



CURRICULUM VITAE

Dr Rosmina binti Ahmad Bustami

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1. PROFESSIONAL PROFILE

Dr Rosmina Ahmad Bustami is currently the Director of UNIMAS Water Centre (UWC) and Senior Lecturer at the Faculty of Engineering, UNIMAS. Her area of expertise is in Water Resources Engineering, including Hydrology and Hydraulics. She has conducted extensive research in Water Sensitive Urban Design (WSUD), flood forecasting and is currently embarking research in rural water supply. She has been previously involved in numerous research and consultancy in various water engineering related projects, including micro hydro generation to serve rural communities in Sarawak as Hydrologist. This is also evident in her list of previous projects and publications. She is available for media interview and postgraduate supervision.

2. ACADEMIC QUALIFICATION

(Qualification), (Discipline), (Institution), (Year)

Doctor of Philosophy, Water Resource Engineering, University of South Australia, 2020

Postgraduate Diploma, (Teaching & Learning), Universiti Malaysia Sarawak, 2012

Master of Engineering (Hydraulics), Universiti Malaysia Sarawak, 2005

Bachelor of Engineering, Kejuruteraan Awam, Universiti Malaysia Sarawak, 2002

3. PREVIOUS APPOINTMENT

(Post), (Organisation), (From)-(Until)

Director, UNIMAS Water Centre, 2021 – Present

Head, Civil Engineering Department, Faculty of Engineering UNIMAS, 2009 - 2014

4. AREAS OF EXPERTISE

(Main), (Sub/Area)

Civil Engineering, Hydrology and Hydraulic Engineering

Civil Engineering, Water Resources Management/ Integrated Water Resources Management

Water Sensitive Urban Design

5. RESEARCH

(Project title), (Source), (Role in Project), (From)-(Until)

An evaluation of thermal comfort in modern affordable housing in Sarawak, Co-Researcher, 2005-2007, Fundamental Research Grant Scheme

Hydrosystem for Integrated Control of Flood and Low Flow for a River Basin in Sarawak, Co-Researcher, 2006-2009, Exploratory Research Grant Scheme

Temporal Rainfall Pattern Development for Sarawak, Principal Researcher, 2010, OSAKA Gas

Offshore Wave Effects and Energy Dissipation at Sungai Sarawak and Sungai Batu Pahat Estuary, Co-Researcher, 2010, OSAKA Gas

Instream Horizontal Turbine for Micro Hydro Generation, Co-Researcher, 2010-2013, External Grant

A Design Research Readdressing Sarawak's Urban Infrastructure for Flood Resilience, Co-Researcher, 2020-2022, Luar (Nasional)

Augmentation of Urban Drainage with Permeable Road to Mitigate Urban Flooding, Co-Researcher, 2021-2023, Padanan (Antarabangsa)

Key performance Indicators on Water Supply analysis for Water Treatment Plant Intake, Co-Researcher, 2021-2023, Partners

Critical Appraisalment of Slope Failure Contributing Parameters for Slope Risk Assessment System of Western Sarawak via Multi Statistical Approaches with Artificial Neural Network, Co-Researcher, 2022-2024, Fundamental Research Grant Scheme

Synthesis of nanocellulose from Borneo Bamboo and immobilization of Membrane for water purification, Co-Researcher, 2022-2025, VC-High Impact Research Grant

Fabrication of TiO₂/bamboo nanocellulose photocatalyst for organic matter removal in peat water, Co-Researcher, 2022-2025, VC-High Impact Research Grant

The Behaviour of Dewatered Sewage Sludge and Fly Ash Mix as a Potential Recycling Product, Co-Researcher, 2023-2023, Luar (Antarabangsa)

Infusing work-based experience through Project-Based Learning (POPBL) in Water Courses., Co-Researcher, 2023-2025, Scholarship of Teaching and Learning Research Grant

Symbiosis of Microalgae & Bacteria for Optimal Heavy Metal Adsorption, Co-Researcher (Next Appointed Leader), 2023-2026, VC High Impact Research Grant 2.0 (VC HIRG2.0)

Wave Performance Through Mollusk-Inspired Modular Coastal Protective Structure for Shoreline Sustainability, Co-Researcher, 2023-2026, VC High Impact Research Grant 2.0 (VC HIRG2.0)

Scientific Study and Consolidation of Historical Marine Environmental Data as Environmental Indicators, Co-Researcher, 2023-2024, Industri Universiti

Enhancing Satellite-based Rainfall Estimations and Extreme Rainfall Prediction with Machine Learning Approaches, Head / Project Leader, 2023-2025, Centre of Excellence Research Grant

Improvement to Urban Drainage Systems with Reference to the Sixth Assessment Report of Inter-Governmental Panel on Climate Change, Co-Researcher (Next Appointed Leader), 2023-2025, Padanan (Nasional)

Living Wall Contribution to Microclimate in the Tropics, Head / Project Leader, 2023-2025, Padanan (Antarabangsa)

Flood Mitigation with Climate Change in Urbanized Catchments, Co-Researcher, 2023-2025, Padanan (Antarabangsa)

Re-design and Optimisation of Al-Jazari NR10K for Colour Removal, Head / Project Leader, 2024-2025, Luar (Nasional)

Pembangunan Sistem Rawatan Air untuk Pengeluaran Hidrogen Hijau di Kampung Assum, Head / Project Leader, 2024-2027, Padanan (Nasional)

6. CONSULTANCY

(Title)

Community Micro Hydro Project for Kpg Assum, Padawan, Sarawak, Kementerian Renaga, Teknologi Hijau dan Air (KeTTHA), Hydrologist, National.

Community Micro Hydro Project for Bario, Miri, Sarawak, Kementerian Tenaga, Teknologi Hijau dan Air (KeTTHA), Hydrologist, National

EMP & EMR Consultant for Projek Belakang Elektrik Luar Bandar (BELB) Sistem Mikro Hidro di Long Banga Sarawak, EPC Synergy Sdn. Bhd., Project Member

Feasibility Study Project for Green Energy Island (GEI), Kementerian Kemajuan Luar Bandar dan Wilayah (KKLW) dan Kementerian Tenaga, Teknologi dan Air (KeTTHA), Project Member, 2011, National

Review of Hydrological Studies Component of the Studies Undertaken for Hydropower Projects in Sarawak, Sarawak Energy Berhad, Project Manager, 2014 - 2015, National

Review of Hydrological Studies Component of the Studies Undertaken for Hydropower Projects in Sarawak, Sarawak Energy Berhad, Project Manager, 2014 - 2015, National

Material Testing: 1) Compression Test on Foam Concrete Cubes 2) Particle Size Distribution and Moisture Content Determination, ABB Trading Sdn Bhd, Head / Project Leader, 2011 - 2012, National

Review of the National Water Resources Study (2000-2050) and Formulation of National Water Resources Policy, Sarahill Consulting Sdn Bhd, Project Manager, 2010 - 2014, National

Cadangan Menaiktaraf Tebingan Sungai Limbang (Fasa 1), Sarahill Consulting Sdn Bhd, Head / Project Leader, 2021 - 2021, National

Study on Impacts of Pre and Post Bakun Hydropower Plant Construction on Rejang River Basin and its Communities, Sarawak Energy Berhad, Head / Project Leader, 2024 - 2024, National

Study on Intergrated River Basin Management (IRBM) Plan for Batang Saribas Basin, Sarawak, O.B.E. Consulting Sdn Bhd, Head / Project Leader, 2023 - 2025, National

Study on Intergrated River Basin Management (IRBM) Plan for Batang Samarahan Basin, Sarawak, Jurutera Adda Sdn Bhd, Head / Project Leader, 2023 - 2025, National

7. AWARDS AND RECOGNITION

(Name of Awards), (Awarding Institution), (Year), (Level)

Teaching Excellence Award, Transformative Teaching, Semester 2 (2019/2020)

8. PUBLICATION

(Publication)

Bateni N., Ahmad Bustami R., Mannan M., Yau Seng D. and Sai Hin L. (2024). Permeable Pavement with Micro-Detention Pond Using Precast Honeycomb Structure (StormPav) : A Green Pavement Practice. , 1(1), 1.

Ahmad Bustami R., Rawlings R., Beecham S., Ward J. and Yau Seng D. (2023). Living Walls in The City : Community Values and Expectations. International Journal of Integrated Engineering, 15(9), 79-86.

Ahmad Bustami R., Beecham S. and Hopeward J. (2023). The Influence of Plant Type, Substrate and Irrigation Regime on Living Wall Performance in a Semi-Arid Climate. Environments, 10(2), 26.

Rosli N.A., Bustami R.A., Othman I. and Adam J.H. (2023). Online Learning: Students' Barriers and Feedback on the Instructional Delivery Methods. Lecture Notes in Electrical Engineering, 1072 LNEE(1), 83-97.

Bustami R.A., Beecham S. and Hopeward J. (2022). Evaporative Cooling Effect of Water-Sensitive Urban Design: Comparing a Living Wall with a Porous Concrete Pavement System. Water (Switzerland), 14(22), 1.

Mah D.Y.S., Bustami R.A., Putuhena F.J. and Al Dianty M. (2022). Mitigating Street Flooding with Permeable Structures: A Modelling Case Study. Songklanakarin Journal of Science and Technology, 44(4), 1091-1098.

Bateni N., Mohd Fathil N., Ahmad Bustami R., Sai H., Mannan M. and Mah D. (2022). ENVIRONMENTAL ASSESSMENT OF STORMPAV GREEN PAVEMENT FOR STORMWATER MANAGEMENT. Journal of Sustainability Science and Management, 17(6), 182-192.

Dianty M.A., Putuhena F.J., Mah D.Y.S., Bustami R.A. and Kanafani F. (2021). FLOOD RECONSTRUCTION OF 1st JANUARY 2020 STORM IN AN URBAN HOUSING AREA OF TANGERANG SELATAN, INDONESIA. Geographia Technica, 16(2), 171-182.

Mah D.Y.S., Bateni N., Bustami R.A., Adam J.H. and Salehe A.H.M. (2021). Accommodating stormwater storage structure in the veranda of shop building. International Journal of Advanced Technology and Engineering Exploration, 8(82), 1208-1221.

D.Y.S. Mah, J.O.K. Ngu, R.A. Bustami and F.J. Putuhena (2021). Case Study of Modular Pre-Cast Concrete On-Site Stormwater Detention System during Monsoon Season in Southeast Asia. Applied Environmental Research, 43(1), 28-40.

N. Bateni, S.H. Lai, R.A. Bustami, M.A. Mannan and D.Y.S. Mah (2021). A review on green pavement hydrological design and recommended

permeable pavement with detention storage. IOP Conf. Series: Material Sciences and Engineering, 1101(1), 1-14.

D.Y.S. Mah, R.A. Bustami, F.J. Putuhena and M. Al Dianty (2020). Testing the Concept of Mitigating Overflowing Urban Drain with Permeable Road. International Journal of Advanced Trends in Computer Science and Engineering, 9(5), 7878-7882.

Bustami R., Brien C., Ward J., Beecham S. and Rawlings R. (2019). A Statistically Rigorous Approach to Experimental Design of Vertical Living Walls for Green Buildings. Urban Science, 3(71), 1-15.

Beecham, S., Razzaghmanesh, M., Bustami, R., & Ward, J. (2019). The role of green roofs and living walls as WSUD approaches in a dry climate. In Sharma, A.K., Gardner, T. and Begbie, D. (Eds). Approaches to water sensitive urban design (pp. 409-430). Woodhead Publishing.

Bustami R.A, Martin B., James W. and Simon B. (2018). Vertical greenery systems: A systematic review of research trends. Building and Environment, 146(1), 226-237.

Faculty of Engineering Strategic Plan 2013-2018 (2014). Universiti Malaysia Sarawak.

R. Bakar et. al (2014) The Development and Marketing Strategies for Local Products of Sarawak. Unit Pembangunan Usahawan Bumiputera (UPUB), Sarawak

A.K. Othman et. al (2014) Jarimas Energy Mapping - Sg. Balleh, Kapit, Sarawak. ISBN: 978-983-43827-5-9. Universiti Malaysia Sarawak.

Bong CHJ, Mah DYS, Putuhena FJ, Said S, Bustami RA. Tools for integrated river flood management (hydraulics modeling and logical framework analysis). ASM Science Journal 2012;6(1):47-60

Mah DYS, Bustami RA and Putuhena FJ (2012) Incorporating Floodplain Inundation as a Strategy for Flood Mitigation. UNIMAS e-Journal of Civil Engineering, Vol. 3, pp. 41-45. ISSN 1985-3874

Bustami RA, Rosli NA, Adam JH, Pei Li Kuan (2012) Development of Temporal Rainfall Pattern for Southern Region of Sarawak. UNIMAS eJournal of Civil Engineering, Vol. 3, pp 17-23. ISSN 1985-3874

Rosli NA, Zawawi, MH, Bustami RA (2012). Salak River Water Quality Identification and Classification According to Physico-Chemical Characteristics. Elsevier Procedia Engineering, Vol. 50, pp 69-77. Available online (<http://dx.doi.org/10.1016/j.proeng.2012.10.009>)

Law BKE, Bustami RA (2013). A Study on Potential of Rainwater Harvesting System in SJK Chung Hua No.2, Kuching. UNIMAS e-Journal of Civil Engineering. Vol. 4(2) pp. 28- 33. ISSN 1985-3874.

S.N.L. Taib et. Al (Eds.). (Mar 2011) UNIMAS E-Journal of Civil Engineering, Vol. 2 (1). ISSN 1985-3874

S.N.L. Taib et. Al (Eds.). (Dec 2011) UNIMAS E-Journal of Civil Engineering, Vol. 2 (2). ISSN 1985-3874

Bustami. R, Hong. C, and Lim. D. (2011) River Bedup Catchment Water Level Prediction Using Pre-developed ANN Model of Siniawan Catchment. UNIMAS e-Journal of Civil Engineering, Vol. 2(1). ISSN 1985-3874

R. Bustami, A. Yassin, R. Baini, WAWZ Abidin, S.N.A. Musa, A.K. Othman, W.H.W. Ibrahim (2011). E-Mark & E-Course Outline Handbook. ISBN: 978-967-5527-31-9. Universiti Malaysia Sarawak

H. Morni, M. A. Abdullah, S. K. Iskandar, S.N.A. Musa, Tan, I.A.W, R. Bustami, N.A. Rosli, A.K. Othman and W.H.W.Ibrahim (2011). Preparation of Final Exam Questions Handbook. ISBN: 978-967-5527-32-6. Universiti Malaysia Sarawak.

S.N.L. Taib et. Al (Eds.). (Apr 2010) UNIMAS E-Journal of Civil Engineering, Vol. 1 (2). ISSN 1985-3874

S.N.L. Taib et. Al (Eds.). (Aug 2009) UNIMAS E-Journal of Civil Engineering, Vol. 1(1). ISSN 1985-3874

Bong, H.J.C., Putuhena, F.J, and Bustami, R.A. (2009) Adopting Integrated Hydrosystem Approach in the Management and Development of Sarawak River Basin. The Icfai University Journal of Soil and Water Sciences, Vol. 2(1), pp 63-78

Suhaimi, S. and Bustami, R.A. (2009) Rainfall Runoff Modeling using Radial Basis Function Neural Network for Sungai Tinjar Catchment, Miri, Sarawak. UNIMAS E-Journal of Civil Engineering, Vol. 1(1). ISSN 1985-3874

Bustami, R., Bessaih, N., Bong, C., & Suhaili S. (2007) Artificial Neural Network for Precipitation and Water Level Predictions of Bedup River. IAENG International Journal of Computer Science. Vol. 34 (2), 228-233.

Bustami, R.A., Bessaih, N. & Mohd S. M. (2006) Artificial Neural Network for Daily Water Level Estimation. Journal of Engineering e-Transaction. University of Malaya, Malaysia. Vol. 1(1).

9. POST GRADUATE SUPERVISION

(Student's Name), (Degree), (Thesis Title), (Year Awarded),
(Status), (Role)

Syarifah Melly Maulina, PHD, N/a, -, In Progress, Main Supervisor

Agung Kurniawan, MBR, Hydrological Characteristic Analysis Of a Peniti Watershed Using The Swat Model, -, In Progress, Main Supervisor

Marjorie Maria Lympa Anak Moses, MBR, Enhancing Satellite-based Rainfall Estimations With Machine Learning Approaches, -, In Progress, Main Supervisor

Ashraf Dhowian Parabi, PHD, a Machine Learning Disaster Management Framework Based On Multi-hazard Risk Assessment Of Critical Dams In Sarawak., -, In Progress, Co Supervisor

Bong Chien Chai, MBR, Float And Anchorage System For In-stream Vertical Micro Hydro Turbine, 2016, Completed, Co Supervisor

10. TEACHING

(Course name), (Code)

Advanced Surface and Groundwater Hydrology, Advanced Surface and Groundwater Hydrology, Water for a Sustainable Future, Engineering Hydrology, Civil Engineering Laboratory 5, River and Coastal Engineering, Hydraulics, Integrated Design Project 2, Industrial Training, Integrated Design Project 1, Final Year Project 2, Civil Engineering Laboratory 4, Final Year Project 1, Water Resources Engineering

