



Solid State Institute  
המכון למצב מוצק

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## Photonic topological phases in superconducting circuits

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### Abstract

Topological photonics has emerged as a promising approach to disorder-robust routing of light flows. During the recent years, it sparked such novel applications as topological lasers, resonators and waveguides. However, the possibility to harness topological concepts to manipulate quantum light is by far less explored. In this talk, I will discuss the series of our works exploring localization and propagation of few-photon states in arrays of superconducting qubits which are presently considered as promising candidates for future quantum computers. Besides rich physics associated with interaction-induced localization and emergence of higher-order topology, our studies reveal the potential of topological systems to protect certain quantum simulation protocols against the influence of disorder.

ההרצאה תתקיים ביום רביעי, ה-29.6.22 בשעה 12:30

באוודיטוריום המכון למצב מוצק, קומת כניסה

**The lecture will take place on Wednesday, 29.6.22 at 12:30  
at the Solid State Institute Auditorium, entrance floor**

**Host: Associate Professor Ido Kaminer**