



Profile

Her personal philosophy revolves around the belief that everyone has the power to make a difference. She firmly believes in the importance of community engagement, education, and empowering individuals to become agents of change. By fostering collaboration and promoting sustainable practices, Marfiah envisions a future where social and environmental justice are at the forefront of decision-making processes.

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Name : **MARFIAH AB. WAHID**
Designation : Senior Lecturer
Address : School of Civil Eng,
College of Engineering
UITM, Shah Alam

Academic Qualifications

Diploma in Civil Engineering (ITM)
B.Sc. in Civil Engineering (Hons.)UiTM
Master in Environmental Engineering, UKM
Ph.D. in Environmental Engineering
(Kyoto University, Japan)
Certificate of International Environmental
Leadership (Kyoto University, Japan)
Certification of Human Security Engineering
(HSE Education Program,
Kyoto University, Japan)

Brief Career History

1999-2012: Lecturer at Faculty of Civil Engineering
2012-present: Senior lecturer at Faculty of Civil
Engineering.
2012 – 2017: Head Center of Studies
(Water Resources and Environmental System) at Faculty of
Civil Engineering.
2017-Present : Leader of Micro pollutant and Pathogen in
Water Research Group (WaterUPath)
2017- : Head of Cluster Engineering and Technology (UiTM
STEM movement)
2021 – present: Facilitator, mentor and advisor for
Education for Sustainable Development ESD Program
between primary schools Malaysia -Japan (Toyama
University -UNESCO Japan Program)

Research Interests

Water Reclamation and Reuse, Water Quality monitoring,
modelling and management, Water and waste water
technology, Solid Waste Technology, Education for
Sustainable Development for Primary School and secondary
schools, Climate Action.

Courses

Environmental Management (core Master), Sustainability
Management (core Master), Solid Waste Engineering and
Management (elective Undergraduate), Solid Waste
Management (elective Master), Pollution Engineering
(elective Undergraduate), Environmental Monitoring
(elective Master).

Community Engagement:

1. Facilitator, advisor and mentor for exchange program on education for sustainable development (ESD) between Malaysia and Japan Schools (Toyama University-UNESCO). 2021 – Present.
2. Project advisor of EIS- SULAM (“Service-Learning Malaysia – University for Society”)

Research Areas/Topics:

- Education for sustainable food waste management at primary school incorporate with digital monitoring system
- Phytoremediation of polybrominated diphenyl ethers (PBDEs) to reduce its concentration in the Sungai Buloh Malaysia (Kurita Grant, Japan)
- Effectiveness of transferring knowledge on education for sustainable development from the engineering perspective
- Polybrominated diphenyl ethers (PBDEs) traces and bioaccumulation mechanistic in blood cockle (*anadara granosa*) using NPZ modelling approaches (FRGS)
- Establishment of greenhouse gas emission (GHG) inventory for the waste management system operated by KDEB waste management (industry)
- Fostering environmental education using deep learning method and open laboratory concept for school children
- Proposal on the food waste composition study in faculty of civil engineering, UiTM Shah Alam
- Evaluation ammoniacal nitrogen removal using indigenous algae in leachate
- Development of hybrid Ti/UV remediation system for antibiotic-contained domestic wastewater treatment (Sciencefund Project) (Intellectual Property No: LY1018002223- UV Photo reactor Bench Top)
- Loop-mediated isothermal amplification of pathogenic *Leptospira*: LipL46 and LipL32 specific gene primers combination analysis. (FRGS Project) (Intellectual)
- Effect of photochemical attenuation mechanism on major pharmaceuticals and personal care products (iRAGS Project)
- Transferring sustainable science and technology knowledge for fostering innovation in rural areas school (Knowledge Transfer Programme)
- Mechanistic model of the persistence and mobility of antibiotic-resistant bacteria in urban fluvial system (Lestari)
- Development of hybrid Ti/UV remediation system for antibiotic-contained domestic wastewater treatment
- Hydraulics dynamics of internal short-circuiting disinfected clear well (FRGS Project)

Consultation / contract research

- Consultancy services for developing inventory on greenhouse gases (GHG) for IWK activities.
- Assessment of persistence and mobility of antibiotic resistant bacteria in wastewater treatment plant using computational fluid dynamics (IWK)
- Initial risk assessment (IRA) for Daerah Kuala Selangor and Sabak Bernam (LUAS)
- Mengumpul, membekal dan menyediakan data - data analisis di tapak dan di makmal serta pelan tindakan rancangan kawalan (Towards zero flood) (NAHRIM)
- Pembangunan kepakaran TMDL (total maximum daily load) data-data punca pencemaran di Sungai Langat (DOE)
- Study on aquaculture activity impacted on marine environment at Pulau Ketam (LUAS)
- Development of a guideline for water recreation activity in Selangor (LUAS)
- Advance study on Aquaculture Activity in Negeri Selangor (LUAS)
- State of Coast report 2012-2014 For Kuala Selangor, Sabak Bernam, Kuala Langat and Klang. (LUAS)
- Review on Sungai Kedah River Basin Management 2019-2029 LSANK
- Promotion of development cooperation for biomass utilization/biogas resource (CnE Korea)
- Greenhouse Gases Inventory for KDEB waste collection services (KDEB Waste Management)
- Study on the effectiveness of solid waste collection and public cleansing for the states under Act 672 (Solid Waste Management and Public Cleansing Corporation (SWCorp Malaysia)
- Ipoh Low carbon city (Majlis Bandaraya Ipoh)
- Developing instrument for Green Practices in Services Sectors (Malaysian Green Technology and Climate Change Corporation)

Intellectual Property

- Intellectual Property No: LY1018002223 - UV Photo reactor Bench Top
- Intellectual Property No: LY20170002427 – D-TECH Portable On-site Pathogenic Leptospira Detection Device (Patent applied (IP.5/3/53/UI)

Professional Committee

Member of Global Science and Technology Forum (MGSTF)
 Malaysia Water Association (OM2372)
 Board of Engineer

Number of Postgraduate Students:

| Program | Status | As a Chairman (Main Supervisor) | As a Member (Co-supervisor) |
|---------|-----------|------------------------------------|--------------------------------|
| PhD | Graduated | 2 | 5 |
| | Ongoing | 2 | 3 |

Achievements / Awards

- Best paper award ISFRAM2015: Assessment of Chlorine Contact Tank Based on Tank Configuration and Baffle Factor.
- Best paper award 1st World International Conference on Islamic Sciences 2016: Occurrence of antibiotic resistant bacteria in wastewater treatment plant
- Gold Award, IIDEX2017
- Outstanding Innovation Award, International Conference on Clinical & Health Sciences 2017
- Gold Award, International Conference on Clinical & Health Sciences 2017
- Third Prize (USD400) . Asian-Pacific Medical Device Design Competition 2017. International Federation for Medical & Biological Engineering and Malaysian Society of Medical and Biomedical Engineering.
- Bronze Award, 4th International Innovation, Design and Articulation (I-IDEA™2018)
- Gold Award. Asia Innovation Show 2018
- Special Award, Asia Innovation Show 2018
- Silver Medal. International Invention, Innovation & Technology Exhibition, Malaysia (ITEX2018)
- The most outstanding consultant (Highest Amount@ value of International Project) from Faculty of Civil Engineering, UiTM Shah Alam.
- The most outstanding consultant (Highest number of International Project) from Faculty of Civil Engineering, UiTM Shah Alam.
- Excellent Service Award UiTM 2006, 2015, 2018

List of Proceeding and Journal Publications (Latest):

- A.A.A Bakar, **M.A.Wahid**, F.Kamaruddin (2017). The Beneficial Usage of Water Treatment Sludge as Pottery product. Journal of Fundamental and Applied Sciences. Vol.9, Special issue 6(2017).
- Mohd Haffiyhan M.,Lee KE, Mazlin M, **Marfiah AW**, Goh TL, Norbert S, Marlia MH ,Azhar AH. (2017). Spatial Distribution of Water Quality Index in Stormwater Channel: A Case study of Alur Ilmu, UKM Bangi Campus. Asia Pacific Environmental and Occupational Health Journal (ISSN 2462-2214), Vol 3(1):33-38.
- **Marfiah Ab.Wahid**, Siti Athirah Topik, Zummy Dahria Mohamed Basri, Lee Khai Ern.(2016). A Review of the Occurrence of Antibiotics and Antibiotics Resistance Bacteria. World Applied Sciences Journal 34(12):1762-1769. ISSN 1818-4952.IDOSI Publications
- Siti Hawa Rosli Zulhafizal Othman, **Marfiah Ab.Wahid**, Wahida Mohd Latib, Noor Safwan Muhamad, Khairi Khalid (2017). Risk mapping on heavy metal and nutrients after flood event on Pahang River using Interpolation distance weighted (IDW) approach. Journal of Engineering and Applied Sciences. Vol.12.Issue 10.3222-3227. Asian Research Publishing Network.
- Zulhafizal Othman, **Marfiah Ab. Wahid**, Wei-Koon Lee and Zummy Dahria Mohamed Basri. (2016). Water Quality Observation on Johor River Estuary and East Tebrau Strait, Malaysia. Jurnal Teknologi

List of Proceeding and Journal Publications (Latest):

- Z.D.M.Basri, A.L.Chua, **M.Ab Wahid**.(2017). Occurrence of antibiotic bacteria in wastewater treatment plant. *Advanced Science Letters* 23(5):4649-4651.
- Siti Razwani Ab Rafa, Zulhafizal Othman, Sariyah Redzuan, Muhamad Hafees Rosli, **Marfiah Ab.Wahid**, Jazuri Abdullah.(2016). Monitoring of Nutrients and Bacteria Occurrence in Urban River Water Using GIS Application. *Journal of Engineering and Applied Sciences* 11(9):1898-1904. ISSN:1816-949X. Medwell Journals
- Lee Wei Koon, **Marfiah Ab.Wahid** .(2015). An assessment on the effect of industrial discharge from HICOM,Shah Alam on Klang River. *Journal of Chemical &Environmental Eng.World Academy of Research& Publication*. 6(6): 410-415.
- Dzulaikha Khairuddin, **Marfiah Ab.Wahid** . PACE International Conference on Science and Technology (PICOST2017), Optimization of LipL32-Loop-mediated Isothermal Amplification (LipL32-LAMP) assays for faster detection of *Leptospira interrogans*. 25th July 2017. (Publication in press)
- Dzulaikha Khairuddin, **Marfiah Ab.Wahid**. 2nd International Conference for Innovation in Biomedical Engineering and Life Sciences (ICIBEL2017), Association of rainfall and the occurrence of pathogenic *Leptospira* spp. in recreational stream water, Hulu Langat, Selangor. 10th Dec 2017 (Published at IFMBE Proceedings 67, Springer Sciences and Business Media Singapore 2018)
- Zulhafizal Othman, **Marfiah bt Ab. Wahid** , Jazuri bin Abdullah , Khuriah binti Abdul Hamid. Occurrences of Drugs in Urban River Water. Case Study: Kerayong River, Selangor, Malaysia. *Journal of Clinical and Health Sciences*. eISSN-0127-984X
- **Marfiah Ab.Wahid** and Zummy Dahria Mohd Basri. Occurrence and inactivation of Antibiotic Resistant Bacteria in Secondary Effluent. 7TH Annual International Conference on Sustainability Energy and Environmental Sciences (SEES2018). Singapore.
- Mahmud, M. H.¹ , Lee, K. E.^{1,2*} ,Mokhtar, M.¹ ,**Wahid, M. A³**. Technical strategy for revitalizing urban river water quality through structural approach at National University of Malaysia (UKM) Bangi campus, Selangor, Malaysia. *APPLIED ECOLOGY AND ENVIRONMENTAL RESEARCH* 16 (3), 2681-2699
- N Kasmuri, SNM Sabri, **MA Wahid**, ZA Rahman, MM Abdullah, MZK Anur. Using zeolite in the ion exchange treatment to remove ammonia-nitrogen, manganese and cadmium. *AIP Conference Proceedings* 2031 (1), 020004
- **M Ab Wahid**, WK Lee, F Baharudin. Implementing project-based learning for sustainability management course at postgraduate level. *Asian Journal of University Education* 16 (2), 84-92
- Gopal C Ghosh, Shamima M Akter, Rashidul M Islam, Ahsan Habib, Tapos K Chakraborty, Samina Zaman, AHM Enamul Kabir, Oleg V Shipin, **Marfiah A Wahid**. Microplastics contamination in commercial marine fish from the Bay of Bengal. *Regional Studies in Marine Science* 44, 101728
- OM Chuan, Adiana Ghazali, MA Roswati, Kesaven Bhubalan, L Nie, TMFT Omar, Idham Khalil, YJC Assaw, MOHD Nurulnadia, IZAN Yusoff, **M Ab Wahid**. Positive and Negative Effects of COVID-19 Pandemic on Aquatic Environment: A Review. *Sains Malaysiana* 50(4)(2021): 1187-1198

Other Publications:

Teknikal Report /Book / Policy Paper:

KAJIAN KEBERKESANAN PENYAMPAIAN PERKHIDMATAN PENGURUSAN SISA PEPEJAL DAN PEMBERSIHAN AWAM DINEGERI YANG MENERIMA AKTA 672
ISBN NO: 978-967-26816-0-1

A STUDY ON THE EFFECTIVENESS OF SERVICE DELIVERY MANAGEMENT OF SOLID WASTE AND PUBLIC CLEANSING IN STATES THAT HAVE ADOPTED ACT 672.

ISBN NO: ISBN 978-967-26816-1-8

PELAN TINDAKAN IPOH KE ARAH BANDARAYA RENDAH KARBON 2030.
POLICY PAPER

KAJIAN PENIALAIAN AWAL RISIKO (INITIAL RISK ASSESSMENT) BAGI PELAN PENGURUSAN PANTAI BERSEPADU DAERAH KUALA SELANGOR DAN SABAK BERNAM

STUDY OF THE LEVEL OF CONTAMINATIONS AT MANGROVE ISLAND: CASE STUDY OF CAREY ISLAND

THE SECOND STATE OF THE COAST : KLANG, KUALA LANGAT, KUALA SELANGOR, SABAK BERNAM AND SEPANG

ISBN NO: 978-967-363-588-7

MODUL LESTARI PENGURUSAN SISA PEPEJAL SEKOLAH RENDAH. e-ISBN 978-967-19696-0-1

RISK ANALYSIS ON NUTRIENTS OCCURRENCE IN KERAYONG RIVER WATER QUALITY, MALAYSIA. ECOHYDROLOGY AND ECOHYDRAULICS - WATER QUALITY AND SEDIMENT CONTROL (2021). ISBN No.: 9789835218132

DETECTION AND TRANSPORTATION OF NUTRIENTS AND PATHOGENIC BACTERIA IN KERAYONG RIVER WATER. ISBN : 978-981-10-0500-8

Newspaper:

PERKENAL PENDIDIKAN BERTERAS MATLAMAT PEMBANGUNAN LESTARI DARI PERINGKAT SEKOLAH RENDAH. 15/04/2022 BERNAMA TINTA MINDA

PASUKAN PENYELIDIK UITM BANGUNKAN INOVASI RAWATAN UV, HAPUSKAN RISIKO GUNA SEMULA AIR SISA TERAWAT. PP11200/02/2013 (031412). BISNES SINAR . 13/02/2020

TEKNOLOGI MUDAH KESAN KENCING TIKUS. MEGA SAINS. UTUSAN MALAYSIA . 04/09/2019

AKTA TAK SELARAS PUNCA AIR TERUS DICEMARI. HALAMAN KOTA , BERITA HARIAN . 29 SEPT 2016