd Zu Azhan Yahya, Noor Fadhilah Rahmat	RAGS 1/1/2016-30/5/2018	RM 45 000.00	Completed
4	Synthesis of intermetallic-surface-modified carbon nanotubes for optical limiting applications.	Noor Aisyah Ahmad Shah, Siti Zulaikha Ngah Demon , Norli Abdullah, Noor Azilah Mohd Kasim, Wan Md. Zin Wan Yunus	RAGS 1/1/2016-30/5/2018	RM 45 000.00	Completed
5	Synthesis of dipolar amino-nitro-thiazole derivatives for electronic, electrooptic and nonlinear optical applications.	Noor Aisyah Ahmad Shah, Siti Zulaikha Ngah Demon , Noor Azilah Mohd Kasim, Bohari Mohd Yamin	FRGS 1/11/2015-30/4/2018	RM 102 000.00	Completed
6	The Effect of Metal Supported Catalysts on the Production of Renewable Energy of Microalgae	Norli Abdullah, Siti Zulaikha Ngah Demon , Taufik Yap Yun Hin, Fadhlina Che Ros, Siti Hasnawati Binti	RACE 30/12/2015-	RM 50 000	Completed

No.	Title	List of Researchers • Principal • Members	Grant Year	Source Amount	Status • Completed • In Progress
		Jamal, Emmy Maryati Omar, Imran Shakir Mohamad			
7	Characterization of Gold Nanoparticles (GNP) from Laser Induced Coulomb Explosion (CE) for Nanophotolysis Therapy	Norhana Abdul Halim, Siti Zulaikha Ngah Demon , Noordin Ibrahim, Noriza Ahmad Zabidi	FRGS 1/12/2014-30/11/2017	RM 93,000.00	Completed
8	Design of Hybrid Carbon Nanotubes/Polythiophene Based Chemiresistive Sensor for VX-type Nerve Agent Stimulants	Wan Md. Zin Wan Yunus, Norhana Abdul Halim, Siti Zulaikha Ngah Demon , Norazman Mohamad Nor, Muhd Zu Azhan Yahya, Ariffin Ismail, Norli Abdullah	CHEMDEF 2018-2020	RM 200,000.00	Completed
9	Simple and Rapid Method to Detect A Simulant of Nerve Agent by Colorimetric Incorporated with Image Processing Technique	Ong Keat Khim, Wan Md. Zin Wan Yunus, Norhana Abdul Halim, Siti Zulaikha Ngah Demon , Norazman Mohamad Nor	CHEMDEF 2018-2020	RM 200,000.00	Completed
10	Polyionic Liquid-Metal Oxide Nanocomposite Based Sensor for Detection of Sarin Gas	Siti Aminah Mohd Noor, Wan Md. Zin Wan Yunus, Alinda Samsuri, Norhana Abdul Halim, Siti Zulaikha Ngah Demon , Safura Taufik	CHEMDEF 2018-2020	RM 200,000.00	Completed
11	Role of Intermolecular Interaction in Conductive Polymer Wrapped MWCNT as Organophosphate Sensing Material Structure	Norli Abdullah, Norhana Abdul Halim, Siti Zulaikha Ngah Demon	ISIS-NEWTON 2019	RM 477,150.00	Completed
12	Optical and Surface Plasmon Resonance of Graphene Oxide Decorated Gold Nanoparticle as Fiber Optics based Nerve Agent Sensor	Siti Zulaikha Ngah Demon , Norli Abdullah, Norhana Abdul Halim, Noor Aisyah Ahmad Shah, Ong Keat Khim	FRGS 2020	RM 118,518.00	In Progress

No.	Title	List of Researchers • Principal • Members	Grant Year	Source Amount	Status • Completed • In Progress
13	Development of simple and portable detection system of methylphosphonic acid (nerve agent degradation product) for national security interest	Ong Keat Khim, Nor Laili Azua Binti Jamari, Siti Zulaikha Binti Ngah Demon , Syed Nasir Alsagoff Bin Syed Zakaria, Wan Md Zin Bin Wan Yunus	PRGS 2021	RM 234,320.00	In Progress
14	Effect of TiO ₂ Addition on Bacterial Cellulose/carbon Nanotubes Conductive Sheet for Ultrasensitive VOC Sensing	Norhana Abdul Halim, Siti Zulaikha Ngah Demon , Fadhlina Che Ros, Mohd Nor Faiz Norrahim	2023	20,000	In Progress
15	Effect of Choloauric Acid Doping into P3HT Nanowires in Saturable Absorption Efficiency	Siti Zulaikha Ngah Demon , Norhana Abdul Halim, Nor Azlian Abdul Manaf, Ganesan a/l Krishnan	2023	21,600	In Progress
16	3D Carbon Nanostructures Supported TiO ₂ Nanoparticles for Sustainable VOC Sensing	Norhana Abdul Halim, Siti Zulaikha Ngah Demon , Hairul Anuar Tajuddin, Mohd Nor Faiz Norrahim	2023	21,600	In Progress

2.2 Publications

2.2.1 Academic Journal

(Please list in chronological order and state: authors, year, title, publisher/journal, volume and number of pages (Please bold your name))

No.	Authors, year, title, publisher/journal, volume and number of pages (Please bold your name)	Type of Journal • ISI • SCOPUS • Peer-Reviewed
1	S. Z. N. Demon , Y. Miyauchi, G. Mizutani, T. Matsushima and H. Murata. (2014) Optical second harmonic generation at interfaces of some organic layers with indium tin oxide. Appl. Surf. Sci. 311 715-720	ISI

2	S. Z. N. Demon , N. A. Poad, S. H. Jamal, N. F. Rahmat and N. Bidin. (2016) Dispersion of Multi-Walled Carbon Nanotubes Aggregates in Spin Coated PLA Thin Film, Buletin Optik 2 1-7	Peer-Reviewed
3	S. Z. N. Demon , N. A. Poad, N. Rahmat and N. Bidin. (2017) Preparation of Indium Tin Oxide/Quaterthiophene Thin Film for Solution Processed Organic Device. Solid State Phenomena 268 269-273	Scopus
4	N. A. Poad, S. Z. N. Demon , M. Z. Yahya, N. Bidin, (2018) Optical Characteristics of ITO/NTCDA Film for Defence Technology Application, Int. J. Cur. Res. Eng. Sci. Tech. 1 (S1) 262-268	Peer-Reviewed
5	S. Z. Ngah Demon , N. S. N. Sa'aya, N. A. Poad, S. H. Jamal, (2018) Normal and Resonant Raman Spectra of CuPc-MWCNT Blend, Key Engineering Materials 773 113-117	Scopus
6	N. A. Abdul-Manaf, W. Y. W. Yusoff, S. Z. N. Demon , N. A. Shaari A. Shamsuddin, N. S. Mohamed, (2019) Anodic and cathodic deposition of polyaniline films: A comparison between two methods, Materials Research Express 6 096453	ISI
7	N. S. N. Saa'ya, S. Z. N. Demon , N. Abdullah, V. F. K. E. A. Shatar, N. A. Halim, (2019) Optical and Morphological Studies of Multiwalled Carbon Nanotubes-incorporated Poly(3-hexythiophene-2,5-diyl) Nanocomposites, Sensors and Materials 31 2997-3006	ISI
8	S. Z. N. Demon , A. I. Kamisan, N. Abdullah, S. A. M. Noor, O. K. Khim, N. A. M. Kasim, M. Z. A. Yahya, N. A. A. Manaf, A. F. M. Azmi, N. A. Halim, (2020) Graphene-based Materials in Gas Sensor Applications: A Review, Sensors and Materials 32 759-777	ISI
9	S. Z. N. Demon , N. S. N. Sa'aya, M. Abdullah, G. Krishnan, (2020) Effect of ZnO dispersion in optical and structural of nematic liquid crystal, Materials Today: Proceedings 29 34-38	Scopus
10	N. A. A. Shah, F. N. Diauddin, S. Z. N. Demon , N. Kasim, G. Krishnan, M Abdullah, (2020) Preparation and third order nonlinear optical properties of Ag coated carbon nanotubes, Materials Today: Proceedings 29 110-114	Scopus
11	M.S.M. Shukri, M.N.S. Saimin, M.H. Samat, N. Abdullah, S.Z.N. Demon , N.A. Halim and M.F.M.Taib, (2020) First-Principles Study of CH ₄ and NH ₃ Adsorption on Graphene Oxide Epoxy and Graphene Oxide Hydroxyl, International Journal of Nanoelectronics and Devices 13 249-258	ISI
12	M. F. M. Taib, M. H. Samat, S. Z. N. Demon , N. H. Hussin, O. H. Hassan, M. Z. A. Yahya and A. M. M. Ali, (2020) First-Principles Study on the Doping Effects of La on the Structural, Electronic and Optical Properties of MgO, , International Journal of Nanoelectronics and Devices 13 225-234	ISI
13	M. N. Norizan, M. H. Moklis, S. Z. N. Demon , N. A. Halim, A. Samsuri, I. S. Mohamad, (2021) Carbon nanotubes: functionalisation and their application in chemical sensors, RSC Advances 10 (71), 43704-43732	ISI
14	N. A. Halim, S. Z. N. Demon , N. Abdullah, N. Ahmad, Z. H. Z. Abidin, (2021) Localized Deep and Shallow Traps of α -Peaks from Thermally Stimulated Current (TSC) Measurement on Thermoplastic Polymers, Solid State Phenomena 317, pp 369-376	Scopus
15	N. S. N. Sa'aya, S. Z. N. Demon , N. Abdullah, N. A. Halim, (2021) Morphology Studies of SWCNT Dispersed in Conducting Polymer as Potential Sensing Materials, Solid State Phenomena 317, pp 189-194	Scopus
16	N. A. A. Shah, S. Z. N. Demon , F. N. Diauddin, N. Kasim, N. Abdullah, G. Krishnan, (2021) The Study of Platinum Coated Carbon Nanotubes as Third-Order Nonlinear Optical Materials, Solid State Phenomena 317, pp 166-172	Scopus
17	S. Z. Ngah Demon , N. A. Poad, (2021) Vibrational Spectroscopy Analysis of Oligothiophene Blend Film, Solid State Phenomena 317, pp 457-462	Scopus
18	N.M. Nurazzi, S.Z.N. Demon , N.A. Halim, I.S. Mohamad, N. Abdullah, (2021) Carbon nanotubes-based sensor for ammonia gas detection – an overview, POLIMERY 2021, 66, nr 3, 175-184	ISI
19	N.M. Nurazzi, M.M. Harussani, N.D. Siti Zulaikha , A.H. Norhana, M. Imran Syakir, A. Norli, (2021) Composites based on conductive polymer with carbon nanotubes in DMMP gas sensors – an overview, POLIMERY 2021, 66, nr 2, 1-12	ISI

20	Nurazzi, N.M., Abdullah, N., Demon, S.Z.N. , Halim, N.A., Mohamad, I.S., (2021) The Influence of Reaction Time on Non-Covalent Functionalisation of P3HT/MWCNT Nanocomposites. <i>Polymers</i> , 13,1916.	ISI
21	Norizan M. Nurazzi, Norli Abdullah, Siti Z. N. Demon , Norhana A. Halim, Ahmad F. M. Azmi, Victor F. Knight, and Imran S. Mohamad. (2021) The frontiers of functionalized graphene-based nanocomposites as chemical sensors, <i>Nanotechnology Reviews</i> ; 10: 330–369	ISI
22	M Ibrahim, HY Seong, SZN Demon , S Ramli, SNAS Zakaria. (2021) HUMAN DETECTION FOR THERMAL AND VISIBLE IMAGES. <i>Zulfaqar Journal of Defence Science, Engineering & Technology</i> 4 (1)	Peer-Reviewed
23	Nur Amirah Mamat Razali, Risby Mohd Sohaimi, Raja Nor Izawati Raja Othman, Norli Abdullah, Siti Zulaikha Ngah Demon , Latifah Jasmani, Wan Mohd Zain Wan Yunus, Wan Mohd Hanif Wan Ya'acob, Emee Marina Salleh, Mohd Nurazzi Norizan, Norhana Abdul Halim. (2022) Comparative Study on Extraction of Cellulose Fiber from Rice Straw Waste from Chemo-Mechanical and Pulping Method. <i>Polymers</i> 14 (3), 387	ISI
24	NM Nurazzi, MM Harussani, SZN Demon , NA Halim, IS Mohamad, Norli Abdullah (2022) RESEARCH PROGRESS ON POLYTHIOPHENE AND ITS APPLICATION AS CHEMICAL SENSOR. <i>Zulfaqar Journal of Defence Science, Engineering & Technology</i> 5 (1)	Peer-Reviewed
25	MN Norizan, N. Abdullah, SZN Demon , NA Halim, NSN Sa'aya, IS Mohamad, (2022) Effect of reaction time on the structure and optical properties of P3HT/MWCNT-OH nanocomposites, <i>Polimery</i> 67,5, 205-211	ISI
26	MN Norizan, N Abdullah, NA Halim, SZN Demon , IS Mohamad, (2022) Heterojunctions of rGO/Metal Oxide Nanocomposites as Promising Gas-Sensing Materials – A Review, <i>Nanomaterials</i> 12 (13), 2278	ISI
27	Hamsan, M.H.; Halim, N.A.; Demon, S.Z.N. ; Sa'aya, N.S.N.; Kadir, M.F.Z.; Abidin, Z.H.Z.; Poad, N.A.; Kasim, N.F.A.; Razali, N.A.M.; Aziz, S.B.; et al. Multifunction Web-like Polymeric Network Bacterial Cellulose Derived from SCOBY as Both Electrodes and Electrolytes for Pliable and Low-Cost Supercapacitor. <i>Polymers</i> 2022, 14, 3196.	ISI
28	Muhamad Hafiz Hamsan, Norhana Abdul Halim, Siti Zulaikha Ngah Demon , Nurul Syahirah Nasuha Sa'aya, Mohd Fakhrol Zamani Kadir, Zul Hazrin Zainal Abidin, Nursaadah Ahmad Poad, Nurul Farhana Abu Kasim, Nur Amira Mamat Razali, Shujahadeen B. Aziz, Khairol Amali Ahmad, Azizi Miskon and Norazman Mohamad Nor (2022) SCOBY-based bacterial cellulose as free standing electrodes for safer, greener and cleaner energy storage technology. <i>Heliyon</i> , 8, e11048	ISI
29	Ainnur Izzati Kamisan, Siti Zulaikha Ngah Demon , Ahmad Farid Mohd Azmi, Norli Abdullah, Noor Azilah Mohd Kasim, Ong Keat Khim, Siti Aminah Mohd Noor, Wan Md Zin Wan Yunus, Fadhlina Che Ros, Victor Feizal Victor Ernest@Abd Shattar, Norhana Abdul Halim (2023) Methodologies of Graphene-based Sensing Material for Organophosphorus Compound, <i>e-Journal of Surface Science and Nanotechnology</i> , 論文ID 2023-040, [早期公開] 公開日 2023/05/04, Online ISSN 1348-0391, https://doi.org/10.1380/ejsnt.2023-040	ISI
30	Muhamad Hafiz Hamsan, Norhana Abdul Halim, Siti Zulaikha Ngah Demon , Nurul Syahirah Nasuha Sa'aya, Mohd Fakhrol Zamani Kadir, Shujahadeen B Aziz, Zul Hazrin Zainal Abidin (2023) EDLC performance of ammonium salt-green polymer electrolyte sandwiched in metal-free electrodes, <i>Arab Journal of Basic and Applied Sciences</i> 30, 1, 1-9	Scopus
31	M Hamsan, NA Halim, NSN Sa'aya, NS Nazri, NFA Mohd Salleh, SZN Demon , NA Shamsuri, MFZ Kadir, MF Shukur, LK Keng, NHA Jafry, AA Rahim, (2023) PEMBANGUNAN PENYIMPANAN TENAGA HIJAU DARIPADA SELULOSA BAKTERIA, SELULOSA METIL DAN KANJI KENTANG: DEVELOPMENT OF GREEN ENERGY STORAGE FROM BACTERIAL CELLULOSE, METHYL CELLULOSE AND POTATO STARCH, <i>Jurnal Teknologi</i> 86, Issue 2, 69-76	ISI
32	Nurul Farhana Abu Kasim, Norhana Abdul Halim, Keat Khim Ong, Siti Zulaikha Ngah Demon (2024) Comparison study between two different precursors of RGO/AuNPs one	ISI

pot synthesis, Advances in Natural Sciences: Nanoscience and Nanotechnology, 15 (1), 015014	
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2.2.2 Book/Chapter in Book:

(Please list in chronological order and state: authors, year, title, publisher, volume and number of pages
(Please bold your name)

No.	Authors, year, title, publisher, volume and number of pages (Please bold your name)	Level <ul style="list-style-type: none"> • International • National • University
1	Jawatankuasa STEM Pusat Asasi Pertahanan, 2020, Kompilasi Ujikaji STEM Sekolah Menengah dan Sekolah Rendah, Penerbit UPNM, 57 pages	National
2	Modul Fizik 1, Pusat Asasi Pertahanan, Penerbit UPNM, 195 pages	University
3	Modul Fizik 2, Pusat Asasi Pertahanan, 218 pages	University

2.2.3 Proceeding Articles :

(Please list in chronological order and state: authors, year, title, publisher/conference, volume and number of pages (Please bold your name)

No.	Authors, year, title, publisher/conference, volume and number of pages (Please bold your name)	Level <ul style="list-style-type: none"> • International • National • University
1	S. Z. N. Demon , A. R. Tamuri and N. Bidin. (2009) High Voltage Power Supply for Laser System. Proceedings IEEE. International Conference TECHPOS Kuala Lumpur. IEEE catalog: CFP0330I-CDR. ISBN: 978-1-4244-5224-8. Library of Congress: 2009934930	International (Scopus)
2	S. Z. N. Demon , Y. Miyauchi, G. Mizutani, T. Matsushima and H. Murata. (2013) Study of ITO/organic interfaces by optical second harmonic generation phase measurement. Proceedings of 9th International Symposium on Atomic Level Characterizations for New Materials and Devices (ALC '13). Big Island, Hawaii, USA	International
3	A. F. Z. Abedin, N. Ibrahim, N. A. Zabidi and S. Z. N. Demon . (2016) The Use of Compton Scattering In Detecting Anomaly In Soil-Possible Use In Pyromaterial Detection, AIP Conference Proceedings 2016 (1704) 030009	International (Scopus)
4	Muhammad Samir Ullah, S. Z. Ngah Demon , K. Matsumoto, K.T.T. Hien, G. Mizutani and H. Rutt, New Method for Analyzing the Second Harmonic Generation Phase from the Interface between Indium Tin Oxide and Organic Layer, 10th International Symposium on Atomic Level Characterizations for New Materials and Devices (ALC '15). Matsue, Japan.	International
5	Nurul Farhana Abu Kasim, Norhana Abdul Halim, Ahmad Farid Mohd Azmi, Norli Abdullah, Keat Khim Ong, Siti Zulaikha Ngah Demon , Surface Wettability of Treated Quartz Substrates and Their Optical Characterization of Deposited Reduced Graphene Oxide, Proceeding of 5th International Conference on Advances in Manufacturing and Materials Engineering: ICAMME 2022, 9—10 August, Kuala Lumpur, Malaysia, Pages 85-91, Lecture Notes in Mechanical Engineering, Springer Nature Singapore	International (Scopus)
6	Nurul Syahirah Nasuha Sa'aya, Siti Zulaikha Ngah Demon , Norli Abdullah, Ahmad Farid Mohd Azmi, Norhana Abdul Halim, Amperometric Study of P3HT/Multi-walled Carbon Nanotubes Composite for Malathion Sensing, Proceeding of 5th International Conference on Advances in Manufacturing and Materials Engineering: ICAMME 2022, 9—10 August, Kuala Lumpur, Malaysia, Pages 63-70, Lecture Notes in Mechanical Engineering, Springer Nature Singapore	International (Scopus)

2.3 Presentation:

(Please list in chronological order)

No.	Event	Title of Paper Presented	Role (Keynote Speaker / Invited Speaker / Presenter)	Date	Organizer
1	International Conference TECHPOS Kuala Lumpur.	High Voltage Power Supply for Laser System.	Presenter	2009	IEEE Universiti Malaya
2	2012 Autumn Meeting of the Physical Society of Japan (JPS) Vol. 67.	Interface of indium tin oxide (ITO)/organic media probed by second harmonic generation (SHG).	Presenter	2012	Japan Physical Society (JPS) Yokohama National University
3	The 4 th International Symposium on Organic and Inorganic Electronic Materials and Related Nanotechnologies (EM-NANO '13).	Study of ITO/organic interfaces by optical second harmonic generation (SHG)	Presenter	17 th -20 th June 2013	JAIST
4	International Symposium on Advanced Materials 2013	Study of ITO/organic interfaces by optical second harmonic generation phase measurement	Presenter	17 th -18 th October 2013	JAIST
5	2013 Japan Society of Applied Physics (JASP) Hokuriku Branch Meeting.	Interfaces of indium tin oxide and organic semiconductor by optical second harmonic generation phase measurement.	Presenter	November 2013.	Kanazawa Institute of Technology, Ishikawa
6	9 th International Symposium on Atomic Level Characterizations for New Materials and Devices (ALC '13).	Study of ITO/organic interfaces by optical second harmonic generation phase measurement.	Presenter	2 nd -6 th December 2013	The 141st Committee on Microbeam Analysis of Japan Society for the Promotion of Science (JSPS)
7	Defense, Security and Sustainability Colloquium and Exhibition 2015 (DSS 2015).	Nonlinear Optical Materials: Potential Applications in Defence Technology.	Presenter	2015	UPNM
8	The Young Scientist Seminar	Characterization of Molecular Electronics by Nonlinear Optical Measurement and Spectroscopy	Presenter	5 th November 2015	Pusat Asasi Pertahanan, UPM
9	Laser Technology and Optics Symposium 2016 (LATOS 2016)	Characterization of Molecular Electronics by Nonlinear Optical Measurement and Spectroscopy	Invited Speaker	5 th -6 th September 2016	Laser Centre, Ibn Sina Institute, UTM
10	The Third International Conference on Applied Engineering, Materials and Mechanics (3rd ICAEMM 2018)	Normal and Raman Resonant Spectra of CuPc/MWCNT Blend	Presenter	21st April 2018	Dong-A University, South Korea
11	4 th Advanced Materials Characterization (AMC 2018)	Effect of ZnO dispersion in optical and structural of nematic liquid crystal, Advanced Materials Conference 2018	Presenter	27-28 th November 2018	SIRIM Malaysia
12	3rd Virtual Symposium on Multidisciplinary	Optical Limiting Studies of Organic Semiconductor Molecule with Carbon Nanotube Addition	Invited Speaker	7 th July 2021	Center of Foundation Studies for

	Science 2021 (V-SMS 2021)				Agricultural Science, Universiti Putra Malaysia
13	RCSSST2022	Optical Limiting Studies of Organic Semiconductor Molecule with Carbon Nanotube Addition	Presenter	September 2022	Universiti Malaysia Kelantan
14	7th International Conference on Materials Engineering and Nano Sciences	Optical Limiting Studies of Organic Semiconductor Molecule with Carbon Nanotube Addition	Presenter	April 2023	Chiba University, Japan
15	9th ICSSST 2023	Raman Spectra Evaluation of Gold Nanoparticles Composite Interaction with Nerve Agent Simulant	Presenter	December 2023	Karambunai Spa & Resort, Kota Kinabalu, Sabah

2.4 Intellectual Property:

(Please list in chronological order)

No.	Kategori Harta Intelek (Patent / Trademark / Industrial Design / Geographical Indication / Copyright / IC Layout Design)	Nombor Rujukan Pendaftaran	Tarikh Pendaftaran	Peringkat (Kebangsaan / Antarabangsa)	Peranan
1	Patent	PI 2010 001698 A Voltage Power Supply And Method Of Supplying Power Thereof	2010	Kebangsaan	Pencipta Bersama
2	Patent	PI 2020 007113 Flexible Conductive Composite Sheet And Method Thereof	2020	Kebangsaan	Pencipta Bersama
3	Patent	PI 2022 003984 Flexible, Foldable Energy Storage Device Derived From Bacterial Cellulose And Method Thereof	2022	Kebangsaan	Pencipta Bersama
4	Patent	PI 2022 007448 Assembly for In Situ Detection of Methyl Phosphonic Acid, Sensing Reagent and Method Thereof	2022	Kebangsaan	Pencipta Bersama
5	Copyright	CRAR2023W01576 Flow Chart for Construction of RGB Analyzer To Determine Methylphosphonic Acid Concentration	2023	Kebangsaan	Pencipta Bersama

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

3.1 Academic Recognition and Leadership

Academic recognition and leadership such as Academic Award, Academic Assessor/ /Promotion Assessor (External), Visiting Professor/Fellowship, Editorial Board and other academic recognition.

No.	Academic Recognition	Year	Level	Awarding Body / Name of Institution
1	Bronze Medal Product: Electro-optic Power Supply	2009	University	Universiti Teknologi Malaysia (UTM)
2	Gold Medal Product: Electro-optic Power Supply	2010	National	Malaysia Technology Exhibition (MTE)
3	Student Award	2013	International	The 141st Committee on Microbeam Analysis of Japan Society for the Promotion of Science (JSPS)
4	Gold Medal: Nonlinear Optical Materials: Potential Applications in Defence Technology	2015	University	Defence, Security and Sustainability (DSS2015), Universiti Pertahanan Nasional Malaysia (UPNM)
5	Silver Medal: Ruthenium Alkynyl Complexes for Nonlinear Optic Applications.	2015	University	Defence, Security and Sustainability (DSS2015), Universiti Pertahanan Nasional Malaysia (UPNM)
6	Anugerah Perkhidmatan Cemerlang 2016	2016	University	Universiti Pertahanan Nasional Malaysia (UPNM)
7	Anugerah Akademik Cemerlang Kategori Penyeliaan Pascasiswazah (Sarjana)	2018	University	Universiti Pertahanan Nasional Malaysia (UPNM)
8	Bronze Medal: Rational Design of Hybrid F-MWCNT/P3HT Based Chemiresistor For Detection of Chemical Warfare Agent (CWA)	2019	University	Defence, Security and Sustainability (DSS2019), Universiti Pertahanan Nasional Malaysia (UPNM)
9	Silver Medal: Human Detection for Thermal and Visible Images	2019	University	Defence, Security and Sustainability (DSS2019), Universiti Pertahanan Nasional Malaysia (UPNM)
10	Bronze Medal: PKP Publication Contest Siri 1 2020	2020	University	Universiti Pertahanan Nasional Malaysia (UPNM)
11	Anugerah Perkhidmatan Cemerlang 2020	2020	University	Universiti Pertahanan Nasional Malaysia (UPNM)
12	Bronze Medal: B-Ex Paper	2021	International	Malaysia Technology Expo (MTE 2021)
13	Gold Medal: Enhanced Surface Plasmon Resonance (SPR) Sensing Built in Tapered Fiber Optics for Remote Chemical Monitoring	2022	National	Defence, Security and Sustainability (DSS2022), Universiti Pertahanan Nasional Malaysia (UPNM)
14	Gold Medal & Best Award: Exploring Metal Oxide Nanoparticles Decorated 3D Carbon Nanostructures Solid State Sensor for VOC Monitoring	2022	National	Defence, Security and Sustainability (DSS2022), Universiti Pertahanan Nasional Malaysia (UPNM)
15	Gold Medal: SCOBY-Based Free Standing Electrodes for Green Energy Storage Technology	2022	National	Defence, Security and Sustainability (DSS2022), Universiti Pertahanan Nasional Malaysia (UPNM)

16	Gold Medal: SCOBY-Based Free Standing Electrodes for Green Energy Storage Technology	2022	International	PENCIPTA
17	Gold Medal: SCOBY-Based Free Standing Electrodes for Green Energy Storage Technology	2023	International	MTE2023
18	Gold Medal: SCOBY-Based EDLC as Energy Storage Device for Energy Harvester System	2023	International	ITEX2023
19	Gold Medal: Stable and Versatile Polymer Thin Film Coating as First Line of Defence Against Laser	2024	National	Defence, Security and Sustainability (DSS2024), Universiti Pertahanan Nasional Malaysia (UPNM)

3.2 Consultancy work that benefited to the University.

(Please list in chronological order and state: title, year, sponsor, value and duration of consultancy)

No.	Title	Year	Sponsor	Value	Duration
1	Scientific Judge AMCT 2015	10 June 2015	XAPP Malaysia, Majlis Nuklear Malaysia		
2	Ketua Penggubal Soalan Sains & Panel Hakim Pertandingan (Juri Sains) Pertandingan Olympiad Matematik dan Sains Negeri dan Kebangsaan 2016	18-19 February 2016 12-14 Ogos 2016	Gagasan Pendidikan Melayu Malaysia (GAGASAN)		
3	Secretariat & Technical Paper Reviewer Defence Science and Technology Colloqium 2016	15-16 Ogos 2016	UPNM and UPM		
4	Pertandingan Olympiad Matematik dan Sains Peringkat Negeri	2016	Gagasan Pendidikan Melayu Malaysia (GAGASAN)		
5	Technical Paper Reviewer	Mac 2017	3rd Advanced Materials Conference 2016		
6	Technical Paper Reviewer	2018-2019	2019 International Conference on Graphene and Novel Nanomaterials (GNN 2019)		
7	Pemeriksa Peperiksaan Matrikulasi Fizik Kejuruteraan & Fizik II	2011,2017-2018	Bahagian Matrikulasi, KPM		
8	Pakar Bidang & Pakar Rujuk Peperiksaan STPM Kertas Fizik	2019-2023	Majlis Peperiksaan Malaysia		
9	Technical Paper Reviewer (Solid State Phenomena dan Malaysian Journal of Analytical Sciences)	2020	ICSSST2019		
10	AJK Kuiz Kimia Kebangsaan	2020	Institut Kimia Malaysia		

No.	Title	Year	Sponsor	Value	Duration
11	Pemeriksa Luar Kursus Physics II.	2021	Kolej MARA Kulim dan Kolej MARA Kuala Nerang		

3.3 Service to the University

Service to the university such as Vice Chancellor/Deputy Vice Chancellor/Dean/Director, Deputy Dean/Deputy Director/Unit Coordinator/Hostel Warden, Programme Chairperson/ Assistant Warden/Fellow. Representing University in Sports and Other Non-Academic Activities. Professional/Academic Association (Committee Member).

(Please list in chronological order and state: position/membership and duration)

No.	Position/Membership	Duration
1	Pegawai Pemeriksa Aset Alih Pejabat Bendahari	2014-2016
2	Ahli Persatuan Pegawai Akademik Universiti Pertahanan Malaysia (NADIMASA)	2014-ongoing
3	Timbalan Pegawai Rekod Sistem Pengurusan Kualiti Jawatankuasa Jaminan Kualiti Universiti (JJKU) UPNM	2016-2018
4	Ahli Persatuan Sains dan Teknologi Pepejal Malaysia (MASS)	2015-ongoing
5	Ahli Jawatankuasa E-Pembelajaran UPNM	2015-2022
6	Ahli Jawatankuasa Defence Science Technology Conference (DSTC 2017)	2017
7	Ahli Jawatankuasa Program Pemindahan Ilmu (KTP) dan Program Sains, Teknologi, Kejuruteraan dan Matematik (STEM) Pusat Asasi Pertahanan	2018-ongoing
8	Ahli Jawatankuasa International Conference of Solid State Science and Technology (ICSSST2019)	2019
9	Ahli Jawatankuasa Penyediaan Spesifikasi Perolehan Alat PdP Bangunan Jauhari UPNM	2020-2022
10	Graduate Technologist at Malaysia Board of Technologist (MBOT)	2020-ongoing
11	Ahli Jawatankuasa Pre University Innovation Competition 2022	2022
12	Ahli Jawatankuasa International Conference on Advanced Materials and Applied Sciences 2024 (IConMAS)	2023-2024

3.4 Service to the community

(Please list in chronological order)

No.	Organization	Role	Start Date	End Date	Level
1	Pameran Karnival Pendidikan 2018 di SMK Bandar Tasik Selatan, Sungai Besi	Exhibitor	2018	2018	Community
2	Program Mentor-Mentee di bawah Inisiatif Pengukuhan STEM, Jabatan Pendidikan WP Kuala Lumpur	Fasilitator	2018	2018	Community