

PERSONAL

CHANG CHUN KIAT (Ir. Dr.)

*PhD, P.Eng, P.Tech, F.IEM, M.TAM, M.MSO, M-IGRSM
AFAEET, ACPE, ASEAN Eng. MY-CISEC, CPESC (USA)*

Nationality: Malaysian

Gender: Male

E-mail: redac10@usm.my / ckchang78@yahoo.com

Present Employer: River Engineering and Urban Drainage Research Centre (REDAC), USM

Position: Director / Principal Stormwater Engineer

International Appointment: UNESCO Co-Chair Holder on Ecohydraulics for Sustainable Water Infrastructures for SDG 6 in Asia and the Pacific Region

Address: River Engineering and Urban Drainage Research Centre (REDAC), Engineering Campus,
Universiti Sains Malaysia, Seri Ampangan, 14300 Nibong Tebal, Penang, MALAYSIA

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ACADEMIC QUALIFICATION

2002 Bachelor of Engineering with Honours (Civil Engineering), Universiti Sains Malaysia

2006 Master of Science (River and Urban Drainage Management), Universiti Sains Malaysia

2018 PhD, Universiti Sains Malaysia

MEMBERSHIP AND AFFILIATION OF PROFESSIONAL ORGANISATIONS

2002 Graduate Engineer, Board of Engineers, Malaysia (39052R)
2003 Graduate Member, The Institution of Engineers, Malaysia (23422)
2003 Member, International Association of Hydraulic Engineering and Research (IAHR) (19442)
2009 Certified Professional in Erosion and Sediment Control (CPESC, USA) (4844)
2009 Member, Malaysian Water Partnership (MyWP) (INDM 0124)
2010 Member, International Association of Hydrological Sciences (IAHS) (10904)
2011 Member, Malaysian Stormwater Organisation (MSO) (AB 0133)
2016 Corporate Member, The Institution of Engineers, Malaysia (IEM) (M23422)
2016 Professional Engineer, Board of Engineers, Malaysia (BEM) (P117389)
2019 Member, Technological Association Malaysia (TAM) (M7124)
2019 Graduate Technologist, Malaysia Board of Technologists (MBOT) (GT19100437)
2020 Professional Technologist, Malaysia Board of Technologists (MBOT) (PT20090077)
2021 ASEAN Chartered Professional Engineer (ACPE-04673/MY)
2023 ASEAN Engineer (AE4872)
2023 Malaysian Certified Inspector of Sediment and Erosion Control (MY-CISEC 1055)
2024 Associate Fellow, ASEAN Academy of Engineering and Technology (AAET)
2024 Professional Member, Institution of Geospatial and Remote Sensing Malaysia (IGRSM) (M1417)
2025 Member, Rainwater Harvesting Systems Association (PERSPAH) (SH022)
2025 Fellow Member, The Institution of Engineers, Malaysia (IEM) (F23422)
2025 Bronze Membership, International Water Resources Association (00793)

PROFESSIONAL CONTRIBUTIONS

Contributed to the development of the following guidelines/manual in Malaysia:

- River Sediment Data Collection and Analysis Guideline for Malaysia (ISBN: 983-3067-03-4)
- Bio-Ecological Drainage System (BIOECODS) Design Guideline for Malaysia (ISBN: 983-3067-15-8)
- Guideline for Erosion and Sediment Control in Malaysia (ISBN: 978-983-41867-4-6)
- Urban Stormwater management Manual for Malaysia (MSMA 2nd edition).
- Malaysian Standard - Urban stormwater management (MS-2526)
- River Sand Mining Management Guideline for Malaysia (ISBN: 978-983-41867-2-2)
- Manual Rebutuk Kejuruteraan Awam bagi Projek Bangunan - Rekabentuk Sistem Saliran BIOECODS for JKR (ISBN: 978-967-2284-34-5)
- Bio-Ecological Drainage System (BIOECODS) Specification for JKR (ISBN: 978-967-2284-35-2)
- IEM Guideline on the Prevention and Control of Dengue (ISBN: 978-967-18427-3-7)

- Garis Panduan IEM. Pencegahan dan Kawalan Denggi (ISBN: 978-967-18427-9-9)
- Bio-Ecological Drainage System (BIOECODS) – Best Management Practices (ISBN: 978-967-2284-37-6)

Service To the Community

United Nations Educational, Scientific and Cultural Organization

2025-2028 UNESCO Co-Chair on Ecohydraulics for Sustainable Water Infrastructures for SDG 6 in Asia and the Pacific Region

International Association of Hydraulic Engineering and Research (IAHR)

2006-2009 Secretary, International Association for Hydro-Environment Engineering and Research, Young Professional Network (YPN), Universiti Sains Malaysia
 2015-2018 Assistant Secretary, IAHR Malaysia Chapter Leadership Team
 2016-2017 Deputy Secretary, Local Organising Committee, 37th IAHR World Congress (IAHR 2017)
 2022 Vice Chairman, International Conference on Water and Environment for Sustainability (ICWES 2022)
 2022-2024 Secretary, IAHR Malaysia Chapter Leadership Team
 2023-2026 Executive Committee, International Association for Hydro Environment Engineering and Research (IAHR) - Asia Pacific Division (APD)

The Institution of Engineers, Malaysia (IEM)

2018-2019 Sub-Committee Member of The Institution of Engineers (Penang Branch) - Water Resources Portfolio
 2020-2021 Ordinary Executive Committee, The Institution of Engineers (Penang Branch) 2020/2021.
 2020-2022 Sub-Committee Member of The Institution of Engineers (Penang Branch) – Dengue Prevention, Water Resources & Hydrology and University Collaborations Portfolio
 2020-2022 Member, Task Force for Preparation of Engineering Guideline on The Prevention and Control of Dengue, The Institution of Engineers, Malaysia
 2020-2026 Committee Member, Water Resources Technical Division (WRTD), The Institution of Engineers, Malaysia
 2021-2022 Member, Task Force for Preparation of IEM Position Paper on Flash Flood
 2021-2022 Lead, Standing Committee Member of The Institution of Engineers Malaysia (Penang Branch) - Dengue Prevention and Water Resources & Hydrology Portfolios; Sub-Committee Member - University Collaborations Portfolio
 2021-2022 Sub-Committee Member of The Institution of Engineers Malaysia (IEM) Web Portal
 2021-2022 Lead, Standing Committee Member of The Institution of Engineers (Penang Branch) – Activity; Dengue Prevention; Water Resources & Hydrology Portfolios; Sub-Committee Member - Newsletter Portfolio, SPEAD Component
 2023-2025 Lead, Standing Committee Member of The Institution of Engineers (Penang Branch) – Activity; Sub-Committee Member - Newsletter Portfolio, Water Resources, Hydrology and Climate Change Portfolio, SPEAD Component
 2024 Chairman, Task Force for Preparation of IEM Position Paper on Elevating The Safe Utilisation of Harvested Rainwater for Potable and Non-Potable Uses at Household Level
 2022-2026 Vice Chairman, The Institution of Engineers (Penang Branch) 2022/2023, 2023/2024, 2024/2025, 2025/2026

Technological Association Malaysia (TAM)

2021-2022 Secretary, 75th Anniversary Celebration of Technological Association Malaysia Conference (iTech 2022)
 2022-2023 Ordinary Executive Committee, Technological Association Malaysia (Penang Branch) 2022/2023
 2023 Chair, Scientific Committee & Editor, Symposium on Technologies for Sustainable Urban Development (TechSUD 2023)
 2025 Chair, Scientific Committee, Symposium on Technologies for Sustainable Urban Development (TechSUD 2025)
 2023-2026 Vice Chairman, Technological Association Malaysia (Penang Branch) 2023/2024, 2024/2025, 2025/2026

Malaysian Stormwater Organisation (MSO)

2020-2026 Executive Committee, Malaysian Stormwater Organisation (MSO)
 2024-2026 Editor, STORMWATER - The Bulletin of Malaysian Stormwater Organisation (MSO)

Penang State

- 2024-2025 Steering Committee, ESG AWARD, Universiti Sains Malaysia, Yayasan Amal TYT Negeri Pulau Pinang, Penang Green Council, ADRC
- 2025-2027 MGGC Technical Standard Committee, The Malaysia Greenhouse Gas Council (MGGC)
- 2025-2027 Chair, Technical Advisory Team and Scientific Support Team, Penang Nature-Based and Climate Adaptation Programme (PNBCAP) – Climate change/resilience & water management

Editorial Activities

- Editor-in-Chief, Symposium on Technologies for Sustainable Urban Development 2023 (TechSUD 2023), IOP Conference Series: Earth and Environmental Science, Vol. 1238, 2023.
- Guest Editor, Sustainable Urban Stormwater Management under a Changing Climate, Frontiers in Water, 5:1304646. doi: 10.3389/frwa.2023.1304646 (2023)
- Editor, STORMWATER - The Bulletin of Malaysian Stormwater Organisation (MSO) (eISSN: 3036-0013; ISSN: 3030-5179) (2023 – 2025)
- Member, Editorial Team, INGENIEUR PENANG - The Bulletin of The Institution of Engineers (Penang Branch) (2022-2024)
- Member, Editorial Board, IEM Guideline on the Prevention and Control of Dengue (2021-2022) (English: ISBN: 978-967-18427-3-7; Malay: 978-967-18427-9-9)
- Editorial Board Member, Journal of Asian Geography (JAG) (2023-2025) (eISSN: 2948-5231)
- Editorial Board Member, Discover Water (2024-2025) (eISSN: 2730-647X)
- Associate Editor, Journal of Sustainable Development Practice (JSDP) (eISSN: 3036-0374)
- Associate Editorial Board Member, Journal – The Institution of Engineers, Malaysia (ISSN: 0126-513X)

Expert Reviewer

(a) International Journal

- 2010 - Present Instrumentation Science & Technology, Taylor & Francis
- 2011 - Present Journal of Hydro-environment Research (JHER), Elsevier
- 2012 - Present Water Science and Technology (WST), IWA Publishing
- 2014 - Present Journal of Flood Engineering (JFE), International Science Press
- 2018 - Present Urban Water Journal, Taylor & Francis
- 2019 - Present Journal of Environmental Management (JEMA), Elsevier
- 2020 - Present Physics and Chemistry of the Earth, Elsevier
- 2020 - Present Water Practice and Technology, IWA Publishing
- 2020 - Present IEM Journal
- 2021 - Present Journal of Cleaner Production, Elsevier
- 2021 - Present Water Conservation Science and Engineering, Springer
- 2023 - Present Heliyon, CellPress
- 2023 - Present H2Open Journal, IWA Publishing
- 2023 – Present Journal of Environmental Engineering and Landscape Management (JEELM), Taylor & Francis
- 2023 – Present All Earth, Taylor & Francis
- 2023 – Present Blue Green Systems, IWA Publishing
- 2023 – Present AQUA - Water Infrastructure, Ecosystems and Society, IWA Publishing
- 2023 – Present PLOS ONE, Public Library of Science (PLOS)
- 2024 – Present IEEE Transactions on Geoscience and Remote Sensing
- 2025 – Present Hydrological Processes
- 2025 – Present Iranian Journal of Earth Sciences

(b) International Conference Proceedings

- 2013 13th International Conference on Urban Drainage (ICUD 2014)
- 2016-2017 37th IAHR World Congress (IAHR 2017)
- 2020 22nd IAHR-APD Congress 2020
- 2021 5th International Conference on Water Resources (ICWR-2021)
- 2022 1st International Conference on Water and Environment for Sustainability (ICWES 2022)
- 2024-2025 41st IAHR World Congress (IAHR 2025)

Local Organising Committee & Publication Manager

- 2004 1st International Conference on Managing Rivers in the 21st Century (Rivers'04)
- 2007 2nd International Conference on Managing Rivers in the 21st Century (Rivers'07)
- 2011 3rd International Conference on Managing Rivers in the 21st Century (Rivers 2011)
- 2013 13th International Conference on Urban Drainage (ICUD 2014)

2015-2017	37 th IAHR World Congress (IAHR 2017)
2019	National Conference on Stormwater Management (SWaM 2019)
2021	National Conference on Stormwater Management (SWaM 2021)
2022	75 th Anniversary Celebration of Technological Association Malaysia Conference (iTech 2022)
2022	Water Hazards and Security - I.R 4.0 Forum
2022	1 st International Conference on Water and Environment for Sustainability (ICWES 2022)
2023	Symposium on Technologies for Sustainable Urban Development (TechSUD 2023)
2024	National Conference on Stormwater Management (SWaM 2024)
2025	Symposium on Technologies for Sustainable Urban Development (TechSUD 2025)

Technical Committee

2021	5 th International Conference on Water Resources (ICWR-2021)
2022	National Water Innovation, Conference and Exhibition (NWICE 2022)
2025	6 th International Conference on Water Resources (ICWR-2025)

International Scientific Committee

2024	2 nd International Conference on Water and Environment for Sustainability (ICWES) and 7 th Postgraduate Colloquium of Environmental Research (POCER) - ICWES-POCER 2024", April 23-25, 2024, KLCC, Malaysia
2024	24 th IAHR-APD Congress, 14-17 October 2024, Wuhan, China
2025	41 st IAHR World Congress (IAHR 2025), 22-27 June, Singapore
2026	25 th IAHR-APD Congress, 19-22 July 2026, Incheon, Korea

International Steering Committee

2024	3rd Asia International Water Week (3rd AIWW) - "Enhancing Our Future Water Security", 24-28 September 2024, Beijing, China
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Invited Panelist

2022	The Malaysia Urban Forum 2022 (MUF2022), High-Level Dialogue 2 (HLD2) - Shaping Our Future: Building Climate Change-Resilient Infrastructure December 17 Banquet Hall 2, MBSA Convention Centre, Shah Alam
2024	UNESCO Water Family Symposium I: Sediment and Soil Erosion Solutions September 22 Beijing international Convention Center
2024	3 rd Asia International Water Week - Water Sciences Roundtable - Session 3: Environment and Ecology September 23 Beijing international Convention Center
2025	Urban Breakfast: High Impact Dialogue and Urban Resilience Clinic October 6 Semarak Hall, Cyberjaya

Invited Speaker

2004	Urban Stormwater Short Course: Application of MSMA for Sustainable Urban Drainage System (SUDS), November 30 –December 2, USM Engineering Campus
2004	Urban Stormwater Short Course: Application of MSMA for Sustainable Urban Drainage System (SUDS), November 13 – 15, Unit Kejuruteraan Sivil & Struktur, Cawangan Kerja Kesihatan, Ibu Pejabat JKR, Malaysia
2005	Urban Stormwater Short Course: Application of MSMA for Sustainable Urban Drainage System (SUDS), April 26 – 28, USM Engineering Campus
2005	Urban Stormwater Short Course: Application of MSMA for Sustainable Urban Drainage System (SUDS), September 6 – 8, USM Engineering Campus
2006	Urban Stormwater Short Course: Application of MSMA for Sustainable Urban Drainage System (SUDS), November 7 – 8, Bintulu Development Authority (BDA)
2010	Urban Stormwater Management Short Course - Application of Sustainable Urban Drainage System as Part of Integrated Water Resources Management (USWM-9) November 23 - 24, USM Engineering Campus
2012	Seminar on "Technical Talk on MSMA 2nd Edition Using MES Software"

- September 20 - 21 Georgetown City Hotel, Penang
September 24 - 25 Grand River View Hotel, Kota Bharu, Kelantan
October 1 - 2 Selesa Hotel, Johor
October 15 - 16 Star City Hotel, Alor Setar, Kedah
October 29 - 30 IEM, Ipoh, Perak
November 5 - 6 Kompleks Dagangan Mahkota, Kuantan, Pahang
November 19 - 20 Summit Hotel, Subang USJ, Selangor
December 3 - 4 Palace Hotel, Kota Kinabalu, Sabah
December 4 - 5 IEM, Kuching, Sarawak
December 17 - 18 IEM, Melaka
- 2013 Three Days Seminar on "Technical Talk on Urban Stormwater Management"
January 21 - 23 HAD Technologies Training Centre, Brunei Darulssalam
- 2013 One Day Seminar on Sharing of Malaysian Experience in Sustainable Drainage Management & Reinforce Concrete Design in Building Structure
August 2 The Engineering Institute of Thailand (EIT), Bangkok, Thailand
- 2013 One Day Seminar on "Sharing of Malaysia Experiences in Sustainable Urban Drainage Management"
20 November Ikatan Nasional Konsultan Indonesia (IKINDO), Balai Kartini, Jakarta Selatan, Indonesia
21 November Universitas Pelita Harapan, Karawaci, Indonesia
- 2013 Two-Days Workshop on "Urban Stormwater Management Design Based on MSMA 2nd Edition"
July 8 - 9 Summit Hotel, Subang USJ, Selangor
September 30 - October 1 Palace Hotel, Sabah
October 28 - 29 Selesa Hotel, Johor
November 11 - 12 Public Works Department (JKR)
November 25 - 26 USM Engineering Campus, Penang
- 2014 Workshop on Urban Stormwater Management Design based on MSMA 2nd Edition
January 21 - 22 JPS Pahang
- 2014 JPS MSMA Workshop - Lesson 1: MSMA 2nd Edition Overview & Runoff Estimation
August 11 - 12 JPS Ampang
September 1-2 JPS Pulau Pinang
October 13-14 JPS Pahang, Bahagian Perkhidmatan Mekanikal
November 3-4 Tang Dynasty Hotel
- 2014 Program Latihan Jabatan Kerja Raya Malaysia – Rekabentuk Sistem Saliran – MSMA2
February 25-27 Menara PJD, Kuala Lumpur
June 24-26 Menara PJD, Kuala Lumpur
- 2015 Workshop on Sustainable Urban Stormwater Management - OSD Design & Rainwater Harvesting Design
May 25 Politeknik Ungku Omar (PUO), Ipoh, Perak
- 2015 JPS MSMA Workshop - Lesson 1: MSMA 2nd Edition Overview & Runoff Estimation
August 17 - 18 Imperial Hotel, Kuching, Sarawak
September 7 - 8 JPS Ampang
- 2016 JPS MSMA Workshop - Lesson 1: MSMA 2nd Edition Overview & Runoff Estimation
April 27 - 28 JPS Ampang
September 26 - 27 JPS Ampang
- 2017 International Workshop on Water Resources Management
May 10-12 USM Engineering Campus, Penang
- 2017 Technical Seminar: Stormwater Management
September 30 IEM Penang Branch
- 2017 Kursus Rekabentuk Sistem Saliran Untuk Projek Bangunan
March 7 Pusat Kecemerlangan Kejuruteraan & Teknologi JKR (CREaTE), Melaka
- 2017 JPS MSMA Workshop - Lesson 1: MSMA 2nd Edition Overview & Runoff Estimation
May 8 - 9 JPS Ampang
- 2018 Kursus Rekabentuk Sistem Saliran Untuk Projek Bangunan
March 7 Pusat Kecemerlangan Kejuruteraan & Teknologi JKR (CREaTE), Melaka
- 2018 Two Days Seminar on "Advanced Infrastructure Design Technology in Malaysia"
July 9 Universiti Malaysia Sarawak

	August 27	MTree Hotel, Puchong, Selangor
	October 29	USM Engineering Campus
2018	One-day user conference entitled "Next generation hydrodynamic modelling conference - rivers, drainage and water resources"	
	September 27	Berjaya Times Square Hotel, Kuala Lumpur
2019	Two Days Seminar on "Advanced Infrastructure Design Technology in Malaysia"	
	March 25	JKR Terengganu
	April 08	IEM Ipoh Branch
	April 22	Crystal Crown Hotel, Johor
	November 4	Pusat Kecemerlangan Kejuruteraan & Teknologi JKR (CREaTE), Melaka
2019	Workshop On "Creative Infrastructure Design Using MiTS 2"	
	July 16	Pusat Kecemerlangan Kejuruteraan & Teknologi JKR (CREaTE), Melaka
2019	ASEAN Working Group on Water Resources Management (AWGWRM) - "Regional Building of Competency in Urban Stormwater Management & Erosion and Sediment Control for ASEAN Country"	
	October 7	Berjaya Times Square Hotel
2020	Lawatan Sambil Belajar Jabatan Kerja Raya Melaka – Swale Drain & On-Site Detention (OSD)	
	March 20	REDAC, USM
2020	Kursus Rekabentuk BMP's Kawalan Kualiti Air Dalam MSMA untuk Department of Irrigation and Drainage Malaysia	
	September 14-15	REDAC, USM
2020	Kursus Rekabentuk Sistem Saliran Mesra Alam Mengikut MS 2526-1:2012 – On Site Detention, Rainwater Harvesting and Detention Pond	
	September 29 - October 1	Institut Pembangunan Modal Insan Zon Utara, Ipoh, Perak
2021	Kursus Rekabentuk Dan Pembinaan Lestari (Public Work Department Malaysia)	
	May 27	Online lecturing
2021	Bengkel Sustainable Site Design (Unit Latihan Khas Politeknik Ungku Omar)	
	June 10	Online lecturing
2021	Kursus Rekabentuk Saliran Mesra Alam – IDF Curve and Temporal Pattern, Conveyance, On Site Detention and Rainwater Harvesting	
	October 12-14	Institut Pembangunan Modal Insan Zon Timur, Kelantan (Online)
2021	Online Stakeholder Engagement: Engineering Guideline on Prevention and Control of Dengue	
	Oct 22	Online
2021	Taklimat Pelan Induk Saliran Bandar dalam MSMA	
	Dec 01	Online (Penang Development Corporation)
2021	Half-Day Sand Mining Workshop - River Sand Mining Management Guideline and Riverbank Rehabilitation	
	Dec 10	BayView Beach Resort, Batu Ferrenghi, Penang
2022	Kursus Rekabentuk Dan Pembinaan Lestari (Jabatan Kerja Raya Malaysia)	
	September 28-30	Pusat Kecemerlangan Kejuruteraan & Teknologi JKR (CREaTE), Melaka
2022	Seminar Pengenalan Kepada Pelan Kawalan Hakisan & Kelodak (ESCP) dalam MSMA	
	Dec 15	Online (Penang Development Corporation)
2023	Seminar Water Security In Sustainable Development	
	March 13	Multipurpose room, Applied Science University (ASU), Jordan
2023	Kursus Asas Saliran mengikut MSMA	
	July 4-6	Institut Pembangunan Modal Insan Zon Utara, Ipoh, Perak
2023	Nature-based Solutions (NbS): Bridging the Knowledge Gap" Workshop @ Penang	
	July 24-25	USM & Jawi Golf Resort, Penang
2023	Kursus Rekabentuk Dan Pembinaan Lestari (Jabatan Kerja Raya Malaysia)	
	September 19-21	Pusat Kecemerlangan Kejuruteraan & Teknologi JKR (CREaTE), Melaka
2024	1-Day Engineering Workshop – Introduction to Rainwater Harvesting	
	February 27	Bilik Mawar, Bangi Resort Hotel

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| 2024 | Stakeholder Workshop On "Elevating the Safety Of Harvested Rainwater for Potable And Non-Potable Uses At Household Level" |
| | May 16 Wisma IEM, Petaling Jaya |
| 2024 | 1-Day Workshop on Sustainable Water Management Through Rainwater Harvesting |
| | October 9 Applied Science Private University, Jordan |
| 2024 | 3 rd Asia International Water Week – Thematic 5C on Freshwater Biodiversity Restoration |
| | September 23 Beijing international Convention Center |
| 2025 | Seminar on Rainwater Harvesting Systems (RWHS) and PERSPAH Annual General Meeting |
| | January 20 National Water Research Institute of Malaysia (NAHRIM) |
| 2025 | Hydraulic Structure Design (Rekabentuk Struktur Hidraulik Saliran Mesra Alam) |
| | August 19-21 Institut Pembangunan Modal Insan Zon Timur, Kelantan (Online) |

ADMINISTRATIVE DUTIES

2005-2014	Committee Member, Short Courses (REDAC)
2006-2020	Webmaster, REDAC
2007	Committee Member, Syarahan Umum Profesor
2008	Secretariat, Program Latihan Khidmat Negara di USM Kampus Kejuruteraan
2009	Committee Member, Tender (REDAC)
2008-2012	Sahabat PPKT, Kampus Kejuruteraan USM
2009-present	Committee Member, KPI & KIP (REDAC)
	Committee Member, Training and Seminar (REDAC)
	Sub-Committee (Multimedia) USM Engineering Campus
2010	Chair, Jawatankuasa Pembukaan Tender Projek USM-IDB (REDAC)
2013	Ahli Jawatankuasa Penerbitan Video Korporat Kampus Kejuruteraan
	Ahli Jawatankuasa Permohonan Penarafan Sebagai Pusat Kecemerlangan Pengajian Tinggi Bagi Teras Perkhidmatan
2013-present	Pegawai Penerima Aset (REDAC)
2014	Coordinator, Training (REDAC)
	MoU Coordinator (REDAC, USM - HR Wallingford, UK)
2014-2017	Committee Member, Pelan Tindakan dan Halatuju HiCoE 2014-2016
2015	MoU Coordinator (REDAC, USM - Universitas Brawijaya, Indonesia)
2016	MoA Coordinator (REDAC, USM - IAHR)
2018	MoA Coordinator (REDAC, USM - JKR Malaysia)
2019	MoU Coordinator (USM - IWHR, China) & Penyelaras MoU (USM - JPS Malaysia)
2019-2020	Coordinator, Pusat Kecermelangan Pendidikan TInggi (HICoE) Penarafan 2014 Fasa II
2020-2021	Committee Member, Exhibition (REDAC)
	Committee Member, Research and Innovation (REDAC)
	Committee Member, Project Consultancy and Research Contract (REDAC)
	Committee Member, International Networking & UNESCO (REDAC)
	MoA Coordinator (USM - UMK)
2021-2025	Ahli Jawatankuasa Panel Perancangan 5 Tahun "Sustainability Implementation Plan" 2021-2025
2021-2024	Lead, "River & Urban Management" for UNESCO CHAIR on Ecohydraulics for Sustainable Water Infrastructures for SDG6 in The Asia and The Pacific Region (University)
2022	Chair & Committee Member, Tender (REDAC)
2022	Fasilitator Kursus LIFE PROGRAM, 21/09/2022-05/10/2022 (University)
2022	MoA Coordinator (REDAC, USM – National University of Malaysia, UKM)
2022	MoA Coordinator (REDAC, USM – Applied Science University (ASU), Jordan)
2023-2024	Deputy Director, REDAC
	Chair, REDAC Research Committee
2023-2025	USM KKJ ESports Club Advisor
2024	MoU Coordinator (REDAC, USM – IWHR, China)
2025-2027	Director, REDAC & USM Senate Member
	USM Engineering Campus Special Committee (EXCO)
	USM Engineering Campus Management Committee (JPKK)
2025	Committee Member, University Sustainability Excellence Committee (JKKKU)
2025-2026	Campus Coordinator & Chair, University Sustainability for USM Engineering Campus
	Committee Member, 5 Years USM Sustainability Action Plan 2026-2030 (Goal 1 - Planetary Health and Climate Action)
	Chair, REDAC Internal Quality Assurance (IQA)
	Chair, REDAC Research & Consultancy Committee

PUBLICATIONS

Web of Science ResearcherID: F-6427-2010 (h-index: 20)

Scopus ID: 58251530900 (h-index: 20)

Books and Chapters Published

Chang, C.K., Ab. Ghani, A. (2011). Sediment Transport in Kulim River, Kedah, Malaysia, Sediment Transport, Dr. Silvia Susana Ginsberg (Ed.), ISBN: 978-953-307-189-3, InTech, <https://doi.org/10.5772/15078>.

Chang, C.K., Zakaria, N.A., Ab. Ghani, A. & Goh, H.W. (2019). Securing Water for Future Generations through Sustainable Urban Drainage Design and Management: Bio-ecological Drainage System (BIOECODS) - Malaysian Experiences. The Magazine of The Chinese Institute of Civil & Hydraulic Engineering. Vol.45, No. 6 December 2018, ISSN, 0253-3804. [https://doi.org/10.6653/MoCICHE.201812_45\(6\).0000](https://doi.org/10.6653/MoCICHE.201812_45(6).0000).

Juiani, S.F., Zakaria N.A., Ab Ghani, A, Ayub KR, **Chang, C.K.**, Yusof, M.F., Shaharuddin S, Azizan, N.A. Mohd Kasim, M.Z. (2022). Bio-ecological Drainage System (BIOECODS): A Sustainable Green University Drainage System. In: Leal Filho, W., Portela de Vasconcelos, C.R. (eds) Handbook of Best Practices in Sustainable Development at University Level. World Sustainability Series. Springer, Cham. https://doi.org/10.1007/978-3-031-04764-0_12.

Haruna, M.A., Ab Ghani, A, Eslamianb, S., **Chang, C.K.**, (2022). Sediment transport with soft computing application for tropical rivers. In: Eslamianb, S., Eslamian, F. (eds) Handbook of HydroInformatics, Volume III: Water Data Management Best Practices. Elsevier. (ISBN: 9780128219621; eISBN: 9780128219522)

Sulaiman, S., Othman, N.E., Hamid, A.A., Zakaria, N.A., **Chang, C.K.** (2023). Characteristic of Stormwater Quality Using BIOECODS in JKR Pilot Projects. In: Harun, S., Othman, I.K., Jamal, M.H. (eds) Proceedings of the 5th International Conference on Water Resources (ICWR) – Volume 1. Lecture Notes in Civil Engineering, vol 293. Springer, Singapore. https://doi.org/10.1007/978-981-19-5947-9_8.

Magazine

Chang, C.K., Zakaria, N.A., George, C. (2017). Report From The Kuala Lumpur World Congress, August 13-18th 2017. Hydrolink, 3/2017. 92-93. ISSN 1388-3445

Chang, C.K., Zakaria, N.A., Ab Ghani, A. (2017). Bio-Ecological Drainage Systems (BIOECODS) - An Alternative Sustainable Approach To Overcome Water Related Issues. Hydrolink, 2/2017. 42-43. ISSN 1388-3445

Lai, C.H., **Chang, C.K.**, Goh, H.W., Zakaria, N.A. (2018). The Role of Youth in Achieving United Nation's Sustainable Development Goals (SDGS). Hydrolink, 4/2017. 126-127. ISSN 1388-3445

Abdul Hamid, A., Othman, N.E., Zainal, M.Y., Zaini Sooria, S., Zakaria, N.A. **Chang, C.K.** (2022). Green infrastructure: The Issues, Challenges and Lessons Learnt in The Implementation of BIOECODS at the Public Works Department of Malaysia Pilot Projects, The Ingenieur - Magazine of the Board of The Engineers Malaysia, 88:, 57-72

Chang, C.K., Goh, H.W., Zakaria, N.A., Ab Ghani, A. (2024). The Malaysian Pilot and Show Piece Project of Sustainable Urban Drainage Management – Bio-Ecological Drainage System (BIOECODS). Stormwater 2/2024. 3-8. (eISSN: 3036-0013; ISSN: 3030-5179)

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Chang, C.K. (2018). Next generation hydrodynamic modelling conference - rivers, drainage and water resources. Digital flood mapping associated with sediment transport modelling for large scale river basin: Case study of Sungai Pahang. Berjaya Times Square Hotel, Kuala Lumpur, 27 September 2018.

Zakaria, N.A., Lai, C.H. & **Chang, C.K.** (2019). Water Security in Malaysia – Issues and Challenges, Special Session on Sustainable Urban Drainage System - The Malaysia's Experience and Expertise, 2nd International Conference On Engineering And Technology - Dedicated to Enhance Research Ability, (KEC Conference 2019), Kantipur Engineering College, Dhapakhel Lalitpur, Nepal, September 26, 2019.

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Chang, C.K. (2023). Water Conservation and Management: The Untapped Potential of Stormwater. Seminar Water Security in Sustainable Development, Applied Science University (ASU), Jordan. March 13, 2023. (Keynote Speaker)

Chang, C.K. (2023). Bio-Ecological Drainage System (BIOECODS) as an NbS Approach for Sustainable Management of Stormwater in Urban dan Riverine Landscape, Nature-based Solutions (NbS): Bridging the Knowledge Gap” Workshop. Jawi Golf Resort, July 24 – 25, 2023.

Chang, C.K. (2025). Enhancing Household Water Security: Safe Utilisation of Harvested Rainwater for Potable and Non-Potable Uses, Seminar on Rainwater Harvesting Systems (RWHS) and PERSPA Annual General Meeting, National Water Research Institute of Malaysia (NAHRIM), January 20, 2025.

Policy/Position Paper

Wong Wai Sam, **Chang Chun Kiat**, Anuar Bin Hj. Yahya, Cheok Hou Seng, C. Kamalesen A/I Chandrasekaran, Low Sheue Lih, Shirley, Mohd. Azmi Bin Ismail, Noor Aishah Binti Zaharin, Sreedaran Raman, Azlinda Saadon, (2023). IEM Position Paper on Flash Flood in Malaysia (Integrated Flash Flood Management - A Way Forward).

Chang Chun Kiat, Ang Wei Lun, Leo Choe Peng, Tan Mou Leong, Goh Hui Weng, Teow Yeit Haan, Azman Mat Jusoh, Ashila Binti R. Azmi, Muhammad Faizal Bin Ashaary, Cheok Hou Seng, Mohd Azmi Bin Ismail, C. Kamalesen A/I Chandrasekaran, Elias Saiden, Wong Wai Sam, (2024). IEM Position Paper on Elevating The Safe Utilisation of Harvested Rainwater for Potable and Non-Potable Uses at Household Level.

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24. Alang Othman, M., Ab. Ghani, A., Foo, K.Y., **Chang, C.K.** (2014). Long-Term Rainfall Analysis for Estimating Water Quality Volume for Major Towns in Malaysia, *13th International Conference on Urban Drainage: Urban Drainage in the Context of Integrated Urban Water Management - A Bridge Between Developed and Developing Countries*. Kuching, Sarawak, Malaysia, 7-12 September 2014.
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2. Wong, L.P., Ab. Ghani, A., Zakaria, N.A., Abdullah, R., Lau, T.L., **Chang, C.K.** (2004). Drainage Improvement Work For High Density Development: Case Study of Kampung Tersusun, Juru. 3rd *National Civil Engineering Conference (AWAM 2004)*, 20-22, July, Tanjung Bungah, Penang. (ISBN: 978-983-861-307-1)
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4. Ab. Ghani, A., **Chang, C.K.**, Puay, H.T., Ismail, W.R. (2016). Flood inundation analysis for large scale river using hydrodynamic and sediment transport model – Case study of Sungai Pahang's December 2014 flood. Persidangan Kajian Bencana Banjir 2014 - Pemantapan Ilmu Ke Arah Penyelesaian Lestari. Pullman Putrajaya Lakeside, 4-6 April 2016.
5. Abdul Hamid, A., Wah, C., Abd. Suki, S.S., Sulaiman, S., Zakaria, N.A., **Chang, C.K.** (2018). Application of Bioecods for Sustainable Urban Drainage Management in A Small Scale of Government Pilot Project. JKR Research Colloquium 2018 (JKRRC 2018). Pusat Kecemerlangan Kejuruteraan dan Teknologi JKR (CREaTE), 28-29 August 2018.
6. Othman, N.E., Abdul Hamid, A., Zakaria, N.A., **Chang, C.K.** (2021). Best Management Practice on The Implementation of Bio- Ecological Drainage System at JKR Pilot Projects, 3rd JKR Colloquium, Pusat Kecemerlangan Kejuruteraan dan Teknologi JKR (CREaTE), 23-24 August 2021.
7. Suki, S.S., Abdul Hamid, A., Zakaria, N.A., **Chang, C.K.** (2022). Cost Benefit and Life Cycle Costing of Sustainable Urban Drainage System (SUDS): A Practical Approach for Stormwater Management in JKR Projects, 4th JKR Research Colloquium, Pusat Kecemerlangan Kejuruteraan dan Teknologi JKR (CREaTE), 9-10 August 2022.
8. Ibrahim, I.S., Mohd Diah, M., Zaini Rijal, Z., Othman, N.E., **Chang, C.K.** (2022). Stormwater Quality and Flow Attenuation using BIOECODS in Pulapas, Kluang, 4th JKR Research Colloquium, Pusat Kecemerlangan Kejuruteraan dan Teknologi JKR (CREaTE), 9-10 August 2022.
9. Tew, Y.L., Tan, M.L., Liew, J.N., Hassan, M.H., Samat, N., **Chang, C.K.** (2022). Rapid Flood Inundation Mapping using Sentinel-1 SAR via Google Earth Engine: A case study of the Kelantan River Basin, Malaysia, Persidangan Dan Pameran Inovasi Air Kebangsaan (NWICE 2022), KLCC, 19-21 July, 2022.
10. Liew, Y.S., Mat Desa, S., **Chang, C.K.**, Zakaria, N.A., Tan, M.L. (2022). An Assessment of River Morphology Changes for Segamat River, Muar River Basin, Persidangan Dan Pameran Inovasi Air Kebangsaan (NWICE 2022), KLCC, 19-21 July, 2022.

List of Research Grants

No.	Project Title	Sponsor	Amount (RM)	Duration
1.	Modification of Einstein's Bed Load Transport Formula For Rivers In Malaysia (Case Study Of Kulim River, Kedah) (PI)	USM Short Term Grant	19,294.00	June 2006 to Nov 2008
2.	Flow Resistance and Discharge Estimation for Flooding River (Co-Researcher)	Sciencefund, Ministry of Science, Technology And Innovation	215,530.00	Aug 2008 to Jul 2010
3.	Integrated Urban Drainage Management (Co-Researcher)	USM Research University Grant for Individual (RUI)	473,600.00	Oct 2007 to Sept 2010
4.	Soft Computing Technique to Predict Total Bed Material Load for Sand-Bed Rivers In Malaysia (Co-Researcher)	USM Research University Grant for Individual (RUI)	45,600.00	Jan 2009 to Jun 2011
5.	Digital Flood Mapping: Case Study of 2007 Sungai Pahang Flood (Co-Researcher)	USM Research University Grant for Individual (RUI)	92, 000.00	Aug 2009 to Aug 2011
6.	Urban Water Cycle Processes, Management and Societal Interactions: Crossing from Crisis to Sustainability (Co-Researcher)	Long Term Research Grant (LRGS), Ministry of Higher Education	6,000,000.00	Aug 2011 to Dec 2014
7a.	Novel Technology for Eco-Friendly Bio-Retention Facilities (Project 1) (Co-Researcher)	Long Term Research Grant (LRGS), Ministry of Higher Education	1,000,000.00	Aug 2011 to Dec 2014
7b.	Sustainable Wetland Design Protocol For Water Quality Improvement (Project 2) (Co-Researcher)	Long Term Research Grant (LRGS), Ministry of Higher Education	1,000,000.00	Aug 2011 to Dec 2014
8.	Assessment of Bioengineering Techniques for Sustainable Urban Drainage Application (Co-Researcher)	USM Short Term Grant	39,141.00	Oct 2012 to Apr 2015
9	The Role of Paddy Field in Flood Control: Case Study of Muda Irrigation Scheme (Region 3) (Co-Researcher)	USM Short Term Grant	38,591.00	Oct 2012 to Oct 2015
10.	Towards a Cost-Efficient Design of Abrupt Expansion Section in Water Conveying Structure from the Perspective of Dynamic Impact Generated by Shockwaves Impingement (Co-Researcher)	USM Short Term Grant	40,638.36.00	Mac 2015 to Feb 2017

No.	Project Title	Sponsor	Amount (RM)	Duration
11.	Flood and flood disaster: Integrated assessment of extreme rainfall-runoff on flood hazard, water quality and microbial variability, and enhancement of standard operating procedures (SOP) for flood disaster awareness: Case study of Sungai Pahang River Basin (Co-Researcher)	Trans-Disciplinary Research Grant Scheme (TRGS), Ministry of Higher Education	660,360.00	Apr 2015 to Dec 2015
12a	Basin characteristics: Rainfall Distribution In 5 States Since 1967 Flood Until 2014 Flood: Detecting The Climate Change Effect (Project 1) (Co-Researcher)	Trans-Disciplinary Research Grant Scheme (TRGS), Ministry of Higher Education	133,100.00	Apr 2015 to Dec 2015
12b	Flood and flood disaster: Model-Based Morphological Prediction for Large Scale River Basin in Raising Flood Protection Levels for Sungai Pahang (Project 3) (Co-Researcher)	Trans-Disciplinary Research Grant Scheme (TRGS), Ministry of Higher Education	150,000.00	Apr 2015 to Dec 2015
13	Influence of Enhanced Bioretention Media and Tropical Shrub on Nutrient Removal for Urban Runoff in Mixed Development Area: An On-Site Study (Co-Researcher)	USM Short Term Grant	37,252.85	May 2018 to Jul 2020
14	Sustainable Water Resources Management Solutions to Overcome National Water Security Issues - Sub-Project MRUN "Sustainable Technology for Water Reclamation" (Co-Researcher)	Long Term Research Grant (LRGS), Malaysia Research Universiti Network (MRUN), Ministry of Higher Education	450,000.00	Dec 2018 to Nov 2021
15	Phytoremediation performance of tropical plants in bioretention system for urban runoff treatment (Co-Researcher)	Fundamental Research Grant Scheme (FRGS), Ministry of Higher Education	129,200.00	Sept 2019 to Nov 2022
16.	Kajian Keberkesanan Teknologi Hijau Dalam Sistem Saliran Bandar Bagi Projek Perintis JKR Malaysia (JAR1613) (PI)	Geran Malaysian Public Works Department (JKR)	640,863.00	Mar 2019 to Feb 2022
17.	Research of Climate Change Impact on Water Quantity Aspect Towards Achieving Security, Quantity and Sustainability of River System and Balance In River Morphology for Segamat River, Muar River Basin (PI)	National Water Research Institute of Malaysia (NAHRIM)	250,000.00	Mar 2020 to Nov 2020
18.	Erosion and Sediment Control Plan (ESCP) Guidelines for Logging And Plantation Agriculture In Malaysia (Co-Researcher)	National Water Research Institute of Malaysia (NAHRIM)	200,000.00	Mar 2020 to Nov 2020

No.	Project Title	Sponsor	Amount (RM)	Duration
19.	Kajian Kebolehlaksanaan Pembinaan Wetland Sebagai Alternatif Kepada Sistem Pembentungan di Pulau Tioman (Feasibility Study) (Co-Researcher)	National Water Research Institute of Malaysia (NAHRIM)	600,000.00	Jun 2020 to Mar 2021
20.	Study of Sediment Flowing Mechanism for Effective Sediment Basin Design in Earthwork Construction: Modified Fifield Equation (PI)	Fundamental Research Grant Scheme (FRGS), Ministry of Higher Education	141,800.00	Oct 2023 – Sept 2025
21.	Leveraging Water for Sustainability (Co-Researcher)	Malaysian National Commission for UNESCO	2,067.00	May 2024 – May 2025
22.	Flow Attenuation of Half Module Subsurface Drain for Stormwater Drainage System in low ARI Rainfall Event (Co-Researcher)	USM Short Term Grant	15,000.00	Dec 2024 to Nov 2026

International Grant

No.	Project Title	Sponsor	Amount (RM)	Duration
1	Geomatics For Disaster Risk Reduction (GeoDRR) (Co-Researcher)	ERASMUS+	456,659.80	Nov 2021 to Nov 2023
2	Engineering Skills Where They are Most Needed - Impact Grants Call 2021/23 - Elevating the safety of rainwater harvesting systems for non-potable uses through interdisciplinary training (PI)	Engineering X, an international collaboration founded by the Royal Academy of Engineering and Lloyd's Register Foundation	260,000.00 (£49,890.00)	Aug 2022 to Dec 2024
3	Impact of Solar Radiation Management (SRM) on Hydro-climatic Extremes in Malaysia (Co-Researcher)	Degrees Modelling Fund (DMF, formerly the DECIMALS Fund)	260,000.00 (USD70,000.00)	Jan 2023 to Dec 2025
4	Developing quintuple helix network for strategic monitoring and improvement of air quality using IoT (Co-Researcher)	Royal Academy of Engineering	52,500.00 (£10,000.00)	Feb 2023 to March 2024
5	Land Use Change Impact on Water Quality and Water Quantity for Bertam River Basin In Cameron Highlands Malaysia (Co-Researcher)	Kurita Water and Environment Foundation	11,272.00 (JPY10,000.00)	Oct 2024 to Sept 2025

List of Contract Research & Consultancy Projects

No.	Project Title	Sponsor	Duration
1.	Digital Flood Mapping: Case Study of 2007 Sungai Pahang Flood	DID Malaysia	Nov 2000 to Oct 2003
2.	Application of Bio-Ecological Drainage Systems (BIOECODS) for Malaysia	DID Malaysia	Aug 2000 to Dec 2004
3.	Feasibility Study on Flood Mitigation and Drainage for Kampung Tersusun, Juru.	MPSP	Aug 2003 to Oct 2004
4.	Feasibility Study and Detailed Design of Flood Mitigation and Drainage Improvement in Perai Industrial Complex	MPSP	Aug 2003 to March 2006
5.	Rehabilitation of Existing Wetlands and Mining Ponds as an Ecological Park at DID's Mechanical Section, Ipoh	DID Malaysia	March 2005 to Apr 2006
6.	Cadangan Mendirikan Sebuah Klinik Kesihatan Taiping – 2 Tingkat (Jenis KK2) di Atas Lot 2089, Jalan Tupai, Mukim Tupai, Daerah Larut & Matang, Perak Darul Ridzuan - Rekabentuk Sistem Saliran Air Permukaan	Public Work Department	March 2005 to Dec 2007
7.	Accredit Checker for Urban Drainage System Design, Kolej Sains Kesihatan Bersekutu, Johor Bahru	Public Work Department	2005
8.	Ecological Drainage System for Cadangan Pembangunan Tanah Wakaf Khas Lot 2136 Mukim Panchor, Kemumin, Kota Bharu, Kelantan	Majlis Agama Islam Kelantan dan Adat Istiadat Melayu Kelantan (MAIK)	March 2006 to Dec 2007
9.	Design Options of the Flood Mitigation Plan of River Muda, Kedah	DID Malaysia	May 2006 to Sept 2006
10.	Drainage Master Plan for Tanjung Malim	Majlis Daerah Tanjung Malim	May 2006 to Sept 2007
11.	Consultancy Services to Evaluate the Proposed Flood Preventive Works to be Taken Subsequent to the December 2006 – January 2007 Floods	Economic Planning Unit, Prime Minister's Department	2006
12.	Drainage Improvement From Maktab Perguruan Melayu Melaka To Taman Peringgiti Jaya, Melaka	DID Malaysia	Jul 2007 to Sept 2008
13.	Stormwater Management and Drainage Master plan Study for the Town of Tanah Merah, Kelantan	DID Malaysia	Aug 2007 to Oct 2010

No.	Project Title	Sponsor	Duration
14.	Study on River Sand Mining Capacity in Malaysia	DID Malaysia	Oct 2007 to Jun 2010
15.	Cadangan Pembinaan Universiti Malaysia Kelantan, Kampus Bachok - Rekabentuk Sistem Saliran Air Permukaan Berpandukan MSMA	Public Work Department	Dec 2007 to Apr 2010
16.	River Inventory and Monitoring Program (RIMP)	Sarawak Rivers Board (SRB)	2008
17.	Preparation of Design Guides for Erosion and Sediment Control in Malaysia	DID Malaysia	Jan 2009 to Oct 2010
18.	Cadangan Pembangunan Pusat Penyelidikan Tasik Cini, Mukim Penyur, Daerah Pekan, Pahang Darul Makmur - Rekabentuk Sistem Saliran Air Permukaan	UKM Perunding Kejuruteraan & Arkitek Sdn. Bhd.	JAN 2011 to MAY 2011
19.	Studying the Role of Flood, Soil Erosion and Sediment Control of Paddy Fields in Muda Irrigation Scheme, Malaysia	Ministry of Agriculture and Agro-Based Industry	Nov 2009 – Nov 2011
20.	Preparation of Urban Stormwater Management Planning and Design Standard for Malaysia and Second Edition Urban Stormwater Management Manual For Malaysia (MSMA Made Simple)	DID Malaysia	Nov 2009 to Dec 2011
21.	Membina Longkang dan Kolam Tadahan Di Resost Tasik Raban, MD Lenggong	Majlis Daerah Lenggong (MDL)	Jun 2010 to Dec 2010
22.	Kerja-Kerja Pembinaan Sub-Soil Drain di Padang Seri Mutiara, Jalan Utama, Pulau Pinang	Public Work Department	Jun 2010 to May 2011
23.	Cadangan Merekabentuk dan Menyiapkan Sebuah Kolej Universiti Automatif Antarabangsa (IUCAM) U-Village Di Atas Sebahagian Lot Pt. 13225, Mukim Pekan, Daerah Pekan, Pahang Darul Makmur - Rekabentuk Sistem Saliran Air Permukaan	Glenmarie Development (Pahang) Sdn. Bhd.	Dec 2010 to Apr 2012
24.	Menaik Taraf Sistem Saliran dan Penyiraman di Seri Mutiara dan Kerja-Kerja Berkaitan	Jabatan Taman Botani Pulau Pinang	Jun 2013 to Dec 2013
25.	Cadangan Pembinaan Projek Penambahbaikan Infrastruktur Taman Ekspo Pertanian Alaysia (MAEPS) Serdang, Selangor - Sistem Rawatan Air Buangan (ETP) Dan Kumbahan (Reka & Bina)	Public Works Department (JKR)	May 2012 to Dec 2013
26.	Kajian Keberkesanan Penggunaan Spesis Tumbuhan Tropical Wetland Dalam Perawatan Kualiti Air Di MAEPS	Zunara Sdn Bhd	May 2013 to Aug 2013
27.	Stormwater Management and Drainage Master plan for Daerah Barat Daya, Pulau Pinang	DID Penang	Jan 2012 to Dec 2012

No.	Project Title	Sponsor	Duration
28.	Evaluation of The Effect of Earth and Sand Mining Activities to Downstream River Water Quality	Depco Nutri-Link Sdn Bhd	Jun 2013 to Dec 2013
29.	Cadangan Pelan Induk Pengezonan Tanah, Pembangunan RRI, di Atas Lot 488, Lot 489, Mukim Sungai Buloh, Lot 481 Dan Rizab Kerajaan (Rizab Jalan), Bandar Petaling Jaya, Daerah Petaling, Seksyen U4, 47000 Sungai Buloh Dan Di Atas Lot 2286, Lot 4080, Lot 2282, Lot 73605 (Lot Lama Lot 2804) Mukim Sg Buloh, Lot 73603 Dan Rizab Kerajaan (Rizab Tangki Air Dan Saluran Paip), Bandar Petaling Jaya, Daerah Petaling, PJU 4, Petaling Jaya, Selangor Darul Ehsan - Pengurusan Sistem Saliran - Principal Stormwater Engineer	Perunding Hashim & Neh Sdn Bhd / Kwasa Land Sdn. Bhd.	Jun 2013 to May 2022
30.	Feasibility Study of Stormwater Management to Overcome Flooding Problems at Universiti Malaysia Kelantan (UMK) Kampus Kota, Kelantan Darul Naim	USM Program APEX Sharing	Jan 2015 to May 2015
31.	Cadangan Pembangunan Bercampur Di Atas Pt1519, Pt1520 dan Pt 4068 Seluas 541 Ekar Mukim Beriah, Daerah Kerian, Perak Darul Ridzuan (MKD Development)	DPI Konsult Sdn. Bhd.	July 2015 to Dec 2018
32.	Cadangan untuk Mendalamkan dan Mengeluarkan Pasir di Sungai Muda, Negeri Kedah Darul Aman	Mahligai Seni Komunikasi Sdn Bhd	Feb-March 2017
33.	Penyediaan Pelan Pengurusan Lembangan Sungai Bersepadu (IRBM) Sungai Perai, Pulau Pinang/Kedah - Flood Mitigation Specialist	DID Malaysia	Jan-Dec 2018
34.	Site Supervisory Staff for Drainage Works at Kwasa Damansara Township Development (PI)	Perunding Hashim & Neh Sdn Bhd	2015 - 2021
35.	Proposed Construction and Completion Of Common Infrastructure Works At Southern Sector – Area Under Majlis Bandaraya Petaling Jaya Jurisdiction Of Kwasa Damansara Township Development In Sungai Buloh, Selangor Darul Ehsan - Sub-Consultancy Services for Drainage Works - Principal Stormwater Engineer (PI)	DNP Consult Sdn Bhd	2018 - 2022
36.	Penyediaan Pelan Pengurusan Lembangan Sungai Bersepadu (IRBM) Sungai Juru, Pulau Pinang - Erosion and Sedimentation Specialist (PI)	River Net Sdn Bhd / DID Malaysia	Sept 2019 Jan 2021
37.	Sg. Juru IRBM - River Sediment Data Collection & Cross Section Profiling - Project manager (PI)	Kotani Engineering Consultant Sdn Bhd	Nov 2019 – Sept 2020
38.	Perlaksanaan Kajian Pelan Induk Sistem Perparitan untuk Penang Science Park South (PSPS) & East Batu Kawan (EBK)	Penang Development Corporation (PDC)	Jun 2020 Dec 2020

No.	Project Title	Sponsor	Duration
39.	Pelaksanaan Kajian Pelan Induk Sistem Perparitan di Taman Perindustrian Batu Kawan 2 (BKIP2), Byram, Mukim 11, Daerah Seberang Perai Selatan, Pulau Pinang	Penang Development Corporation (PDC)	Jun 2020 Mac 2021
40.	Rekabentuk Terperinci Rancangan Tebatan Banjir Teluk Bahang, Daerah Barat Daya, Pulau Pinang NO. LTBKS : JPS/IP/C/PB/23/2019 - Flood Mitigation Specialist (PI) - Hydrologist	M.E.I. Consultants Sdn. Bhd. / DID Malaysia	Apr 2021 Jun 2023
41.	Perkhidmatan Perundingan bagi Kebolehlaksanaan Water Reclamation Plant (WRP) di Daerah Pasir Gudang, Johor Darul Takzim - Geographic Information Systems (GIS) Specialist (PI)	Sepakat Setia Perunding (Sdn) Bhd	Apr 2021 Jun 2022
42.	On-site Soil Infiltration Test Services for The Proposed Phase 2 Manufacturing Facilities on Plot P304C, Lingkaran Cassia Selatan, Batu Kawan Industrial Park, Penang (PI)	B. L. Tay Architect/ Micron Memory Malaysia	Apr 2021 – Apr 2022
43.	Kajian Kebolehlaksanaan Membaikpulih Kolam Rekreasi Di Taman Rekreasi Dr Seenivasagam off Jalan Raja Musa Aziz Ipoh, Perak (PI)	Majlis Bandaraya Ipoh (MBI)	Oct 2021
44.	Analisis Taburan Endapan di Empangan Muda dan Pedu (PI)	NAHRIM	Sept 2021 – Nov 2021
45.	Pelan Pengurusan Lembangan Sungai Bersepadu (IRBM) Lembangan Sungai Klang (2022-2030) Dan Laporan State of River Report (SOR) Lembangan Sungai Klang 2020	Lembaga Urus Air Selangor (LUAS)	Apr 2022 – Nov 2022
46.	Civil And Structural Sub-Consultancy Services for The Proposed Construction and Completion Of Common Infrastructure Works at Kwasa Damansara Township Development In MBSA Area, Selangor Darul Ehsan for Kwasa Land Sdn Bhd (PI)	Kemasepakat Sdn Bhd	Jun 2022 – Dec 2030
47.	Hydrology and Hydraulic Analysis for Sungai Air Hitam, Selangor, Privatisation of Lebuhraya Persisiran Pantai Barat (Taiping – Banting) Section 2: SKVE Interchange to SAE Interchange (PI)	IJMC-KEB Joint Venture, West Coast Expressway	April 2023 – Jun 2023
48.	Engineering, Procurement, Construction and Commissioning (EPCC) of PGU-L Gas Pipeline Replacement Project - Water and sediment transport specialist (PI)	River Care Associates Sdn. Bhd.	Jun 2023 – July 2023
49.	Consultant Service on Hydrology and Hydraulic Study for “Membina dan Menyiapkan Cadangan Jajaran Jalan Sepanjang 1.8KM yang Menghubungkan LOT 7954 Ke Persimpangan Jalan Persekutuan 147 (Bagan Serai – Selama), Mukim Beriah, Daerah Kerian, Perak Darul Ridzuan” (PI)	DPI Konsult Sdn. Bhd.	July 2023 – December 2023
50.	Study on Improvement of 2nd Edition, Urban Stormwater Management Manual for Malaysia (PI)	Angkasa Consulting Services Sdn. Bhd.	Oct 2023 – Oct 2025

51.	Projek Menaiktaraf Kolam Tebatan Banjir Krubong - Durian Tunggal Sebagai Kolam Dwi-Fungsi Untuk Tebatan Banjir dan Sumber Air Negeri Melaka (Reka Dan Bina) - River Cross Section Profiling, Sediment Data Collection and Analysis at Sungai Melaka (PI)	Cipta Wawasan Maju Engineering Sdn Bhd	Feb 2024 – Mac 2024
52.	Perkhidmatan Perunding bagi Penyediaan Manual JPS (DID Manual) Edisi Kedua: River Engineering, Flood Engineering and Irrigation Engineering Untuk Jabatan Pengairan Dan Saliran (JPS) Malaysia (PI)	MINCONSULT Sdn Bhd	Apr 2024 – Oct 2025
53.	Simulation of The Impact of Climate Change on River Equilibrium Morphology in The Padas River Basin, Sabah - Hydrology and Hydraulic & GIS Consultancy Services (PI)	Sutra Aktif Sdn Bhd/ NAHRIM	Jun – Oct 2024
54.	Drainage Works Consultancy Services for PT7 Industrial Development (Phase 1) Up to Kebenaran Merancang (KM) Approval (PI)	Jurutera Perunding Meinhardt Sdn. Bhd	Jun – Dec 2024
55.	Kajian Pembinaan Loji Rawatan Air Pulih Guna Di Mukim Rawang Dan Bukit Beruntung - Geographic Information Systems (GIS) Specialist (PI)	Sepakat Setia Perunding (Sdn) Bhd	Sept 2024 – April 2025
56.	Hydrology and Hydraulic Analysis for the Sungai Sijongkong - THE Construction and Completion of Civil Works for Section 2 - South Klang Valley Expressway (SKVE) to Shah Alam Expressway (SAE) Interchange (PI)	IJMC-KEB Joint Venture, West Coast Expressway	Feb 2025 – April 2025
57.	Detailed Design for Upgrading of Flood Reservoir S10 and Other Related Works in Northeast District, Penang (PI)	DID Malaysia	Oct 2024 – Sept 2029
58.	Consultant Service on Stormwater Management for Pembangunan Perumahan di Atas Subplot R2-11A, Kwasa Damansara, Petaling Jaya, Selangor (PI)	Serene Damansara Sdn Bhd	Oct 2025 – Dec 2025

IPR REGISTERED PATENT

YEAR	NO FILING	TITLE	TYPE
2024	PI2022005855	Electrochemical Enhanced Photocatalysts in Hydrogel	Patent Filled
2022	PI2022006944	Nanocellulose Hydrogel Fertilizer	Patent Filled
2024	CRLY2024W08233	The Effectiveness of Green Technology in Urban Drainage System for JKR Pilot Projects	Copyright
2022	LY2022P04828	Gross Pollutant Trap	Copyright
2018	LY2018005757	Extreme Streamflow Analysis - A Plotting Position Approach	Copyright

AWARDS

2003	Perak State Foundation Excellence in Engineering Research Meritorious Award
2008	Universiti Sains Malaysia Excellence Service Award
2009	Universiti Sains Malaysia Hall of Fame (Journal Publication)
2010	Universiti Sains Malaysia Excellence Service Award
2011	Universiti Sains Malaysia Excellence Service Award
2012	Universiti Sains Malaysia Hall of Fame (Journal Publication)
2014	Universiti Sains Malaysia Excellence Service Award
2017	International Conference and Exposition on Inventions by Institutions of Higher Learning (Pecipta 17) - Sustainable Urban Stormwater Management Towards Achieving Sustainable Development Goals - Bronze Medal
2017	International Conference and Exposition on Inventions by Institutions of Higher Learning (Pecipta 17) - Bio-Ecological Drainage System (BIOECODS) - Securing Water for Future Generations - Silver Medal
2019	Anugerah Perak, Tesis Terbaik Peringkat Kebangsaan Sempena Hari Air Sedunia Peringkat Kebangsaan
2022	Malaysia Technology Expo (MTE) 2022 - Carbon+ Fertilizer: A Green Solution to Capture, Utilize, Store of Co2 Into Carbonate Fertilizer - Gold Awards & Outstanding Innovation Awards
2023	World Invention Intellectual Property Associations (WIIPA), Arau International Creativity Exhibition (ACE) 2023 - Effectiveness of Perforated Subsurface Drain for Stormwater Drainage System in Reducing The Risk of Flash Flood - Gold Medal & Best Award Category (Environment and pollution Control)
2023	World Invention Intellectual Property Associations (WIIPA), Arau International Creativity Exhibition (ACE) 2023 - Assessing Freshwater Phytoplankton Distribution and Water Quality in Constructed Wetlands System during Dry and Wet Periods - Silver Medal
2025	Bangkok International Intellectual Property, Invention, Innovation and Technology Exposition (IPITEx 2025), Thailand Inventors Day - Revolutionizing Stormwater Management with Subsurface Drain Technology for Flash Flood Prevention - Gold Medal