RIVER WATER QUALITY MODELING

Date : 6th & 7th November 2024
Venue : ENSEARCH Training Centre, Petaling Jaya
Trainer : Ir. Dr. Zaki Zainudin

12 CPD HOURS BY EIMAS | **12 CPD HOURS BY MBOT**

OVERVIEW

A river is represented in the QUAL2K model as a linked group of streams and tributary reaches that consist of headwaters and sequential strings of completely mixed reactors, which are referred to as computational elements. Within each reach, all the computational elements have the same average depth, stream slope, channel cross-section, and biological/chemical rate constants. The, QUAL2K model calculates a flow and mass balance for each computational element.

OBJECTIVES

- To introduce fundamentals of uni-directional river water quality modeling using the QUAL2K modelling package.
- To give hands-on exposure to participants in developing and applying QUAL2K river model.
- To conduct river water quality impact assessment using the QUAL2K modeling package.

WHO SHOULD ATTEND?

- Consultants
- Engineers
- Researchers
- Scientists
- Students

TRAINING FEE

- Member = RM800
- Non-Member = RM1000
- Individual Membership + Training = RM1050
- HRDC Claimable + Member = RM900
- HRDC Claimable + Non-Member = RM1000
- HRDC Claimable + Individual Membership = RM1150

2 PAX OR MORE FROM SAME ORGANIZATION 10% OFF!!!

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TRAINER INFORMATION

Ir. Dr. Zaki Zainudin is a renowned environmental in the area of water quality assessment and modeling, having led and played key roles in hundreds of environmental studies for both private and government sectors. He is a Professional Engineer with the Board of Engineers Malaysia (BEM), Chartered Engineer (CEng) with the Engineering Council, UK and Chartered Environmentalist (CEnv) with the Society for the Environment (SocEnv, UK). He is often a source of reference for various organizations on surface water quality management; such as being an expert panelist for the Department of Environment Malaysia (DOE, EIA, Water and Marine units) and is advisor to many prominent environmental and engineering firms. He has conducted various workshops and talks on Water Quality and Modeling at both local and international venues. Zaki is also on the Management Committee of the International Water Association (IWA), Watershed and River Basin Management (W&RBM) Specialist Group.

TENTATIVE PROGRAMME

DAY 1

08.30 – 10.00 **INTRODUCTION TO WATER QUALITY MODELING**
Covers conceptualization behind water quality models, current existing models, plus its theoretical aspects, as well as history, application and limitations.

10.00 – 10.30 ***BREAK***

10.30 – 12.30 **INTRODUCTION TO QUAL2K**
Installation and setup of QUAL2K software in Windows, introduction to the QUAL2K interface, input requirements, model structure, stream reach system and roughness, model preparation, limitations, assumptions, fast-BOD, slow-BOD, pH, ammoniacal nitrogen, ammonia, steady state QUAL2K modeling.

12.30 – 02.00 ***LUNCH BREAK***

02.00 – 03.30 **QUAL2K DATA INPUT**
Data input ; reaeration coefficient, decay and settling rates, headwater source data, diffuse/incremental inflow, point loads and withdrawals.

03.00 - 03.30 ***BREAK***

03.30 – 05.00 **MODEL CALIBRATION & VALIDATION**
Model calibration ; adjustments to model to achieve optimal conditions, i.e., matching real world conditions. Data interpretation and conceptual analysis, Model output verification through temporal data substitution, impact assessment proceedings, model output analysis and data transfer.

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TENTATIVE PROGRAMME

DAY 2

08.30 – 10.00	**INDIVIDUAL EXERCISE : SCENARIO DESIGN** Hands-on modeling practice for participants.
10.00 – 10.30	***BREAK***
10.30 – 12.30	**INDIVIDUAL EXERCISE : SCENARIO DESIGN (CONT.)** Hands-on modeling practice for participants.
12.30 – 02.00	***LUNCH BREAK***
02.00 – 03.30	**INDIVIDUAL EXERCISE : DATA EXTRACTION, ANALYSIS, INTERPRETATION AND REPORTING** Output data extraction, scenario analysis (water quality and in-stream loading), EIA requirements, river rehabilitation.
03.00 - 03.30	***BREAK***
03.30 – 05.00	**CASE STUDIES** Review and discussion of previous case studies

LIMITED SEAT HURRY UP! LIMITED SEAT

SCAN ME! »

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