JABATAN PENDAFTAR
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MS ISO 9001:2015 REG. NO 0048795

CURRICULUM VITAE

I. PERSONAL PARTICULARS

Name	Associate Professor Ts. Dr. Nor Azlian Binti Abdul Manaf
Current Position	Head of Physics Department Associate Professor (DS54)
Affilation	Physics Department, 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
2004	Bachelor of Science (Hons)	Applied Physics	University Malaya
2008	Master of Science	Microengineering and nanoelectronics	National University of Malaysia
2015	Doctor of Philosophy	Materials Engineering	Sheffield Hallam University

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

No.	TITLES OF POSTGRADUATE THESES
1.	Fabrikasi Filem Nipis Strontium Barium Bismut Titanat Untuk Piezoelektrik Sensor (MSc)
2.	Organic/Inorganic Hybrid Solar Cells Based on Electroplated CdTe (PhD)

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

Year	Position	Organisation	Start and End Date
2005	Application Engineer	KL Automation Engineering Sdn Bhd.	1/1/2005 – 30/6/2005
2006	Graduate Research Assistant	Universiti Kebangsaan Malaysia	1/7/2005 – 31/12/2007
2008	Researcher	Telekom Malaysia Research and Development Sdn. Bhd.	3/2/2008 – 30/7/2011
2011	Tutor	National Defence University of Malaysia	1/8/2011 – 6/12/2015
2015	Senior Lecturer	National Defence University of Malaysia	7/12/2015 - 31/1/2024
2023	Head of Department	Physics Department, National Defence University of Malaysia	1/1/2023 - 31/12/2025
2023	Associate Professor	National Defence University of Malaysia	1/2/2023 - present

1.0 TEACHING AND SUPERVISION

1.1 Postgraduate Courses

No.	Course Title	Semester	Year
1.	Research Methodology (Research Design)	1	2021
2.	Research Methodology (Research Design)	2	2020

1.2 Pre-Degree Courses

No.	Course Title	Semester, Year
1.	Pengukuhan Pembelajaran	Semester 2, 2011/12
2.	Basic Physics in Medicine 2 (subject coordinator)	Semester 3, 2011/12
3.	Physics I	Semester 1, 2016/17 Semester 1, 2017/18 Semester 1, 2018/19 Semester 1, 2019/20 Semester 1, 2020/21 Semester 1, 2021/22 Semester 1, 2022/23 Semester 1, 2023/24
4.	Physics II	Semester 2, 2011/12 Semester 2, 2015/16 Semester 2, 2016/17 Semester 2, 2017/18 Semester 2, 2018/19 Semester 2, 2019/20 Semester 2, 2020/21 Semester 2, 2021/22 Semester 2, 2022/23 Semester 2, 2023/24

1.3 PhD Supervision

No.	Name of Student	Project Title	Date of Registration	Role (Main / Co-Supervision)	Status • Completed • Submitted • In Progress	University
1.	Asyraf Hakimi Bin Azmi	Optimizing Electron Transport Layer and Hole Transport Layer for Lead Free Perovskite Solar Cells	1/3/2023	Main-Supervisor	In Progress	UPNM
2.	Nursaadah Binti Ahmad Poad	Saturable Absorption Properties of Organic Semiconductor Film for Low Power Laser Application	1/7/2021	Co-Supervisor	In Progress	UPNM
3.	Nur Arina Binti Mat Rusni	Mechanical, Optical, and Ionizing Radiation Shielding Properties of Bismuth Borotellurite Glass doped CeO2/Tm2O3	1/7/2023	Co-Supervisor	In Progress	UPNM
4.	Muhammad Mukhzani Bin Muhamad Hanifah	Retardation Mechanism of Intermetallic Compound Layer by Rare-earth Lead-Free Solder of Electronic Device in High Energy Radiation Environment	1/3/2024	Co-Supervisor	In Progress	UPNM

1.4 MSc Supervision (by Research)

No.	Name of Student	Project Title	Date of Registration	Role (Main / Co-Supervision)	Status • Completed • Submitted • In Progress	University
1.	Nur Atikah Binti Shaari	Optimization of CdTe Physical Properties For High Efficiency CdS/CdTe Solar Cells Application	1/7/2018	Main Supervisor	Completed	UPNM
2.	Asyraf Hakimi Bin Azmi	Effects of Annealing Temperature on Bismuth Oxyiodide Thin Film for Lead Free Perovskite	2/3/2020	Main Supervisor	Completed	UPNM
3.	Muhammad Nur Hisyam bin Rosman	Effect of Ionizing on Physical and Micromechanical Properties of Soldier Joint	18/9/2020	Co-Supervisor	In Progress	UPNM
4.	Nor Falihan binti Ramli	Structural, Optical and Radiation Shielding Properties of Bismuth-Boro-Telluride Glass Doped Thulium Oxide	10/3/2021	Co-Supervisor	Completed	UPNM

1.5 Final Year Research Project Supervision

No.	Name of Student	Project Title	Date of Registration	Role (Main/Co-Supervision)	Status • Completed • Submitted • In Progress	University
1.	Joseph Dabrera (Final Year Research Project) Bachelor of Engineering (Electrical)	Development of Solar Energy Materials and Thin Film Solar Cells using CdTe and CdS Grown in Cl-containing medium.	2011	Co-Supervisor	Completed	Sheffield Hallam University, United Kingdom
2.	Gary Jennings (Final Year Research Project) Bachelor of Engineering (Electrical)	A Study in the properties of thin film semiconductors for the application of solar cell devices.	2012	Co-Supervisor	Completed	Sheffield Hallam University, United Kingdom
3.	Uzma Aleeya Binti Saiful Nizam (Final Year Research Project) Bachelor of Sc. (Physics)	Study of Bismuth Oxyiodide thin Film with different concentrations	2024	Co-Supervisor	In progress	UTM

2.0 RESEARCH, PUBLICATION AND PRESENTATION

2.1 Research Projects

No.	Title	List of Researchers • Principal • Members	Grant Year	Source Amount	Status • Completed • In Progress
1.	VCSEL Optical transceiver for CWDM-PON & Metro Ethernet Application. (Grant Telekom Malaysia)	Principal: Dr Sharizal Alias Members: 1. Dr Sufian Mousa Mitani 2. Fauzi Maulud **3. Nor Azlian Abdul Manaf**	2007-2009	RM300,000	**Completed**
2.	GaInNAs Laser Source for Long Wavelength Optical Communication. (Grant Telekom Malaysia)	Principal: Dr Sharizal Alias Members: 1. Dr Sufian Mousa Mitani 2. Fauzi Maulud **3. Nor Azlian Abdul Manaf** 4. Farha Maskuriy	2009-2011	RM240,000	**Completed**

No.	Title	List of Researchers • Principal • Members	Grant Year	Source Amount	Status • Completed • In Progress
3.	Optimisation of CdTe Physical Properties for High Effieciency CdS/CdTe Solar Cells A pplication (Short Grant (GPJP): UPNM/2016/GPJP/3/SG/1)	Principal: **Dr. Nor Azlian Binti Abdul Manaf** Members: 1. Prof. Muhd Zu Azhan Bin Yahya 2. Noor Aisyah Binti Ahmad Shah 3. Azuraida Binti Amat.	2016 - 2018	RM 20,000	**Completed**
4.	Design of Hybrid Carbon Nanotube/Polythiophene based Chemiresistive Sensor for VX-type Nerve Agent Stimulant. (Grant UPNM: UPNM/2018/CHEMDEF/ST/03)	Principal: Prof Madya Dr. Norhana Abdul Halim Members: 1. Prof Dr Ong Keat Khim **2. Dr Nor Azlian Abdul Manaf** 3. Dr Siti Aminah Mohd Noor 4. Prof Madya Dr Noor Azilah Kasim 5. Ahmad Farid Mohd Azmi	2019 - 2020	RM 200,000	**Completed**
5.	Atomic Level Mechanism of Interconnect materials of Electronic Packaging in Exposure to Ionizing Radiation (FRGS/1/2018/STG07/UPNM/02/1)	Principal: Dr. Wan Yusmawati Binti Wan Yusoff Members: 1. Prof Dr. Muhd Zuazhan Yahya 2. Dr Azuraida Binti Amat **3. Dr Nor Azlian Binti Abdul Manaf**	2019-2022	RM 86,000	**Completed**
6.	Synthesis, characterization and fabrication of bismuth oxyiodide thin film for non-toxic perovskite solar cells. (FRGS/1/2019/STG07/UPNM/02/3)	Principal: **Dr. Nor Azlian Abdul Manaf** Members: 1. Prof Dr. Nor Sabirin Mohamed 2. Prof Dr Muhd Zuazhan Yahya 3. Dr Wan Yusmawati Wan Yusoff 4. Prof Imyhamy M Dharmadasa 5. Dr. Fijay Fauzi	2019-2022	RM108,200	**Completed**
7.	Theoretical Gamma Shielding Properties of Bismuth-Boro-Tellutite Glass Doped TM2O3/EU2O3 For Radiation Defense Material (Grant UPNM: UPNM/2019/GPJP/2/SG/6	Principal: Dr. Azuraida Amat Members: 1. Dr Wan Yusmawati 2. Puan Nurazlin 3. **Dr Nor Azlian Binti Abdul Manaf**	2019-2021	RM20,000	**Completed**

8.	Mechanism Retardation of Intermetallic Compound Layer by Rare Earth-Lead Free Solder for Electronic Device in High Energy Radiation Environment. (FRGS/1/2023/STG05/UPNM/02/1	Principal: Prof Madya Dr. Wan Yusmawati Binti Wan Yusoff Members: 1. Prof Dr Azman Bin Jalar **2. Prof Madya Dr Nor Azlian Binti Abdul Manaf** 3. Nurazlin Binti Ahmad 4. Dr Azuraida Binti Amat	2023-2026	RM181,000	**On-going**
9.	Raising Knowledge of Solar Energy Education through Solar Powered Community Hub for B40 Strata Residents in Kuala Lumpur GERAN TRANSLASI UKM (TR-UKM)	Principal: Prof Madya Dr Suhaila Binti Sapeai Members: 1. **Prof Madya Dr Nor Azlian Binti Abdul Manaf** 2. Prof Madya Norasikin Binti Ahmad Ludin 3. Dr. Nor Sakinah Bt. Mohamad 4. Dr. Hasila Binti Jarimi 5. Dr Nor Zalina Binti Harun	2023-2024	RM 50,000	**On-going**
10	Optimization Electron Transport Layer (ETL) and Hole Transport Layer (HTL) for Flexible Lead-Free Perovskite Solar Cells. (UPNM/2023/GPPP/SG/7)	Principal: **Prof Madya Dr. Nor Azlian Abdul Manaf** Members: 1. Prof Madya Dr Wan Yusmawati Wan Yusoff 2. Azuraida Binti Amat	2023-2024	RM 21,600	**Completed**

2.2 Publications

2.2.1 Academic Journal

No.	Authors, year, title, publisher/journal, volume and number of pages (Please bold your name)	Type of Journal • **ISI** • **SCOPUS** • **Peer-Reviewed**
1.	**Nor Azlian A. Manaf,** Muhamad Mat Salleh & Muhammad Yahaya (2007) "Fabrication of Sr1-xBaxBi4Ti4O15 Thin Films as Piezoelectric Pressure Sensor." *J. Solid State Science and Technology*, 15(2),103-111.	Scopus
2.	**N. A. Abdul-Manaf**, O.K. Echendu, F. Fauzi L. Bowen and I. M. Dharmadasa (2014) "Development of Polyaniline Using Electrochemical Technique for Plugging Pinholes in Cadmium Sulfide/Cadmium Telluride Solar Cells" *Journal of Electronic Materials*, 43:11, 4003–4010.	Scopus
3.	**N. A. Abdul-Manaf**, R. Weerasinghe, O.K. Echendu and I. M. Dharmadasa (2015) "Electro-plating and characterisation of Cadmium Sulfide thin films using Ammonium Thiosulphate as the sulphur source" *Journal of Materials Science: Materials in Electronics*, 26: 4, 2418-2429.	Scopus
4.	**N. A. Abdul-Manaf**, H. I. Salim, M. L. Madugu, O. I. Olusola and I. M. Dharmadasa (2015) "Electro-plating and characterisation of CdTe thin films using $CdCl_2$ as the cadmium source" *Energies*, 8:10, 10883-10903.	Scopus

5.	I. M. Dharmadasa, O.K. Echendu, F. Fauzi, **N. A. Abdul-Manaf** and H.I. Salim (2015) "Effects of $CdCl_2$ treatment on deep levels in CdTe and their implications on thin film solar cells; A comprehensive photoluminescence study" *Journal of Materials Science: Materials in Electronic*, 26, 4571-4583.	Scopus
6.	O. I. Olusola, M. L. Madugu, **N. A. Abdul-Manaf** and I. M. Dharmadasa (2016) "Development of n- and p- type ZnTe thin films for applications in electronic devices" *Current Applied Physics,* 16, 120-130.	Scopus
7.	K. D. M. S. P. K. Kumarasinghe, D. S. M. De Silva, K. A. S. Pathiratne, H. I. Salim, **N. A. Abdul-Manaf** (2016) IM Dharmadasa "Electrodeposition and characterizationof as-deposited and annealed CdTe thin films" *Ceylon Journal of Science*, 45(2).	Scopus
8	I. M. Dharmadasa, O. K. Echendu, F. Fauzi, H. I. Salim and **N. A. Abdul-Manaf** (2016) J. B. Jasinski, A. Sherehiy and G. Sumanasekera "Study of Fermi level position before and after $CdCl_2$ treatment of CdTe thin films using ultraviolet photoemission spectroscopy" *Journal of Materials Science: Materials in Electronics*, 27, 5039 – 5046.	Scopus
9	**N. A. Abdul-Manaf** and I. M. Dharmadasa (2017) "Development of CdTe Thin Film Solar Cells for Military Application" *Defence S&T Technical Bulletin*, Vol. 10, No. 2, 129-141.	ISI
10.	I. M. Dharmadasa, O. K Echendu, F. Fauzi, **N. A. Abdul-Manaf,** O. I. Olusola, H.I. Salim, M/ L. Madugu and A. A. Ojo (2017) "Improvement of composition of CdTe thin films during heat treatment in the presence of $CdCl_2$" *Journal of Materials Science: Materials in Electronics*, Volume 28, Issue 3, Pages 2343-2352.	Scopus
11.	**N. A. Abdul-Manaf**, W. Y. W. Yusoff, S. Z. N. Demon, N. A. Shaari and A. Shamshuddin (2019) "Anodic and cathodic deposition of polyaniline films: A comparison between the two methods" *Materials Research Express*, 6 (9), 096453.	Scopus
12.	S. Z. N. Demon, A. I. Kamisan, N. Abdullah, S. A. M. Noor, O. K. Khim, N. A. M. Kasim, **N. A. Abdul-Manaf**, A. F. M. Azmi, N. A. Halim (2020) "Graphene-based materials in gas sensor applications: A review" *Sensors and Materials,* 32 (2), 759-777.	Scopus
13.	F. Fauzi, M. F. N. Tajudin, M. F. Mohamed, A. Azmi and **N. A. A. Manaf** (2021) **"**Assessment of in-house build low cost solar panel simulator" *Journal of Physics: Conference Series*, 1878 (1), 012038.	Scopus
14.	**N. A. Abdul-Manaf** and AH Azmi (2021) "Microstructure study of bismuth oxyiodide thin film prepared by SILAR dip coating" *Journal of Physics: Conference Series*, 1816 (1), 012115.	Scopus
15.	**N. A. Abdul-Manaf**, AH Azmi, F Fauzi, NS Mohamed (2021) The effects of micro and macro structure on electronic properties of bismuth oxyiodide thin films, *Materials Research Express*, 8 (9), 096401.	Scopus
16.	N. A. Shaari, **N. A. Abdul-Manaf** (2021) "The Effect of pH and Monomer Concentration on Polyaniline Thin Films Grown Using Electrodeposition" *Solid State Phenomena*, 317, 483-487.	Scopus
17.	A. H. Azmi and **N. A. Abdul-Manaf** (2021) **"**Study of synthesis and characterization of bismuth oxyiodide thin film for non- toxic perovskite solar cells" *Jurnal Kejuruteraan*, SI 4(1), 95-100.	Peer Reviewed
18.	F. Fauzi, M. E. Zaidi, U. Udom and **N. A. A. Manaf** (2022) "Switch Mode Power Supply (SMPS) Utilizing Flyback Converter Topology: Simulation and Experiment" *Journal of Physics: Conference Series* 2312 (1), 012050.	Scopus
19.	A. Azuraida, O. Nurshahidah, W. Y. W. Yusoff, R. Falihan and **N. A. Abdul-Manaf (**2022) "Effect of thulium boro-tellurite glass system on radiation shielding parameters" *Journal of Ovonic Research* 18 (2), 141-148.	Scopus
20.	**N. A. Abdul-Manaf**, AH Azmi, A. Azuraida, W. Y. W. Yusoff, S.Ibrahim and F Fauzi (2023) "The effects of heat treatment on bismuth oxyiodide thin films for lead-free perovskite solar cells" *Journal of Materials JOM,* Volume 75, Issue 3, p.754-758.	Scopus
21.	A. H. Azmi, **N. A. Abdul Manaf,** W. Y. Wan Yusoff, A. Azuraida (2023) "The Effects of Annealing on Microstructure, Optical and Structural Properties of Bismuth Oxyiodide Thin Films" *Zulfaqar J. Def. Sci. Eng. Tech.* Vol. 6 Issue 1, 81-89.	Zulfakar

22.	Norliza Ismail, Wan Yusmawati Wan Yusoff, Nur Farisa Nadia Mohmad Lehan, **Nor Azlian Abdul Manaf**, Azuraida Amat, Nurazlin Ahmad, Wilfred Paulus (2024) "Microstructural evolution of 96.5 Sn-3.0 Ag-0.5 Cu (SAC305) solder joints induced by variation doses of gamma-irradiation" *Journal of Materials Science: Materials in Electronics*, 35 (1), 18.	Scopus
23.	Norliza Ismail, Wan Yusmawati Wan Yusoff, **Nor Azlian Abdul Manaf**, Azuraida Amat, Nurazlin Ahmad, Emee Marina Salleh (2024) "A comprehensive review of radiation effects on solder alloys and solder joints" *Defence Technology* https://doi.org/10.1016/j.dt.2024.02.007.	ISI
24.	Norliza Ismail, Wan Yusmawati Wan Yusoff, Azuraida Amat, **Nor Azlian Abdul Manaf**, Nurazlin Ahmad (2024) "A review of extreme condition effects on solder joint reliability: Understanding failure mechanisms" *Defence Technology* https://doi.org/10.1016/j.dt.2024.05.013.	ISI
25.	Muhammad Nur Hisyam Rosman, Wan Yusmawati Wan Yusoff, **Nor Azlian Abdul Manaf**, Mohamad Faizal Abdullah, Che Azurahanim Che Abdullah, and Samer H. Zyoud (2024) "An Investigation of the Effect of Wide Range Gamma Radiation from Nanoindentation of the SAC305 Solder Alloy". *Journal of Advanced Research in Micro and Nano Engineering* 17 (1):18-27.	Scopus

2.2.2 Book/Chapter in Book:

No.	Authors, year, title, publisher, volume and number of pages (Please bold your name)	Level • International • National • University
1.	Shamshuddin Jusop and **Nor Azlian Abdul Manaf (**2018) *The Earth Story: Lesson from the Quran and Science*, Serdang, Malaysia: UPM Press, 2nd Edition, pages 145.	National
2.	Norherdawati Kasim, Norhana Abdul Halim, Fadhlul Wafi Badrudin, Ahmad Farid Mohd Azmi, Azuraida Amat, Jahwarhar Izuan Abdul Rashid, Noor Aisyah Ahmad Shah, Noor Azilah Mohd Kasim, Noor Fadhilah Rahmat, **Nor Azlian Binti Abdul Manaf**, Norli Abdullah, Safura Taufik, Siti Hasnawati Jamal, Siti Zulaikha Ngah Demon and Wan Yusmawati Wan Yusoff (2020) *Kompilasi Ujikaji Sains STEM*, Kuala Lumpur: UPNM Press, pages 54.	National
3.	**Nor Azlian Abdul Manaf,** Shamshuddin Jusoh and Azraai Shamshuddin (2024) *Black Hole, White Hole and Wormhole: Implication to The Night Journey of Prophet Muhammad*, accepted, UPNM Press.	National
4.	Abqari Luthfi Albert Abdullah, Azuraida Amat, Fadhlina Che Ros, Fadhlul Wafi Badrudin, Fauziah Abdul Aziz, Mohd Zu Azhan Yahya, **Nor Azlian Abdul Mana**f, Norhana Abdul Halim, Noriza Ahmad Zabidi, Noor Fadhilah Rahmat, Nurazlin Ahmad, Nurshahidah Osman, Nurul Hazwani Aminuddin Rosli, Shahrul Izwan Ahmad, Siti Zulaikha Ngah Demon and Wan Yusmawati Wan Yusoff (2023) *Modul Physics I for Defence Foundation Studies*, UPNM Press, 273 pages (ISBN 978-967-2414-70-4)	University

2.2.3 Proceeding Articles :

No.	Authors, year, title, publisher/conference, volume and number of pages (Please bold your name)	Level • International • National • University
1.	**Nor Azlian A. Manaf**, Muhamad Mat Salleh & Muhammad Yahaya, Fabrication of Bismuth Titanate Thin Films as Piezoelectric Pressure Sensor. 2005, Proceeding 2005 IEEE National Symposium on Microelectronic (NSM2005) November 22-24, 2005 Hilton Kuching, Sarawak, Malaysia p 246-248.	National
2.	**Nor Azlian A. Manaf**, Muhamad Mat Salleh & Muhammad Yahaya, 2006, Effect of Annealing on the Sol-Gel Derived of $SrBi_4Ti_4O_{15}$ Thin Films for Piezoelectric Pressure Sensor , Proceedings 2006 IEEE International Conference on Semiconductor Electronics, Nov. 29-Dec. 1, 2006, Kuala Lumpur, Malaysia , 14-19.	National
3.	**Nor Azlian Abdul Manaf**, Muhamad Mat Salleh and Muhammad Yahaya, 2007. The Influence of Sr, Ba Compositions on the Performance of $Bi_4Ti_3O_{12}$ Piezoelectric Pressure Sensors. 2007 IEEE Regional Symposium On Microelectronics (RSM2007), Penang, 3-6 December 2007:404-409.	National
4.	**Nor Azlian Abdul Manaf**, Muhamad Mat Salleh & Muhammad Yahaya, 2007. Nanocrystalline $Sr_{1-x}Ba_xBi_4Ti_4O_{15}$ thin films for piezoelectric pressure sensor. Smart Materials and Nanotechnology in Engineering, edited by Shanyi Du, Jinsong Leng & Anand K. Asundi, Proceedings of SPIE Vol. 6423 (SPIE, Bellingham, WA, 2007).	International
5.	**Nor Azlian Abdul Manaf**, Mohd Sharizal Alias & Sufian Mousa Mithani, 2008, Modeling and Simulation of DBR for 1490 nm VCSELs Diode, Proc. of 2nd International Conference on Science & Technology: Application in Industry & Education 2008, Penang, 12-13 Dec 2008, 189-192.	National
6.	**Nor Azlian Abdul Manaf**, Mohd Sharizal Alias, Sufian Mousa Mithani, Mohd Fauzi Maulud, Mohamed Razman Yahya & Abdul Fatah Awang Mat, 2008, Design and Optimization of Distributed Bragg Reflector for 1310 nm Vertical cavity Surface Emitting Lasers, Proc. of IEEE International Conference on Semiconductor Electronics 2008, Johor Bahru, 25-27 Nov 2008, 254-258.	National
7.	**Nor Azlian Abdul Manaf**, Mohd Sharizal Alias & Sufian Mousa Mitani, 2009, Effect of In and N incorporation on the GaInNAs VCSELs, Proc of. Asia Communications and Photonics conference and Exhibition (ACP 2009), Shanghai, China, 23-28.	International
8.	**Nor Azlian Abdul Manaf**, Mohd Sharizal Alias & Sufian Mousa Mitani, 2009, Effect of In and N on the lasing characteristics of GaInNAs/GaAs quantum well for VCSEL application, Proc. of International Conference on Nanotechnology Research & Commercialization (ICONT) 2009, Langkawi, 14-17 Dec 2009.	National
9.	**Nor Azlian Abdul Manaf**, Mohd Sharizal Alias & Sufian Mousa Mitani, The Impact of Device Operating Temperature on the Performance of 1.3 μm Vertical Cavity Surface Emitting Lasers, Proc. Of Regional Symposium on Micro & Nano Electronics (RSM) 2009, Kota Bharu, 9-11 Aug 2009.	National
11.	**Nor Azlian Abdul Manaf**, Mohd Sharizal Alias, Sufian Mousa Mitani and Farha Maskuriy, 2010, Multiple quantum wells GaInNAs for ridge-wave-guide laser diodes, *Proc. Of 34th International Electronic manufacturing Technology Conference (IEMT) 2010,* November 30- December 2, 2010, Melaka, Malaysia, 19-22.	National
12.	**Nor Azlian Abdul Manaf**, Mohd Sharizal Alias, Sufian Mousa Mitani and Farha Maskuriy, 2010, Effect of strain-compensating and strain-mediating layer on GaInNAs	National

	quantum well lasers, *Proc. of Advanced Processes and Materials, World Engineering Congress (WEC) 2010*, August 2-5, 2010, Sarawak, Malaysia, 211-216.	
13.	**N. A. Abdul-Manaf, O. K.** Echendu, F. Fauzi, L. Bowen and I. M. Dharmadasa, 2013, Electrodeposition and characterization of polyaniline to develop organic/inorganic hybrid solar cells based on cadmium telluride, *Proceedings of the 28th European Photovoltaic Solar Energy Conference and Exhibition,* Paris, France, 1-3 October 2013 pp. 2327 - 2332.	International
14.	I. M. Dharmadasa, O. K. Echendu, **N. A. Abdul-Manaf**, M. B. Dergacheva, K. A. Mit and K. A. Urazov, 2013, Next generation solar cells using graded bandgap structures utilising nano- and micro- rod type semiconductors, *Solar Asia 2013*, CIUM, University of Malaya, Kuala Lumpur, Malaysia, 22-24 August 2013, pp. 17-22.	National
15.	**N. A. Abdul-Manaf**, O. K. Echendu, H. I. Salim, L. Bowen and I. M. Dharmadasa, 2013, Electrodeposition and characterization of polyaniline for development of hybrid solar cells, *Solar Asia 2013*, CIUM, University of Malaya, Kuala Lumpur, Malaysia, 22-24 August 2013, pp. 105-110.	National
16.	I. M. Dharmadasa, D. G. Diso, O. K. Echendu, H. I. Salim, **N. A. Abdul-Manaf**, M. B. Dergacheva, K. A. Mit and K. A. Urazov, 2013, Thin film photovoltaic solar cells with nano- and micro-rod type II-VI semiconducting materials grown by electroplating, *Proceedings of the 9th Photovoltaic Science, Applications and Technology Conference C95,* Swansea, United Kingdom, 10-12 April 2013, pp 79-82.	International
17.	**N. A. Abdul-Manaf**, H. I. Salim, M. L. Madugu and I. M. Dharmadasa, 2015, Electrodeposition of CdTe thin films using chloride precursor for the application in solar cells, *Photovoltaic Science Application and Technology Proceeding*, PVSAT 11, University of Leeds, Leeds, 15-17 April 2015, pp. 137-140.	International
18.	**N. A. Abdul-Manaf** and I. M. Dharmadasa, 2015, Fabrication of CdS, CdTe, and PAni Thin Films For Solar Cell Application Based on Electrodeposition Technique, *UK Semiconductors & UK Nitrides Consortium Summer Meeting,* 1-2 July, 2015, Sheffield, United Kingdom, pp. 132.	International
19.	**N. A. Abdul-Manaf** and I. M. Dharmadasa, 2016, Development of CdS/CdTe Thin Film Solar Cells for Military Applications. Proceeding of *3rd International Conference on Defence and Security Technology (DSTC2016)*, 15 – 17 Ogos 2016, Marriot Hotel, Putrajaya.	International
20.	**N. A. Abdul-Manaf** and I. M. Dharmadasa, 2017, The Effect of Thermal Annealing on CdS/CdTe solar cells, ICAES 2017 Proceeding, Thailand.	International
21.	**N. A. Abdul Manaf** and A. H. Azmi, Proceedings, 10th International Conference on Theoretical and Applied Physics (ICTAP 2020) : Lombok, Indonesia.	International
22.	**N. A. Abdul Manaf** and S. Ibrahim Proceeding of 10th European Conference on Renewable Energy Systems (ECRES 2022) : Istanbul Medeniyet University, Istanbul.	International

2.3 Presentation:

No.	Event	Title of Paper Presented	Role (Keynote Speaker / Invited Speaker / Presenter)	Date	Organizer
1.	IEEE International Conference on Semiconductor Electronics	Effect of Annealing on the Sol-Gel Derived SrBi4Ti4O15 Thin Films for Piezoelectric Pressure Sensors	Presenter	29th November – 1/12/2006	IEEE and Electron Device Society
2.	The International Society For Optical Engineering	Nanocrystalline $Sr_{1-x}Ba_xBi_4Ti_4O_{15}$ thin films for piezoelectric pressure sensor	Presenter	1st - 4th July 2007	SPIE
3.	International Conference on Semiconductor Electronics (ICSE 2008)	Design and optimization of distributed Bragg reflector for 1310nm vertical cavity surface emitting lasers	Presenter	25-27th November 2008	IEEE and IMEN, UKM
4.	Asia Communications and Photonics conference and Exhibition (ACP 2009)	Effect of In and N incorporation on the GaInNAs VCSELs.	Presenter	2-6th November 2009	IEEE
5.	2010 34th IEEE/CPMT International Electronic Manufacturing Technology Symposium (IEMT)	Multiple quantum wells GaInNAs for ridge-wave-guide laser diodes	Presenter	30th November – 02nd December 2010	IEEE
6.	Solar Asia 2013: 2nd International Conference on Solar Energy Materials, Solar Cells and Solar Energy Applications	Electrodeposition and characterization of polyaniline for development of organic/inorganic hybrid solar cells	Presenter	22-24 August 2013	Center for Ionics, University of Malaya
7.	28th European Photovoltaic Solar Energy Conference and Exhibition	Electrodeposition and characterization of Polyaniline to develop organic/inorganic hybrid solar cells based on Cadmium Telluride	Presenter	November 2013	EU PVSEC
8.	11th PVSAT Conference, Leeds, UK	Electrodeposition of CdTe thin films using chloride precursor for the application in solar cells	Presenter	4-7th April 2014	UK PVSAT
9.	UK Semiconductors & UK Nitrides	Fabrication of CdS, CdTe, and PAni Thin	Presenter	1-2nd July, 2015	UK-PV SAT

	Consortium Summer Meeting	Films For Solar Cell Application Based on Electrodeposition Technique			
10.	3rd International Conference on Defence and Security Technology (DSTC2016)	Development of CdS/CdTe Thin Film Solar Cells for Military Applications. Proceeding of),	Presenter	15 – 17th Ogos 2016	UPNM and STRIDE
11.	International Conference on Solid State Science and Technology (ICSSST 2019)	The Effect of Thermal Annealing on CdS/CdTe solar cells,	Invited Speaker	11-13th November 2019	MASS and UPNM
12.	International Conference on Theoretical and Applied Physics (ICTAP 2020)	Microstructure study of bismuth oxyiodide thin film prepared by SILAR dip coating	Invited Speaker	20-22 November 2020	University Lombok, Indonesia
13.	10th European Conference on Renewable Energy Systems (ECRES 2022)	The effect of Microstructure and structural on electronic properties of BiOI thin films.	Presenter	3-7 May 2022	Istanbul Medeniyet University, Turkey
14.	5th International Science, Technology and Engineering Conference – Global Advance Materials & Surface 2023 (ISTEC-GAMS 2023)	Graded bandgap device architecture to enhance efficiency of perovskite solar cells	Presenter	23-25 August 2023	UiTM Perlis
15.	International Conference on Energy and Environmental Materials (INCEEM 2023)	Perovskite thin film solar cells based on Bismuth halide	Invited Speaker	6-9 December 2023	Sharda University, India
16.	International Conference on Advance Materials and Applied Sciences (IConMAS 2024)	Improvement of lead free bismuth based perovskite solar cell efficiency with graded bandgap structure	Invited Speaker	26-27 Jun 2024	Physics Department, UPNM

2.4 Intellectual Property)

No.	Title of Paper Presented	Type	Equity	Issue date
1	Photovoltaic Active Layer, Perovskite Solar Cell Comprising The Same And Method Thereof (Patent No: PI 2022007563)	**Patent**	**100%**	**29.12.2022**

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

3.1 Academic Recognition and Leadership

No.	Academic Recognition	Year	Level	Awarding Body / Name of Institution
1.	Anugerah Perkhidmatan Cemerlang (APC) 2017	2017	University	UPNM
2.	Anugerah Akademik Cemerlang (AAC) 2018 Kategori: Anugerah Penerbitan Buku (Sains dan Teknologi)	2018	University	UPNM
3.	Anugerah Skim Insentif Hasil Penyelidikan dan Inovasi 2019	2019	University	UPNM
4.	Golden Talent	2019	University	UPNM

3.3 Service to the University

No.	Position/Membership	Duration
1.	Solar Energy Society UK-ISES	2013-2016
2.	The Malaysian Solid State Science and Technology Science (MASS)	Life Membership
3.	Institute Fizik Malaysia (IFM)	Life Membership
4.	Pertubuhan Gagasan Pendidikan Melayu Malaysia (GAGASAN)	2016-2017
5.	IEEE member	2021
6.	Malaysia Board of Technologists (MBOT)	2023-present
7.	Head of Department	2023-2025

3.4 Service to the community

No.	Organization	Role	Start Date	End Date	Level
1.	GAGASAN	Penggubal Soalan Sains, Bengkel Perlaksanaan Penyediaan Soalan Olympiad	12.8.2016	14.8.2016	National
2.	GAGASAN	AJK Protocol, Pertandingan Olympiad Sains dan Matematik Peringkat Wilayah	13.10.2016	13.10.2016	National
3.	GAGASAN	Juri dan Hakim	12.11.2016	12.11.2016	National
4.	Sek.Men. Keb. Bandar Tasik Selatan	Committee of Pameran Sempena Karnival Pendidikan (STEM)	14 Ogos 2018	16 Ogos 2018	National
6.	Fasilitator of Bengkel Training of Trainers di Bawah Inisiatif Pengukuhan STEM	Fasilitator	17 Oktober 2018	18 Oktober 2018	National
7.	Universiti Pertahanan Nasional Malaysia dan The Malaysian Solid State	Ketua AJK Teknikal dan Logistik	11 November 2018	13 November 2019	International

	Science & Technology Society (MASS)	7th International Conference on Solid State Science and Technology (ICSSST 2019)			
8.	Jawatankuasa STEM/KTP/TTP PAP	Setiausaha	1 Jun 2022	31 March 2024	University
9.	Pusat Asasi Pertahanan Innovation Competition 2022 (PAPIC 2022)	Setiausaha dan Ketua Jawatankuasa Publisiti	1 Jun 2022	9 November 2022	National
10.	Pertandingan Debat Inter Asasi Universiti Awam anjuran Majlis Dekan/Pengarah Pusat Asasi Universiti Awam.	Ketua Jawatankuasa Penajaan dan Promosi	9 Februari 2023	20 Februari 2023	National
11.	Pusat Asasi Pertahanan Innovation Competition 2023 (PAPIC 2023)	Setiausaha	1 Jun 2023	17 Oktober 2023	National
12.	PIITRAM 2024	Penyelaras/ Juri			National
13.	International Conference on Advance Materials and Applied Sciences (IConMAS 2024)	Timbalan Pengerusi	31 Mei 2023	27 Jun 2024	International
14.	8th International Conference on Energy Materials and Application (ICEMA 2023)	Technical Committee	11 May 2023	13 May 2023	International
15.	Syarahan Fakulti Bertajuk “Alternating-current Circuit” Kepada Pelajar Program Asasi Sains Dan Asasi Kejuruteraan Uitm Cawangan Selangor Kampus Dengkil	Penceramah	22 Mac 2024	22 Mac 2024	National