



CPD points pending
confirmation from BEM.

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

Date: 5-7 May 2008

Organiser:

**Dept. of Civil & Structural Engineering, Universiti Kebangsaan Malaysia (UKM)
&
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. The workshop will concentrate on the MASMA requirements pertaining to the design of on-site detention & community ponds plus associated drainage networks. Through hands-on exploration, participants will create their own models for on-site detention (OSD) & community detention ponds plus surrounding channel systems. Special emphasis for this workshop is the new features of Version 10.6 and on 2D hydrodynamic urban & river flood modelling. Day 3 training includes simulation of urban flooding using 1D, quasi 2D and integrated 1D/2D modelling with xpswmm. 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, tidal boundary conditions, etc.

The Trainer

Robert Graham, MSc (Eng), has worked as an international consultant, software developer and trainer in the water resources area for over twenty years. His xpswmm workshops are enhanced with his data terrain modeling background and numerical modeling development work. His MSc (Eng) thesis developed numerical methods for modeling complex reservoir systems under backwater conditions. This will be his 4th workshop in Malaysia.

Cost

Full Payment	By 4 th Apr. 2008	After 4 th Apr. 2008
5 - 7 May 2008 (3 days)	RM 1,300.00	RM 1,490.00
5 - 6 May 2008 (2 days)	RM 1,200.00	RM 1,390.00
7 May 2008 (1 day)	RM 720.00	RM 820.00

Please refer to detail workshop programme overleaf.

Registration fees include professional training, one set of workshop notes, certificate of completion and complimentary trial version of xpswmm & xpculvert 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.

Limited to 35 participants.

Venue

Makmal Multimedia, Paras 1, Bangunan Tun Abdullah Mohd Salleh, Universiti Kebangsaan Malaysia, 43600 Bangi, Selangor

For More Details Please Contact

LSE: Ms. SY Loke @ 03 - 9010 4368 or 012 306 3510

UKM: Prof. Ir. Dr. Othman A. Karim @ 03 - 8921 6220

Pn. Dina @ 03 - 8921 6193

How to Register

Simply complete and fax the registration form back to **03 - 9010 4328**

Mail or courier the form with payment to our address

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** Fax: **03 9010 4328** E mail: syloke@lestarisoftware.com



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Time	Day 1 Contents
09.00	Overview of the Day's Activities and Review of Workshop Material Introduction to Hydraulic & Hydrology Runoff Calculations Malaysia Master File (Global Data) Viewing MASMA Temporal Patterns (Chapter 13)* in xpswmm Rainfall Intensity Estimation (Chapter 13)* and input into xpswmm Infiltration (Chapter 14)* Runoff Routing Method Selection Reviewing Hydrology Graph Results
13.00	Lunch
14.00	Community Detention Pond Plus Associated Drainage Networks Overview Typical Steps in Setting Catchment Area (Catchment Polygon & GIS Integration) DTM—Embedding a TIN in xpswmm for automated elevation extraction Review of MASMA Approach to Community Detention/Retention Ponds (Chapters 20, 21)* Exercise 1 - Detention Pond Design Example xpswmm Hydrology Layer - Determine Pre and Post Development Flow (Critical Storm) Adding xpswmm Hydraulics for Detailed Analysis of Open & Closed Channels Overland Hydraulics Outlet Sizing (Outlet Pipe/Orifice/Weir) Multiple/Global Storm Scenario Manager - Creating Scenarios Detention Facility Optimisation Drains as Storage Roadside Drain - Inlet Capacity Outfall Conditions - Backwater, Tidal Boundary Conditions Size Pond to meet downstream peak requirements (Chapter 4, 8, 9)*
17.00	Questions/Answers Close of Session

Time	Day 2 Contents
09.00	Review of 1st Day and Overview of the day's activities Continue Exercise 2 Results & Report Generation/ Preparation Hydrograph for Multiple Storms (Critical Storm) XP Tables (Customized Report Setting & Full Spreadsheet Function) Viewing Multiple Sets of Results from Scenario Manager Spatial Reports Graphical Encoding Time series Hydrographs & HGL Animations Profile Plot
13.00	Lunch
14.00	Review of MASMA Approach to On-Site Detention (OSD) (Chapter 10, 18, 19)* OSD Requirements to Meet Downstream Peak Exercise 2 - OSD design example Minor & Major Drainage Systems Multiple storms Outlet/Orifice Size Estimation OSD Size Estimation
	Results & Report Generation/ Preparation Hydrograph For Multiple Storms (Critical Storm) XP Tables
17.00	Questions/Answers 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 TUFLOW 2D Theory and calculation method 1D/2D River Modeling Example Set 2D Extent and Grid Size Set 2D Active and InActive Areas using Polygon Tool Set 1D/2D Interface using the Polyline Tool Link 1D river model to 2D Floodplain with 1D/2D connections Troubleshoot and run the integrated 1D/2D model
13.00	Lunch
14.00	Results 1D Results in link node network Grid Cell Depths, Velocity and Flow Vectors Hazard Maps and 2D AVI file creation 1D/2D Urban Flooding Example Inactive Flow areas, Ridge and Gully Roughness Categories
17.00	Questions/Answers Close of Workshop

* Relevant Chapters in MASMA

Date: 5 - 7 May 2008

Fax the registration form back to **03 - 9010 4328**

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Please tick

Name: 1) _____
 2) _____

Company: _____

Address: _____

Tel: _____ Fax: _____

E mail: _____ Hp: _____

Cheque no.: _____ RM: _____

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

The Organiser reserves the right to cancel, alter or change the programme due to unforeseen circumstances. Every effort will be made to inform the registered participants of any changes.