

Technical Talk on “Bringing Engineering Problem into Scaled-Experiment: Challenges in Physical Modelling of Erosion”

Organized By: Women Engineers Section, IEM
BEM Approved CPD/PDP Hours: 2 Ref. No: IEM18/HQ/452/T

Date : 13th November 2018 (Tuesday)
Time : 5.30 pm – 7.30 pm
Venue : C&S & TUS Lecture Room, 2nd Floor, Wisma IEM
Speaker : Assoc. Prof. Dr. Zahiraniza Mustaffa, CEng, CMarEng, MiMaREST

OPEN TO ALL

SYNOPSIS

This technical talk aims at sharing knowledge on a real-life engineering project involving rehabilitation of a large embankment pond, damaged by bed erosion and liner rupture (*refer Fig. 1*). The bed erosion was caused by the free surface flow from a hydropower tunnel into the pond with the aim of reducing discharge into a downstream river.



Fig. 1. Erosion from a hydropower tunnel

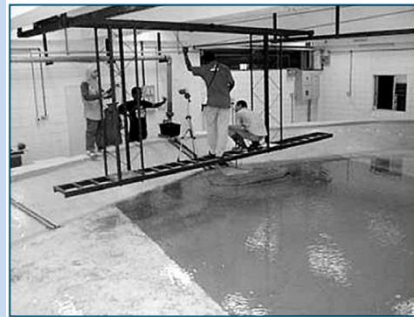


Fig. 2 Physical model in laboratory

This engineering problem was requested to be investigated through physical modelling in the form of a consultancy work. A significant part of the investigation was the laboratory reproduction of a damaging erosion process below a large concrete apron (*refer Fig. 2*). Four challenges in the design and operation of the physical model were dealt with, and herein the methods employed and the lessons learned to enhance the laboratory skills of physical modelers of any movable bed projects in the future are discussed.

BIODATA OF SPEAKER



Dr. Zahiraniza Mustaffa is an Associate Professor at the Department of Civil and Environmental Engineering, Universiti Teknologi PETRONAS (UTP) for nearly 15 years. She obtained her PhD majoring in Pipeline Reliability from Delft University of Technology (2011), The Netherlands, Master of Science in Water Resources Engineering (year 2003), from the University of Alberta, Canada and Bachelor of Engineering (Hons.) in Civil Engineering (year 2000) from the Universiti Teknologi Malaysia. Dr. Zahira specializes in the field of pipeline engineering as well as hydraulic engineering, covering the aspects of urban hydraulics and probabilistic structural designs. Her research capability in the pipeline engineering field is portrayed through the cumulative research grant values of RM 2 mil. secured from various international, national and consultancy resources. She has also developed a software and training module for PETRONAS on the reliability assessment of corroded pipelines using probabilistic approaches. She has internationally expanded her teaching capability in the subject of Pipeline Engineering and Technology at Seoul University of Technology, South Korea and is currently a Technical Advisor for a Kolej Kemahiran Tinggi MARA in developing a Diploma program on Offshore Structure. Dr. Zahira received a prestigious research grant from the Schlumberger Foundation and currently an Ambassador for the Faculty for the Future of the foundation in promoting women into science, technology, engineering and mathematics (STEM) fields. Recently, the Sumitomo Foundation, Japan research grant was awarded to her which aims at comparing and strengthening women involvement in STEM university research between the Malaysian and Japanese.

Ir. MAH SIEW KIEN
Chairman
Women Engineers Section

NOTE: Fees Announcement
(Effective: 1st October 2017)

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 - (a) Online RM15
 - (b) Walk-In RM20

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- Limited seats are available on a "first come first served" basis (maximum 100 participants).

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