

# BOCE 2019: The 2<sup>nd</sup> IEEE International Workshop on Blockchain-Oriented Cybersecurity Engineering

(History: the first round was held in conjunction with IEEE-blockchain 2018 conference, Halifax, Canada)

## Objectives and scope:

Cybersecurity is a pressing need of governments, businesses, and individuals that gets utmost priority for enforcement in almost any organizations. Rapid advances are being made in blockchain technology (both in the number of published papers and the number of active researchers) with broadly diverse applications that promise to better meet business and individual security needs. Almost any article on blockchain will point out that the cybersecurity could be revitalized if it is supported with blockchain technology. Blockchain as a popular ledger technology has the potential to be leveraged in different aspects of cyber security, digital forensics, cyber threat hunting and cyber threat intelligence. Blockchain characteristics such as decentralization, verifiability and immutability may revolve current cyber security mechanisms for ensuring authenticity, reliability and integrity of data.

In order for its value to be practically and scientifically realized, the Workshop's goal is to provide a sampling of recent advances and ideas on progresses of research and the practical usage of blockchain technologies and smart contracts in addressing cyber security, forensics, cyber threat hunting and intelligence challenges and issues. The scope for this workshop will be the retrospective study of past trends and the current state of blockchain-oriented cybersecurity in a clear context, allowing to imagine and then create future vectors in this specific domain. Of special interests are blockchain-based secure data management implementations addressing privacy, integrity and other crucial security and forensics requirements.

## Topics:

Workshop suggested topics include, not exhaustively, empirical and theoretical studies of the following:

- Blockchain-based authentication, authorization and accounting mechanisms
- Applications of blockchain technologies in digital forensic and threat hunting
- Applications of blockchain technologies in computer & hardware security
- Blockchain-based threat intelligence and threat analytics techniques
- Formal specification of trust behaviors and patterns
- Blockchain based open-source tools
- Forensics readiness of blockchain technologies
- Security and privacy aspects of blockchain technologies
- Vulnerabilities of smart contracts
- Blockchain for securing cyber infrastructure and IoT networks
- Blockchain-based security tools, techniques and procedures for Industrial Internet of Things and Industry 4.0

- Blockchain-based cybersecurity education systems
- Sidechain technologies

**Note: Authors of best papers will be invited to submit extended version of their papers to our workshop special issue and Springer book:**



**IEEE Transactions on  
ENGINEERING MANAGEMENT**  
([link](#))

**Blockchain Cybersecurity, Trust, and  
Privacy**  
([link](#))

**Program Committee Chairs:**

- Kim-Kwang Raymond Choo, University of Texas at San Antonio, USA (raymon.choo@utsa.edu)
- Reza M. Parizi, Kennesaw State University, USA (rparizi1@kennesaw.edu)
- Ali Dehghantanha, University of Guelph, Canada (adehghan@uoguelph.ca)

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- Mohammad Shojafar, University of Padua, Italy
- Athanasios V. Vasilakos, Lulea University of Technology, Sweden

**Number of expected papers: 10**

**Duration: One-day session (May 5, 2019)**