

**The 16th International Conference on  
Genetic and Evolutionary Computing  
(ICGEC-2024)**

August 28-29, 2024, Miyazaki, Japan

**Special Session on Evolutionary Techniques in Cyber Threat Detection and  
Prevention**

**Call for Papers**

**Organizers:** Prof. Brij B. Gupta, Prof. Kwok Tai Chui, Prof. Vincent Shin-Hung Pan

In the current digital era, cyber threats have become increasingly sophisticated, posing significant challenges to individuals, organizations, and nations. Traditional cyber security measures often struggle to keep pace with the rapidly evolving nature of these threats. Evolutionary computing techniques, particularly genetic algorithms, offer a promising avenue for developing adaptive and robust cybersecurity solutions. By mimicking the processes of natural selection and evolution, these algorithms can generate innovative solutions for detecting, predicting, and preventing cyber-attacks.

Despite their potential, the application of evolutionary techniques in cyber security is still an emerging field, with much research needed to understand and harness their capabilities fully. This special session aims to fill this gap by providing a dedicated platform for researchers and practitioners to share their latest findings, innovations, and practical applications. By focusing on the intersection of genetic algorithms and cyber security, this special session seeks to foster collaboration, stimulate new ideas, and advance the state-of-the-art in cyber threat detection and prevention.

Topics of interest include but are not limited to the following

- Genetic Algorithms for Intrusion Detection Systems (IDS)
- Evolutionary Approaches to Malware Detection
- Cyber Attack Prediction and Prevention
- Optimization of Cyber Defense Mechanisms
- Evolutionary-Based Anomaly Detection
- Evolutionary Strategies for Secure Software Development
- Evolutionary Algorithms in Cryptography

**Submissions:** Papers should follow the template announced on the official ICGEC-2024 conference website (<https://icgec24.github.io/>) and be submitted via email to session organizer Prof. Brij B. Gupta ([gupta.brij@gmail.com](mailto:gupta.brij@gmail.com)).

### **Conference Proceeding Information:**

The conference proceedings will be published in the book series of Lecture Notes in Electrical Engineering by Springer. Normally, papers in this series are indexed by EI and Scopus.

**Important Dates:** (If ICGEC-2024 extends the dates, follow those dates announced on the website)

Paper submission deadline: **May 31, 2024 (Extended)**

Acceptance notification: **June 10, 2024**

Camera-ready paper due: **June 17, 2024**

Early bird registration deadline: **June 17, 2024**

### **For more information:**

Please visit the ICGEC-2024 official websites <https://icgec24.github.io/> or contact the organizers of this invited session:

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