Scope of the session

Cyber security in general has attracted massive interest from academia, government and industry in recent years, because of the advent of future internet, pervasive connection of devices and high-profile cyber-attacks. The threat landscape is ever increasing with cyber attackers being proactive every day and utilizing the latest technologies such as AI and Machine Learning together with the intrinsic vulnerabilities that exists in the current hyper-connected world and Internet of Things/Everything. This provides opportunities for the research communities to keep acquainted with the latest, ever increasing and emerging threat landscapes for a securer, safer and more resilient digital system and digital infrastructure. Moreover, the threat landscape spans multilayer in the infrastructure from physical, network and to the application layer thus making this an interdisciplinary research area.

The aim of this session is to disseminate recent research results in the broad area of cyber security and include all aspects of the modeling, design, implementation, deployment, and management of security algorithms, protocols, architectures, and system, from physical-layer technology to the application layer. With the increasing interest visible light communications and application, research results related to optics and chaos are particularly welcomed. Particular emphasis of this session is also laid on the encryption side of chaotic communication for secure communication. Ultimately, this session aims to bring about new paradigms for secure communication that is fit for purpose for future applications such as the IoT,
driverless cars, smart manufacturing, remote control and diagnosis and much more.

Prospective authors are invited to submit original and unpublished work on the following research topics plus others that are not explicitly listed but are closely related to this Special Session:

- Use case of blockchain and distributed ledger in the cyber physical world
- Physical layer security on 5G and beyond 5G technology
- Nonlinear dynamics and chaos for physical layer security
- Synchronization and control of dynamical systems
- Optics and Chaos for security
- Autonomous vehicle security
- IoT security and privacy
- Resilient IoT framework based on AI/Machine Learning
- Lightweight cryptographic algorithm
- Biometric and emerging authentication technologies
- Malware detection
- Security and privacy in fog/edge computing