

ΣΕΜΙΝΑΡΙΑ  
Τμ. ΦΥΣΙΚΗΣ

Τετάρτη  
11 Δεκ. 2024  
12:30

Αστεροσκοπείο  
Αιθ. Β. Ξανθόπουλος

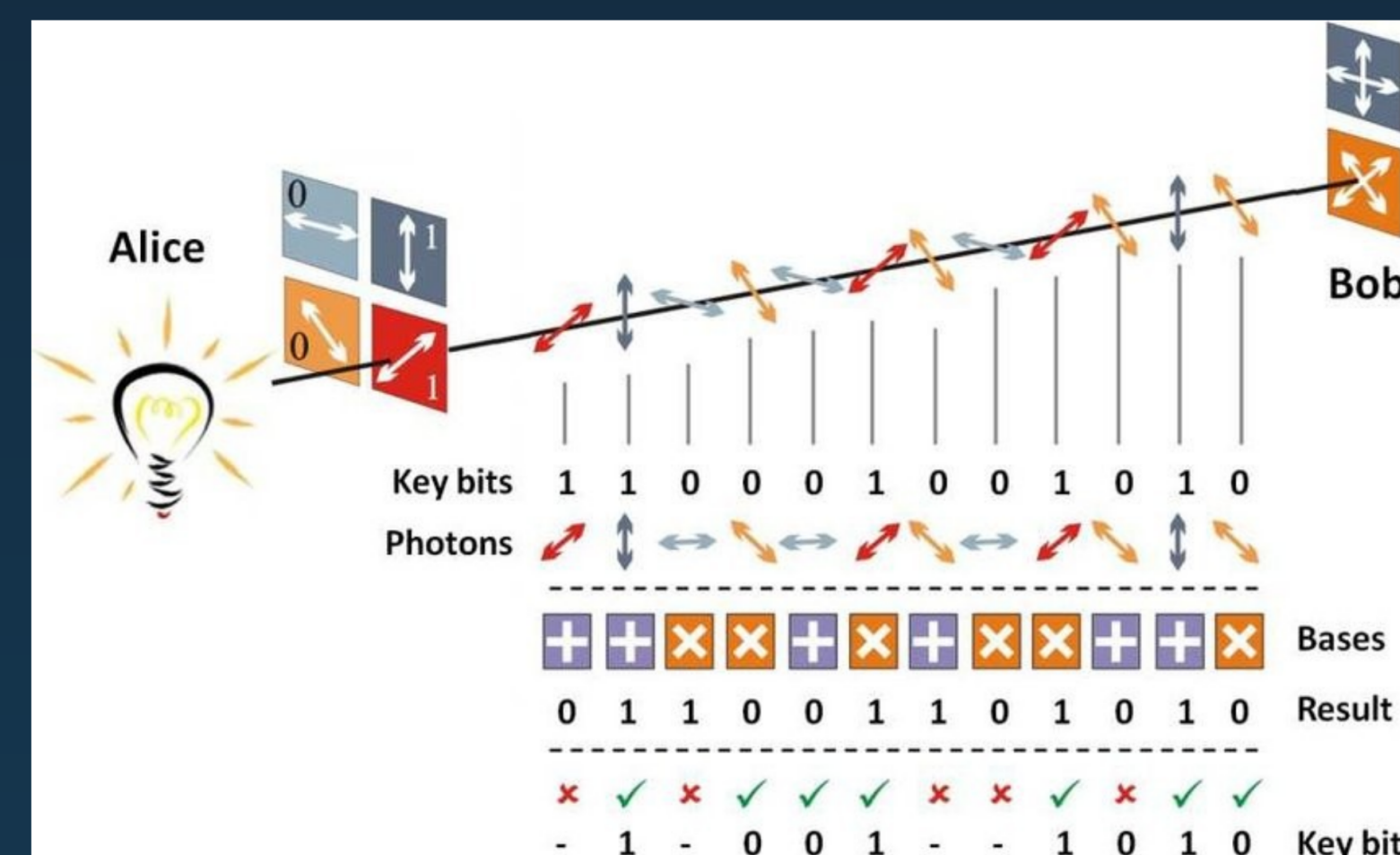


Αριστοτέλειο Πανεπιστήμιο  
Θεσσαλονίκης  
ΤΜΗΜΑ ΦΥΣΙΚΗΣ



ΑΡΙΣΤΟΤΕΛΕΙΟ  
ΠΑΝΕΠΙΣΤΗΜΙΟ  
ΘΕΣΣΑΛΟΝΙΚΗΣ

## Quantum Communications Going Practical



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This talk will explore photonic based engineering approaches specifically designed to advance quantum communications over fiber and free space links. It will cover the core principles of Quantum Key Distribution (QKD), along with practical insights into laboratory implementations of polarization-encoded QKD systems. Additionally, the concept of a quantum internet will be introduced, highlighting the role of distribution of entangled pairs of photons in fiber and satellite to ground links targeting to support the development of future quantum information networks.

**Dr. Giannis Giannoulis** received his PhD from the National Technical University of Athens (NTUA) in 2017 working on plasmonic circuitries for switching concepts. Currently, he is a senior researcher at the Photonics Communications Research Laboratory (PCRL) within NTUA's School of Electrical & Computer Engineering. His research interests include communication technologies for optical and quantum information processing, photonic integration circuits, and optoelectronic devices. Since 2018 he has been involved in Quantum Technologies European Flagship in various activities. Currently he is involved in Quantum Flagship QSNP project, in HellasQCI national infrastructure project and in LaiQa project, which addresses QKD for satellite communications.

