

Special Issue

Design and Analysis of Symmetric Encryption Modes of Operation

Message from the Guest Editors

A symmetric encryption mode of operation refers to the method used to transform data larger than a single block using a cipher's single-block operation. The mode of operation plays a crucial role in providing information confidentiality, authenticity, and integrity. This Special Issue of *Symmetry* aims to cover various topics related to symmetric encryption modes of operation. These may include, but are not limited to:

- Security evaluation and attacks on operation modes and their variants;
- Application of operation modes or the design of new modes for constructing pseudorandom number generators, hash functions, message authentication codes, cryptographic protocols, and more;
- Application of operation modes or the design of new modes for data encryption in database buffer pools, cloud data encryption, parallel encryption, data security and privacy protection in federated learning, and other related areas;
- Analysis of the misuses of operation modes in security schemes or implementations.

Guest Editors

Dr. Fajiang Yu

School of Computer, Wuhan University, Wuhan 430072, China

Prof. Dr. Kuo-Hui Yeh

Institute of Artificial Intelligence Innovation, National Yang Ming Chiao Tung University, Hsinchu 30009, Taiwan

Dr. Zhangyi Wang

School of Computer, Wuhan University, Wuhan 430072, China

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Symmetry
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
symmetry@mdpi.com

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About the Journal

Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

Editor-in-Chief

Prof. Dr. Sergei Odintsov
ICREA, 08010 Barcelona and Institute of Space Sciences (IEEC-CSIC),
C. Can Magrans s/n, 08193 Barcelona, Spain

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