Special Issue

Emerging Topics on Cyber-Physical Energy Systems Security

Message from the Guest Editors

The electric power grid is a complex CPS that forms the backbone of critical infrastructure and the lifeline of modern societies. The concept of Cyber-Physical Energy Systems (CPES) is an emerging concept bringing topics from the field of CPS and smart grid applications into the energy sector processes so as to improve the reliability, security, and efficiency of the electric grid. The recent advents in attack modeling, threat assessment, machine learning, information theory, cryptography, and computing create a new paradigm for the security of CPES. Moreover, recent real-world attack incidents in critical CPES infrastructures underscore the huge importance of the study of CPES security. To preserve the availability and integrity of CPES, defense mechanisms related to prevention, resiliency, and detection need to be evolved, and more attention is needed from experts in industry and academia to fill the gap. The main goal of this Special Issue is to develop, design, and publish new ideas and concepts to improve the field security of CPES.

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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