



**UPM**  
UNIVERSITI PUTRA MALAYSIA  
BERILMU BERBAKTI

# INSPEM WEEKLY SEMINAR

34/2019



#UNSDG

## Date & Time

Friday, 13<sup>th</sup> September 2019 @ 3.15 pm

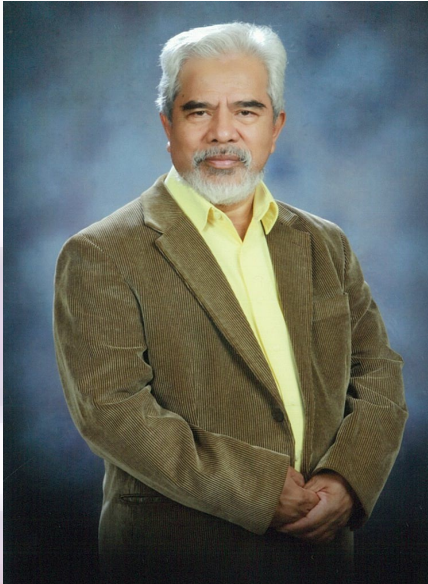
## Venue

Al-Farabi Seminar Room, Second Floor,  
INSPEM

## Presenter

Dr. Ismail Mohd

Associate Researcher  
Laboratory of Computational Statistics &



## Topic

Penalty Function Method: Formulation, Simplification and Solution

## Abstract

As stated in the literature that the goal of 1-dimensional penalty function is to transform a constrained problem defined by “ $\min f(x)$  subject to  $c(x) \leq 0$ ” into a series of unconstrained problems defined by “ $\min F_k(x) = f(x) + \rho_k g(c(x))$  where  $g(c(x)) = \max(0, c(x))^2$ ” which can be solved to yield a solution that can be used as the initial guess for the next iteration. In this seminar, the researcher will show how to formulate the penalty function, to simplify and propose several methods to be used for obtaining the solution. The numerical example given, will end the talk.