



The First Conference for Young Researchers in Quantum Science and Technology

Program

9:00-9:30	Registration
Session I Chair: Ramy Brustein	
9:30-9:40	Welcome: Prof. Dan Blumberg , Vice-President and Dean for R&D
9:40-9:45	Director's welcome: Shlomi Arnon
9:45-10:30 - Guest	Keynote speaker: Eleni Diamanti , CNRS, Sorbonne <i>Practical secure quantum communications</i>
10:30-10:40	<u>Konstantin Yavilberg</u> ,Eytan Grosfeld, BGU <i>Hybridization of Bound States in a TSC/TI/TSC Junction</i>
10:40-10:50	<u>Marcello Calvanese Strinati</u> , Fabrice Gerbier, and Leonardo Mazza (Efrat Shimshoni, Richard Berkovits and Emanuele Dalla Torre) BIU <i>Realizing quasi-one-dimensional quantum systems using cold-atom setups</i>
10:50-11:00	<u>Sivan Trajtenberg-Mills</u> , Noa Voloch-Bloch, Eli Megidish, Hagai S. Eisenberg and Ady Arie, TAU , HUJI, Ariel. <i>Simulating the spatial distribution of spontaneously down converted photon pairs in nonlinear crystals.</i>
11:00-11:10	Tom Manovitz, Ravid Shaniv, Yotam Shapira, Nitzan Akerman, and Roei Ozeri, WIS, and <u>Amit Rotem</u> , Itsik Cohen, Alex Retzker, HUJI <i>Fast dynamical decoupling of the Mølmer-Sørensen entangling gate</i>
11:10-11:20	<u>Ran Finkelstein</u> , Eilon Poem, Ohad Michel, Ohr Lahad and Ofer Firstenberg, WIS <i>Fast, noise-free memory for photon synchronization at room temperature.</i>
11:20-11:30	<u>Yoad Michael</u> , Leon Bello, Michael Rosenbluh, Avi Pe'er, BIU, <i>Sub-Shot Noise Stimulated Raman Spectroscopy with Parametric Homodyne Detection</i>
Coffee break	
Session II Chair: Adrian Stern	
11:45-12:05	Invited talk: Ron Folman , BGU <i>Quantum technology at BGU</i>
12:05-12:30	Invited talk: Tal David , MAFAT <i>Quantum technology and applications</i>
12:30-12:40	<u>Mor Roses</u> , Yulia Shchadilova , Eugene Demler ,Emanuele Dalla Torre, BIU, Harvard <i>Signatures of a counter-lasing transition in a cavity QED experiment</i>
12:40-12:50	<u>Itay Bloch</u> , Yonit Hochberg, Or Katz, Eric Kuflik, Tomer Volansky,TAU, Rafael, HUJI, WIS <i>Probing New Physics Using Quantum Metrology</i>
12:50-13:00	<u>Dima Farfurnik</u> , Nir Bar Gil HUJI <i>Spin Ensembles in Diamond for Sensing and Many-Body Physics</i>
13:00-13:10	<u>Omer Amit</u> , Y. Margalit, O. Dobkowski, Z. Zhou and R. Folman , BGU <i>Realization of a T3 Matter-Wave Interferometer on an Atom Chip</i>

13:10-14:15.

Lunch break +poster session

Session III Chair: Ami Vardi

14:15-15:00

Keynote speaker: Michael Zwolak, NIST

Atomic devices to probe and simulate many-body transport phenomena

15:00-15:10

Nimrod Benshalom, Demitry Farfurnik, Yonatan Efroni, Shimshon Bar-Ad and Lev Vaidman, TAU

Quantum Weak Values in Classical Interferometry

15:10-15:20

Yair Margalit, Zhifan Zhou, Shimon Machluf, Daniel Rohrllich, Yonathan Japha, and Ron Folman, BGU,

A self-interfering clock as a “which path” witness

15:20-15:30

Boaz Lubotzky, Niko Nikolay, Hamza Abudayyeh, Alexander Dohms, Nikola Sadzak, Florian Böhm, Bernd Sontheimer, Oliver Benson, Ronen Rapaport, HUJI, Humboldt Univ.

Nitrogen vacancy center coupled to hybrid metal-dielectric bullseye nanoantenna for stable, high brightness single photon sources

15:30-15:40

Mohammad Abutoama, Ibrahim Abdulhalim BGU

Improving the Efficiency of Single Photon Sources and Detectors using Plasmonic Ultrahigh Field Enhancement Configurations

Coffee break

Session IV Chair: Gabby Sarusi

15:55-16:05

Itamar Holzman, Yachin Ivry, Technion

Multi-stable quantum states in a three-terminal nano superconducting device

16:05-16:15

Yoni Sher, Lior Cohen, Daniel Istrati, Hagai S. Eisenberg, HUJI

Low Intensity LiDAR using Compressed Sensing and a Photon Number Resolving Detector

16:15-16:25

Ofek Gillon, Alon Eldan and Avi Pe'er, BIU

Multiplexed Continuous-Variable Quantum Key Distribution with a Single Local Oscillator

16:25-16:35

Daniel Cohen, A. Retzker, M. Khohdas, O. Kenneth HUJI, Technion

Towards sensing the macroscopic properties of fluids using a nitrogen-vacancy center

16:35-16:45

Christine Khripkov, Amichay Vardi, Doron Cohen BGU

Thermalization and many-body localization in isolated quantum systems

16:45-16:55

Bar Y. Peled, Avishy Carmi, BGU

Entangled decisions in swarms

16:55- 17:25

Invited talk: Yifat Turbiner, BGU

Entrepreneurship and emerging technologies,

17:25-17:40

Awards for best talk and poster.

Committee: Chair: Joseph Zyss – ENS Cachan, CNRS, Weizmann

Yoni Dubi, - Chemistry Dept. BGU

Ibrahim Abdulhalim – Electro Optics Dept. BGU

Ilana Bar - Physics Dept. BGU

Eugene Frumker - Physics Dept. BGU

Avishy Carmi – Mechanical Engineering Dept. BGU