JABATAN PENGAIRAN DAN SALIRAN MALAYSIA

LESTARI

Hands-on Workshop on

Flood and Stormwater Modelling & Management

Model with DID MSMA2 Design Rainfall

29th Feb, 1st, 2nd Mar 2016

Organiser: **Jabatan Pengairan & Saliran Malaysia (JPS)**
Lestari Software Solutions (LSS)

About the Workshop

Level: Basic & Intermediate

This Workshop will starting with basic hydrology and hydraulics. We will then move into using Malaysian design storms & infiltration from MSMA2 to simulate the hydrological conditions. The second day will provide more in-depth instruction and exercise for advanced stormwater modelling tools and 1D river and bridge modeling, as well as other more advanced modeling functions such as flow control devices and storage (Pond). The third day will cover integrated 1D/2D flood modelling.

xpswmm comes with built in JPS MSMA1 & MSMA2 design rainfall calculator

Who Should Attend?

- *Civil engineers who want to enhance their knowledge in stormwater & flood modeling*
- *Authorities & academics involved with Stormwater management & mitigation projects*

Presenter Tony Kuch, MSc (Eng) has been with XP Software for 19 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 2011, Tony conducted 3 stormwater management seminars in IEM Johor, IEM Kuching & IEM Sabah respectively, 5 public workshops & 3 in-house trainings cum model assistance in Malaysia.

Venue: **Jabatan Pengairan & Saliran, Ampang (JPS Ampang)**

For More Details Please Contact

LSS: Ms. Loke @ **03 - 9010 4368** or **012 306 3510**
JPS: Ms. Bakiyaletchumi Rajendran **03 - 26974834**

Limited to 30 participants

CPD points To be confirm

How to Register

1. Please complete this form, email or fax to 03 9010 4328
2. Courier the form with payment to **Lestari Software Solutions**

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

Email: syloke@lestarisoftware.com Tel: **03 9010 4368** www.lestarisoftware.com

Registration Form

Fax to 03 9010 4328

Dates: 29th Feb, 1st & 2nd Mar 2016 (Mon to Wed)

Full Payment	By 10th Feb 2016		After 10th Feb 2016	Cost per Attendee*
3Day (Mon to Wed)	**RM1,590**		**RM1,855**	
2Day (Mon & Tue)	**RM1,484**		**RM1,696**	
1Day (Wed)	**RM954**		**RM1,219**	

Please tick (/) Please make cheque payable to **Lestari Software Solutions**

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

**6% GST included*

**** Enroll 3 participants for 3day training, a 15% off for 3rd participant (RM1351.50).**

Registration fees include professional training, 1 set of workshop notes, CD, certificate and complimentary trial version of xpswmm plus morning tea & lunch. Computer will be provided to work on the examples during the workshop.

Time: 8.30am (Registration and setting up) – 5.00pm

Please refer to detail workshop program overleaf

Start at 8.30am to 5.00pm * 1pm to 2pm Lunch Break * 15 min Break & Discussion for AM & PM *Q&A (balance of remaining time)

Day 1

Introduction	Hydrology Analysis	Advanced Storm Water Hydrology
• Good model setup using xpswmm / xpstorm Interface V2016 • xpswmm/xpstorm Graphical User Interface (GUI) • File management • Model control and object creation tools • xpswmm/xpstorm layer control • Pull-down menus • Icons • Model output review tools • Users will build a simple network with the tools to gain familiarity with the XP interface	• Rainfall-runoff modelling • Time Area Hydrology Method • Digital terrain modelling • CAD and aerial images • GIS integration to create network entities • Import nodes, links and catchments from shape files • Use xpswmm/xpstorm tools to calculate subcatchment areas • Connect subcatchments to runoff nodes • Creating Malaysian design storms (**JPS MSMA2** rainfall calculator) • Loss processes and models • Analysis and review results	• Rainfall statistics • Simulation using continuous rainfall data • Rainfall import options • Setting up global storms

Day 2

Advanced Stormwater Modelling Tools	1D River Modelling
• Rational hydrology for sizing system • Automated design of stormwater pipes • Tools for determining missing data • Culvert and road-overtop flow modelling • Hydraulic structures • Outfall boundary conditions (free, backwater, natural channel, etc.) • Inlet modelling • Dual drainage analysis • Ponding options • Pond storage and optimization • Assessing performance of detention basin infiltration • Comparing pre and post development results • Assessment of flow control devices	• Creating River Links • Import HEC-RAS model • Generate cross-sections from a Digital Terrain Model • Modelling Bridges (Multi-Links vs. Bridge Link)

Day 3

Integrated 1D/2D River and Culvert Modelling in xp2D	Advanced 1D/2D Integrated Modelling in Urban Areas with xp2D
• 2D model theory • 2D modelling with culverts • Linking 1D (Channel) and 2D model • Creating 1D and 2D domains • Flow boundaries and 1D/2D integration • Land use patterns • 1D river floods and 2D overland floods • 2D model troubleshooting • Flood inundation mapping and hazard classification • Solving and 2D map and vector results tools • Exporting inundation maps to GIS	• Linking stormwater drainage to 2D modelling • Integrated 1D/2D urban flooding example • Modelling buildings • Distributed hydrologic modelling using rainfall on 2D grids • Scenario manager and 2D modelling of flood mitigation • Flood levee modelling • Multiple domain example in an urban area • Emergency response tools

Tentative Programme