



Centre for Stormwater & Geohazard Management

18 CPD points  
BEM/REG/12

Limited to 30  
participants

Workshop on

### Drainage & Pond Design plus Flood Modeling

In Compliance with DID's Urban Stormwater Management Manual (MSMA) Requirements  
23, 24 & 25 May 2011

Organiser:

**Centre for Storm Water & Geohazard Management (CSGM), College of Engineering,  
Universiti Tenaga Nasional (UNITEN)  
Malaysian Hydrological Society (MHS)  
Lestari Software Enterprise (LSE)**

#### About the Workshop

This Workshop will focus on basic and intermediate stormwater & flood modeling, starting with basic hydrology and hydraulics. We will then move into using Malaysian design storms & infiltration from MSMA to simulate the model. The attendees will be working on drainage and pond model at a development site.

The 3rd day program will focus on using 2D and combined 1D/2D models to simulate urban & river flooding.

#### Who Should Attend?

It will benefit all civil engineers in their understanding of the 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 drain & pond size, surface flooding, outlet structures & size, inlet restriction, dual drainage, backwater/tidal boundary conditions, etc.

#### The Trainer

**Tony Kuch, MSc (Eng)** has been with XP Software for 15 years and is currently Vice President of North American Operations and Client Services. He has authored several technical papers and has instructed consultants, managers and engineers in well over 100 public workshops and on-site training seminars. Tony graduated from the University of Guelph in Canada, where he completed his Masters of Science in Engineering. His MSc (Eng) thesis was on developing decision support software tools for sensitivity analysis and calibration of SWMM.

During 2007 to 2010, Tony conducted 3 stormwater management seminars in IEM Johor, IEM Kuching & IEM Sabah respectively, 3 public workshops & 3 in-house training cum model assistance in Malaysia.

#### Venue - Universiti Tenaga Nasional

KM7, Jalan Kajang-Puchong, 43009 Kajang, Selangor

#### For More Details Please Contact

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

UNITEN: Assoc. Prof. Ir. Dr. Lariyah/ Pn. Hidayah @ 03 - 8921 2020 Ext 6205

#### How to Register

1. Please complete this form and fax to 03 9010 4328
2. Courier the form with payment to **Lestari Software Enterprise**  
Address:  
No. 5-2, Jalan Temenggung 5/9, Bdr. Mahkota Cheras, 43200 Cheras, Selangor

Email: [syloke@lestarisoftware.com](mailto:syloke@lestarisoftware.com) Tel: 03 9010 4368 [www.lestarisoftware.com](http://www.lestarisoftware.com)

#### Registration Form

Fax to **03 9010 4328**

**Dates: 23, 24 & 25 May 2011**

**Cost per Attendee**

Full Payment	By 22 <sup>nd</sup> Apr. 2011	After 22 <sup>nd</sup> Apr. 2011
23 - 25 May 2011 (3-Day)	RM1,450.00	RM1,690.00
23 - 24 May 2011 (2-Day)	RM1,320.00	RM1,500.00
25 May 2011 (1-Day)	RM850.00	RM990.00

Please tick ( / )

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

Name:

1)

HP:

2)

HP:

3)

HP:

Company:

Address:

Tel:

Fax:

E mail:

Cheque no. (Total):

Contact Person:

Please put any special dietary requirements here

\* 3-day attendee will be awarded a RM300.00 product voucher (Teams & Conditions apply)

Registration fees include professional training, 1 set of workshop notes, CD, certifi and complimentary trial version of xpswmm plus refreshment & lunch. Computer w provided to work on the examples during the workshop.

Please refer to detail workshop program ov

Workshop on  
**Drainage & Pond Design plus Flood Modeling**  
*In Compliance with DID's Urban Stormwater Management Manual (MSMA) Requirements*

23, 24 & 25 May 2011 (Mon - Wed)  
9am – 5pm

**Day 1 & 2**

**Introduction**

- Graphical User Interface
- File management
- Model control and object creation tools
- Layer control and network management
- Model output review tools

*The user will build a simple network using the tools to get familiarity with the XP interface.*

**Surfacewater Hydrology**

- Digital terrain modeling (DTM)
- CAD and aerial images
- GIS integration to create network entities
- Creating design storms (Chapter 13\* Rainfall Estimation & input into xpswmm)
- Loss processes and models (Infiltration Chapter 14)\*
- Rainfall-runoff modeling including Laurenson, Time-Area methods
- Setting up global storms
- Create Malaysian template file
- Analysis and review results
- User-defined report generation and results Export (graphs, profiles, and tables)

**Stormwater Hydraulics**

- Network building from DTM
- Modeling of open channels
- Culvert and road-overtop flow modeling
- Scenario management
- Hydraulic structures (ponds, outfalls, inlets weir, orifice & etc) (Chapter 20\*)
- Outfall boundary conditions (Free Outfall, Backwater, Tide)
- Inlet modeling (Chapter 24\*)
- Dual drainage analysis (Roadside Drain)
- Pond optimization
- Automated design of stormwater pipes
- Results (Compared Pre & Post Q)

**Flood Flow Estimation and Hydrological Modeling**

- Create from Malaysian Template file for flood flow prediction
- Flood flow estimation using runoff routing
- Multi storm generation and critical storm identification
- Flood forecasting using continuous flow simulation

**Hydraulics of Flood Flow**

- Hydraulics system building using DTM
- Flooding of open channels
- Management of flood flows using hydraulic structures including, ponds, outfalls, inlets etc

**Day 3**

**River Flood Management Using 1D/2D Hydraulic Models**

- Creating 1D and 2D domains
- Flow boundaries and 1D/2D integration
- Land use patterns
- 1D river floods and 2D overland floods

**Urban Flood Management**

- Building urban stormwater network models
- Integration of 1D stormwater network flows and 2D urban flood flows
- Modeling buildings
- Distributed hydrologic modeling using rainfall on 2D grids

**Dam Break /Levee Breach Flood Management**

- Flood levee modeling
- Flood scenario manager with and without flood levee break
- Flood inundation mapping and hazard classification
- Export flood map to GIS

*\* Related chapter in Urban Stormwater Management Manual (MSMA)*

*The above programme as a guide for the 3-day workshop*