Seminar Speaker Series

in the framework of Interreg V-A project CAPSID

presents

Prof. Yossi Paltiel

Hebrew University, Isreal

Why should life maintain chirality?

04. 03. 2021 at **14:00**

Online virtual talk via Zoom

Join this talk here

Organized by:

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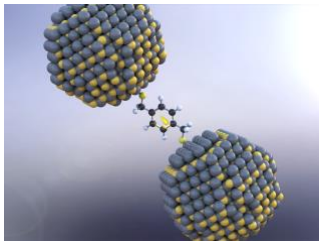

BIOGRAPHY

Professor Yossi Paltiel is now in the Applied Physics Department in the Hebrew University of Jerusalem Israel. Prof. Paltiel has worked for both leading high-tech industry groups and in the academic world. Since July 2009, he is leading the Quantum Nano Engineering group at the Hebrew University, Israel. He was the head of the Applied Physics Department 2013-2016. Paltiel's group's goal is to establish a way to incorporate quantum mechanics into room temperature "classical" computation and devices reading scheme mimicking Biology and Chemistry processes. He is a pioneer studying the CISS effect and CISS devices. In this sense the group also works on spin interfaces using chiral molecules and materials. Professor Paltiel has published more than 150 papers in leading journals as well as issued 13 patents. He has two startup companies and is the winner of the The Kaye Innovation Awards in 2019.

RESEARCH

Our research is mainly focused on quantum nano-structures. In our work we create a controlled system for room temperature quantum device operation. Our study is exploiting a novel developed "nano-toolbox" that includes nano dots and organic molecules that link the dots to the device. This methodology is expected to enable the use of quantum mechanics at room temperature, bringing about a new type of devices such as single photon detectors and emitters, light emitting diodes, IR sensors, solar cells, and photo-electrical devices. Moreover, this methodology is aimed at producing a generic technology for constructing nano-systems in which many devices are interconnected, operate in unison, and are coupled to their macroscopic environment without inhibiting their quantum nature. Finally, the suggested methodology has the potential to bring about room temperature non-binary quantum transistors, which can supply a realistic technological chassis for quantum computing.

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