

<RECWET Special Seminar Series # 35 >

Industrial Wastewater Studies – Miscellaneous

Associate Professor, Dr. Norhayati Abdullah

International Liaison Coordinator
Malaysia-Japan International Institute of Technology (MJIIT)
Department of Environmental Engineering & Green Technology
Universiti Teknologi Malaysia
E-mail: norhayati@utm.my



Date and Time: 10:15-11:30 on January 28 (Mon), 2019

Place: Lecture room #145, Engineering building #14

日時：2019年1月28日(月) 10:15-11:30 場所：東京大学本郷キャンパス 工学部 14号館 2階 145 講義室

http://www.u-tokyo.ac.jp/campusmap/cam01_04_15_j.html

Abstract:

First part - The present study investigates the formation of aerobic granular sludge in sequencing batch reactor (SBR) fed with palm oil mill effluent (POME). Stable granules were observed in the reactor with diameters between 2.0 to 4.0 mm at a chemical oxygen demand (COD) loading rate of 2.5 kgCOD m⁻³ d⁻¹. The biomass concentration was 7600 mgL⁻¹ while the sludge volume index (SVI) was 31.3 mL gSS⁻¹ indicating good biomass accumulation in the reactor and good settling properties of granular sludge, respectively. COD and ammonia removals were achieved at a maximum of 91.1% and 97.6%, respectively while colour removal averaged at only 38%. This study provides insights on the development and the capabilities of aerobic granular sludge in POME treatment.

Second part - In September 2015, the United Nations General Assembly adopted its 2030 Agenda for Sustainable Development that aims at achieving ambitious targets by 2030. In this Agenda, solving Water and Sanitation challenges is recognised as a top global priority alongside 16 other overarching Sustainable Development Goals (SDGs). The SDG 6 - Ensure access to water and sanitation for all - includes 8 water-related Targets within the Goal dedicated to water (SDG 6) and in addition there are several other water-related Targets in other Goals. The adoption of these Targets provides guidance to all governments to revise, if appropriate, their policies to address effectively the water and sanitation challenges. The success of the many water-related SDG targets requires action by water professionals, who are key players towards implementation of national policies that should result from the ambitious 2030 Agenda. Water is invaluable to all economic sectors and an instrument to facilitating sustainable development. Malaysia has received worldwide recognition for its historic successes in integrated water-sewerage management, increasing priority for clean drinkable water and this is the vision of the Sustainable Development

Goals (SDGs). With this newly integrated global vision, most important global water and sewerage challenges associated with increasing water scarcity, pollution of wastewater flows, and disaster related risks are being resolved. The Malaysian sewerage sector is driven through compliance addressed by several local organisations responsible for various segments of wastewater treatment outputs. Service providers are challenged and burdened to meet compliance and as such wastewater treatment is costly. The challenge increases even further with the loss of opportunity to optimize and tweak processes to recover inherent resources in wastewater – namely water, energy, nutrient. On top of this are the pressure from rapid urbanization, a growing population, and rising demand for water and waste management services. As populations increase by leaps and bounds, it places more pressure on the environment, threatening sources of fresh water supplies. From early 1900s, there has been a steady evolution in the development of sewerage treatment plants to produce high quality effluent, which can be safely discharged to the environment or reused. In this regards, what would be the future instincts for betterment of water and sewerage management to successfully achieve the ambitious 2030 agenda?

Brief Profile of Dr. Norhayati Abdullah

Dr. Norhayati Abdullah is a proud mother of 3, and an Associate Professor of Environmental Engineering at the Malaysia-Japan International Institute of Technology (MJIT) Universiti Teknologi Malaysia (UTM), Kuala Lumpur. She was a member of the International Water Association (IWA) Board of Directors, an IWA Fellow and Vice President of the Malaysian Water Association (MWA). At a global level, Norhayati has been involved with the IWA program and activities since 2000. She received the IWA Young Water Professional (IWAYWP) Award in 2012 in recognition of her outstanding achievements in wastewater research and active involvement in various professional development programmes. Norhayati represented UTM and Malaysia at the University of Michigan Ann Arbor for the Fulbright US-ASEAN Visiting Scholar Initiatives in 2016-2017. In February 2018, she was conferred the Top 50 Most Impactful Leaders in Water & Water Management (A Global Listing) award during the World CSR Day. Norhayati is recipient of the 2018 L'Oréal-UNESCO for Women in Science Fellowship. She is currently Visiting Researcher at the Shishukan, Kyoto University.