



## CURRICULUM VITAE

### DR. HALIMATUN SAKDIAH BINTI ZAINUDDIN



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#### Education

- Ph.D. Chemical Engineering, 2021, Iowa State University, IA, USA
- B. Sc. Chemical Engineering, 2013, Iowa State University, IA, USA

#### Research Interest

- Biochemical engineering
- Probiotics
- Bacteria cellulose
- Waste management

#### Professional Membership

- American Institute of Chemical Engineers (AIChE). Active member
- Society of Biological Engineering (SBE – AIChE). Active member.
- Board of Engineers Malaysia (BEM). Active member

#### Appointments

- |   |              |
|---|--------------|
| • Senior Lecturer, Dept. of Chemical and Environmental Engineering, UPM | 2021–to date |
| • Teaching Assistant Iowa State University, IA, USA                     | 2017–2018    |
| • Teaching Assistant, Dept. Chemical and Environmental Engineering, UPM | 2014–2016    |
| • Environmental Engineer, PROTON Sdn. Bhd., Shah Alam                   | 2013–2014    |

#### Publications

- Sarmast, M.S., Hoey, D., Biak, D.R.A., Abdullah, N., Kamaruddin, S., Zainuddin, H. (2024). Sol-gel-templated bioactive glass scaffold: a review. Res. Biomed. Eng.
- Sarmast, M.S., Y.S. Leow, Biak, D.R.A., Abdullah, N., Alijantabar, S. A., D. Hoey, Kamarudin S., Zainuddin, H. (2023). Evaluation of bioactivity and antibacterial properties of bioglass fabricated using a cellulose nano fibre template, Materials Chemistry and Physics.
- Wen, Ong Yi et al. (2023). "Fire-Resistant and Flame-Retardant Surface Finishing of Polymers and Textiles: A State-of-the-Art Review." Progress in Organic Coatings 175: 107330.
- Zainuddin, H. S. (2021). Chassis engineering of E. coli Nissle 1917 for development of live biotherapeutics.

- Zainuddin, H. S., Bai, Y., & Mansell, T. J. (2019). CRISPR-based curing and analysis of metabolic burden of cryptic plasmids in Escherichia coli Nissle 1917. Engineering in Life Sciences.
- Zainal Abidin, Z., Md Yassin, F., Harun, M. R., Harun, M. Y., Zainuddin, H. S., Abdul Hamid, M.R., & Mohd Salleh, M. A. (2017). Video as e-learning approach for enhancing laboratory teaching in biochemical engineering - a Malaysia case study. 2017 7th World Engineering Education Forum (WEEF), (pp. 222-226).

### Grants & Activities

• Antibiotic-Free Cloning Vector for the Development of New Strain of Probiotics (project leader)	2020 – 2023	GP-IPM, UPM
• The Formulation of Refuse Derived Fuel from Mixed Agricultural Residues for Power Plant. (co-researcher)	2022 – 2024	FRGS
• Program Trash to Treasure – Food Waste to Animal Feed di Sekolah Rendah Islam Integrasi Puncak Jalil (co-researcher)	2022 – 2023	JIMN, UPM
• Soda Lime Composition: A Comparative Analysis Before and After Use in Anaesthesia (co-researcher)	2024 – 2025	GP-F, UPM
• Green Gold: Discovering New Approach for Microalgae Cultivation and Products Development for Industrial Application (co-researcher)	2024 – 2024	Petronas Research Sdn. Bhd

### Supervision

#### CHAIRMAN

Chan Kai Li	Production bacteria cellulose in a static intermitted fed-batch (SIFB) fermenter	Master by Research	2023	Ongoing
Umar Adam Majid	Preliminary study on using CO <sub>2</sub> waste absorbent (spent soda lime) as building materials	Master by Coursework	2023	Ongoing
Farah Amirah Rashdan	Sawdust-Rhizobium Leguminosarum mixtures for the propogation of growth in green bean plants	Master by Coursework	2022	Completed
Nurelyana Zafirah Rozaman	Bioremediation of heavy metals in water using Rhizobium Leguminosarum	Master by Coursework	2021	Completed
Nishalni Sivapalan	Formulating the bacteria cellulose-papain facial scrub	FYP	2023	Ongoing
Muhammad Hafiz Aiman Abd Rahman	Investigating the impact of S/V fermenter specification for production of bacteria cellulose in a static culture	FYP	2023	Ongoing
Chan Kai Li	Investigation on the Impact of Cellulase Concentration for Extraction and Transformation of Plasmid DNA in Acetobacter Xylinum 0416	FYP	2022	Completed
Aishah Adlina Ghozi	Production of bacteria cellulose using bubble fermenter	FYP	2022	Completed

**MEMBER**

Sarmast Shoushtari Maryam	Synthesis of Sago-Silica Bioglass Composite Using Sacrificial Templating Approach	PhD	2017	Ongoing
Fatin Nordalila Omar	Value-Added Subcritical Water Hydrolysate from Bovine Serum Albumin at Low Temperature Parameter	PhD	2019	Ongoing
Nor Aida Yusoff	Development of Adsorptive Membranes Using Electron Beam Irradiated Grafted Nylon6 and Cotton for Naproxen Removal	PhD	2021	Ongoing
Li Xuehui	Bio-Refining of Lactic Acid from Lignocellulose Base on Natural Microbial Enzymes	PhD	2022	Ongoing

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