

## CURRICULUM VITAE

### PERSONAL BIODATA

---



Name : Sabiha Hanim Binti Saleh (Assoc. Prof. Dr)  
Address : School of Chemistry and Environment,  
Faculty of Applied Sciences,  
UiTM Shah Alam, Selangor, MALAYSIA  
Contact No. : +603-55436593/+019-4342890.  
Email : sabihahanim@uitm.edu.my  
Alternate email : sabihahanim@gmail.com

---

### ACADEMIC QUALIFICATION

DOCTOR OF PHILOSOPHY (PhD), Environmental Health & Waste Management, Universiti Sains Malaysia (USM), 2010

MASTER IN ENVIRONMENT, Universiti Putra Malaysia (UPM), 1999

BSc (HONS) CHEMISTRY, Universiti Kebangsaan Malaysia (UKM), 1996

DIPLOMA IN SCIENCE, Institut Teknologi MARA (ITM), 1992

### MEMBERSHIP IN PROFESSIONAL BODIES

American Chemical Society (ACS), 2019-present, International  
Institut Kimia Malaysia (IKM), Member 2017-present, National

Persatuan Sains Analisis Malaysia (Analisis), Member 2009-present, National

SAFE Network-Asia Pacific Network for Sustainable Agriculture, Food and Energy, Member 2017-present, International

### ADMINISTRATIVE/RESEARCH POSITION

External Examiner ASASI Center, 2021-2023

External Advisor (Academic), UNISEL, 2020-2022

Community Committee Coordinator, 2018-2021

Program Coordinator (Applied Chemistry & Chemistry), 2015 – 2017

Prisma Liaison Officer, 2013 - 2015

CoRe Research Fellow, RMI, 2014-2015

Research Interest Group (RIG) Coordinator, 2014-2018

Visiting Researcher at Forestry and Forest Product Research Institute, Tsukuba, Japan, 2005.

## RESEARCH EXPERTISE

Waste conversion for useful products using environmentally friendly technology and green chemistry applications. Research on waste conversion is focused on the utilization of hemicelluloses and cellulose for various applications.

## TEACHING EXPERIENCE: 20 YEARS

### Diploma courses

- 1) General Chemistry (CHM138)
- 2) Physical Chemistry (CHM380)
- 3) Organic Chemistry (CHM256)

### Degree courses

- 1) Analytical Chemistry (CHM421)
- 2) General Chemistry (CHM420)
- 3) Environmental Chemistry (CHM576)
- 4) Solid Waste Technology and Management (EVT627)
- 5) Hazardous Waste Technology and Management (EVT673)
- 6) Hazardous Waste Treatment and Disposal (EVT677)

### Master in Environment (coursework)

- 1) Waste Treatment and Technology (EVT732)

## POSTGRADUATE SUPERVISION

NO	NAME	STATUS	PhD/MASTER
1	Norsyabilah Ridzuan	Completed	Master
2	Siti Normah Mohd Damanhuri Shah	Completed	Master
3	Nurul Fatimah Khairuddin (co-supervisor)	Completed	Master
4	Siti Nor Ridhwah Mohd Ramli (co-supervisor)	Completed	Master
6	Intan Noursyakila Zainal Abidin (co-supervisor)	Completed	Master
7	Nur Najiha Abdul Razak (co-supervisor)	Completed	Master
8	Norshahidah Todong	Completed	Master
9	Mohd Musawwir Mohd Masri	Completed	Master
10	Nur Hazlilla Zulyadi	Completed	PhD
11	Norazlina Idris (co-supervisor)	Completed	PhD
12	Sabarina Md. Yunus (co-supervisor)	Completed	PhD

13	Rafidah Rasol (co-supervisor)	On-going	PhD
14	Nurul Ashikin Halim	On-going	Master
15	Mohd Amril Musa	On-going	Master
16	Nur Aza Atiqah Mad Zahir	On-going	Master
17	Zawani Nazura Zainuren	On-going	Master

## RESEARCH GRANT

NO	GRANT	PROJECT TITLE	AMOUNT (RM)	STATUS	ROLE
1	GPK/2021	Effects of crosslinker on the swelling behavior and mechanical properties of hemicellulose semi-interpenetrating polymer network (IPN) nanocomposite hydrogel film.	20,000	Active	Project leader
2	GKP/2021	The potential of citrus peel polygalacturonic acid (pga) based biodegradable plastics reinforce with microcrystalline cellulose from bacteria.	20,000	Active	Member
3	LESTARI/2020	Identification of uv photoprotectant mycosporinelike amino acids maas in local cyanobacteria and algal isolates	20,000	Active	Member
4	GOV/2019	Penggalakan penggunaan teknologi hijau: daripada tenaga matahari kepada tenaga elektrik	10,000	Completed	Member
5	BESTARI/2018	Synthesis of metal -doped biomass derived heterogeneous solid acid catalysts for biodiesel production from waste oils.	50,000	Completed	Member
6	BESTARI/2017	Hydrothermal reconstructed solid based-layered double hydroxide for biodiesel application from jatropha/ palm oil.	50,000	Completed	Member

7	LESTARI 2017	Comparison of Chemical Pretreatment Method for Converting oil palm frond to Bioethanol	20,000	Completed	Project Leader
8	KUALA KENIAM, 2017	Garden and domestic waste management, UiTM-Perhilitan Kuala Keniam, Taman Negara	26,040	Completed	Project Leader
9	LESTARI, 2015	Study on Structure Formation of cellulosic Kenaf Nanofibres	20,000	Completed	Member
10	FRGS, 2015	Physicochemical Characterisation Of Model Mayonnaise System Incorporated with Black Cumin (Nigella Sativa) Seed Oil	93,200	Completed	Member
11	DANA PSF, 2015	Physico-Chemical and Mechanical Properties of Plasticized Hemicelluloses Films from Empty Fruit Bunches	25,600	Completed	Project Leader
12	FRGS, 2014	Evaluation of Catalytic Activity on Bentonite Catalyst for Glycerol Etherification	103,200	Completed	Member
13	FRGS, 2013	Interfacial Cross-Linking Polymerization of Oil Palm Fronds Hemicellulose	81,000	Completed	Project Leader
14	DANA RIF, 2012	Potential Bioethanol from Oil Palm Frond Lignocellulose Using Thermophilic Facultative Anaerobic Bacteria	32,000	Completed	Member
15	ERGS, 2012	Hydrolysis Effect on Oil Palm Fronds (OPF) Hemicelluloses by Two Enzymes Mixtures	78,000	Completed	Project Leader
16	FRGS, 2010	Physico-Chemical Characterization of Hemicelluloses from Oil Palm Fronds by Subcritical Water Extraction	77,500	Completed	Project Leader

## REVIEWER

NO	NAME OF JOURNAL	PAPER
1	Journal of Oil Palm Research	Xylan Recovery from Dilute Nitric Acid Pretreated Oil Palm Frond Bagasse Using Fractional Factorial Design' for the Journal of Oil Palm Research.
2	Biomass Conversion & Refinery	Tailor-made conversion of mango seed husks to obtain hemicellulose suitable for the production of thermally stable films
3	Talanta	Simple, fast and low-cost ethanol determination in fermented sugarcane substrates by diffusive micro-distillation device.
4	Bioethanol Journal	Non-catalysed Steam straw explosion for wheat
5	Carbohydrate Polymers	Effect of subcritical water pretreatment on cellulose recovery of water hyacinth ( <i>Eichhornia crassipe</i> )
6	Malaysian Journal of Science (MJS), Universiti Malaya	Feasibility and Thermal Stability on production of furfural from oil palm biomass under supercritical condition
7	Malaysian Journal of Analytical Sciences, MJAS	Methane production from poultry waste: Effect of pH
8	Chiang Mai Journal of Science	Hydrolysis of konjac flour under subcritical water conditions
9	Waste and Biomass Valorization	Fractionation and structural characterization of hemicelluloses from steam-exploded banana rachis
10	Waste and Biomass Valorization	Valorization, comparison and characterization of coconuts waste and cactus in a biorefinery context using $\text{NaClO}_2\text{-C}_2\text{H}_4\text{O}_2$ and sequential $\text{NaClO}_2\text{-C}_2\text{H}_4\text{O}_2$ /autohydrolysis pretreatment
11	Malaysian Journal of Analytical Sciences, MJAS	Physicochemical properties of encapsulated purple sweet potato extract; effect of maltodextrin concentration, and microwave drying power.
12	Journal of Fundamental and Applied Sciences	The Influence of Temperature and Ratio of Water to Poultry Waste on The Methane Production From Anaerobic Digestion of Poultry Waste.
13	Waste and Biomass Valorization	Xylooligosaccharides production from a sugarcane biomass mixture: effects of commercial enzyme combinations on bagasse/straw hydrolysis pretreated with different strategies
14	Food Reviews International	Sugar Recovery from food wastes via subcritical water treatment.

15	Science Letters	Thermodistillation and characterization of Bio oil from fast pyrolysis of empty fruit bunch (EFB)
----	-----------------	---

## THESIS EXAMINER

NO	STUDENT NAME	THESIS	MASTER/PhD
1	Anies Suhaida Mohd Naspu	Chemical Modification of Brown Algae Padina sp. As a potential Biosorbent for the removal of heavy Metals in Aqueous solution.	Master
2	Mohd Farhan Ab Aziz	Studies of Biodegradable properties of starch-based films as polybag for agricultural application	PhD
3	Nurul Atikah Amin Yusof	Optimization and Characterization on Immobilized Lipase Catalysed synthesis of Betulinic acid amide in organic solvent	Master
4	Nor Azrin Binti Ahmad Kurnin	Recovery of valuable material from oil empty fruit bunch by using sub-critical treatment	Master
5	Nurul Syahidah Hussin	Thermal Properties and Conductivity of Thermally treated Epoxidized Natural Rubber-Based Solid Polymer Electrolytes	Master
6	Nur Afiqah Mohamad	Studies on the contamination Heavy metals in Farmed fish-oreochromis Mosammbicus and catfish-Clarius Gariepinus	Master
7	Khairun Farina Khalid	Available techniques of the removal COD and hardness from the glass manufacturing wastewater industry	Master
8	Anuar Nordin	Ratification study of HPLC method for determining total formaldehyde content in water-based paints	Master

## PUBLICATIONS

### JOURNALS

- 1) N. Z. Othman, N. S. M. Hanapi, W. N. W. Ibrahim and **S. H. Saleh**. Alginate Incorporated Multi-Walled Carbon Nanotubes as Dispersive Micro (2020). Nature Environment and Pollution Technology, Vol. 19, No. 3. 1155-1162.
- 2) Nor Dalila Nor Affandi, Mohd Rozi Ahmad, **Sabiha Hanim Saleh**, Muhammad Fairuz Remeli, Nur Hayati Humairah Nur Ikhwan Teo and Nurul Farihin Amran (2017). A Study on the Formation of PVA/Kenaf Nanofibres via Electrospinning. Pertanika J. Sci. & Technol. 25 (S): 85 - 92 (2017).
- 3) Nur Hazlilla Zulyadi, **Sabiha Hanim Saleh**, Siti Halimah Sarijo (2016). Fractionation of

- hemicellulose from rice straw by alkaline extraction and ethanol precipitation. *Malaysian Journal of Analytical Sciences* 20 (2), 329-334.
- 4) **SH Saleh**, SNMD Shah, KA Khalil, A Bujang (2016). Xylooligosaccharides Production From Oil Palm Frond By *Trichoderma Longibrachiatum* Xylanase. *Malaysian Journal of Analytical Sciences* 20 (3), 525-530.
  - 5) Maizatul Akhmar Mohd Nasir, **Sabiha Hanim Saleh** (2016). Characterization of Hemicelluloses from Oil Palm Empty Fruit Bunches Obtained by Alkaline Extraction and Ethanol Precipitation. *Malaysian Journal of Analytical Sciences* 20(4), 849-855.
  - 6) **S Sabiha-Hanim**, MAM Noor, A Rosma. (2015). Fractionation of oil palm frond hemicelluloses by water or alkaline impregnation and steam explosion. *Carbohydrate polymers* 115, 533-539.
  - 7) R Norsyabilah, **SS Hanim**, MH Norsuhaila, AK Noraishah, S Kartina (2013). Subcritical Water Extraction of Monosaccharides from Oil Palm Fronds Hemicelluloses. *Malaysian Journal of Analytical Sciences* 17 (2), 272-275.
  - 8) **SS Hanim**, R Norsyabilah, MHN Suhaila, A Noraishah, AKS Kartina (2012). Effects of temperature, time and pressure on the hemicelluloses yield extracted using subcritical water extraction. *Procedia Engineering* 42, 562-565.
  - 9) MDS Siti-Normah, **S Sabiha-Hanim**, A Noraishah. (2012). Effects of pH, Temperature, Enzyme and Substrate Concentration on Xylooligosaccharides Production (2012). *World Academy of Science, Engineering and Technology* 72, 1509-1513.
  - 10) **S Sabiha-Hanim**, AM Siti-Norsafurah (2012). Physical properties of hemicellulose films from sugarcane bagasse., *Procedia Engineering* 42, 1390-1395.
  - 11) **S Sabiha-Hanim**, MAM Noor, A Rosma (2011) Effect of autohydrolysis and enzymatic treatment on oil palm (*Elaeis guineensis* Jacq.) frond fibres for xylose and xylooligosaccharides production. *Bioresource technology* 102 (2), 1234-1239.
  - 12) Z Yusoff, Z Mahmud, **SH Saleh**, Y Mohd Esa (2005) Study on the Chemical Constituents of Piper betle L. in Relation to their Possible Insect Attractant Property, *Malaysian Journal of Science* 24 (1), 143-147.

## CONFERENCE PROCEEDINGS

- 1) Noraini Hamzah, Izyan Yusof, Khairunnisa Khrull Azman, Noor Hasinah Hamizi, Nazrizawati Mohd Tajuddin, **Sabiha Hanim Saleh**, Mohd Lokman Ibrahim. Calcium oxide catalyst derived low-cost chicken eggshell for Transesterification of waste cooking oil to biodiesel. IKM Pahang Branch Online Symposium 2021.
- 2) **S. Sabiha Hanim**, M. N., Mohd Azemi, A. Rosma. Fractionation, isolation and characterisation of oil palm fronds Xylooligosaccharides: a potential source of prebiotics. International Conference-Sustainable Agriculture, Food and Energy (SAFE2019), Phuket, Thailand, October 18-21, 2019.
- 3) **S Sabiha-Hanim**, Siti-Normah M.D.S (2016). Purification of Xylooligosaccharides from Alkali Extracted Oil Palm Frond Hemicellulose by Ultrafiltration. 1st International Conference on Bioresource Technology for Bioenergy, Bioproducts & Environmental Sustainability. Sitges, Spain, 23-26 October 2016.
- 4) M. K. Nur-Shahira, **S. Sabiha-Hanim** (2015). Dilute acid pretreatment of oil palm frond for the conversion of cellulose to Glucose via enzymatic hydrolysis. 28th Regional Symposium of Malaysian Analytical Sciences (SKAM), Perak, Malaysia, 17-20 August 2015
- 5) A. Aziatul-Akma, **S. Sabiha-Hanim**, A.K., Khalilah, Kamarun, D. (2015). Optimization of microwave assisted alkaline extraction of hemicellulose from oil palm frond. 28th Regional Symposium of Malaysian Analytical Sciences (SKAM), Perak, Malaysia, 17-20 August 2015
- 6) M. N. Maizatul Akhmar, **S. Sabiha-Hanim** (2013). Isolation of hemicellulose A and B from empty fruit bunches (EFB) by alkaline extraction and ethanol precipitation. *Polychar* 21, Gwangju, Republic of Korea, 11-15 March 2013.

- 7) Z. Nur Hazlilla, **S. Sabiha-Hanim**, S. H. Sarijo. (2013). Alkaline extraction of hemicellulose with lignin and hemicellulose without lignin from rice straw. Polychar 21, Gwangju, Republic of Korea, 11-15 March 2013.
- 8) **S. Sabiha-Hanim**, R. Nursyabilah (2012). Quantification of monosaccharide in oil palm fronds hemicellulose by high performance liquid chromatography. International Seminar of Analytical Sciences (SKAM), Medan Indonesia, 12-13 November 2012.
- 9) **SS Hanim**, R Norsyabilah, MHN Suhaila, A Noraishah, AKS Kartina (2012). Effects of temperature, time and pressure on the hemicelluloses yield extracted using subcritical water extraction. 20th International Congress of Chemical and Process Engineering (CHISA 2012), Prague, Czech Republic, 25-29 August 2012.
- 10) **S Sabiha-Hanim**, AM Siti-Norsafurah (2012). Physical properties of hemicellulose films from sugarcane bagasse, 20th International Congress of Chemical and Process Engineering (CHISA 2012), Prague, Czech Republic, 25-29 August 2012.
- 11) S., Sabiha-Hanim, I Norazlina, A Noraishah, MHN Suhaila (2012). Reducing sugar production from oil palm fronds and rice straw by acid hydrolysis. Humanities, Science and Engineering (CHUSER), 2012 IEEE Colloquium, 642-645.
- 12) **Sabiha Hanim Saleh**, Mohd Azemi Mohd Noor, Rosma Ahmad. (2009). Xylooligosaccharides production of oil palm (*Elaies Guineensis* Jacq.) Fronds Hemicellulose using hydrothermal treatment followed by enzymatic hydrolysis. Second Collaborative Conference, Universitas Airlanga, Indonesia, 10-11 February 2009.
- 13) M.N. Mohd Azemi, **S. Sabiha Hanim**. (2008). Fractionation, Isolation and Characerisation of oil palm fronds xylooligosaccharides: A potential source of prebiotics. Seminar on Food Biotechnology, Hotel Equatorial Bangi, 25-26 November 2008.
- 14) **Sabiha-Hanim, S**, Rosma, A., Mohd Azemi, M.N. (2008). The effect of steam explosion treatment on xylooligosaccharides production from oil palm (*Elaeis guineensis* Jacq.) Fronds water soluble hemicellulose. 2nd USM Penang International Postgraduate Convention 2008, Penang, Malaysia, 18-20 June 2008.

#### CHAPTERS IN BOOK:

- 1) **S. Sabiha-Hanim**, NAA Halim, (2018). Sugarcane Bagasse Pretreatment Methods for Ethanol Production. Fuel Ethanol Production from Sugarcane, IntechOpen. Pp.63-72.
- 2) Polymer characterization of cellulose and hemicellulose (2016). **S. Sabiha-Hanim**, A. Aziatul-Akma. Polymer Science research advances, practical applications and educational aspects. A-Mendez Villas, A. Solano, Eds. pg. 404-411
- 3) Screening of Medium with Different Range of Waste Frying Oil (WFO), Sodium Nitrate (NaNO<sub>3</sub>) and Sodium Chloride (NaCl) for Biosurfactant Production by Thermophilic *Anoxybacillus* sp. Using Fractional Factorial Design (FFD) (2015). NF Khairuddin, TETZ Mulok, KA Khalil, WSAW Omar, **SH Saleh**. InCIEC 2015, pg. 9-19.