

Tentative Outline

Special Thematic Issue for the journal “Recent Advances in Electrical & Electronics Engineering”

Title of the Thematic Issue

“Securing Embedded and IoT Devices used in Critical Infrastructure”

Guest Editor: Dr. Yashwant Singh

Co-Guest Editor: Dr. Sudeep Tanwar

• Scope of the Thematic Issue:

Integration of Embedded and IoT devices into critical infrastructures is aiming to improve efficiency in many crucial areas. The positive benefits of Embedded and IoT devices are increasing the demand for devices, but without proper security design foundations, critical infrastructures may be open to many different attack vectors. This lack of IoT and Embedded devices security standards is a major concern. Due to the nature of these infrastructures and impact of compromises, critical infrastructures devices security is an utmost concern and must be focused on during all phases of development and manufacturing as opposed to the addition of security after functional design as seen with many current IoT devices. Many of these sensors and devices have limited resources, such as low power consumption, reduced memory storage, and reduced fixed-point processing capabilities. Traditional security protocols and solutions are often not practical on these restrained devices, and there are no current standards for characterizing device security.

Keywords: Internet of Things, Embedded Devices, Critical Infrastructure, Security, Vulnerabilities, Privacy, security Protocols.

Sub-topics:

The sub-topics to be covered within the issue should be provided:

- Innovative techniques for IoT infrastructure security
- IoT device and protocol security
- Cross domain trust management
- Cloud computing based security solutions for IoT data
- Security and privacy frameworks for IoT based applications
- Critical infrastructure resilience and security
- Security Challenges and mitigation approaches in critical infrastructures
- Cyber attack prevention and detection system for IoT networks
- Interoperable security for different applications
- ICS/SCADA security challenges

Schedule:

✧ Thematic issue submission deadline:

- ✓ Submission deadline: July 01, 2021
- ✓ Guest editors' constructive rejection: August 01, 2021
- ✓ First review completed: October 01, 2021
- ✓ Revised manuscript due: December 01, 2021
- ✓ Second review completed: January 01, 2022
- ✓ Revised manuscript due: February 01, 2022
- ✓ Final acceptance notification: March 01, 2022

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