



Workshop on

Urban & Rural Drainage Design & Flood Modeling

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

Organiser:

Centre for Stormwater & Geohazard Management (CSGM),
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 MSMA 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.

Dates: 12, 13 & 14 Apr 2010 (Mon – Wed)

The Trainer

Dr. Ashis Dey is currently a Principal of XP Software. Dr. Ashis has over 18 years of experience in the area of flooding and mitigation stormwater modeling, integrated urban 1D/2D modeling, computational fluid dynamics. Over the last 5 years Dr. Ashis has been a key person in product development of xp2D. He has also led various flood studies, working with Councils and consultants around Asia Pacific regions. He has published many technical papers in various journal and peer reviewed conferences. Last year, Dr. Ashis conducted 2 stormwater management seminars in IEM Penang & UiTM, Shah Alam respectively, 1 public workshop & 1 in-house training cum model assistance in Malaysia.

Cost per Attendee

Full Payment	By 10 th Mac 2010	After 10 th Mac 2010
12–14 Apr 2010 (3-day)	RM 1,399.00	RM 1,590.00
12–13 Apr 2010 (2-day)	RM 1,299.00	RM 1,490.00
14 Apr 2010 (1-day)	RM 790.00	RM 890.00

Registration fees include professional training, 1 set of workshop notes, CD, certificate 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 modules. The voucher will be awarded only to participants attending all 3 days of the workshop.

Venue - Universiti Tenaga Nasional

BW-3-L05, Level 3, College of Information Technology, 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/ Cik Faedah Hanum @ **03 - 8921 2020** Ext 6205

How to Register

1. Please complete the form and fax to **03 90104328**
2. Courier the form with payment 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** Email: syloke@lestarisoftware.com

www.lestarisoftware.com

Fax to **03 9010 4328**

18 CPD points
BEM/REG/12

Please refer to detail workshop program overleaf

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12 Apr 2010 (1-Day)	RM790.00	RM890.00

Please tick (/)

Please make cheque payable to **Lestari Software Enterprise**

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

Company: _____
 Address: _____
 Tel: _____ Fax: _____
 E mail: _____
 Cheque no. (Total): _____ Contact Person: _____

Urban & Rural Drainage Design & Flood Modeling

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

Tentative programme

Dates: 12, 13 & 14 April 2010 (Mon–Wed)

Time	Day 1	Contents
09.00	Overview of the Day's Activities and Review of Workshop Material	
09.15	Brief Introduction to MASMA: Present & Future Direction <i>Invited Speaker</i>	
09.45	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	

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

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 Hydraulics Modeling - Advanced Pre and Post Development Scenario Simulation of Overland Flow Path (Dual Drainage) Stormwater Modeling - Additional Features Export/Import Options (Export Network to CAD Via dxf, etc.) Simulating Low Impact Development Strategies (LID) Redirection of Surface and Node Flows Pollutant removal and simulating BMP -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 xp2D 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 MSMA