CURRICULUM VITAE

Dr. Nurul Hazwani binti Aminuddin Rosli

Lecturer

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Educational Qualifications:

Degree	University	Year
Ph.D., (Advanced Materials)	Universiti Kebangsaan Malaysia (UKM)	2022
M.Sc., (Physics)	Universiti Teknologi Mara (UiTM)	2012
B.Sc., (Hons) (Physics)	Universiti Teknologi Mara (UiTM)	2009

Area of Expertise:

- Nanomaterials, Electrochemistry, Supercapacitor

Employment History:

- October 2013 – Till date: **Lecturer** in Centre for Defence Foundation Studies, National Defence University of Malaysia (NDUM), Malaysia
- February 2013 – October 2013: **Lecturer** in Windfield International College, Malaysia
- August 2012 – February 2013: **Collection Officer** in Malayan Banking Berhad
- October 2011 – March 2012: **Laboratory Instructor** in Faculty of Applied Sciences, Universiti Teknologi Mara (UiTM), Malaysia
- June 2009 – June 2010: **Research Assistant** in Faculty of Applied Sciences, Universiti Teknologi Mara (UiTM), Malaysia

Awards:

- Gold Award in Defence, Security and Sustainability Exhibition 2022 (DSS 2024)
- Silver Award – Heron in Pusat Asasi Pertahanan Innovation Competition 2023 (PAPIC 2023)
- Silver Award – EcoVac in Pusat Asasi Pertahanan Innovation Competition 2023 (PAPIC 2023)
- Bronze Award – Paper Stone in Pusat Asasi Pertahanan Innovation Competition 2023 (PAPIC 2023)
- Bronze Award – Afoldable in Pusat Asasi Pertahanan Innovation Competition 2023 (PAPIC 2023)
- Silver Award – Jumble-Foldable Wheelchair Integrate Crutches in Pre-University

Matriculation Innovation Competition 2023 (PIITRAM 2023)
- Gold Award – AQUARAWR in Pusat Asasi Pertahanan Innovation Competition 2022 (PAPIC 2022)
- Gold Award – Jumble-Foldable Wheelchair Integrate Crutches in Pusat Asasi Pertahanan Innovation Competition 2022 (PAPIC 2022)
- Silver Award – V-INOPOVE in Pusat Asasi Pertahanan Innovation Competition 2022 (PAPIC 2022)
- Outstanding Academic Award: Journal Paper Publication Award 2022
- Gold Award in Defence, Security and Sustainability Exhibition 2022 (DSS 2022)
- Silver Award in Defence, Security and Sustainability Exhibition 2019 (DSS 2019)
- Excellent Service Awards 2017 (NDUM)
- Bronze Award in Defence, Security and Sustainability Exhibition 2017 (DSS 2017)

Research Projects / Grants:

- NDUM Short Term Grant (2023). Investigation Effect of Different Aqueous Electrolytes on the Performance of S-rGO Electrode for Supercapacitor Applications (In Progress): RM20,000.00.
- NDUM Short Term Grant (2023). Glutaric Anhydride Kappa Carrageenan as Highly Conductive Gel Polymer Electrolyte: Structural Modification by Conventional and Microwave Heating Methods (In Progress): RM20,000.00.
- NDUM Self-fund Grant (2022). Difficulties in Learning Mathematics: Factors Affecting Foundation Students at Universiti Pertahanan Nasional Malaysia Session 2022/2023 (In Progress).
- NDUM Short Term Grant (2018). Anion Characteristic of Seaweed Based Green Biopolymer Electrolytes for Aluminium - Air Battery (Completed): RM 20,000.
- Fundamental Research Grant Scheme (FRGS) (2017). Strain Tuned ion (Li, Na) Migration in The Iron Hydrosulphate Cathode Material: A First Principles Investigation. (Completed): RM 75,200.
- Fundamental Research Grant Scheme (FRGS) (2015). Ionic transport mechanism study of lithium based ionogel electrolytes (Completed): RM 107,200.
- Fundamental Research Grant Scheme (FRGS) (2013). Synthesis and First Principle Studies of $Li_2Fe_xM_1$-$xSiO_4$ (M= Ni, Co, Mg or V) Cathode Materials (Completed): RM 89,000.
- Exploratory Research Grant Scheme (ERGS) (2012). Development of Composite Electrolytes for Rechargeable Metal-Air Cells Development of Composite Electrolytes for Rechargeable Metal-Air Cells (Completed). RM 89,000.

Publications

- **Academic Journals:**

[1] **NHA Rosli**, KS Lau, T Winie, SX Chin, S Zakaria, CH Chia. Rapid microwave synthesis of molybdenum disulfide-decorated reduced-graphene oxide nanosheets for use in high electrochemical performance supercapacitors. **Journal of Energy Storage** (2022) 52: 104991 – 105003.

[2] **NHA Rosli**, KS Lau, T Winie, SX Chin, CH Chia. Synergistic effect of sulfur-doped reduced graphene oxide created via microwave-assisted synthesis for supercapacitor applications. **Diamond and Related Materials** (2021) 120:

108696 – 108705.

[3] **NHA Rosli**, KS Lau, T Winie, SX Chin, CH Chia. Microwave-assisted reduction of graphene oxide for an electrochemical supercapacitor: structural and capacitance behaviour. **Materials Chemistry and Physics** (2021) 262: 124274 – 124280.

[4] **NHA Rosli**, SAM Noor, KA Ahmad, T Winie. Effect of HNO_3 on structual and electrical properties of hexanoyl chitosan/polystrene-$LICF_3SO_3$-TiO_2. **Journal of Fundamental and Applied Sciences** (2017) 9 (3S): 141 – 153.

[5] **NHA Rosli**, FH Muhammad, CH Chan, Tan Winie.. Effect of Filler Type on the Electrical Properties of Hexanoyl Chitosan-based Polymer Electrolytes. **Advanced Materials Research** (2014) 832: 224 – 227.

[6] Tan Winie, **NHA Rosli**, MR Ahmad, RHY Subban, CH Chan. TiO_2 Dispersed Hexanoyl Chitosan-Polystyrene-$LiCF_3SO_3$ Composite Electrolyte Characterized for Electrical and Tensile Properties. **Polymers Research Journal** (2014) 7(2): 171 – 181.

[7] Tan Winie, NSM Hanif, **NHA Rosli**, RHY Subban. Ac Conductivity Study of Hexanoyl Chitosan-$LiCF_3SO_3$-EC-Al_2O_3 Nanocomposite. Polymer Electrolytes. **Advanced Materials Research** (2013) 667: 93 – 98.

[8] **NHA Rosli**, CH Chan, RHY Subban, Tan Winie. Studies on the Structural and Electrical Properties of Hexanoyl Chitosan/Polystyrene-based Polymer Electrolytes. **Physics Procedia** (2012) 25: 215 – 220.

[9] Tan Winie, FH Muhammad, **NHA Rosli**. Effect of anion size on the conductivity behavior of hexanoyl chitosan-based polymer electrolytes. **Advanced Materials Research** (2012) 545: 317 – 320.

[10] **NHA Rosli**, FH Muhammad, RHY Subban, Tan Winie. Structural and electrical studies of hexanoyl chitosan based electrolyte system. **Materials Research Innovations** (2012) 15(2): 94 – 96.

- **Proceeding Articles:**

[1] **NHA Rosli**, NI Harun, MFM Taib, SIY Saaid, TIT Kudin, AMM Ali, MZA Yahya. Effect of Plasticizers on Methyl Cellulose Based Alkaline Solid Polymer Electrolytes. **AIP Proceedings** (2010) 1250: 233 – 236.

[2] NI Harun, NS Sabri, **NHA Rosli**, MFM Taib, SIY Saaid, TIT Kudin, AMM Ali, MZA Yahya. Proton Conductivity Studies on Biopolymer Electrolytes. **AIP Proceedings** (2010) 1250: 237 – 240.

- **Chapter in Books**

[1] Chin Hua Chia, Kam Sheng Lau, Siew Xian Chin, **Nurul Hazwani Aminuddin Rosli**, Jei Vincent, and Md Shahariar Chowdhury (2023). Carbon Nanotubes for Biomedical Applications and Healthcare: New Horizons. Carbon Nanotubes for Biomedical Applications and Healthcare. Apple Academic Press. ISBN: 9781774913352.

[2] Siew Xian Chin, Chin Hua Chia, **Nurul Hazwani Aminuddin Rosli**, and Chatchawal Wongchoosuk (2023). Mechanics and Physics of Porous Materials: Novel Processing Technologies and Emerging Applications. Apple Academic Press. ISBN: 9781774914656.

Presentations:

Presenter:

- 26 Sept 2023: **National Physics Education Seminar 2023** organized by Universiti Pendidikan Sultan Idris.
- 30 Dec – 1 December 2020: **Postgraduate Colloquium** organized by Applied Physics Department, Faculty of Science and Technology, National University of Malaysia, Malaysia.
- 1 – 2 April 2012: **2012 International Conference on Solid State Devices and Materials Science** organized by Information Engineering Research Institute.
- 2 – 3 March 2011: **International Conference Nano Science and Nano Technology, Nano-Scitech 2011** organized by Universiti Teknologi Mara, Malaysia.
- 29 – 1 November 2010: **International Conference on the Advancement of Materials & Nanotechnology II (ICAMN II-2010)** organized by Universiti Teknologi Mara, Malaysia.
- 14 – 17 June 2010: **3rd International Conference on Functional Materials and Devices, 2010 (ICFMD-2010)** organized by University of Malaya, Malaysia.
- 7 – 9 December 2009: **National Physics Conference 2019** organized by Universiti Teknologi Mara, Malaysia.

Membership in Professional Society:

- Lifetime member of Malaysian Solid-State Science and Technology Society (MASS)
- Lifetime member of International Association of Engineers (IAENG)
- Lifetime member of Malaysian Physics Institute (IFM)