



International Day of Light 2021: young researchers conference

Update: in the light of the rocket fire on Israel from Gaza Strip we are forced to move the conference to a virtual platform via the Zoom meeting:

<https://us02web.zoom.us/j/82694701852?pwd=cExONkhZTmh2cCsyZVRGbkI1SGxiZz09>

Program, May 20th

- 9:20-9:30 Opening Words:
Prof. Adrian, Head of Electro-Optics and Photonics Engineering Dep.,
School of Electrical and Computer Engineering
Greeting: **Prof. Raz Jelinek**, Vice President and Dean for Research and Development
- Session I** **Chair: Prof. Joseph Rosen**
- 9:30 **Keynote Presentation: Prof. Zeev Zalevsky**, BIU
The power of light: the blooming era of applied photonics
Angika bulbul and Joseph Rosen
- 10:20 *Solving the century-old problem of incoherent imaging systems with synthetic aperture using a single opening instead of two*
- 10:35 Nathaniel Hai and Joseph Rosen
Phase-contrast-based holographic quantitative phase imaging by only two exposures
- 10:50 Vladi Kravets and Adrian Stern
Defending deep neural networks from adversarial attacks by optical means
- 11:05 Yaron Heiser and Adrian Stern
A joint design and reconstruction deep learning approach for compressive spectral imaging
- 11:20-11:40** **Coffee break**
- Session II** **Chair: Prof. Gabby Sarusi**
- 11:40 Rudrarup Sengupta, Heena Khand, and Gabby Sarusi
One-minute Coronavirus Detection with Breathalyzer-based THz Nano-Gap LC Resonant Metamaterial μ -Antenna Array Chip
- 11:55 Subhajit Sarkar, Ieng-wai Un, Yonatan Sivan, Yonatan Dubi
Theory of photoluminescence quantum efficiency in semiconductors: role of interacting quasi-particles
- 12:10 Aabha Bajaj Anand M. Shrivastav, Evgeny Eltzov, Noam Alkan , and Ibrahim Abdulhalim
SPR based sensor for necrotrophic DNA marker of anthracnose leading Colletotrichum gloeosporioides fungi generation in harvested produce
- 12:25 Nitin Dubey, Ravi Kumar, and Joseph Rosen
COACH-based Shack-Hartmann wavefront sensor
- 12:40-13:30** **Lunch break + Poster session**



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Session III

Chair: Prof. Ibrahim Abdulhalim

13:30-13:40

KLA Price awarding

13:40

Ieng Wai Un, Yonatan Dubi, and Yonatan Sivan,
Thermal effects in plasmonic assisted photo catalysis

13:55

Majd Abu Aisheh, P. Lakshmi Madhuri, Evgeny Pozhidaev, and Ibrahim Abdulhalim
Fast tunable scattering window using a composite of ferroelectric liquid crystal and nanoporous microparticles

14:10

Ashish Prajapati, Jordi Llobet, Patrícia C Sousa, Helder Fonseca, Carlos Calaza, João Gaspar, Gil Shalev

A deterministic and efficient omnidirectional photon management using deep subwavelength features

14:25

Ankit Chauhan and Gil Shalev

Investigation of proximity effects in light funnel arrays using near-field optical microscopy

14:40-14:50

Coffee break

Session IV

Chair: Prof. Amiel Ishaaya

14:50

Benyamin Hadad, David Groswasser, Meni Givon, Michael Rosenblit, Mark Keil, Filippo Levi, and Ron Folman

High-Q Photonics on Integrated Chips for Quantum Technology

15:05

Aviran Halstuch and Amiel A. Ishaaya

Novel methods for femtosecond inscription of fiber Bragg gratings

15:20

Roza Navitskaya, Ihar Stashkevich, Stanislav Derevyanko, and Alina Karabchevsky

Experimental demonstration of spatial rogue waves in the passively Q-switched Nd:YAG laser

15:35

Laialy Darwesh and Natan Kopeika

Deep learning for improving the performance of FSO communication over different turbulence channels

15:50

Prof. Adrian Stern

Concluding remarks

Registration is free but required via: <https://forms.gle/75F1xhBHh5dMUhhb8>

Sponsors:





12:40-13:30

Online Poster session

- 12:40-12:50 Y. Bivas Y. Bar-Haim, Y. Webber, D. Groswasser, F. Levi and R. Folman
A local oscillator laser system for an optical frequency atomic clock: The most stable measuring device ever built
- Shaul Shvimmer Rotem Simchon, Michael Gilad and Yitzhak Yitzhaky
- 12:50-13:00 *Assessment of unexpressed emotional states based on short multispectral face videos*
- Adi Horovitz Yosef Bivas, Filippo Levi, David Groswasser and Ron Folman
- 13:00-13:10 *Frequency dissemination over the Inter University Computation Center optical fiber network*
- 13:10-13:20 Adir Hazan Barak Ratzker, Zhang Danzhen, Aviad Katiyi, Nahum Frage, Maxim Sokol, Yury Gogotsi and Alina Karabchevsky
On-Chip All-Optical Nonlinear Activation Function for Photonic Neural Network via Two-Dimensional Ti_3C_2 (MXene) in Near-Infrared
- 13:20-13:30 Adir Hazan, Or Sattah and Alina Karabchevsky
On-chip Quantum Money with Classical Verification
(Cancelled) Or Arad, Adrian Stern and Iftach Klapp
Multi-purpose system for spatial and spectral sampling of crop from a moving platform

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Zeev Zalevsky received his B.Sc. and direct Ph.D. degrees in electrical engineering from Tel-Aviv University in 1993 and 1996 respectively. Zeev is currently a full Professor and the Dean of the faculty of engineering in Bar-Ilan University, Israel. His major fields of research are optical super resolution, biomedical optics, nano-photonics and fiber-based processing and sensing architectures. Zeev has published more than 530 peer review papers, 330 proceeding papers, 9 books (6 authored and 3 as an editor), 31 book chapters and about 100 patents. Zeev gave 600 conference presentations with more than 200 invited/keynote or plenary talks.

Zeev is a fellow of many large scientific societies such as SPIE, OSA, IEEE, EOS, IOP, IET, IS&T, ASLMS, AIMBE and more. He is also a fellow of the American National Academy of Inventors (NAI). For his work he received many national and international prizes such as the Krill prize, ICO prize and Abbe medal, SAOT prize, Juludan prize, Taubelblatt prize, young investigator prize in nanotechnology, the International Wearable Technologies (WT) Innovation World Cup 2012 Prize, Image Engineering Innovation Award, NANOSMAT prize, SPIE startup challenge prize, SPIE prism award, IAAM Scientist Medal Award, International Photonic Award, Dr. Horace Furumoto Innovations Professional award, The Asian Advanced Materials Award, Edison Award, IEEE distinguished lecturer award, VEBLEO Scientist Award, Joseph Fraunhofer Award/Robert M. Burley Prize and more.

Besides his academic research activity, Zeev is also very active in commercializing his inventions into start-up companies. Zeev was and is involved in technologically leading of more than 10 startup companies.