



Urban & Rural Drainage Design & Flood Modeling

in Compliance with the Requirement of DID Urban Stormwater Management Manual for Malaysia (MASMA)

Date: 10-12 Aug 2009 (Mon – Wed)

Organiser:

Centre for Stormwater & Geohazard Management, College of Engineering, Universiti Tenaga Nasional (UNITEN)
Engineering Education Technical Division, IEM
Lestari Software Enterprise (LSE)

About the Workshop

This Workshop provides attendees with up-to-date information and techniques for solving and managing Urban & Rural Drainage Design and Analysis projects complying with DID's requirement to control discharge at source, with xpswmm software. Through hands-on exploration, participants will create their own models for **on-site detention (OSD)** & **community detention ponds** plus surrounding **channel** systems. The agenda will include discussions on runoff methods, the use of closed conduits and open channels, hydraulic structure and various storage methods. Instruction will be given on data preparation, model applications such as subdivision design and stormwater system analysis, output interpretation, result preparation and many of the new presentation tools now available. A brief presentation on **stormwater quality** is included in the workshop. The third day program includes 2D hydraulic modeling using xp2D - simulation of urban & river flooding. There will be a Question/ Answer session at the end of each day to allow participants to put forward specific queries.

Who Should Attend?

It will benefit all civil engineers in their understanding of MASMA requirements on design of OSD & community ponds plus associated drainage networks which are handled by xpswmm. Participants will advance their modeling skills by applying xpswmm on typical issues such as surface flooding, pond size & level, outlet structures & size, inlet restriction, dual drainage, backwater/tidal boundary conditions, etc.

The Trainer

Dr. Ashis Dey is currently a Principal with the Cardno Group in the XP Software business unit. Ashis has over 16 years of experience in the area of flooding and mitigation, integrated urban 1D/2D modeling, computational fluid dynamics. Over the last 5 years Ashis has been a key personnel in product development of xpswmm2D. He has also led various flood studies, working with Councils and consultants around Australia. Prior to moving to Australia, Ashis worked as a consultant with Pacific Consultants in Tokyo, Japan as well as a lecturer at Rajshahi University of Engineering and Technology in Bangladesh. Recently, Dr. Ashis conducted 2 stormwater management seminars in Penang & UTM, Shah Alam respectively.

Cost per Attendee

Full Payment	By 12 th Jul. 2009	After 12 th Jul. 2009
10 - 12 Aug. 2009 (3-day)	RM 1,390.00	RM 1,550.00
10 – 11 Aug. 2009 (2-day)	RM 1,290.00	RM 1,450.00
12 Aug. 2009 (1-day)	RM 750.00	RM 860.00

Please refer to detail workshop program overleaf.

Registration fees include professional training, one set of workshop notes, CD, certificate of completion and complimentary trial version of xpswmm plus refreshment & lunch. Computer will be provided to work on the examples during the workshop.

Upon completion of the workshop, attendees will be awarded a **RM300.00** product voucher. This voucher can be used towards the purchase of any new product or add-on module. The voucher will be awarded only to participants attending all 3 days of the workshop.

Venue

BW-3-105, Level 3, College of Information Technology, Universiti Tenaga Nasional, KM7, Jalan Kajang-Puchong, 43009 Kajang, Selangor

For More Details Please Contact

LSE: Ms. SY Loke @ 03 - 9010 4368 or 012 306 3510
UNITEN: Assoc. Prof. Ir. Dr. Lariyah Mohd Sidek @ 03 - 8928 7289
Pn. Hidayah Basri @ 03 - 8921 2020

How to Register

Simply complete and fax the registration form back to **03 – 9010 4328**
Mail or courier the form with payment to the address below
Please make cheque payable to **Lestari Software Enterprise**

Mailing Address

Lestari Software Enterprise
No. 5-2, Jalan Temenggung 5/9, Bdr. Mahkota Cheras, 43200 Cheras, Selangor

Tel: 03 9010 4368 E mail: syloke@lestarisoftware.com Website: www.lestarisoftware.com

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12 Aug 2009 (1-Day)	RM750.00	RM860.00

Please tick (/)

Name: 1) _____ HP: _____
2) _____ HP: _____
3) _____ HP: _____

Company: _____

Address: _____

Tel: _____ Fax: _____

E mail: _____

Cheque no. (Total): _____ Contact Person: _____

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24 CPD
points
BEM/REG/12



Time	Day 1	Contents
09:00	Overview of the Day's Activities and Review of Workshop Material	(Invited Speaker)
09:15	<i>Brief Introduction to MASMA: Present & Future Direction</i> Introduction to Hydraulic & Hydrology Malaysia Template File	Software Localization and Templates Viewing MASMA Temporal Patterns (Chapter 13)* in xpswmm Rainfall Intensity Estimation (Chapter 13)* and input into xpswmm Infiltration (Chapter 14)*
	Hydrological Modeling - Runoff Calculations	Loading a Background Image and/or CAD & GIS File Data and Drawing Default Values for Nodes and Links Defining & Calculation Areas Runoff Routing Method Selection - Time Area/Runoff Method Loss Model Setting (Infiltration, etc.) Rainfall Data Input Reviewing Hydrology Graph Results Compare Multiple Storms Result
13:00	Networking & Lunch	
14:00	Introduction to Digital Terrain Model (DTM)	Overview of DTM Creating a DTM – Ground Surface Read Invert and Ground elevation from DTM
	Hydraulics Modeling - Drainage Network & Flood Estimations	Node Link Model Setup Network Creations /Network import (CAD/GIS) Calculating Conduit Lengths/Slope Boundary conditions (Backwater, Tidal Effect) Numerical simulations/ hydraulic Routing Solving a Model -Trouble Shooting Error Messages and Running the Model Flood Estimations & Analysis
16:45	Questions/Answers	
17:00	Close of Session	

14:00	Hydraulics Modeling - Results & Report Generation	Output File Tables, Summaries and Additional Customizing Review Results, Exporting Image & Tabular Hydrographs User-defined Report Generation and Results Export Spatial Reports Graphical Encoding Time series Hydrographs & HGL Animations Pre and Post Development Scenario Simulation of Overland Flow Path (Dual Drainage)
	Hydraulics Modeling - Advanced	
	Stormwater Modeling - Additional Features	Export/Import Options (Export Network to CAD Via dxf, etc.) Template Creation Simulating Low Impact Development Strategies (LID) Redirection of Surface and Node Flows Stormwater Quality (Chapter 30, 33)*
16:45	Questions/Answers	
17:00	Close of Session	

Time	Day 3	Contents
09:00	Review of 2nd Day and Overview of the day's activities 2D Modeling Theory and Capabilities	Description of 2D Theory and Calculation Method Input Data Requirements and Model Results
	1D/2D Urban Flooding Example	Set xp2D Extent and Grid Size Set xp2D Active and InActive Areas 1D/2D Connections Landuse Categories Ridge and Gully 2D Flood/Hazard Maps Grid Cell Depths, Velocity and Flow Vectors
	2D Modeling	2D Modeling for Both River and Floodplain 2D Upstream Inflow Boundary Conditions 2D Downstream Water Level Boundaries
13:00	Networking & Lunch	
14:00	2D Modeling with Culverts	Setup Culverts on 2D Domain
	1D/2D River Modeling Example	Set 1D/2D Interface using the Polyline Tool Link 1D River Model to 2D Floodplain 1D Results in Link Node Network
	1D/2D Modeling with Rainfall on Grid	Setting Up of Rainfall Polygons Setting up Loss Models
	Other 1D/2D Modeling Features	Troubleshoot /Diagnostic 3D Perspective View AVI File Creation
16:45	Questions/Answers	
17:00	Close of Workshop	

* Relevant Chapters in MASMA

Time	Day 2	Contents
09:00	Review of 1st Day and Overview of the day's activities Hydraulics Modeling - Pipe Design	Automatic pipe design Discussion on Design Criteria
	Hydraulics Modeling - Storage Design & Optimization	Tail water conditions (Outlet Data) Natural Channels Hydraulic Structures (Pumps, weirs, spillway, Orifice etc) Culvert Inlet Control Detention Pond Simulation/Design Basin Optimization (Outlet/Orifice Size Estimation) Pit Loss /Local Loss
13:00	Networking & Lunch	

The above program serves only as a guide. Actual flow of the program may vary a little from the above.
For more info please contact 03 9010 4368 or visit www.lestarisoftware.com