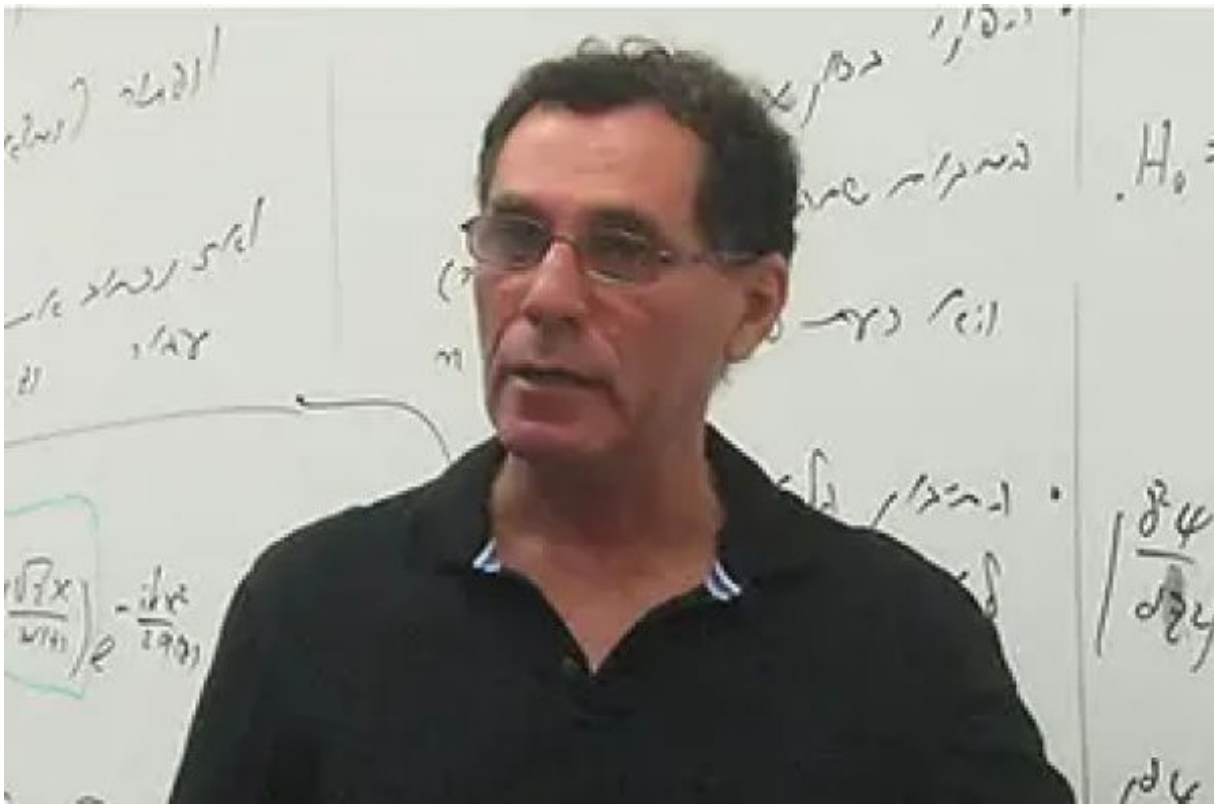

ICFO Colloquium Series: Photonic Time-Crystals

MOTI SEGEV

February 09, 2024
12:00 to 13:00
ICFO Auditorium

Abstract:
Photonic Time-Crystals (PTCs) are media whose electromagnetic properties are modulated periodically in time. When the modulation period is comparable to a single cycle of the wave propagating within them, and the modulation amplitude is at least 10-20% of the refractive index, the dispersion relation in PTCs exhibits momentum bands separated by significant momentum gaps. The momentum gaps are especially interesting - as they give rise to exponential amplification (and de-amplification) of the waves associated with those gaps, extracting energy from the modulation (or giving away energy to it). This talk will review the EM concepts of PTCs and focus on light-matter interactions and light emission in PTCs. Th last part of the talk will describe recent experimental progress on observing time-reflectio and PTCs at optical frequencies

Bio:

Moti Segev is the Robert J. Shillman Distinguished Professor of Physics and Electrical Engineering, at the Technion, Israel. He received his BSc and PhD from the Technion in 1985 and 1990. After postdoc at Caltech, he joined Princeton as Assistant Professor (1994), becoming Associate Professor in 1997, and Professor in 1999. Subsequently, Moti went back to Israel, and in 2009 was appointed as Distinguished Professor.?

Moti's interests are mainly in photonics, solitons, lasers, and quantum optics. He wo numerous international awards, among them the 2007 Quantum Electronics Prize of the EPS the 2009 Max Born Award of the OSA, and the 2014 Arthur Schawlow Prize of the APS. I 2011, he was elected to the Israel Academy of Sciences, in 2015 to the National Academy o Science (USA), and in 2021 to the American Academy of Arts and Sciences (AAAS). In 201 Moti Segev won the Israel Prize (highest honor in Israel) , in 2019 the EMET Prize and in 202 he won the Rothschild Prize in Physics.

? However, above all his achievements, Moti takes pride in the success of his gradua e students and postdocs, among them are currently 25 professors in the USA, German , Taiwan, Croatia, Italy, India, China and Israel, and many holding senior R&D positions in t e industr

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