

Prof. Haim Suchowski

Associate Professor

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[Google Scholar](#)

Education and Research Positions

- 2000 – 2004 B.Sc. in Physics, Tel Aviv University, Israel
Graduated Magna Cum Laude
- 2000 – 2004 B.Sc. in Electrical Engineering, Tel-Aviv University, Israel
Graduated Magna Cum Laude
- 2004 – 2006 M.Sc. in Physics, Faculty of Physics, Weizmann Institute of Science, Israel
- 2006 – 2010 Ph.D. in Physics, Faculty of Physics, Weizmann Institute of Science, Israel
supervised by Prof. Yaron Silberberg. Thesis title: "Spatio-temporal coherent control of nonlinear light-matter interactions"
- 2011 – 2014 Post-doctoral fellow, University of California at Berkeley
Nonlinear optical interactions with nanostructures. Advisor: Prof. X. Zhang.
- 2014 – 2018 Senior Lecturer, Department of Condensed Matter Physics,
Tel Aviv University
- 2018 – Today Associate Professor, Department of Condensed Matter Physics,
Tel Aviv University
- 2022 Summer Sabbatical at University of California, San Diego, USA

Work Experience

- 1993 – 1995 Cadet at Flying Academic School, Israel Air Force
- 1995 – 2000 Active fighter jet navigator, Israel Air Force.
Served in F-16 squadron, participating and supervising routine defense activities. Current status – reserve duty. Current rank – Lieutenant Colonel
- 2006 – 2010 Simulator consultant and Requirement engineer, BVR Technologies
- 2003 – 2004 R&D, VLSI Custom circuit design, IBM Research Lab, Tel Aviv
- 2018 – Today Co-founder and Head of R&D in 3DOptix

Awards, Prizes & Fellowships

- 2003 Tel Aviv University President's award for performing outstanding volunteering
- 2006 ISEF Edmund J. Safra Scholar for M.Sc. students
- 2007-2010 The Azrieli foundation scholarship for outstanding PhD students
- 2011-2012 Fulbright fellowship, University of California, Berkeley
- 2014-2017 Alon young investigator fellowship
- 2019-2023 Member of the Israel Young Academy of Sciences

Funding

- 2015-2020 "MIRAGE 20-15 - Mid Infra-Red near-field control by Adiabatic Frequency Conversion", European Research Council Startup (ERC-StG).
PI, 5 years, 1.5M Euro
- 2015-2019 "Control of ultrafast hot carrier dynamics and related nonlinear phenomena", Israeli Science Foundation, Israel.
PI, 4 years, 1.16M + 1.1M (equipment) NIS
- 2014-2019 Alon Fellowship Experimental Grant
PI, 5 years, 48K USD
- 2015-2017 "Adiabatic four wave mixing frequency conversion", Bi-national Science Foundation (BSF) - Startup Grant, Israel-USA.
Co-PI with Prof. Jeffery Moses, Cornell University,
PI, 2 years, 75K USD (Suchowski portion)
- 2016-2019 "Super resolution in photo-modulated reflectivity"
Kamin fund, Israel Innovation Authority, Israel.
Co-PI with Prof. Ori Cheshnovsky, Tel Aviv University
2 years, 400K NIS (Suchowski portion)
- 2016-2018 "Ultrafast Sensing in Silicon Photonics", Israel-China collaboration Grant,
Co-PI with Prof. Fuwan Gan and Dr. Aimin Wu, SIMIT, China
2 years, 507K NIS (Suchowski portion).
- 2017-2020 "Compact high resolution broadband FT-IR spectrometer", Momentum Fund,
Ramat-TAU Applied Innovation Grant, Isarel.
PI, 3 years, 500K USD
- 2017-2021 "Generation of ultra-broadband mid-IR sources by adiabatic frequency conversion". PAZY Foundation Grant, Young Scientists, Israel.
PI, 4 years, 1M NIS
- 2017-2020 "High Resolution Mid-IR color imaging by Adiabatic Frequency Conversion".
Ministry of Science and Education Grant, Isarel.
PI, 3 years, 750K NIS
- 2018-2021 "Tailored Manipulations of High Harmonic Generation", The Wolfson Trust
Equipment Grant, UK.
Co-PI with Prof. Ishay Pomerantz, Prof. Alon Bahabad, Dr. Tal Schwartz, Prof.
Sharly Fleischer (TAU), 3 years, 110K GBP (Suchowski portion)

- 2019-2020 "Broadband frequency conversion via adiabatic four wave mixing". The Israeli Ministry of Defense Directorate of Defense Research & Development (MAFAT), PI, 1.5 years, 250K NIS
- 2019-2022 "Towards extreme high laser pulse contrasts by shape and phase control", PAZY Foundation, Research Grant, Israel.
Co-PI with Dr. Yariv Shamir, 3 years, 749K NIS
- 2018-2021 "Tunable optical metamaterials for Energy harvesting applications", Ministry of Science and Education Grant, Israel.
PI, 3 years, 560K NIS
- 2021-2024 "Infrared Free-space Quantum technologies – quantum key distribution and infrared imaging". Ministry of Science and Education Grant, Israel.
PI, 4 years, 750K NIS
- 2021-2024 "Programmable, Robust and Compact Integrated Photonics Platform for Arbitrary Quantum Information Processing", Israeli Science Foundation (2409/19), Quantum research Grant, Israel.
Co-PI with Prof. Hagai Eisenberg (HUJI), Dr. Yoav Lahini (TAU), Prof. Moshe Goldstein (TAU), Prof. Avi Zadok (BIU), 4 years, 1.2M NIS + 520K (Equipment)
- 2021-2025 "Imaging and coherent control of ultrafast dynamical processes in mid-infrared condensed matter systems", Israeli Science Foundation (2312/21)
PI, 4 years, 1.08M NIS
- 2020-2022 "Broadband Mid-IR upconversion camera"
Kamin fund, Israel Innovation Authority, Israel.
PI, 2 years, 880K NIS
- 2021-2023 "Veye: Multispectral high-resolution imaging of micro-vessels in the front of the eye for real-time needle-free blood test in space", Ministry of Science and Education Grant, Israel.
Co-PI with Prof. Ygal Rotenstreich, Sheba medical center, 250K NIS
- 2022-2025 "Machine and Deep Learning for Smart Electromagnetism and Photonics". Impact TAU-TAD Data Science center Grant, Israel.
Co-PI with Dr. Nadav Cohen, Computer Science (TAU), 3 years, 300K USD
- 2021-2024 "Robust Entangled Photon Sources and Control of Spatial Qudits for Free-Space Quantum Communication Applications", Free-Space Quantum Key Distribution, MAAGAD fund, Israel Innovation Authority, Israel.
Co-PI with Prof. Ady Arie, Engineering (TAU), 3 years, 557K NIS
- 2023-2026 "Inverse design of RF Meta-antennas and phased arrays", Libertad fund, Israel.
Co-PI with Prof. Lior Wolf, Computer Science (TAU), 2.5 years, 2.3M NIS

Academic and Professional Committees

- 2015-2020 The Israel Physical Society, Board member, Tel Aviv University representative
- 2016 TAU's Light-Matter Interaction center, Steering Committee, School of physics representative
- 2016 Co-organizer of the 2016 annual Israel Physical society conference (IPS2016)
- 2017 Scientific Committee for the bi-annual international conference in OSA Nonlinear Optics (NLO2017) conference, Hawaii
- 2017 Guest Editor for Optics Express journal – Special Issue on Nonlinear Optics
- 2018 TAU's Center for nano-satellites and new space, Steering Committee, School of physics representative
- 2019-2021 Tevel, Member, Ministry of Science and Technology and Council for Higher Education, Israel
- 2019 Scientific Committee for the Optical Engineering and Science in Israel (OASIS-7), Tel Aviv, Israel
- 2020 TAU's Quantum Center for Science and Technology, Steering Committee
- 2021 Scientific Committee for the international Nanotechnology conference in Israel (NANO-IL), Jerusalem, Israel
- 2021 Guest Editor for Optics Material Express journal – Special Issue on Artificial Intelligence Photonic Materials
- 2021 Tel Aviv University Center for Nanoscience and Nanotechnology – Board Member
- 2022 Scientific Committee for the Optical Engineering and Science in Israel (OASIS-8), Tel Aviv, Israel
- 2023 Scientific Committee for the European Conference on Lasers and Electro-Optics (CLEO-Europe), Munich, Germany

Professional Society Membership

- 2006 – 2023 Optical Society of America (OSA)
- 2008 – 2023 Israel Physical Society (IPS)
- 2008 – 2023 American Physical Society (APS)
- 2008 – 2017 European Physical Society (EPS)
- 2008 – 2022 Society for optics and photonics (SPIE)

Academic Impact and Outreach

- Initiation of the TAU – Light Matter interaction center (2016).
 - Acting as the School of Physics representative at the Steering Committee.
 - Established the 1st Summer School of the Center (September 2017).
- Initiation of the TAU – Nano-satellite center (2018).
 - Acting as the School of Physics representative at the Steering Committee.
- Leading two social involvement courses as part of the TAU Social-Impact project, a recent initiative that was launched by TAU to embed social engagement into the teaching curriculum, and to promote social activism among undergraduate students. As part of the project I am voluntarily teaching two courses that aim to create a spark and a desire for higher education among middle school youth:

- 2016-2023 - “Between science, education and the new space revolution”.
A social involvement course, focused upon the impact of science education at an early stage upon the ability to achieve scientific and technological revolutions.
<https://impact.tau.ac.il/content/science>
- 2018-2019 - Educational social action within the framework of 3rd-year Physics Laboratory Studies: “Encouraging scientific curiosity among youth in the periphery”.
Encouraging scientific curiosity among youth, where the students carry out the scientific experiments and educational activity with youth in the community.
- Active member of the Israeli Executive Committee at the Israel Student Education Foundation (ISEF) from 2016. From 2016 till 2022, served as the Academy advisor for the ISEF’s PhD program.
- Co-organizer of the AcadeMIX conference (Academix-III 2023 and Academix-IV 2023), a cross-interdisciplinary conference initiated by the Israel Young Academy of Sciences that aim to bridge between all fields of knowledge.

Students and Postdocs

<http://www.tau.ac.il/~haimsu/Members.html>

Research associates:

Dr. Assaf Levanon (PhD Ben-Gurion University)
Dr. Asaf Farhi (PhD Tel Aviv University, Post-doc Yale University)

Past:

- Dr. Michael Mrejen (PhD UC Berkeley), Lab Manager, 2015-2021
- Dr. Elica Kyoseva (PhD, Sofia University, Bulgaria), Bulgaria academic of Science, visiting via Marie-Curie ITN, 2018-2019
- Dr. Moti Katz, Soreq National Research Center, Sabbatical 2016-2017

Postdoc:

Past:

- Dr. Colin Woods, Manchester, United Kingdom, Visiting Postdoc 2018
- Dr. Sinha Sudarson (PhD, India), Postdoc 2016-2018
- Dr. Lena Yadragov (PhD, WIS), Postdoc 2015-2017

Ph.D.:

Current:

- Mr. Uri Arieli
- Mr. Omri Meron
- Mr. Daniel Beitner (joint with Prof. Shachar Richter, Material Science)
- Mr. Yonatan Piassetzky
- Mr. Dror Hershkovitz (joint with Prof. Ori Cheshnovsky, Chemical Physics)
- Mr. Muhammad Erew (joint with Prof. Moshe Goldstein, Physics)
- Mr. Tom Cohen
- Mr. Yuval Rechtes

Past:

2017-2021 Dr. Lior Michaeli, “Collective linear and nonlinear coherent interaction in plasmonic nanoparticles arrays”. Current position: Postdoc at Caltech.

- 2017-2021 Dr. Hadar Greener, “Multifrequency Near Field Optics and Composite Pulses for Quantum Coherent Control”, Current position: Applied Materials.
- 2018-2022 Dr. Eyal Bahar, “Coherent Control of ultrafast nonlinear interaction in metamaterials”

M.Sc.:

Current:

- Mr. Snir Nechamia
- Mr. Yuval Warshavsky – will start on Semester A 2023-2024.

Past:

- 2014-2016 Mr. Achiya Nagler, “Enhancing optical nonlinearity by controlling the ultrafast dynamics in plasmonic nanostructures”, today works at Mobileye.
- 2015-2017 Mr. Uri Arieli, “Ultra-broadband optical response of localized surface plasmon resonances with deep sub-wavelength resolution”, continued PhD in my group
- 2016-2018 Ms. Erga Lifshitz, “Multipass Fourier-Transform Infra-Red Spectroscopy for compact high spectral resolution”, today works at TriEye.
- 2016-2018 Mr. Asaf Dahan, “Efficient adiabatic frequency conversions for ultrashort pulses”.
- 2017-2019 Mr. Yoni Erlich, “Frequency conversion via composite pulses”.
- 2018-2020 Mr. Omri Meron, “Tunable All-Dielectric Metasurfaces in the mid-infrared”, continued PhD in my group.
- 2018-2020 Mr. Ilan Sher, “Nonlinear Signal Generation from Nanoparticles”, continued PhD in Prof. Uriel Levy’s group, HUJI.
- 2020-2022 Mr. Shlomi Korman, “Spatio-temporal coherent control at the femtosecond-nanometer scale”, today works in startup.
- 2021-2023 Mr. Ron Cohen, “Quantum Surface Code Simulation under Qubit-Dependent Coherent Errors”, today works at ClassiQ.

Current Undergraduate students: Yuval Warshavsky, Dan Barzilay, Eli Meril

Teaching experience

Graduate courses:

Fundamentals of Light-Matter Interactions – 0321.3813

Undergraduate course:

Waves and Optics – 0321.2102

Physics laboratory C for students – 0321.3809, 0321.3118

Classical Physics II for engineers – 0509.1829

Math Methods for Physicists 2 – 0321.1839

Second-year students’ excellence course – 0509.1829

New Space – Elective course in Engineering (Fully volunteering) – 0509.4010

Workshops and schools:

Summer school on Light-Matter Interaction, Tel Aviv, Israel (2014)

Winter School – Nanocenter (2018)

Nonlinear Optics, Israel (2018)

Invited Talks in International Conferences

- 2015 Conference on Metamaterials, Photonic Crystals and Plasmonics (META), New-York City, NY, USA.
- 2015 Control of Quantum Dynamics of Atoms, Molecules and Ensembles by Light (CAMEL XI), Burgas, Bulgaria.
- 2015 Optical Engineering and Science in Israel (OASIS), Tel Aviv, Israel.
- 2016 French-Israel Nanophotonics, imaging and bio workshop (NaBi), Paris, France
- 2016 Laser-Optics Conference (LO2016), Saint-Petersburg, Russia, 2016
- 2016 High Intensity Coherent Nonlinear Optics (HICONO) mini-school on “Basics of high-intensity lightmatter interactions”, Darmstadt, Germany
- 2017 Taiwan-Israel Bilateral Workshop (TIX), Hsinchu, Taiwan
- 2017 Indo-Israel meeting on Condensed Matter Physics, IISC, Bangalore, India
- 2017 Discussion Leader, Gordon Research Conference (GRC) on Quantum control, Mount Holyoke, MA, USA
- 2018 Control of Quantum Dynamics of Atoms, Molecules and Ensembles by Light (CAMEL XIV), Bansko, Bulgaria
- 2018 Advanced Photonics, Zurich, Switzerland
- 2018 Conference on Lasers and Electro-Optics (CLEO), San Jose, CA, USA
- 2018 The international Nanotechnology conference in Israel (NANO-IL), Jerusalem, Israel
- 2019 Photonics & Electromagnetics Research on 2D materials, Weizmann Institute of Science, Rehovot, Israel
- 2019 Winter School Photonics North, Virtual Conference, Canada
- 2019 Photonics and Electromagnetics Research Symposium (PIERS), Rome, Italy
- 2021 Photonics Days Israel, AEAI – The Association of Engineers, Architects and Graduates in Technological Sciences in Israel, Virtual Conference, Israel
- 2021 The 54th Annual Meeting of the Israel Society for Microscopy (ISM), Virtual Conference, Israel
- 2021 International workshop on Artificial Neural Networks (IWANN), Gran Canaria, Spain
- 2021 Photonics North Conference, Canada
- 2021 International Nanoscience Student Conference (INASCON), Germany (invited virtual lecture)
- 2022 International Topical Meeting on Nanophotonics and Metamaterials (NANOMETA), Seefeld, Austria.
- 2023 Control of Quantum Dynamics of Atoms, Molecules and Ensembles by Light (CAMEL XVIII), Nessebar, Bulgaria

Invited Talks in Seminars and Domestic Workshops

- 2010 Applied Physics Seminar, Caltech, Pasadena, USA
- 2010 Photonics Seminar, Multidisciplinary Engineering center, University of California, Berkeley, USA
- 2010 Optics and Quantum electronics seminar, Massachusetts Institute of Technology, Boston, USA
- 2011 Israel institute of biological research (IIBR) and Soreq research center, Israel
- 2011 Applied Physics. Seminar, Ben Gurion University, Israel
- 2011 Department of Physics seminar, Bar Ilan University, Israel

- 2011 Applied Physics seminar, Hebrew University, Jerusalem, Israel
- 2011 Department of Electrical Engineering seminar, Tel Aviv University, Tel Aviv, Israel,
- 2011 Department of Physics seminar, Sofia University, Bulgaria
- 2012 Optics and Quantum electronics seminar, MIT, Boston, USA
- 2012 Quantum information Seminar, Physics Faculty, Hebrew University, Jerusalem, Israel
- 2012 Quantum Information Seminar, University of California, Berkeley, USA
- 2013 Photonics seminar, Center of Free Electron Lasers, DESY, Hamburg, Germany
- 2013 Mini AMO Workshop, School of Physics, Tel Aviv University, Tel Aviv, Israel
- 2013 Photonics seminar, Stanford-SLAC, Palo Alto, USA
- 2014 Photonics Seminar, Physics Faculty, Kassel University, Kassel, Germany
- 2015 Soreq national research center, Israel
- 2015 Photonics seminar, Harvard, Boston, USA
- 2016 Photonics seminar, The Hebrew University, Jerusalem, Israel
- 2017 Chemistry Faculty Colloquium, Bar Ilan University, Israel
- 2017 MetaTech17 workshop, Technion, Haifa, Israel
- 2017 Photonics Sciences seminar, University of California Berkeley, CA, USA
- 2017 Photonics seminar, Physics Faculty, Bar Ilan University, Israel
- 2018 TAU-INO workshop, Naples, Italy
- 2018 Physics and Photonics Seminar, Birmingham University, UK
- 2018 Physics and Photonics Seminar, Bath University, UK
- 2018 Physics Colloquium, Ben Gurion University, Sde Boker, Israel
- 2019 Physics and Photonics Seminar, University of San Diego, CA, USA
- 2020 Guest Physics Seminar, IBM Research Laboratories, Haifa, Israel
- 2020 National Graphene Institute (NGI) Seminar, The University of Manchester, UK
- 2020 Physics and Photonics Seminar, University of Southampton, UK
- 2021 Physics Colloquium, Ariel University, Israel
- 2021 Cyber Week Workshop, Tel Aviv University, Israel
- 2022 TAU-Bath University Photonics Workshop, Tel Aviv University, Israel
- 2022 2D Material Summer School, Tel Aviv University, Israel
- 2022 Physics Seminar, University of California, San Diego, CA, USA
- 2022 Engineering Colloquium, University of San Diego, CA, USA
- 2022 Photonics Sciences seminar, University of California Irvine, CA, USA
- 2023 Quantum Future Academy, Bar Ilan University, Israel
- 2023 The Silberberg's Ultrafast, Nonlinear & Quantum Optics memorial ceremony, Weizmann Institute of Science, Israel
- 2023 A Lifelong Time-dependent Perspective, Weizmann Institute of Science, Israel

Active Participation in Scientific Meetings

- 2008 European Optical Society annual meeting (EOSAM), Paris, France (lecture).
- 2009 International Quantum Electronics Conference (IQEC), Baltimore, USA (lecture).
- 2009 Optical Engineering and Science in Israel (OASIS), Tel Aviv, Israel (lecture).
- 2009 Quantum Control Workshop, Kavli Institute of Theoretical Physics (KITP), Santa Barbara, USA (lecture).
- 2010 International Conference on Ultrafast Phenomena (UP), Snowmass village, USA (lecture).

- 2010 Photonics seminar, Duke University, Durham, US (invited lecture).
- 2010 Control of Quantum Dynamics of Atoms, Molecules and Ensembles by Light (CAMEL VI), Varna, Bulgaria (lecture).
- 2010 Optics and Quantum electronics seminar, MIT, Boston, US (invited lecture).
- 2010 Applied Physics Seminar, Caltech, Pasadena, US (invited lecture).
- 2011 Quantum Control seminar, Department of Physics, Sofia University, Bulgaria (invited lecture).
- 2012 Photonics and Plasmonics seminar, EECS, University of California, Berkeley, US (invited lecture).
- 2012 Optics and Quantum electronics seminar, MIT, Boston, US (invited lecture).
- 2013 Conference on Lasers and Electro-Optics (CLEO), San Jose, CA, USA (lecture).
- 2012 Quantum information Seminar, Physics Faculty, Hebrew University, Jerusalem (invited lecture).
- 2012 Quantum control Seminar, University of California, Berkeley, US (invited lecture).
- 2013 Photonics seminar, Center of Free Electron Lasers, DESY, Hamburg, Germany (invited lecture).
- 2013 Conference on Lasers and Electro-Optics (CLEO), San Jose, CA, USA (lecture).
- 2013 Mini AMO Workshop, School of Physics, TAU, Israel (invited lecture).
- 2013 Photonics seminar, Stanford-SLAC, Palo Alto, CA, US (invited lecture).
- 2015 Optical Engineering and Science in Israel (OASIS), Tel Aviv, Israel (invited lecture).
- 2015 Conference on Control of Quantum Dynamics of Atoms, Molecules and Ensembles by Light (CAMEL XI), Burgas, Bulgaria (invited lecture).
- 2015 Conference on Metamaterials, Photonic Crystals and Plasmonics, NYC, NY, USA (invited lecture).
- 2015 International Topical Meeting on Nanophotonics and Metamaterials (NANOMETA), Seefeld, Austria (invited lecture).
- 2015 Electrical, Transport, and Optical Properties of Inhomogeneous Media (ETOPIM), Neve Ilan, Israel (lecture).
- 2015 Nonlinear Optics Conference (NLO), Kauai, Hawaii, USA (lecture).
- 2016 French-Israel Nanophotonics, imaging and bio workshop (NaBi), Paris, France (invited lecture).
- 2016 Laser-Optics Conference (LO2016), Saint-Petersburg, Russia (invited lecture).
- 2017 Taiwan-Israel Bilateral Workshop (TIX), Hsinchu, Taiwan (invited lecture).
- 2017 Conference on Lasers and Electro-Optics (CLEO), San Jose, CA, USA (session chair, lecture).
- 2017 Gordon Research Conference (GRC) on Quantum Coherent Control (invited lecture).
- 2017 Israel-India workshop in condensed matter systems (invited lecture).
- 2017 Optical Engineering and Science in Israel (OASIS-6), Tel Aviv, Israel (invited lecture).
- 2015 International Topical Meeting on Nanophotonics and Metamaterials (NANOMETA), Seefeld, Austria (lecture).
- 2018 Conference on Control of Quantum Dynamics of Atoms, Molecules and Ensembles by Light (CAMEL XIII), Bansko, Bulgaria (invited lecture).
- 2018 Photonics West (SPIE-PW), San Francisco, CA, USA (lecture).
- 2018 Conference on Lasers and Electro-Optics (CLEO), San Jose, USA (invited lecture).
- 2018 Israel-Italy workshop on Light-Matter interaction, Naples, Italy (invited lecture).
- 2018 Novel Optical Materials and Applications, Zurich, Switzerland (lecture).
- 2019 Conference on Lasers and Electro-Optics (CLEO), San Jose, CA, USA (lecture).
- 2019 Scientific Committee for the Optical Engineering and Science in Israel (OASIS-7), Tel Aviv, Israel (session chair)
- 2021 The 54th Annual Meeting of the Israel Society for Microscopy (ISM), Virtual Conference, Israel (invited lecture).
- 2021 International workshop on Artificial Neural Networks (IWANN), Gran Canaria, Spain

- 2021 Photonics North Conference, Canada (invited virtual lecture).
- 2021 International Nanoscience Student Conference (INASCON), Germany (invited virtual lecture).
- 2021 The international Nanotechnology conference in Israel (NANO-IL), Jerusalem, Israel (session chair).
- 2022 International Topical Meeting on Nanophotonics and Metamaterials (NANOMETA), Seefeld, Austria (lecture).
- 2022 Optical Engineering and Science in Israel (OASIS-8), Tel Aviv, Israel (session chair).
- 2023 Conference on Lasers and Electro-Optics (CLEO), San Jose, CA, USA (lecture).
- 2023 Conference on Control of Quantum Dynamics of Atoms, Molecules and Ensembles by Light (CAMEL XVIII), Nessebar, Bulgaria (invited lecture).
- 2023 Conference on Lasers and Electro-Optics (CLEO-Europe), Munich, Germany (two sessions chair).

Reviewer

Journals: Nature, Science, Nature Materials, Nature Photonics, Nature LSA, Nature Communications, Nature Nanotechnology, Science Advances, Laser & Photonics Review, Optica, Scientific Reports, Optics Letters, Optics Express, ACS Photonics, Phys. Rev. Letters, Phys. Rev. A, Phys. Rev. B, Applied Optics, Journal of Quantum Electronics, Modern Physics Letters B, Applied Physics B, Optics Communications.

Proposals: ERC-StG, ERC-Consolidator, ISF, BSF, GIF, PAZY, DFG, Israeli Governmental proposals.

List of Publications

Published Peer-reviewed papers ([Orcid.org/0000-0002-6134-8954](https://orcid.org/0000-0002-6134-8954), ResearcherID: GZL-5700-2022, [ISI Web-of-Science](#), [Scopus](#), [Google Scholar](#))

1. H. Suchowski, D. Oron, Y. Silberberg, "Generation of a dark nonlinear focus by spatio-temporal coherent control", *Opt. Comm.* 264, 482-487 (2006).
2. H. Suchowski, A. Natan, B. D. Bruner, Y. Silberberg, "Spatio-temporal coherent control of atomic systems: weak to strong field transition and breaking of symmetry in 2D maps", *J. Phys. B: At. Mol. Opt. Phys.* 41, 074008 (2008).
3. H. Suchowski, D. Oron, A. Arie, Y. Silberberg, "Geometrical representation of sum frequency generation and adiabatic frequency conversion", *Phys. Rev. A* 78, 063821 (2008).
4. H. Suchowski, V. Prabhudesai, D. Oron, A. Arie, Y. Silberberg, "Robust efficient sum frequency conversion", *Opt. Exp.* 17, 12731-12740 (2009).
5. T. Polack, H. Suchowski, D. Tannor, "Uncontrollable quantum systems: A classification scheme based on Lie subalgebras", *Phys. Rev. A*, 79, 053403 (2009).
6. G. Porat, H. Suchowski, Y. Silberberg, A. Arie "Tunable up-converted optical parametric oscillator with intracavity adiabatic sum frequency generation", *Opt. Lett.* 35, 1590-1592 (2010).
7. B. Bruner, H. Suchowski, N. Vitanov, Y. Silberberg, "Strong-field Spatiotemporal ultrafast coherent control in three level atoms", *Phys. Rev. A* 81, 063410 (2010).
8. H. Suchowski, Y. Silberberg, D. Uzkov, "Pythagorean coupling: Complete population transfer in four level system", *Phys. Rev. A* 84, 1, 013414 (2011).
9. A. A. Rangelov*, H. Suchowski*, N. V. Vitanov, Y. Silberberg, "Wireless adiabatic power transfer", *Annals of Physics* 326, 3, 626-633 (2011).
10. H. Suchowski, B. D. Bruner, A. G. Padowicz, I. Juwiler, A. Arie, Y. Silberberg, "Adiabatic frequency conversion of ultrafast pulses", *App. Phys. B.* 105, 697-702 (2011).
11. M. Fridman*, H. Suchowski*, M. Nixon, A. A. Friesem, N. Davidson, "Modal dynamics in multimode fibers", *J. Opt. Soc. Am. A* 29, 541-544 (2012).
12. K. O'Brien, N.D.L. Kimura, H. Suchowski, B. Kante, Y. Park, X. Yin, X. Zhang, "Reflective interferometry for optical metamaterial phase measurements", *Opt. Lett.* 37, 4089-4091 (2012).
13. G. Porat, Y. Silberberg, A. Arie, H. Suchowski, "Two photon frequency conversion", *Opt. Exp.* 20, 3613-3619 (2012).
14. J. Moses, H. Suchowski, F. X. Kärtner, "Fully efficient adiabatic frequency conversion of broadband Ti:sapphire oscillator pulses", *Opt. Lett.*, 37, 1589-1591 (2012).
15. H. Suchowski, P. R. Krogen, S. W. Huang, F. X. Kärtner, J. Moses, "Octave-spanning coherent mid-IR pulses via adiabatic difference frequency generation", *Opt. Exp.* 21, 28892-28901 (2013).
16. H. Suchowski*, K. O'Brien*, Z. J. Wong*, A. Salandrino, X. Yin, X. Zhang, "Phase-mismatch free nonlinear propagation in zero-index optical materials", *Science* 342, 1223-1226 (2013).
17. H. Suchowski*, G. Porat*, A. Arie, "Adiabatic processes in frequency conversion", *Laser & Phot. Rev.* 8, 333-367 (2014).
18. E. Svetitsky*, H. Suchowski*, R. Resh, Y. Shalibo, J. M. Martinis, N. Katz, "Hidden two-qubit dynamics of a four-level Josephson circuit", *Nat. Comm.* 5, 5617 (2014).

19. K. O'Brien, N.D. Lanzillotti-Kimura, J. Rho, H. Suchowski, X. Yin, X. Zhang, "Ultrafast acousto-plasmonic control and sensing in complex nanostructures", *Nat. Comm.* 5, 4042 (2014).
20. H. Cankaya, A. L. Calendron, H. Suchowski, F. X. Kärtner, "Highly efficient broadband sum-frequency generation in visible wavelength range", *Opt. Lett.* 39, 2912-2915 (2014).
21. M. Mrejen*, H. Suchowski*, T. Hatakeyama, C. Wu, L. Feng, K. O'Brien, Y. Wang, X. Zhang, "Adiabatic elimination based coupling control in densely packed subwavelength waveguides", *Nat. Comm.* 6, 7565 (2015).
22. M. Mrejen, H. Suchowski, T. Hatakeyama, Y. Wang, X. Zhang, "Experimental Realization of Two Decoupled Directional Couplers in a Subwavelength Packing by Adiabatic Elimination", *Nano Lett.* 15, 7383–7387 (2015).
23. H. Suchowski, B. D. Bruner, Y. Israel, A. Ganany-Padowicz, A. Arie, Y. Silberberg, "Broadband photon pair generation at $3\omega/2$ ", *Applied Phy. B*, 122, 1-5 (2016).
24. K. O'Brien*, H. Suchowski*, J. Rho, B. Kante, A. Salandrino, X. Yin, X. Zhang, "Predicting nonlinear properties of metamaterials from the linear response", *Nat. Materials* 14, 379-383 (2015).
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