ICRERA 2018

Special Session
on
Cyber Security and Big Data Analytics for Smart Grids

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Smart grid systems (SGSs) become a requirement to improve efficiency and reliability of the power generation, transmission, and particularly distribution systems. In order to maintain power networks with high performance as well as reducing operational cost, utility companies need to implement SGSs into their networks. Many smart grid initiatives leverage an increased dependency of information and communication technologies (ICT) to integrate more accurate physical parameter measurements and intelligent controller devices to the systems. It is well known that advancement in ICT provides easier and fast communication capabilities to SGSs to keep different components in power systems connected. However, the increased ICT dependency also introduces additional security risks for utility networks using SGSs resulting from poor system configurations, poor network design and vulnerabilities in software and operating platforms, lack of security policies and standards. Big Data Analytics also provides new perceptions and solutions to SGSs. This special session aims to bring together researchers and developers from academia, industry and governmental institution to share and exchange novel ideas, expectations, concerns and solutions, explore the inherent challenges in developing more secure SGSs with the current solutions and dig data analytics and share current experiences.

Topics include, but are not limited to:

- System security concerns
- Vulnerabilities and threats
- Security requirements for   information and infrastructure
- Security policies   critical
- Network security in smart grid
- Operating system security
- Communication protocol security
- Application security
- Malicious software threats and protections
- Security risk analysis, modeling, evaluation and management
- Machine to machine communication security
- Growing concern for customers privacy
- Standardization efforts and regulatory compliance
- Secure design techniques and tools
- Secure Monitor and control of   distributed smart grid networks
- Software security in smart grid
- Industry 4.0 for SGSs
- Big data analytics, technologies, techniques and solutions for Smart grids
- Machine learning solutions for smart grid system security
- IoT and IoE in smart grid application and implementation

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Important dates of the special session:

Full paper submission due   : **June 30, 2018**

Notification of acceptance   : Aug 15, 2018

Revised paper submission   : September 15, 2018

Conference date   : November 14-17, 2018