



## Cryptography: An interdisciplinary research field

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### ABSTRACT

Cryptography is as old as writing itself. Spartan skytale is the oldest currently known cipher, which ensured secrecy of communication during wars in ancient Greece. Nowadays, electronic communications and transactions constitute one of the main pillars of our society, and the role of cryptography is to ensure the stability of this pillar, by providing techniques for keeping information secure, for determining whether information has been maliciously altered, and for determining who authored pieces of information. However, the security of widely-used cryptosystems is threatened by the advent of quantum computers.

In this talk I will discuss briefly some of the main turning points in the history of cryptography, as well as the pivotal role of cryptography in the past, the present and the future. Particular attention will be given to various methods and techniques, which are used in the development of cryptographic protocols, and have connections to mathematics, biology, physics, and material science.