



**Hands-on Workshop on
Flood and Stormwater Modelling & Management
Model with DID MSMA2 Design Rainfall**

Limited to 20 participants
CPD points To be confirm

16th & 17th Aug 2018 (Thursday & Friday)
Organiser: **Jabatan Pengairan & Saliran Malaysia (JPS- BSMA)**
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 stormwater modelling tools such as dual drainage, 1D river and bridge modeling, as well as other advanced modeling functions such as flow control structures, riser/ multi-stage outlet and storage (Pond).

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

Who will benefit?

All engineers who want to enhance their knowledge in stormwater management & flood modeling. Also for engineers who are looking to learn how to use the software graphical interface and tackle more challenging flood management & stormwater design problems.

Teaching Method

Participants are guided through a series of practicals by computer hands-on training interspersed with Powerpoint presentations.

Presenter Mr. Paul Guilas, Water Resources Engineer, Innovyze

Paul has over 7 years' experience as a Hydrologist and is experienced in handling international projects. He has handled projects that involved tasks such as: conducting rainfall-runoff transformation calculations, estimating peak runoff flow rates for catchments in rivers and storm drainage systems, estimating domestic water demand / sewage demand based on projected population for a development area, designing detailed layout of proposed storm water / wastewater conveyance pipelines. Paul earned his engineering degree at the Technological University of the Philippines and currently works as a Water Resources Engineer for Innovyze. He has conducted a few trainings in Malaysia in the past 3 years.

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

For More Details Please Contact

LSS: Ms. Loke @ 03 - 9010 4368 or 012 306 3510
JPS: Mr. Wahiddin bin Mohd Amir 03 - 26972970

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: info@lestarisoftware.com Tel: 03 9010 4368 www.lestarisoftware.com

Registration Form

Fax to 03 9010 4328

Workshop Dates: 16th & 17th Aug 2018 (Thu to Fri)

Cost per Attendee

Full Payment	By 20th Jul 2018	After 20th Jul 2018
2 Day (Thur to Fri)	RM1,450	RM1,600

Please tick (/)

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

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

Company: _____

Address: _____

Tel: _____ Fax: _____

Email: _____

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

Please inform us if you are a vegetarian

GST rate = 0%

* Enroll > 2 participants for the training, the 3rd and subsequent participant pay **RM1,300 each**

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

Time: 8.15am (Registration and setting up) – 5.00pm

Please refer to detail workshop program overleaf

Day 1		
Introduction	Hydrology Analysis	Advanced Storm Water Hydrology
<ul style="list-style-type: none"> • Good model setup • xpswmm Interface • Graphical User Interface (GUI) • File management • Model control and object creation tools • xpswmm 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 	<ul style="list-style-type: none"> • Rainfall-runoff modelling • Discuss Hydrology methods • Hydrology Methods (Time Area, Laurenson's Non Linear Runoff Routing) • Digital terrain modelling • CAD and aerial images • GIS integration to create network entities • Import nodes, links and catchments from shape files • Use xpswmm 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 	<ul style="list-style-type: none"> • Rainfall statistics • Simulation using continuous rainfall data • Rainfall import options • Setting up global storms <p>Hydraulic Analysis</p> <ul style="list-style-type: none"> • Create a Model with xpswmm for 1D Hydraulics • Outfall conditions • Check xpswmm model • Run a xpswmm model • Review a xpswmm model

Day 2	
Advanced Stormwater Modelling Tools	
<ul style="list-style-type: none"> • Rational hydrology for sizing system • Automated design of stormwater pipes • Culvert - entrance, exit and contraction/expansion losses and road-overtop flow modelling • Inlet modelling • Dual drainage analysis • Modelling Bridges • Ponding options (In-line, Off-line pond, Rainwater tank) • Pond storage and optimization 	<ul style="list-style-type: none"> • Hydraulic structures (Weirs, Orifices, Pumps) • Types of Outlet Control Structures (Riser) • Outfall boundary conditions (free, backwater, natural channel, etc.) • Assessing performance of detention basin infiltration • Comparing pre and post development results

Start at 8.15am to 5.00pm * 1pm to 2pm Lunch Break * 15 min Break & Discussion for AM & PM *Q&A (balance of remaining time)
 Friday schedule will be adjusted according to Friday prayers