# Sustainable Security Practices using Blockchain and IoT: Challenges and Opportunities

With the rise of the Internet of Things (IoT), there is a growing need for secure and sustainable communication channels between devices. Blockchain technology provides a decentralized and secure data storage and exchange platform, making it an ideal candidate for securing IoT devices. However, there are challenges and limitations to implementing blockchain in IoT systems. This conference explores the opportunities and challenges of using blockchain technology for sustainable security practices in IoT systems.

**Objectives:**

The primary objective of this conference Session is to bring together researchers, practitioners, and industry experts to discuss the challenges and opportunities of using blockchain technology for sustainable security practices in IoT systems. The conference aims to address the following objectives:

- To explore blockchain technology's potential in enhancing IoT systems' security and privacy.
- To discuss the current challenges and limitations of integrating blockchain with IoT systems.
- To present case studies and best practices for implementing blockchain-based security solutions in IoT systems.
- To identify future research directions and potential applications of blockchain and IoT for sustainable security practices.

Topics of interest include, but are not limited the following:

1. Blockchain-based authentication and access control mechanisms for IoT systems
2. Decentralized identity management for IoT devices using blockchain technology
3. Privacy-preserving data sharing and storage for IoT devices using blockchain
4. Blockchain-based solutions for secure firmware updates and patch management in IoT systems
5. Blockchain-based solutions for securing supply chains and logistics in IoT systems
6. Smart contract-based security mechanisms for IoT devices using blockchain technology
7. Scalability and performance issues of blockchain-based security mechanisms for IoT systems
8. Regulatory and legal challenges of implementing blockchain-based security solutions for IoT systems
9. Blockchain-based solutions for securing energy-efficient IoT systems
10. Blockchain-based solutions for securing critical infrastructure and industrial IoT systems.

Name of Proposer's

**Dr. Nikhil Kumar Singh**
Assistant Professor
Department Of Computer Science and Engineering
Indian Institute of Information Technology, Bhopal, Madhya Pradesh, India

2. **Renato R. Maaliw III**
College of Engineering
Southern Luzon State University
Lucban, Quezon, Philippines

3. **Dr Tien Anh Tran**
Seoul National University, South Korea,