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URL for web site: <https://scholars.huji.ac.il/orikatz>

## Education

- 2007-2012 Ph.D in Physics, Weizmann Institute of Science, Israel. Advisor: Prof. Yaron Silberberg.  
Ph.D Dissertation: *Shaping light in space and time for imaging and nonlinear spectroscopy*.
- 2002-2005 M.Sc. in Applied-physics, School of applied-physics, Hebrew University, Israel.  
M.Sc Thesis title: "Soliton mode-locking of Yb doped fiber laser using chirped fiber-Bragg-grating for dispersion control". Graduated cum-laude (GPA: 95.19). Advisers: Prof. Nissim Ben-Yosef and Dr. Yoav Sintov.
- 1996-1999 B.Sc. in Physics and Mathematics, Hebrew University, Jerusalem.  
Part of the '*Talpiot*' excellence program, Israel's most selective academic excellence program. One of the 28 graduates of that academic year. Graduated cum-laude (GPA: 93.85).

## Current Position

- July 2015 - ... Senior Lecturer at the Department of Applied Physics, Faculty of Natural Sciences, Hebrew University of Jerusalem, Jerusalem, Israel.

## Previous Positions

- 2012 – 2015 Post-doctoral fellow, *Institut Langevin*, ESPCI ParisTech, Paris, France.  
Supervisors: Prof. Mathias Fink, Prof. Sylvain Gigan.
- 2009 Visiting researcher, QOLS attosecond science group (PI: Prof. Jon Marangos), Imperial College, London.
- 2006-2009 Freelance consultant:  
- APM Ltd.: Phased-array SONAR system for 3D mapping in industrial applications.  
- Soreq Research Center, electro-optics division, Israel: Development of ultrafast near-IR fiber lasers.
- 2003-2006 Researcher, Soreq research center: Fiber-lasers group, Electro-Optics Division.
- 2002-2003 Supervisor of *Talpiot* excellence program 2<sup>nd</sup> year students, Hebrew University, Israel.
- 1999-2002 R&D Team leader, IDF technological unit.

## Research Focus

At my research group, *The Advanced Imaging Lab*, we focus our efforts at developing novel optical- and acousto-optical based techniques that allow deep imaging in complex samples, such as biological tissue, with resolution and depth beyond the reach of conventional techniques, such as optical microscopes.

We achieve this ambitious goal by combining novel digital control and detection of light and ultrasound, with advanced computational approaches, allowed by the information-age revolution. Some of our recent works include super-resolution photoacoustic and acousto-optic imaging, beyond the ultrasound diffraction-limit, lensless bend-insensitive microendoscopy, optical imaging through scattering layers and around corners, and optical focusing through complex media.

The research at our group lies at the interface between physics and engineering. Our methods challenge some intuitive notions on randomly scattered waves, such as the light reflected off walls, by showing that it is possible to use it or extract information from it for imaging.

## Awards and Honors

- 2015    **Azrieli Faculty Fellowship**, The Azrieli Foundation
- 2014    Best contributed paper award, Symposium on Structured Light and Orthogonality in Imaging, The Rank Prize Funds, UK.
- 2013    **Marie Curie Intra-European Post-doctoral Fellowship** (IEF), European Commission.
- 2012    **Rothschild Post-doctoral Fellowship**, *Yad Hanadiv*
- 2012    **John F. Kennedy Award for outstanding doctoral thesis**, Weizmann Institute of Science, Israel.
- 2011    **Israeli Physical Society 2011 Prize for a Graduate Student in Experimental Physics.**  
The annual prize of excellence, given to a single graduate student in experimental physics
- 2011    Best lecture award, Optics & Photonics conference 2011, Ben-Gurion University, Israel.
- 2011    Best poster award, OASIS 2011 conference, Israel.
- 2010    Emil Wolf outstanding student paper competition, winner, Optical Society of America.
- 2010    Otto Schwartz excellence scholarship, Weizmann Institute of Science.
- 2010    Incubic/Milton Chang Travel Award, Optical Society of America, USA.
- 2009    Emil Wolf outstanding student paper competition, finalist, Optical Society of America.
- 2009    Levi Eshkol excellence scholarship, the Israeli Ministry of Science & Technology
- 2002    M.Sc Excellence scholarship, School of applied physics, Hebrew University Jerusalem
- 1999    Exemplary graduate of the '*Talpiot*' academic excellence program, graduating year of 1999.
- 1998    The Rector's Excellence Prize for outstanding academic achievements, Faculty of Natural Sciences, Hebrew University, Jerusalem.
- 1998    Dean's list, Faculty of Natural Sciences, Hebrew University, Jerusalem.
- 1998    Dean's list, Faculty of Natural Sciences, Hebrew University, Jerusalem.

## Grants won

**Total funding of >3.1M\$ in research grants won since July 2015:**

- 2018-2022    **Israel Science Foundation (ISF), 1,300,000 ILS.**
- 2016-2021    **European Research Council (ERC) Starting Grant**, European Commission.  
**1,500,000 Euros.**
- 2016-2019    **Human Frontiers Science Program (HFSP), \$300,000.** co-PI's: Valentina Emiliani (Univ. Paris Descartes), Bo Li (Cold Spring Harbor Laboratory), Eduard Boyden (MIT)
- 2017-2020    **Israeli Ministry of Science and Technology (MOST), 461,000 ILS.** co-PI's: Yaron Bromberg (HUJI), Yaron Silberberg and Dan Oron (Weizmann Institute)
- 2015-2019    **Azrieli Faculty Fellowship**, The Azrieli Foundation, **\$210,000**
- 2017-2018    **MAFAT research grant "Touch-screen"**, Israeli Ministry of Defence, **148,000 ILS.**
- 2016-2018    **Revolutionary Enhancement of Visibility by Exploiting Active Light-Fields (REVEAL)**, DARPA. **\$383,666.** co-PI's: Jason Fleischer (Princeton), Michael Gehm (Duke University).
- 2016-2017    **NaBi collaborative bi-lateral France-Israeli projects for nanophotonics and imaging**, CNRS. **9,000 Euros.** Co-PIs: Valentina Emiliani (Univ. Paris Descartes), Emmanuel Bossy (Univ. Grenoble), Marc Guillou (Univ. Paris Descartes). Herve Rignault (Institut Fresnel)

## Invited talks at International Conferences

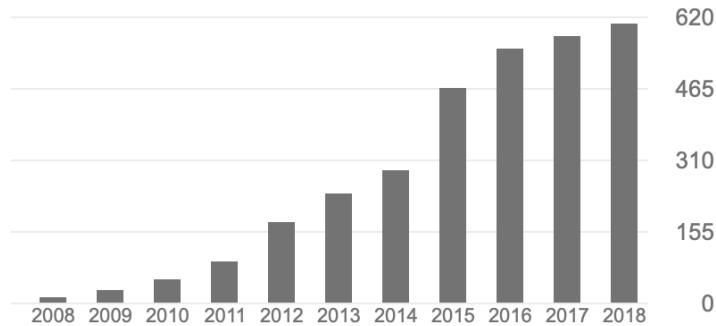
- 2018     • **NanoIsrael 2018**, Jerusalem, Israel.  
• **Computer Vision and Pattern Recognition (CVPR)**, Salt Lake City, USA. **Keynote speaker** for Computational Cameras and Displays (CCD) workshop  
• **Optics for Information Processing at the 21<sup>st</sup> Century**, Florence, Italy  
• **Focus on Microscopy**, Singapore – **Plenary speaker**.  
• **XI Workshop on Adaptive Optics for Industry and Medicine**, Murcia – Spain  
• **Bat-Sheva de Rotchild workshop - Optical Trapping**, Neve Ilan, Israel.
- 2017     • **TEDxTel-Aviv 2017**, Tel Aviv, Israel.  
• **From Light to Sound: Frontiers in Deep Tissue Imaging, Janelia Farm**, Maryland, USA  
• **HICONO – Marie Curie Innovative Network training school**, Weizmann Institute, Israel  
• **Nanophotonics Science Camp**, London, United-Kingdom  
• **FRISNO, French Israeli Nonlinear Optics Conference**, Ein-Gedi, Israel  
• **OASIS 2017**, Tel-Aviv, Israel  
• **MifoBio 2016**, Seignosse, France
- 2016     • **OSA Imaging and Applied Optics Meeting - Computational Optical Sensing and Imaging (COSI) Topical Meetings**, Heidelberg, Germany.  
• **Gordon Research Conference (GRC) 'Image Science'**, New-Haven, U.S.A.  
• **The Brain Conference**, Rungstedgaard, Sweden, 2016.  
• **NanoIsrael 2016**, Tel-Aviv, Israel.  
• **Israel Physical Society (IPS) 2015 Meeting**, Bar-Ilan University, Israel.
- 2015     • **Transformation in Optics**, Lorentz Center, Leiden, Holland.  
• **SPIE Photonics West 2015**, USA.  
• **DARPA 'Imaging, Sensing, and Communication through Scattering media workshop'**, Washington DC, USA.  
• **GDR ondes meeting**, Marseille, France.  
• **Rank Prize Foundation 2014 Symposium**, Grasmere, UK.
- 2014     • **OSA Incubator Meeting** 'Controlled Light Propagation through Complex Media', 2014, Washington DC, USA.  
• **546 WE-Heraeus-Seminar on Light in Disordered Photonic Media**, Bad-Honnef, Germany.
- 2013     • **HHMI Janelia farm conference** 'Shaping the Waves: Engineering Optical Wavefront for Biomedical Imaging', USA.  
• **French-Israeli Nonlinear Optics (FRISNO) 2013**, Ein-Gedi, Israel.  
• **4<sup>th</sup> Nabi Meeting**, ENS Cachan, France
- 2012     • **MésoImage**, recent developments in wave propagation and imaging in complex media workshop, Institut Henri Poincare, Paris.  
• **OSA Frontiers in Optics 2012**, Rochester USA.
- 2011     • **OSA Frontiers in Optics 2011**, San-Jose, USA.
- 2010     • **OSA Frontiers in Optics 2010**, Rochester USA.

## Publications

Total number of citations: 3,113 (Google scholar)

h-index: 25

Citations count per-year (as of 11/12/2018):



### Key for symbols and abbreviations:

<sup>†</sup> - Equally contributing first author

<sup>PI</sup> - Principal Investigator

<sup>S</sup> - Student

<sup>C</sup> - Co-researcher

<sup>T</sup> - Technician/laboratory assistant

IF - ISI Journal Impact Factor

C - Number of citations (via Google scholar).

## 1) Journal papers

- 1) Y.Sintov<sup>PI</sup>, **O.Katz**, Y.Glick<sup>C</sup>, S.Acco<sup>S</sup>, Y.Nafcha<sup>C</sup>, A.Englander<sup>C</sup>, R.Lavi<sup>C</sup> (2006). Extractable energy from ytterbium-doped high-energy pulsed fiber amplifiers and lasers. JOSA B, 23(2), 218-230. IF=2.21; C=31;
- 2) **O.Katz**, Y.Sintov<sup>PI</sup>, Y.Nafcha<sup>C</sup>, Y.Glick<sup>C</sup> (2007). Passively mode-locked Ytterbium fiber laser utilizing chirped-fiber-Bragg-gratings for dispersion control. Opt. Comm. 269, 156–165. IF=1.438; C=33;
- 3) **O.Katz**, Y.Sintov<sup>PI</sup> (2008). Strictly all-fiber picosecond ytterbium fiber laser utilizing chirped-fiber-Bragg-gratings for dispersion control. Opt. Comm. Vol. 281, 10, 2874-2878. IF=1.438; C=22;
- 4) **O.Katz**, A.Natan<sup>S</sup>, S.Rosenwaks<sup>PI</sup>, Y.Silberberg<sup>PI</sup> (2008). Standoff detection of trace amounts of solids by nonlinear Raman spectroscopy using shaped femtosecond pulses, Appl. Phys. Lett. 92, 171116 (1-3). IF=3.817; C=96;
- 5) **O.Katz**, A.Natan<sup>S</sup>, S.Rosenwaks<sup>PI</sup>, Y.Silberberg<sup>PI</sup> (2008). Shaped femtosecond pulses for remote chemical detection, Optics and Photonics News, special "Optics in 2008" December issue, p 47. C=4;
- 6) **O.Katz**, Y.Lahini<sup>S</sup> and Y.Silberberg<sup>PI</sup> (2008). Multiple breakup of high-order spatial solitons, Opt. Lett. 33, 23, 2830-2832. IF=3.385; C=25;
- 7) Y.Bromberg<sup>S</sup>, **O.Katz**, Y.Silberberg<sup>PI</sup>, Ghost imaging with a single detector (2009). Phys. Rev. A 79, 053840 (1-4). IF=3.042; C=348;
- 8) **O.Katz**, Y.Bromberg<sup>S</sup>, Y.Silberberg<sup>PI</sup>. (2009). Compressive ghost imaging, Appl.Phys.Lett., 95,131110 (1-3). IF=3.817; C=424;

- 9) E.Small<sup>S</sup>, **O.Katz**, Y.Eshel<sup>S</sup>, D.Oron<sup>PI</sup>, Y.Silberberg<sup>PI</sup>, (2009). Spatio-temporal X-wave, *Opt. Express* 17, 21, 18659-18668. IF=3.546; C=6;
- 10) **O.Katz**, J.M.Levitt<sup>C</sup>, E.Grinvlad<sup>S</sup>, Y.Silberberg<sup>PI</sup>, Single beam coherent Raman spectroscopy and microscopy via spectral notch shaping, *Opt. Express* 18, 22, pp. 22693-22701 (2010). IF=3.546; C=45;
- 11) W.Schippers<sup>S</sup>, E.Gershabel<sup>S</sup>, J.Burgmeier<sup>S</sup>, **O.Katz**, U.Willer<sup>C</sup>, I.S.Averbukh<sup>PI</sup>, Y.Silberberg<sup>PI</sup>, W.Schade<sup>PI</sup>, Stimulated Raman rotational photoacoustic spectroscopy using a quartz tuning fork and femtosecond excitation, *Appl. Phys. B.* 105, 203-211 (2011). IF=1.782; C=14;
- 12) O.Schwartz<sup>S</sup>, O.Raz<sup>S</sup>, **O.Katz**, N.Dudovich<sup>PI</sup>, D. Oron<sup>PI</sup>, (2011). Shot noise limited characterization of ultraweak femtosecond pulse trains, *Opt. Express*, Vol. 19, Issue 2, pp. 679-686. IF=3.546; C=2;
- 13) H.Frostig<sup>S</sup>, **O.Katz**, A.Natan<sup>S</sup>, Y.Silberberg<sup>PI</sup>, (2011). Single-pulse stimulated Raman scattering spectroscopy, *Optics Letters* 36, 7, 1248-1250. IF=3.385; C=27;
- 14) R.Gueta<sup>S</sup>, J.Levitt<sup>C</sup>, A.Xia<sup>C</sup>, **O.Katz**, J.S.Oghalai<sup>C</sup>, I.Roussou<sup>PI</sup>, (2011). Structural and Mechanical Analysis of Tectorial Membrane Tecta Mutants, *Biophysical Journal*, 100, 2530-2538. IF=3.668; C=25;
- 15) **O.Katz**, E.Small<sup>S</sup>, Y.Bromberg<sup>S</sup>, Y.Silberberg<sup>PI</sup>, (2011). Focusing and compression of ultrashort pulses through scattering media, *Nature Photonics* 5, 372-377. IF=27.254; C=334;
- 16) **O.Katz**, E.Small<sup>S</sup>, Y.Bromberg<sup>S</sup>, Y.Silberberg<sup>PI</sup>, (2011). Controlling ultrashort pulses in scattering media, *Optics and Photonics News*, Optics in 2011 special December issue, p 45.
- 17) E.Small<sup>+S</sup>, **O.Katz**<sup>†</sup>, Y.Silberberg<sup>PI</sup>, (2012). Spatiotemporal focusing through a thin scattering surface, *Optics Express* 20, 5, 5189-5195. IF=3.546; C=13.
- 18) A.Natan<sup>S</sup>, J.M. Levitt<sup>C</sup>, L. Graham<sup>S</sup>, **O. Katz**, and Y. Silberberg<sup>PI</sup>, (2012). Standoff detection via single-beam spectral notch filtered pulses, *Applied Physics Letters* 100, 051111 (1-3). IF=3.817; C=26;
- 19) **O.Katz**, E.Small<sup>S</sup>, Y.Silberberg<sup>PI</sup>, (2012). Looking around corners and through thin turbid layers in real time with scattered incoherent light, *Nature Photonics* 6, 549-553. IF=27.254; C=281;
- 20) Y.Guan<sup>S</sup>, **O.Katz**, E.Small<sup>S</sup>, Y.Silberberg<sup>PI</sup>, (2012). Polarization control of multiply-scattered light through random media by wavefront shaping. *Optics Letters*, 37, 4663-4665. IF=3.385; C=62;
- 21) E.Small<sup>S</sup>, **O.Katz**, Y.Guan<sup>S</sup>, Y.Silberberg<sup>PI</sup>. (2012). Spectral control of broadband light through scattering media by wavefront shaping, *Optics Letters*, 37, 3429-3431. IF=3.385; C=45;
- 22) J. Gateau<sup>C</sup>, T. Chaigne<sup>S</sup>, **O. Katz**, S. Gigan<sup>PI</sup>, E. Bossy<sup>PI</sup>, (2013). Improving visibility in photoacoustic imaging using dynamic speckle illumination, *Opt. Lett.* 38, 23, pp. 5188-5191. IF=3.385; C=51;
- 23) M.Nixon<sup>+S</sup>, **O.Katz**<sup>†</sup>, E.Small<sup>S</sup>, Y.Bromberg<sup>S</sup>, Y.Silberberg<sup>PI</sup>, N.Davidson<sup>PI</sup>, (2013). Real-time wavefront-shaping by all-optical feedback, *Nature Photonics*, 7, 919-924. IF=27.254; C=62;
- 24) M.Nixon<sup>S</sup>, **O.Katz**, E.Small<sup>S</sup>, Y.Bromberg<sup>S</sup>, Y.Silberberg<sup>PI</sup>, N.Davidson<sup>PI</sup>, (2013). Focused lasing through dynamic scattering media, *Optics and Photonics News* "Optics in 2013" special issue, p 46.
- 25) T. Chaigne<sup>+S</sup>, **O. Katz**<sup>†</sup>, A.C. Boccara<sup>C</sup>, M. Fink<sup>PI</sup>, E. Bossy<sup>PI</sup>, S. Gigan<sup>PI</sup>, (2014). Controlling light in scattering media noninvasively using the photo-acoustic transmission-matrix, *Nature Photonics*, 8, 58-64. IF=27.254; C=134;

- 26) T. Chaigne<sup>S</sup>, J. Gateau<sup>C</sup>, **O. Katz**, E. Bossy<sup>PI</sup>, S. Gigan<sup>PI</sup>, (2014). Light Focusing and Two-Dimensional Imaging through Scattering Media using the Photoacoustic Transmission-Matrix with an Ultrasound Array, Optics Letters, Vol. 39, Issue 9, pp. 2664-2667. IF=3.385; C=24;
- 27) J.M.Levitt<sup>C</sup>, **O.Katz**, Y.Silberberg<sup>PI</sup>, (2014). "Frequency-encoded multiplexed CARS microscopy by rapid pulse shaping", J.Mod.Opt, accepted. DOI: 10.1080/09500340.2013.867080. IF=1.16; C=5;
- 28) A. Liutkus, D. Martina, S. Popoff, G. Chardon, **O. Katz**, G. Lerosey, S. Gigan, L.Daudet, I. Carron, (2014). "Imaging with nature: Compressive imaging using a multiply scattering medium", Scientific reports, Vol. 4. C=124.
- 29) T. Chaigne, J. Gateau, **O. Katz**, C. Boccara, S. Gigan, E. Bossy, (2014). "Improving photoacoustic-guided optical focusing in scattering media by spectrally filtered detection", Optics letters, Vol. 39 (20), 6054-6057. C=13.
- 30) **O. Katz**, P. Heidmann, M. Fink, S. Gigan, (2014). "Non-invasive single-shot imaging through scattering layers and around corners via speckle correlations", Nature Photonics, Vol. 8 (10), 784-790. C=282.
- 31) **O. Katz**, E. Small, Y. Guan, Y. Silberberg, (2014). "Noninvasive nonlinear focusing and imaging through strongly scattering turbid layers", Optica, Vol. 1 (3), 170-174. C=85.
- 32) D. Andreoli, G. Volpe, S. Popoff, **O. Katz**, S. Grésillon, S. Gigan, (2015). "Deterministic control of broadband light through a multiply scattering medium via the multispectral transmission matrix", Scientific reports, Vol. 5. C=32.
- 33) S.M. Kolenderska, **O. Katz**, M. Fink, S. Gigan, (2015). "Scanning-free imaging through a single fiber by random spatio-spectral encoding", Optics letters, Vol. 40 (4), 534-537. C=28.
- 34) S. Kumar, T. Kamali, JM. Levitt, **O. Katz**, B. Hermann, R Werkmeister, B. Považay, W. Drexler, A. Unterhuber, Y. Silberberg, (2015). "Single-pulse CARS based multimodal nonlinear optical microscope for bioimaging", Optics Express, Vol. 23 (10), 13082-13098. C=17.
- 35) A. Dréneau, A. Liutkus, D. Martina, **O. Katz**, C. Schülke, F. Krzakala, S. Gigan, L. Daudet, (2015). "Reference-less measurement of the transmission matrix of a highly scattering material using a DMD and phase retrieval techniques", Optics express, Vol. 23 (9), 11898-11911. C=64.
- 36) T. Chaigne, J. Gateau, M. Allain, **O. Katz**, S. Gigan, A. Sentenac, E. Bossy, (2016). "Super-resolution photoacoustic fluctuation imaging with multiple speckle illumination", Optica, Vol. 3 (1), 54-57. C=25.
- 37) A. Porat, E.R. Andresen, H. Rigneault, D. Oron, S. Gigan, **O. Katz**, (2016). "Widefield lensless imaging through a fiber bundle via speckle correlations", Optics express, Vol. 24 (15), 16835-16855. C=38.
- 38) M. Mounaix, D. Andreoli, H. Defienne, G. Volpe, **O. Katz**, S. Grésillon, S. Gigan, (2016). "Spatiotemporal coherent control of light through a multiple scattering medium with the multispectral transmission matrix", Physical review letters, Vol. 116 (25), 253901. C=33.
- 39) A Porat, ER Andresen, H Rigneault, D Oron, S Gigan, **O Katz**, (2016). "Widefield Lensless Endoscopy via Speckle Correlations", Optics and Photonics News, Optics in 2016, special issue, December 2016.
- 40) T. Wu, O. Katz, X. Shao, S. Gigan, (2016). "Single-shot diffraction-limited imaging through scattering layers via bispectrum analysis", Optics Letters, Vol. 41 (21), 5003-5006. C=17.
- 41) V. Tsvirkun, S. Sivankutty, G. Bouwmans, D. Oron, **O. Katz**, E. R.Andresen, H. Rigneault, (2016)." Widefield lensless endoscopy with a multicore fiber", Optics Letters, Vol. 41 (20), 4771-4774. C=7.

- 42) E. Hojman, T. Chaigne, O. Solomon, S. Gigan, E. Bossy, Y.C. Eldar, **O. Katz**, (2017). "Photoacoustic imaging beyond the acoustic diffraction-limit with dynamic speckle illumination and sparse joint support recovery", Optics Express, Vol. 25 (5), 4875-4886. C=14.
- 43) T. Chaigne, B. Arnal, S. Vilov, E. Bossy, **O. Katz**. (2017). "Super-resolution photoacoustic imaging via flow-induced absorption fluctuations", Optica, Vol. 4 (11), 1297-1404. C=9.
- 44) T. Chaigne, B. Arnal, S. Vilov, E. Bossy, **O. Katz**. (2017). "Super-resolution photoacoustics", Optics and Photonics News, "Optics in 2017" issue.
- 45) U. Weiss, **O. Katz**, (2018). Two-Photon Lensless Micro-endoscopy with in-situ Wavefront Correction. Optics Express 26 (22), 28808-28817.
- 46) O. Salhov, G. Weinberg, **O. Katz**, (2018). Depth-Resolved Speckle-Correlations Imaging through Scattering Layers. Optics Letters 43 (22), 5528-5531.
- 47) G. Stern, **O. Katz**, (2019). Non-invasive Focusing Through Scattering Layers Using Speckle-Correlations. Optics Letters Vol. 44, Issue 1, pp. 143-146.

## 2) Articles on arXiv preprint server

- 48) S. Rosen, D. Gilboa, **O. Katz**, Y. Silberberg, (2015). Focusing and Scanning through Flexible Multimode Fibers without Access to the Distal End. arXiv preprint arXiv:1506.08586. C=21.
- 49) **O. Katz**, F. Ramaz, S. Gigan, M. Fink, (2017). Controlling light in complex media beyond the acoustic diffraction-limit using the acousto-optic transmission matrix. arXiv preprint arXiv:1707.02421. C=1. (under consideration in *Nature Communications*)
- 50) M. Pascucci, S. Ganesan, **O. Katz**, V. Emiliani, M. Guillon, (2017). Three-dimensional super-resolution microscopy with speckle-saturated fluorescence excitation. arXiv preprint arXiv:1710.05056. C=1. (under consideration in *Nature Communications*)
- 51) J. Boger-Lombard, **O. Katz**, (2018). Non line-of-sight localization by passive optical time-of-flight. arXiv preprint arXiv:1808.01000. C=1. (under consideration in *Nature Communications*)
- 52) D. Doktofsky, M. Rosenfeld, **O. Katz**, (2018). Acousto-optic tomography beyond the acoustic diffraction-limit using speckle decorrelation. arXiv preprint, arXiv:1812.00400. (under consideration in *Optica*)

## 3) Chapters in Collections

J.M. Levitt<sup>C</sup>, **O. Katz**, Y. Silberberg<sup>PT</sup>, *Coherent Control in CARS, Coherent Raman Scattering Microscopy*, CRC press, 2012 (30 pages).

## 4) Patents

- "Optical apparatus comprising a pump-light-guiding fiber", WO 2008/004218.
- "Systems and methods for high resolution imaging using a bundle of optical fibers", WO2017/103643A1.
- "Optical focusing and imaging through multicore fibers and complex media, using two wavelengths with proximal only detection" (provisional)

## Selected media & web coverage of my works

- 'Superresolution photoacoustics', R. Mark Wilson, **Physics today** (2018) [\[Link\]](#)
- 'Photoacoustic Imaging beats the diffraction limit', R. Mark Wilson, **Physics today** (2018) [\[Link\]](#)
- '*Israeli researcher sees through surfaces using a smartphone*', N.Hunt, **noCamels** (2017) [\[Link\]](#)
- '*Peeking to the shower and into the brain*', U.Tomer, **The Marker** (2016) [\[Link\]](#)
- '*The Technology That Will Turn Your Smartphone Into an X-ray Machine*' U. Tomer, **Haaretz Business** [\[Link\]](#)
- '*Optics: Super vision*', Z. Merali, News feature in **Nature** (2015) [\[Link\]](#).
- 'Deciphering Speckle', Interview in **Nature Photonics**, 8, 808 (2014) [\[Link\]](#).
- 'How we can use light to see inside the human body', J. Condliffe, **GIZMODO** (2015) [\[Link\]](#).
- 'Peeking through the curtain', J. Bertolotti, **Nature Photonics**, 8, 751 (2014) [\[Link\]](#).
- 'Light trick to see around corners', **BBC News** (2012) [\[Link\]](#)
- 'Voir à travers la peau avec un appareil photo' (seeing through the skin with a camera), **Le Monde** (2014). [\[Link\]](#)
- 'Voir à travers la peau', **Pour la Science** (French Scientific American), 2014. [\[Link\]](#)
- 'Focusing through scattering media', Andrew M. Weiner, **Nature Photonics**, 5, 332 (2011). [\[Link\]](#)
- 'A sharper view of biological tissues', H.Bembia, **Optics & Photonics News** (2014). [\[Link\]](#)
- 'Camera 'Can See Through Walls' By Turning Plain Surfaces Into Mirrors', **Huffington Post UK** [\[Link\]](#)
- 'Light trick could allow docs to see through skin' **The Times of India** [\[Link\]](#)
- 'Technique gets clear images from light reflected off blank paper' **arsTechnica** (2012) [\[Link\]](#)
- 'Researchers use off-the-shelf parts to build camera that can see around corners', **The Verge**. [\[Link\]](#)
- 'Nokia Lumia 1020 captures image of objects obstructed from view', **windowscentral.com** (2014). [\[Link\]](#)
- 'Adaptive optics without the guide star', **optics.org** (2014). [\[Link\]](#)
- 'Technique 'Pre-Corrects' Microscope Illumination', **photonics.com** (2014). [\[Link\]](#)
- 'Algorithm reveals objects hidden behind other things in camera phone images', **Slashdot** (2014) [\[Link\]](#).
- 'How an ordinary camera phone can photograph objects hidden behind other things' **Physics ArXiv Blog** (2014) [\[Link\]](#).
- 'Perfecting the Schnitzel-Laser' **Improbable research** (2014) [\[Link\]](#)
- 'Noninvasive measure of the transmission matrix in scattering media using the photo-acoustic effect', **Wavefront Shaping** [\[Link\]](#)
- 'Walls are mirrors with new imaging technique' **PhysOrg** (2012) [\[Link\]](#)
- 'Scientists use natural light to see around corners' **The Jerusalem Post** [\[Link\]](#)
- 'The camera that can see through frosted glass and skin, and around corners' **ExtremeTech** [\[Link\]](#)
- 'Outclassing Superheroes' **Optics and Photonics Focus** [\[Link\]](#)
- 'Israeli scientists see through walls, barriers', **COSMOS Science Magazine**. [\[Link\]](#)
- 'Researchers Develop Camera That Uses Natural Light to See Around Corners' **PetaPixel** (2012) [\[Link\]](#)
- 'Imaging technique uses natural light to see through objects' **Physics Today** [\[Link\]](#)
- 'Looking through walls and around corners with incoherent light', **Nuit Blanche blog** (2012) [\[Link\]](#)
- 'Give me the right phase and amplitude and I will lift the moon' **arsTechnica** (2011) [\[Link\]](#)
- 'Short term focusing', '**Hayadan**' online science magazine (in Hebrew, 2011). [\[Link\]](#)
- 'Fast Focus', **Weizmann Institute Magazine**, September 2011 issue. [\[Link\]](#)

- 'Focusing ultrashort optical pulses through scattering media', **2physics.com**, (2011), [\[Link\]](#)
- 'Ghost Imaging Reconstruction using CS Techniques' **Nuit Blanche** (2009). [\[Link\]](#)
- 'Boo! The optics behind "ghost" imaging', **Skulls in the stars blog** (2009). [\[Link\]](#)
- '2D image created from a single pixel sensor', **Physics arXiv blog** (2008). [\[Link\]](#)

## Member in organizing committees

CLEO 2019 - Metamaterials and Complex media, San-Jose, USA

SPIE 2019 – Label-free Biomedical Imaging and Sensing (LBIS), San-Francisco, USA

Optical Society of America Imaging and Applied Optics Congress - Computational Optical Sensing and Imaging (COSI) – Florida, USA

3<sup>rd</sup> Workshop on OptoMechanics and Brillouin Scattering (WOMBAT) 2019, Tel-Aviv, Israel

Hebrew University Nanocenter annual conference, 2018

Hebrew University Nanocenter annual conference, 2019

## Journal referee:

Science, Nature Photonics, Nature Physics, Nature Communications, Scientific Reports, Optica, Optics Express, Optics Letters, Physical Review Letters.

## Graduate students under my supervision (since August 2017):

- 1) Jeremy Boger Lomba, PhD student
- 2) Daniel Doktofski, MSc student
- 3) Uri Weiss, MSc student
- 4) Nir Goldfriend, MSc student
- 5) Gil Weinberg, MSc student
- 6) Noam Shekel, MSc student
- 7) Noam Badt, MSc student
- 8) Moriya Rosenfeld, MSc student
- 9) Tal Sommer, PhD student
- 10) Galya Ariv, MSc student (Graduated)
- 11) Eiel Hojman, MSc student (Graduated)
- 12) Daniel Tomer, MSc student (Graduated)