

EXPERT PROFILE

PROF. TS. DR. SALMAN YUSSOF



- Position: Head of Unit
- Years of professional experience: 21 years
- Research Centre: Institute of Informatics and Computing in Energy (IICE)
- **Research Forte:** Network routing, network security, ICS security, Internet of things, energy informatics, emergency informatics

EDUCATIONAL BACKGROUND

- Ph.D. in Engineering @ Universiti Tenaga Nasional
- Master of Science (Electrical and Computer Engineering) @ Carnegie Mellon University, USA
- Bachelor of Science (Electrical and Computer Engineering) @ Carnegie Mellon University, USA

PROFESSIONAL EXPERIENCE

Salman Yussof is a Professor at the Institute of Informatics and Computing in Energy (IICE), Universiti Tenaga Nasional. His core expertise is in computer networks. However, he has a wide range of research interest, which includes network security, Internet of Things, and energy informatics. Recently he is exploring the research area on blockchain and currently has a research grant on the use of blockchain for data privacy. In conducting his research work, Salman has worked with government agencies such as CyberSecurity Malaysia (CSM), which is a government agency responsible for monitoring and managing cyber security effort in the country. As part of the collaboration work with CSM, he has co-authored the national Security Guidelines for Industrial Control Systems (ICS), which is one of the security guideline documents produced by CSM for reference by the government and industry players in Malaysia. He has also been involved in research work with several industry players in the country including Tenaga Nasional Berhad (a power utility company), Pioneer Engineering (an oil and gas company) and OK Blockchain (a blockchain company based in Japan, but with a branch in Malaysia). With regard to international involvement, he was involved in a research project awarded by Japan International Cooperation Agency (JICA) on flood disaster early warning system. He is also currently collaborating with researchers from Wolverhampton Cyber Research Institute (WCRI) which is a research institute in University of Wolverhampton (United Kingdom), Dijlah University College (Iraq) and Al-Hussein Bin Talal University (Jordan). Salman has published over 100 publications in journals, conference proceedings and book chapters.

KEY PROJECT HIGHLIGHTS

- SCADA Security Simulation Testbed, Mar 2016 – Feb 2018. Role: Project member.
Description: This project aims to develop a testbed for SCADA security simulation. The testbed consists of a simulated power system and a simulated SCADA network. The testbed enables the effect of SCADA security attacks on power system to be observed and analyzed.
- Evaluating GOOSE-based Attacks in IEC61850 Network using Virtual IEC61850 Environment, 2015 – 2016. Role: Project leader.
Description: This project performs a study on the security attacks that can be conducted on IEC61850 substation automation network by exploiting the GOOSE protocol. It attempts to implement and evaluate the attacks on a virtual IEC61850 environment implemented using a network of virtual machines, where each virtual machine plays the role of an Intelligent Electronic Device (IED) device in the substation.
- Development of Cyber Security Framework for TNB Distribution SCADA System, Oct 2015 – Jun 2016. Role: Project member.
Description: This project aims to develop a cyber security framework and requirement to be used as a guideline for a new SCADA master system procurement and commissioning.