

# **The 16th International Information Security and Cryptology Conference "QUANTUM AND ARTIFICIAL INTELLIGENCE"**

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**"October 18-19, 2023" - T.C. Presidency National Library**



The "16th International Information Security and Cryptology Conference" with the main theme of "QUANTUM AND ARTIFICIAL INTELLIGENCE" was successfully held on "October 18-19, 2023" at the T.C. Presidency National Library with the participation of numerous experts, academicians, representatives from various institutions and sectors, as well as students.

The International Information Security and Cryptology Conference (ISCTÜRKİYE) is organized in collaboration with Gazi University, Istanbul Technical University, Middle East Technical University, TOBB Economics and Technology University, and Ankara University, under the auspices of the Presidency of the Republic of Turkey Digital Transformation Office, by the Information Security Association. It has been supported by the Ministry of Transport and Infrastructure, the Information Technologies and Communication Authority, and the Presidency of Defense Industries. Since 2007, it has been the most important event in our country where scientific and sectoral studies in these fields are shared, university-public-industry cooperation is enhanced, the public is informed and educated, and knowledge exchange takes place among all scientists, researchers, and sectoral practitioners.

Papers presented at this international conference, supported by IEEE Turkey Section, were evaluated by at least three expert referees in the field, and the papers approved by the referees' reports were presented orally on the second day of the conference. The presented papers will be published in the IEEE Xplorer Digital Library.

The main objectives of ISCTÜRKİYE conferences are to create awareness in the fields of information security and cryptology, increase national and international collaboration, and develop solutions for cyber threats and risks. This year, nearly 1,000 people registered for the event, with around 800 participants from the public sector, universities, and the private sector at the national and international levels. In addition, the conference was live-streamed on YouTube and was followed by around 300 people.

The opening speeches of the first day of the conference were delivered by Conference Chairman and Vice President of the Information Security Association (BGD), Prof. Dr. Ali Aydın SELÇUK; President of BGD and Deputy General Manager of ASELSAN, Taha YÜCEL; and Deputy Minister Dr. Enis EMİNOĞLU on behalf of the Minister of Youth and Sports, Dr. Osman Aşkın BAK.

The invited speakers for this year's conference were Prof. Dr. Lütfiye DURAK ATA, Deputy Rector of ITU, who spoke on "Digital Transformation and Data Management in Academia." She highlighted the comprehensive digital transformation at ITU, new approaches to managing extensive data obtained from the university and stakeholders, and the

development of a big data ecosystem. She emphasized how this platform, called BeeHub, supports decision-makers in making data-driven decisions, and how it enables analysis and reporting of various data sources, both internal and external, in one environment.

Mr. Daniel BOHANNON, who came from the United States to speak at the conference, delivered a presentation titled "Defending Against Tomorrow's Attacks Using Today's Tools." He discussed current developments in cybersecurity and provided examples of how defense security against increasing cyberattacks can be enhanced. He emphasized the challenges faced by defenders in adapting to new threat methods and the need for advanced tools to combat evolving threats.

In addition to the presentations by invited speakers on the first day of the conference, three panel discussions were organized under different themes. The first panel, titled "CYBERSECURITY IN THE QUANTUM AGE," was moderated by Assoc. Prof. Dr. M. Tuncay GENÇOĞLU. Panel participants discussed developments in the quantum age, the differences and advantages of quantum computers, and their contributions to the field of cryptology.

The second panel, titled "DIGITAL TURKEY IN THE CENTENNIAL OF THE REPUBLIC," was moderated by Prof. Dr. Mustafa ALKAN. The panel discussed the state of digitization in Turkey in the 100th year of the Republic, focusing on digital services provided in the public sector and their advantages, as well as digital transformation efforts in development plans. In the private sector, digital solutions for businesses and their contributions to the economy were highlighted.

The last panel of the first day, titled "THE EFFECTS OF ARTIFICIAL INTELLIGENCE LANGUAGE MODELS ON INFORMATION SECURITY," was moderated by Prof. Dr. Şeref SAĞIROĞLU. The panel discussed opportunities and threats in artificial intelligence models and systems in the era of artificial intelligence. Topics ranged from the national artificial intelligence strategy and action plan to sectoral applications, the impact on education, and the legal implications in the world of cybersecurity.

On the second day of the conference, academic sessions, student project presentations, and cybersecurity training sessions by PICUS were held. Sixteen papers were presented in academic sessions, covering various topics under the headings of "Network Security," "Distributed Systems and Blockchain," "Cryptography," and "Application Security."

Student project presentations were organized in two sessions, where eight student groups from different universities introduced their projects. Alpaslan KESİCİ, SSB Cyber Cluster

Training Specialist, provided information about the work conducted within the SSB Cluster.

PICUS SECURITY conducted cybersecurity training sessions in two separate sessions, led by Dr. Süleyman ÖZARSLAN. The trainers covered various topics, including Ransomware Attacks 101, Tactics, Techniques, and Procedures Used by Ransomware, Threat Intelligence with MITRE ATT&CK, and Threat Intelligence with Open Source Platforms, providing comprehensive information and sharing their experiences.