

## CURRICULUM VITAE



A. Butir-Butir Peribadi			
<b>Nama Penuh:</b> Suraya Abdul Rashid	<b>Warganegara:</b> Malaysia	<b>Gelaran:</b> Prof. Ir. Ts. Dr.	
<b>No. Mykad:</b> 780622-14-5504	<b>Bangsa:</b> Melayu	<b>Jantina:</b> Perempuan	<b>E-mel:</b> suraya_ar@upm.edu.my
<b>Alamat Semasa:</b> 4 Jalan 15/5B, Bandar Baru Bangi, 43650 Selangor.  H/P: 019-2714473	<b>Tarikh Lahir:</b> 22 Jun 1978	<b>Jawatan:</b> Professor	<b>Jabatan/Fakulti:</b> Institute of Nanoscience and Nanotechnology (ION2) and Department of Chemical & Environmental Engineering, Faculty of Engineering, UPM  Tel: 03-97697538

B. Kelayakan Akademik			
Kelayakan	Nama Institusi	Tahun	Bidang Pengkhususan
Doctor Of Philosophy	Imperial College London, United Kingdom	2004	Chemical Engineering (Nanotechnology)
B.Eng (Hons)	University Of Nottingham, United Kingdom	2000	Chemical Engineering

C. Tugas Pentadbiran				
Majikan	Jawatan	Jabatan	Tarikh Lantikan	Tarikh Tamat
UPM	Pengarah	Institut Nanosains & Nanoteknologi (ION2)	2024	2027
	Timbalan Pengarah		2022	2024
	Ketua Makmal		2015	2022

<b>D. Anugerah Dan Hadiah</b>			
<b>No.</b>	<b>Award/Recognition</b>	<b>Organisation Awarded</b>	<b>Date</b>
1	Breakthrough Energy Fellowship	Bill Gates Foundation	2025
2	MYIIC Luminary Award	Malaysian Invention and Design Society (MINDS).	2025
3	Malaysia SCOPUS Research Star Award 2025 (Excellence in Innovation)	Malaysian Ministry of Higher Education (MOHE)	2025
4	Anugerah Fellowship Naib Cancellor UPM 2024 Kategori Inovasi dan Pengkomersialan Produk	Universiti Putra Malaysia	2025
5	Gold Medal and Innovation Award at iENA, Nuremberg, 2023	iENA	2023
6	Finalist Pahang Innovative Startup Accelerator	Yayasan Pahang	2023
7	Winner of the Climate Impact Innovations Challenge	Temasek Foundation Singapore & East Ventures Indonesia	2023
8	Winner of the Emerging Innovator Award Malaysia Commercialization Year Summit 2023	Ministry of Science, Technology & Innovation of Malaysia (MOSTI)	2023
9	Gold Medal and Special Award of the Engineering Innovations Exhibition 2023	Faculty of Engineering, UPM	2023
10	Finalist Anugerah Akademik Negara, Anugerah Pengajaran Kategori Kejuruteraan	Malaysian Ministry of Higher Education (MOHE)	2022
11	Champion University Startup Challenge	Malaysian Global Innovation & Creativity Centre (MAGIC)	2021
12	Top 10 Finalist Alpha Startups	1337 Ventures	2021
13	Crest Award, Mitsui Chemicals Award, and Grand winner of Tech Planter Malaysia & Asia 2021	Leave a Nest Sdn Bhd	2021
14	Gold Medal Title: HARVAST Photosynthesis Enhancer	PECIPTA, Batu Pahat	2019
15	Bronze Medal Title: Photoluminescent Graphene Quantum Dots Derived from Biochar via A Green Subcritical Hydrothermal Method	PECIPTA, Kuala Terengganu	2017

16	Silver Medal Title: Photoluminescent Graphene Quantum Dots Derived from Biochar via A Green Subcritical Hydrothermal Method	International Invention, Innovation and Technology Exhibition, ITEX2017-05-16 Kuala Lumpur Convention Centre	2017
17	Gold Medal Title: Photoluminescent Graphene Quantum Dots Derived from Biochar via A Green Subcritical Hydrothermal Method	Pameran Rekacipta Penyelidikan dan Inovasi	2016
18	3 <sup>rd</sup> Place Title: Photoluminescent Graphene Quantum Dots Derived from Biochar via	Pertandingan Projek Penyelidikan Inovasi	2016
19	A Green Subcritical Hydrothermal Method	Nanoteknologi Peringkat Kebangsaan	
20	Silver Medal Title: Theoretical prediction and Experimental validation of the Tensile Response of Hierarchical CNT-CF/PP Composite	Pameran Rekacipta, Penyelidikan and Inovasi Malaysia	2012
21	Silver Medal Title: Production of High Strength Concrete using SiO <sub>2</sub> Nanoparticles and Agro-waste Rice Husk Ash	Pameran Rekacipta, Penyelidikan and Inovasi UPM	2011

<b>E. Impak Penyelidikan</b>			
<b>H-Index</b>	41	<b>Bilangan geran</b>	21 – Ketua Projek 10 – Penyelidik Bersama
<b>Bilangan Penerbitan (Number of documents)</b>	189	<b>Jumlah nilai geran terkumpul</b>	► RM2.4 juta
<b>Sitasi (Citations)</b>	7189	<b>Jumlah paten</b>	5 telah difailkan 1 telah dikomersilkan
<b>Bilangan Pelajar Bergraduat</b>	PhD – 9 sebagai Penyelia Utama Masters – 11 sebagai Penyelia Utama		
<b>Orcid ID</b>	<a href="https://orcid.org/0000-0003-4808-3653">https://orcid.org/0000-0003-4808-3653</a>		

## F.10 Penerbitan Utama

1. Valorization of oil palm empty fruit bunch (OPEFB) as membrane polymer via non-solvent induced phase separation method (NIPS) for removal of aqueous contaminants. N Sjahro, R Yunus, LC Abdullah, M Nainggolan, S Abdul Rashid, A Jaril Asis, S Syafie, SH Habib, N Harun. *Discover Sustainability*, 2025, 6, 319.
2. Thermophilic fermentation enhanced by eggshell-derived hydroxyapatite for sustainable hydrogen production. S Zahan Zisha, H Che Man, R Omar, S Abdul Rashid, T J Ping, S Fairuz, A Manaf, T Mumtaz, N S Jamali. *Bioresources and Bioprocessing*, 2025, 12, 136
3. Optimized synthesis and characterization of red-shifted nitrogen-doped carbon quantum dots for highly sensitive detection of Fe<sup>3+</sup> ions in aqueous media. Nur Afif Nadhrah Kamaruzaman, Nadia Izati Fadzil, Yakubu Adekunle Alli, Tongling Tan, Jaafar Abdullah, Suraya Abdul Rashid. *Sensors and Actuators A: Physical*, 2025, 394, 116895
4. A polysulfone/MIL-125(Ti) mixed matrix membrane for removing toxic dyes and heavy metals from water. B Shivarama, AM Isloor, Ch. Sn Murthy, B Prabhu, S Abdul Rashid. *Applied Nanoscience (Switzerland)*, 2025, 15(3), 20.
5. Phosphorous graphitic carbon nitride nanosheets integrated cellulose nanofiber membranes via electrospinning for efficiently selective sorption and photoreduction of U(VI). X Du, R Suraya Abdul Rashid, L C Abdullah, Norizah Abdul Rahman, B Li. *Journal of Environmental Chemical Engineering*, 2025, 13(3), 116213.
6. Physical, Mechanical, Durability and Microstructure Properties of Lightweight Concrete Containing Nanomaterials: A Comprehensive Review. Nashat Shakir Alghairi, Farah N Aziz, Noor Abbas AlGhazali, Suraya A Rashid, Mohd Z Mohmed, Amer M Ibrahim. *Journal of Rehabilitation in Civil Engineering*, 2025, 13(2), 94–127.
7. Thermophilic Biohydrogen Production Utilizing Green-Synthesized Hydroxyapatite (HAP): Insights into Substrate Optimization and Biogranule Formation. Shishita Zahan Zisha, Hasfalina Che Man, Rozita Omar, Suraya Abdul Rashid, Tan Jian Ping, Shareena Fairuz Abdul Manaf, Tabassum Mumtaz, Nur Syakina Jamali. *Applied Biochemistry and Biotechnology*, 197(11), 7123–7157 (2025).
8. Foliar application of carbon quantum dots photosynthesis enhancer for enhancing the growth and development of green mustard (*Brassica juncea*) in indoor hydroponics. Y Chowmasundaram, TL Tan, NI Fadzil, R Nulit, M Jusoh, S Abdul Rashid. *Journal of Photochemistry and Photobiology A: Chemistry*, 2025, 468, 116475.
9. Synthesis, properties, and applications of polyaniline-graphene quantum dot nanocomposites: comprehensive review. M Beygisangchin, SK Kamarudin, SA Rashid. *Journal of Environmental Chemical Engineering*, 2024, 113460
10. Chowmasundaram, Y.A.P., Tan, T.L., Nulit, R., Jusoh, M., Rashid, S.A. Recent developments, applications and challenges for carbon quantum dots as a photosynthesis enhancer in agriculture. *RSC Advances*, 2023, 13(36), pp. 25093–25117

11. Zainuddin, N.H., Chee, H.Y., Abdul Rashid, S., ...Mahdi, M.A., Yaacob, M.H. Enhanced detection sensitivity of *Leptospira* DNA using a post-deposition annealed carbon quantum dots integrated tapered optical fiber biosensor. *Optical Materials*, 2023, 141, 113926
12. Zainuddin, N.H., Chee, H.Y., Rashid, S.A., ...Mahdi, M.A., Yaacob, M.H. Carbon quantum dots functionalized tapered optical fiber for highly sensitive and specific detection of *Leptospira* DNA. *Optics and Laser Technology*, 2023, 157, 108696
13. Sadrolhosseini, A. R., Beygisangchin, M., Shafie, S., Rashid, S. A., & Nezakati, H. (2021). Laser ablated titanium oxide nanoparticles in carbon quantum dots solution for detection of sugar using fluorescence spectroscopy. *Materials Research Express*, 8(10), 105003.
14. Tan, T. L., Zulkifli, N. A., Zaman, A. S. K., binti Jusoh, M., Yaapar, M. N., & Rashid, S. A. (2021). Impact of photoluminescent carbon quantum dots on photosynthesis efficiency of rice and corn crops. *Plant Physiology and Biochemistry*, 162, 737-751.
15. Sadrolhosseini, A. R., Shafie, S., Rashid, S. A., & Mahdi, M. A. (2021). Surface plasmon resonance measurement of arsenic in low concentration using polypyrrole-graphene quantum dots layer. *Measurement*, 173, 108546.
16. Zaman, A. S. K., Tan, T. L., Jamaludin, N., Sadrolhosseini, A. R., Rashid, U., & Rashid, S. A. (2021). Properties and molecular structure of carbon quantum dots derived from empty fruit bunch biochar using a facile microwave-assisted method for the detection of Cu<sup>2+</sup> ions. *Optical Materials*, 112, 110801.
17. Newman Monday, Y., Abdullah, J., Yusof, N. A., Abdul Rashid, S., & Shueb, R. H. (2021). Facile Hydrothermal and Solvothermal Synthesis and Characterization of Nitrogen-Doped Carbon Dots from Palm Kernel Shell Precursor. *Applied Sciences*, 11(4), 1630.
18. Sadrolhosseini, A. R., Azaman, M. I. H. B., Arabi, A. M., Shafie, S., Shamsudin, N. H., Mahdi, M. A., & Rashid, S. A. (2020). Photoluminescence property of laser-ablated zinc oxide-carbon quantum dots nanocomposites for detection of Hg and Pb ions. *Journal of Nanophotonics*, 14(4), 046004.
19. Sadrolhosseini, A. R., Krishnan, G., Safie, S., Beygisangchin, M., Rashid, S. A., & Harun, S. W. (2020). Enhancement of the fluorescence property of carbon quantum dots based on laser ablated gold nanoparticles to evaluate pyrene. *Optical Materials Express*, 10(9), 2227-2241.
20. Issa, M. A., Abidin, Z. Z., Sobri, S., Rashid, S. A., Mahdi, M. A., & Ibrahim, N. A. (2020). Fluorescent recognition of Fe<sup>3+</sup> in acidic environment by enhanced-quantum yield N-doped carbon dots: optimization of variables using central composite design. *Scientific reports*, 10(1), 1-18.
21. Pudza, M.Y., Abidin, Z.Z., Rashid, S.A., Yasin, F.M, Noor, A.S.M., Issa, M.A., Eco-friendly sustainable fluorescent carbon dots for the adsorption of heavy metal ions in aqueous environment, *Nanomaterials*, 2020, 10(2),315.

<b>G. Geran Penyelidikan Utama</b>					
<b>No.</b>	<b>Project title</b>	<b>Role</b>	<b>Year</b>	<b>Source of fund</b>	<b>Status</b>
1	Quantum Dots Photosynthesis Enhancement of Cereals	Malaysia Project leader	2025-2027	Academy of Sciences Malaysia x British Council GBP77000	Agreement being processed by ASM
2	Breakthrough Energy Fellowship	Innovation Fellow	2025-2026	Bill Gates Foundation USD500,000	On-going
3	Mechanism of Solid-State Stokes Shift and Long-range Charge Transport of Carbon Quantum Dots/Polymer Films for Photosynthesis Augmentation	Project Leader	2023-2025	FRGS 140,450	On-going
4	Photoluminescence and Electron Transfer Mechanism of Carbon Quantum Dots-Chloroplast Complex for Photosynthesis Augmentation	Project Leader	2019-2021	FRGS RM95,000	Completed
5	Preparation of Biochar-derived Carbon Dots using Microwave and its Augmentative Effects on Algal Growth	Project Leader	2018-2020	UPM Grant (IPS) RM25,000	Completed
6	Carbon Dots for Photosynthesis Augmentation to Improve Crop Yield	Project Leader	2017-2019	InnoHub RM80,000	Completed
7	Preparation and Physicochemical Characterization of Graphene Quantum Dots from Biochar by a Facile Acid-free Sub-critical Water (SCW) Process	Project Leader	2016-2018	UPM (IPB) RM98,500	Completed

8	Role of Graphene Quantum Dots in the Optical Properties of GQD/PMMA Nanocomposite for Glucose Detection	Project Leader	2016-2018	FRGS RM120,800	Completed
9	Synthesis, Characterization and Application of Graphene Nanostructures	Project Leader	2013-2015	Geran Putra Berimpak RM160,00	Completed