



**UPM**  
UNIVERSITI PUTRA MALAYSIA  
BERILMU BERBAKTI

# INSPEM WEEKLY SEMINAR

44/2018

## Date & Time

28<sup>th</sup> December 2018, Friday @ 3.15 pm

## Venue

**Al-Farabi Seminar Room, Second Floor,  
INSPEM**

## Presenter

**Assoc. Prof. Dr. Jesni Shamsul Shaari**

**Department of Physics, Kulliyah of Science  
International Islamic University Malaysia**



## Topic

**Bidirectional Quantum Key Distribution Protocols**

## Abstract

Bidirectional Quantum Key Distribution (QKD) protocols are key establishing protocols between two parties making a bidirectional use of quantum channels. Security/ secrecy is ensured by the inability to determine precisely the evolution of quantum states. Since its beginnings in 2002, where it was originally aimed at being a secure message delivery protocol, it has eventually, for practical reasons, been accepted within a more realistic framework, as a QKD protocol. Following its history, we shall see how it has evolved from a strictly cryptographic picture to one which would provide insights into some fundamental issues related to questions on the limits of information one can have in ascertaining unknown unitary transformations. It is hoped that in the end, one can not only have a better understanding of such fundamental matters, but also a proper and tight security proof for such protocols, which to date, remains elusive.