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EREZ HASMAN
Professor, Schlesinger Chair

Personal Information

Date of birth: July 4, 1960
Place of birth: Tel-Aviv, Israel
Citizenship: Israeli
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Academic Degrees

B.Sc Physics and Astronomy (with honors), Tel-Aviv University, 1981.
M.Sc. Physics (with honors), Israel Institute of Technology, Technion, Haifa, 1985.
Thesis: "*Acceleration of Flyer plates by electrically exploded foils and the application to shock initiation*".
Supervisor: Prof. S.G. Lipson.
Ph.D Applied Physics, Weizmann Institute of Science, Rehovot, 1992.
Thesis: "*Holographic optical elements for far IR radiation*".
Supervisor: Prof. A.A. Friesem.

Employment

- 1980 Summer student, Faculty of Physics, Tel-Aviv University, Tel-Aviv, Israel.
- 1981-1986 Rafael, Israel Defense Research Center; Senior Physicist.
- 1988-1991 Teaching fellow in Advanced Physics Courses - The Feinberg graduate school of the Weizmann Institute of Science.
- 1990 Consultancy for Alumor Ltd.
- 1991 Consultancy for Spectronics Ltd., MLI Ltd., Sabco Ltd., Holo-Or Ltd.
- 1992-1994 Optrotech (Orbotech) Ltd., Israel:
 - Chief Physicist of Graphic and Recognition products line,
 - Senior Project Physicist.
- 1993-1996 Consultancy (research)- Weizmann Institute of Science, Department of Physics of Complex Systems.
- 1993-1998 Supervisor of M.Sc & Ph.D students-Weizmann Institute of Science, Department of Physics of Complex Systems.
- 1994-1996 Elop Electrooptics Industries Ltd., Israel
 - Technology Analysis Manager-
 (Corporate Business Development & Technologies)
- 1996-1998 Visiting Senior scientist - Weizmann Institute of Science, Department of Physics of Complex Systems.
- 1998-2011 Associate Professor, Technion, Faculty of Mechanical Engineering, Head of Optical Engineering program & Micro- and Nanooptics Laboratory, [*tenure-1.10.02*].
- 2010-2012 Head of Danciger Laboratories, Technion.
- 2011-present Full Professor, Technion, Faculty of Mechanical Engineering, Head of Micro- and Nanooptics Laboratory.
- 2012 Visiting Professor, Stanford University, USA (Sabbatical for one year)
- 2014 Visiting Professor, Stanford University, USA (summer-August 2014)

Military Service

- 1981-1986 Israel Defense Forces – Captain (in Rafael)

Fields of Experience

Theoretical and experimental research:

- *High pressure physics and technology* - high pressure flow and shock waves, detonation, short pulses, explosives, pyrotechnics, diagnostic techniques (electro-optic and electric methods), high current and voltage systems, electric guns, high magnetic fields
- *Far IR application* - fiber optics, Laser radars, material processing
- *Physical optics* - Diffraction, focal properties of optical elements, gratings, polarization, non-diffracting beams
- *Optical design* - aspheric optical elements, wavefront shaping, optical geometric transformations
- *Holography* - diffractive optical elements (holographic optical elements), binary optics, computer generated, holograms, interferometry, scanners
- *Optical computing* - optical interconnects, liquid crystal light valve, architecture and correlation techniques
- *Photolithographic technology* - for metallic layers and Gallium Arsenide
- *Optical metrology* - machine vision, surface profile systems, confocal microscopes, triangulation techniques and velocity interferometry
- *R & D in photoplotters (laser plotters)* - imaging and technologies for:
 - Printed Circuit Boards industry,
 - Graphic Arts industry.
 - Involved Technologies - Ar lasers, high power diode lasers, optics for diode lasers, modulators (acousto optic deflectors and multichannel modulators), fiber optics technologies, microlens arrays, optical head for thermal laser plotters
- *Lasers* - solid state lasers, diode pumped lasers, diode lasers, CO₂ lasers, non linear optics (SHG, OPO), laser systems (rangefinders, designators)
- *Thermal imaging* - FLIRs, MCT & GaAs arrays (3-5, 8-12 micron radiation)
- *Optical displays* - Head-up & Helmet displays, automatic head & eye tracking
- *Anamorphic optical concentration* - solar radiation, spectroscopy
- *Optical memory* - 2D & 3D optical storage
- *Laser resonators* - Diffractive optical elements (DOEs) for laser resonators
- *Subwavelength optical elements* - design, realization and applications
- *Space-variant polarization manipulation*
- *Vectorial singular optics (vectorial vortices)*
- *Geometric phase (Pancharatnam phase; Berry phase)*

- *Surface phonon polaritons*
- *plasmonics in nanoscale structures*
- *spin-based nanostructures*
- *Thermodynamic in the near-field*
- *Coherent thermal emission*
- *Micro-and nanoscale radiative heat transfer*

Current Research Interests

Polarization state manipulation, Subwavelength optical elements, Nanostructured optical elements, Nanophotonics, Nanooptics, Optical-metamaterial, Vectorial optics, Diffractive optics, Imaging polarimetry, Surface phonon and plasmon polaritons, Plasmonics, Near-field optics, Singular optics, Vectorial vortices, Geometric phase (Berry phase, Pancharatnam phase), Spinoptics, Angular momentum of light, Spin-based plasmonics in nanostructures, Spin orbit interaction, Optical spin Hall effect, Dynamics of spinning light in nanoscale structures, Geometric symmetry breaking in nanoscale structures.

Manipulation of a thermal emission, Thermodynamic in the near-field, Micro- and nanoscale radiative heat transfer, Coherent thermal emission, Thermal nano-antennas, Thermally excitation of surface waves (plasmons and phonon-polaritons), Geometrical effects on Thermal emission induced by surface waves.

Teaching Experience

- Experimental methods in Advanced Physics - The Feinberg graduate school of the Weizmann Institute of Science (graduate).
- Selected Topics in Optics for Engineers 1 – Technion (graduate)
- Selected Topics in Optics for Engineers 2 – Technion (graduate)
- Linear Optics and Applications 1 – Technion (undergraduate, 035198); Originally authored
- Linear Optics and Applications 2 – Technion (undergraduate, graduate, 036055); Originally authored
- Projects in Optical Engineering 1– Technion (undergraduate, 034373)
- Projects in Optical Engineering 2– Technion (undergraduate, 034374)

- Nanooptics & Periodic Structures (undergraduate, graduate, 036070); Originally authored

Technion Activities

- Head of Optical Engineering Program, Faculty of Mechanical Engineering (1998-2011)
- Head of Micro and Nanooptics Laboratory, Faculty of Mechanical Engineering (1998-present)
- Member, Governing Board of Energy Engineering Center, Faculty of Mechanical Engineering (1999-2013)
- Head of Danciger Laboratories, Technion (2010-2012).
- Member of the Research Committee, (senate) Technion (2015).

Professional Societies

- OSA - Optical Society of America, (Fellow).
- ILEOS - Israel Laser and Electro-Optics Society.
- SPIE - The International Society of Optical Engineering.
- APS - American Physical Society.
- IPS - Israel Physical Society.
- EOS – European Optical Society.

Honors and Awards

- Dean's list, B.Sc. Tel-Aviv University, 1979, 1980, 1981.
- Amos De-Shalit Ulpana, Weizmann Institute of Science, 1979, 1980.
- Dean's list, M.Sc. Technion, Haifa, 1985.
- Excellent Scientist Award, Rafael, Israel Defence Research Center, 1985.
- Eshkol fellowship for the Ph.D, 1989, (Award given by Israeli President).
- Excellence prize for Doctoral student from the Feinberg Graduate School, Weizmann Institute of Science, 1991.
- Excellent Student Award, Knesset (Israeli Parliament), Jerusalem, 1991.
- Salomon Simon Mani Award for Excellence in Teaching, Technion, 2002.
- * The Henry Taub Prize for Academic Excellence, Technion, 2009.
- Award for Excellence in Teaching, Technion, 2010.
- Award for outstanding contribution to the success of the IHTC14 as a

Keynote Speaker "*Manipulation of a Thermal Emission by Use of Micro and Nanoscale Structures*" at the 14th International Heat Transfer Conference Washington, DC, USA, August 8-13, 2010.

- * Award for Fellow of Optical Society of America (OSA), 2012; **"for pioneering contributions in the field of nano-photonics, and specifically for developing a new branch in optics-spinoptics: the symmetry breaking in nanostructures due to spin-orbit interaction"**.
- Award for Schlesinger Chair, Technion 2015

Activities in Conferences & Reviewing

- Professional Reviewing of Science, Nature Photonics, Nature Materials, Nature Nanotech., Phys. Rev. Lett., Opt. Lett., Appl. Opt., Opt. Eng., J.O.S.A., JQE, Opt. Commun., Opt. Express, Appl. Phys. Lett., Phys. Rev. B.
- Professional Reviewing of Swiss National Science Foundation.
- Professional Reviewing of Ministry of Science- Physics Dep.
- Chairman; Diffractive Optics -session
The 9 th Meeting on Optical Engineering in Israel, Oct. 1994.
- Professional examiner- Ph.D & M.Sc students.
- Member of the program committee;
The 10 th Meeting on Optical Engineering in Israel, March 1997.
- Chairman; Solar Energy Optics -session
The 11th International Meeting on Electro-Optics in Israel, Nov. 1999.
- Member of the program committee; Workshop on Micro-Electro-Mechanical Systems (MEMS), Technology, Design and Application, North Carolina – Israel Partnership, May 22-24, 2000.
- Member of the research grant committee of the Israel academy of sciences and humanities (2003);
- Chairman; Optical Engineering – session; The 29th Israel Conference on Mechanical Engineering, Technion, May 12-13, 2003.
- Member of the program committee; Photonics West 2004, Micromachining Technology for Microoptics and Nanooptics Conference, San Jose, CA, USA. 25-29 January 2004.
- Session Chair; Photonics West 2004, Micromachining Technology for Microoptics and Nanooptics Conference, San Jose, CA, USA. 25-29 January 2004.

- Member of the program committee; Photonics West 2005, Micromachining Technology for Microoptics and Nanooptics Conference, San Jose, CA, USA. 22-27 January 2005.
- Session Chair; Photonics West 2005, Micromachining Technology for Microoptics and Nanooptics Conference, San Jose, CA, USA. 25-27 January 2005.
- Member of the program committee; Photonics West 2006, Micromachining Technology for Microoptics and Nanooptics Conference, San Jose, CA, USA. 21-27 January 2006.
- Session Chair; Photonics West 2006, Micromachining Technology for Microoptics and Nanooptics Conference, San Jose, CA, USA. 21-27 January 2006.
- Session Chair- Presider: (Passive Photonics II) , Frontiers in Optics 2005, the 89th OSA Annual Meeting, Tucson Arizona, USA. 16-20 October 2005.
- Member of the organizing committee; 6th Israeli-French Workshop, "Advances in optical and laser materials: crystals, amorphous Materials, Photonic crystals and nano-particles", Maale Hachmisha, Israel, 11-12 December 2006.
- Member of the program committee; Photonics West 2007, Micromachining Technology for Microoptics and Nanooptics Conference, San Jose, CA, USA. 20-25 January 2007.
- Member of the organizing & program committee; The 11th Meeting on Optical Engineering and Science in Israel, (OASIS), Tel-Aviv, 26-27 March 26-27, 2007.
- Session Chair; "Micro and nanooptics and periodic structures", The 11th Meeting on Optical Engineering and Science in Israel, (OASIS), Tel-Aviv, 26-27 March 26-27, 2007.
- Track Leader of the Optical Engineering Track at the 9th Biennial ASME Conference on Design and Analysis-ESDA 2008, July 2008, Technion, Haifa, Israel.
- Session Chair, "Optical Engineering and imaging", The 9th Biennial ASME Conference on Design and Analysis-ESDA 2008, July 2008, Technion, Haifa, Israel.
- Member of the program committee; Photonics West 2008, Advanced Fabrication Technologies for Micro/Nano-Optics & Photonics (MF06) Conference, San Jose, CA, USA. 19-24 January 2008.

- Session Chair, "Diffractive micro and nano structures for sensing and information processing I ", OSA's 92nd Annual Meeting, Frontiers in Optics 2008, Laser Science XXIV, Rochester, USA, 19-23 October 2008.
- Session Chair, "Micro-and nanoscale radiative heat transfer", Topical Meeting at the EOS Annual Meeting 2008 in Paris (European Optical Society), "Micro- and nano-scale Photonic Systems", 29 September- 2 October 2008, Paris-Nord Villepinte, France.
- Session Chair, "Post-deadline session", Topical Meeting at the EOS Annual Meeting 2008 in Paris (European Optical Society), "Micro- and nano-scale Photonic Systems", 29 September- 2 October 2008, Paris-Nord Villepinte, France.
- Session Chair, "Imaging and microscopy", Topical Meeting at the EOS Annual Meeting 2008 in Paris (European Optical Society), "Micro- and nano-scale Photonic Systems", 29 September- 2 October 2008, Paris-Nord Villepinte, France.
- (*) **Co-chair of Topical Meeting at the EOS Annual Meeting 2008** in Paris (**European Optical Society**), "Micro- and nano-scale Photonic Systems", 29 September- 2 October 2008, Paris-Nord Villepinte, France.
- Member of the program committee; Photonics West 2009, Advanced Fabrication Technologies for Micro/Nano-Optics & Photonics (MF106) Conference, San Jose, CA, USA. 24-29 January 2009.
- Member of the organizing & program committee; The 12th Meeting on Optical Engineering and Science in Israel, (OASIS), 16-17 March 2009.
- Session Chair; "Micro and nanooptics and periodic structures", The 12th Meeting on Optical Engineering and Science in Israel, (OASIS), 16-17 March 2009.
- Session Chair; CLEO/IQEC 2009, Conference on Laser and Electro-Optics/ Quantum Electronics and Laser Science Conference, session: "Quantum dot science II", Baltimore, USA, May 31 – June 5, 2009.
- Session Chair; "Electromagnetic eigenstates and resonances in nanoplasmonic systems ", Metallic Nanostructures and their optical properties VII (OP103), NanoScience, San Diego, CA, USA, 2-6 August 2009.
- Member of the program committee; Photonics West 2010, Advanced Fabrication Technologies for Micro/Nano-Optics & Photonics (MF106) Conference, San Francisco, CA USA, 23-28 January 2010.

- Session Chair: European Optical Society; EOS Topical Meeting on Diffractive Optics, Koli, Finland, 14-18 February 2010.
- Member of the organizing & program committee; The 13th Meeting on Optical Engineering and Science in Israel, (OASIS), Tel Aviv, Israel, 9-10 March 2011.
- Session Chair; "Micro and nanooptics and periodic structures", The 13th Meeting on Optical Engineering and Science in Israel, (OASIS), Tel Aviv, Israel, 9-10 March 2011.
- Member of the scientific committee; International workshop on Nano-Micro Thermal Radiation, Sendai, Japan (Matsushima Bay Area), 26-29 May 2012.
- Member of the program committee; NANOMETA 2013, The European Physical Society, The 4rd International Topical Meeting on Nanophotonics and Metamaterials, 3-6 January 2013, Seefeld ski resort, Tirol, Austria.
- Session Chair; "Spin-Optics II", SPIE Optics+Photonics, NanoScience, *Spintronics V* (OP108), San Diego, CA, USA, 12-16 August 2012.
- Member of the program committee; SPIE Optics+Photonics, NanoScience, *Spintronics VI* (OP108), San Diego, CA, USA, 25-29 August 2013.
- Presider (Session Chair), Frontiers In Optics 2013, Laser Science XXIX, (Session; Unconventional polarization and complex optical fields I), Orlando, Florida, USA, 8-9 October 2013.
- Member of the program committee; SPIE Optics+Photonics, NanoScience, *Spintronics VII*, San Diego, CA, USA, 17-21 August 2014.
- Presider (Session Chair), session: Metasurfaces II (FF2C), CLEO/IQEC 2014, Conference on Laser and Electro-Optics/ Quantum Electronics and Laser Science, San Jose, CA USA, 8-13 June, 2014.
- Member of the program committee; SPIE Optics+Photonics, NanoScience, *Spintronics VIII*, San Diego, CA, USA, 9-13 August 2015.
- Member of the Scientific Committee; OASIS-5, The 5th OASIS, International Conference on Optics and Electro-optics, Tel Aviv, Israel, 3-4 March 2015.
- Session chair, "Metasurface II ", SPP7, The 7th international conference on surface plasmon photonics, Jerusalem, Israel, 31 May - 5 June 2015.
- Session chair "Light-matter interactions at the nano-scale", Conference on Lasers and Electro-Optics Europe (CLEO/Europe) and the European Quantum Electronics Conference (EQEC) 2015, Munich, Germany, 21 - 25 June, 2015.

- Member in the program committee, Nanophotonics, SPIE photonic Europe, Brussels, 4-7 April 2016.
- Member of the program committee; SPIE Optics+Photonics, NanoScience, *Spintronics IX*, San Diego, CA, USA, 28 August-1 September 2016.
- Member of the program committee; SPIE Optics+Photonics, NanoScience, *Spintronics X*, San Diego, CA, USA, 6-10 August 2017.
- Member of the program committee; SPIE Optics+Photonics, NanoScience, *Spintronics XI*, San Diego, CA, USA, 19-23 August 2018.
- Session Chair: Metamaterial and Plasmonics, The 8th International Multidisciplinary Conference on Optofluidics 2018, (IMCO), Shanghai, China 5-8 August 2018.
- Member of the program committee; SPIE Optics+Photonics, NanoScience, *Spintronics XII*, San Diego, CA, USA, 11-15 August 2019.
- Member of the program committee; SPIE Optics+Photonics, NanoScience, *Spintronics XIII*, San Diego, CA, USA, 23-27 August 2020.

Activities in Scientific Editorial Board

- Member in editorial board of Journal of Nanoelectronics and Optoelectronics (JNO) (new international journal; 2005, web-site <http://aspbs.com/ino/> ; American Scientific publishers ASP).
- **** Associate Editor for Optics Express, in the fields of nanophotonics, Nanoscale optics, Plasmonics** (from 3.06-5.09). Optics Express is OSA's (Optical Society of America) peer-reviewed journal. (*Impact factor 3.3*).
- Member in editorial board of Journal of Optics A: Pure and Applied Optics (from 3.07-7.09); published by the Institute of Physics Publishing & European Optical Society; *IF 1.2*).
- Member in the editorial advisory board of JEOS:RP; Journal of the European Optical Society Rapid Publications, (from 29.1.13-present).

Publications

Theses

1. "*Acceleration of Flyer plates by electrically exploded foils and the application to shock initiation*", E. Hasman, M.Sc. (1985).
2. "*Holographic Optical Elements for far IR radiation*", E. Hasman, Ph.D. (1992).

Refereed papers in professional journals

1. "*Measurement of shock initiation threshold of HNAB by flyer plate impact*", E. Hasman, M. Gvishi and Y. Carmel, *Propellants, Explosives, Pyrotechnics* **11**, 144-149 (1986).
2. "*The initiation threshold sensitivity of HNS as a function of explosive grain size*", E. Hasman, M. Gvishi and A. Solomonovici, *Propellants, Explosives, Pyrotechnics* **12**, 130-132 (1987).
3. "*Optimal design for holographic focussing elements*", E. Hasman, N. Davidson and A.A. Friesem, *Rev. Roum. Phys.*, tome **33** N 4-6 P. 643-651 (1988).
4. "*Analytic optimization for holographic optical elements*", E. Hasman and A.A. Friesem, *J. Opt. Soc. Am. A* **6**, 62-72 (1989).
5. "*Holographic focussing elements for far IR radiation*", E. Hasman, N. Davidson, A.A. Friesem, M. Nagler and R. Cohen, *Meas. Sci. Technol.* **1**, 59-64 (1990).
6. "*Holographic axilens-high resolution and long focal depth*", N. Davidson, A.A. Friesem and E. Hasman, *Opt. Lett.* **16**, 523-525 (1991).
7. "*Efficient multilevel phase holograms for CO₂ lasers*", E. Hasman, N. Davidson and A.A. Friesem, *Opt. Lett.* **16**, 423-425 (1991).
8. "*Curved holographic elements for optical coordinate transformations*", N. Davidson, A.A. Friesem, E. Hasman and I. Shariv, *Opt. Lett.* **16**, 1430-1432 (1991).
9. "*Heterostructure Multilevel Binary Optics*", E. Hasman, N. Davidson and A.A. Friesem, *Opt. Lett.* **16**, 1460-1462 (1991).
10. "*Multifunctional holographic elements for surface measurements*", E. Hasman, N. Davidson and A.A. Friesem, *Opt. Eng.* **31**, 363-368 (1992).
11. "*Optical coordinate transformations*", N. Davidson, A.A. Friesem and E. Hasman, *Appl. Opt.* **31**, 1067-1073 (1992).
12. "*Realization of perfect shuffle and inverse perfect shuffle transforms with holographic elements*", N. Davidson, A.A. Friesem and E. Hasman, *Appl. Opt.* **31**, 1810-1812 (1992).

13. "*Efficient formation of non-diffracting beams with uniform intensity along the propagation direction*", N. Davidson, A.A. Friesem and E. Hasman, *Opt. Commun.* **88**, 326-330 (1992).
14. "*Aspheric holographic elements for far IR radiation*", E. Hasman, N. Davidson and A.A. Friesem, *Opt. Commun.* **89**, 306-315 (1992).
15. "*Diffractive elements for annular laser beam transformation*", N. Davidson, A.A. Friesem and E. Hasman, *Appl. Phys. Lett.* **61**, 381-383 (1992).
16. "*On the limits of optical interconnects*", N. Davidson, A.A. Friesem and E. Hasman, *Appl. Opt.* **31**, 5426-5430 (1992).
17. "*Blazed holographic grating for polychromatic and multi-directional incidence light*", N. Davidson, R. Duer, A.A. Friesem and E. Hasman, *J. Opt. Soc. Am.* **9**, 1196-1199 (1992).
18. "*Computer generated relief gratings as space-variant polarization elements*", N. Davidson, A.A. Friesem and E. Hasman, *Opt. Lett.* **17**, 1541-1543 (1992).
19. "*Analytic design of hybrid diffractive-refractive achromats*", N. Davidson, A.A. Friesem and E. Hasman, *Appl. Opt.* **32**, 4770-4774 (1993).
20. "*Reflective and refractive systems for general two dimensional beam transformations*", N. Davidson, A.A. Friesem and E. Hasman, *Appl. Opt.* **33**, 815-820 (1994).
21. "*Multilevel diffractive elements for generalized wavefront shaping*", Y. Danziger, E. Hasman, A.A. Friesem and A.W. Lohmann, *Opt. Eng.* **35**, 2556-2565 (1996).
22. "*Diffractive optics: design, realization and applications*", E. Hasman, N. Davidson, Y. Danziger and A.A. Friesem, *Fiber & Integrated Optics* **16**, 1-25 (1997).
23. "*Discontinuous phase elements for transverse mode selection in laser resonators*", R. Oron, Y. Danziger, N. Davidson, A.A. Friesem and E. Hasman, *Appl. Phys. Lett.*, **74**, 1373-1375 (1999).
24. "*Three dimensional optical metrology with color-coded extended depth of focus*", E. Hasman, S. Keren, N. Davidson, A.A. Friesem, *Opt. Lett.*, **24**, 439-441 (1999).
25. "*Laser mode discrimination with intra-cavity spiral phase elements*", R. Oron, Y. Danziger, N. Davidson, A.A. Friesem and E. Hasman, *Opt. Commun.*, **169**, 115-121 (1999).
26. "*High-resolution spectrometry for diffuse light using anamorphic concentration*", N. Davidson, L. Khaykovich and E. Hasman, *Opt. Lett.*, **24**, 1835-1837 (1999).

27. "*High power single mode laser operation with intracavity phase elements*", R. Oron, N. Davidson, A.A. Friesem and E. Hasman, *OPN, Optics & Photonics News*, **10**, 19-20 (1999).
28. "*Anomaly in a high-numerical-aperture diffractive focusing lens*", R. Oron, J.L. Guedalia, N. Davidson, A.A. Friesem and E. Hasman, *Opt. Lett.*, **25**, 439-441 (2000).
29. "*Anamorphic concentration of solar radiation beyond the one-dimensional thermodynamic limit*", N. Davidson, L. Khaykovich and E. Hasman, *Appl. Opt.* **39**, 3963-3967 (2000).
30. "*Efficient formation of pure helical laser beams*", R. Oron, N. Davidson, A.A. Friesem and E. Hasman, *Opt. Commun.* **182**, 205-208 (2000).
31. "*Continuous phase elements can improve laser beam quality*", R. Oron, N. Davidson, A.A. Friesem and E. Hasman, *Opt. Lett.* **25**, 939-941 (2000).
32. "*The formation of laser beams with pure azimuthal or radial polarization*", R. Oron, S. Blit, N. Davidson, A.A. Friesem, Z. Bomzon, and E. Hasman, *Appl. Phys. Lett.* , **77**, 3322-3324 (2000).
33. "*Color-coded optical profilometry with $>10^6$ resolved depth steps*", E. Hasman, and V. Kleiner, *Appl. Opt.* **40**, 1609-1619 (2001).
34. "*Computer generated space-variant polarization elements with subwavelength metal stripes*", Z. Bomzon, V. Kleiner, and E. Hasman, *Opt. Lett.* **26**, 33-35 (2001).
35. "*Achromatic phase retarder by slanted illumination of a dielectric grating with period comparable to the wavelength*", N. Bokor, R. Shechter, N. Davidson, A.A. Friesem, and E. Hasman, *Appl. Opt.* **40**, 2076-2080 (2001).
36. "*Manipulating the Wigner distribution of high order laser modes*", R. Oron, N. Davidson, A.A. Friesem, E. Hasman, *Opt. Commun.* **193**, 227-232 (2001).
37. "*Space-variant polarization state manipulation with computer-generated subwavelength metal stripe gratings*", Z. Bomzon, V. Kleiner, E. Hasman, *Opt. Commun.* **192**, 169-181 (2001).
38. "*Pancharatnam-Berry phase in space-variant polarization state manipulations with subwavelength gratings*", Z. Bomzon, V. Kleiner, E. Hasman, *Opt. Lett.* **26**, 1424-1426 (2001).
39. "*Formation of radially and azimuthally polarized light using space-variant subwavelength metal stripe gratings*", Z. Bomzon, V. Kleiner, E. Hasman, *Appl. Phys. Lett.* **79**, 1587-1589 (2001).

40. "*Spatial Fourier-transform polarimetry using space-variant subwavelength metal stripe polarizers*", Z. Bomzon, G. Biener, V. Kleiner, E. Hasman, *Opt. Lett.* **26**, 1711-1713 (2001).
41. "*Improving the beam quality of high-order laser modes*", A. Ishaaya, R. Oron, N. Davidson, E. Hasman, A.A. Friesem, (*Optics in 2001*), *OPN, Optics & Photonics News*, **12**, 55 (2001).
42. "*Space-variant polarization-state manipulation with computer generated subwavelength gratings*", Z. Bomzon, G. Biener, V. Kleiner, E. Hasman, (*Optics in 2001*), *OPN, Optics & Photonics News*, **12**, 33 (2001).
43. "*Efficient conversion of a Gaussian beam to a high purity helical beam*", G. Machavariani, N. Davidson, E. Hasman, S. Blit, A.A. Ishaaya, and A.A. Friesem, *Opt. Commun.* **209**, 265-271 (2002).
44. "*Laser operation with two orthogonally polarized transverse modes*", R. Oron, L. Shimshi, S. Blit, N. Davidson, A.A. Friesem, and E. Hasman, *Appl. Opt.* **41**, 3634-3637 (2002).
45. "*Radially and azimuthally polarized beams generated by space-variant dielectric subwavelength gratings*", Z. Bomzon, G. Biener, V. Kleiner, E. Hasman, *Opt. Lett.* **27**, 285-287 (2002).
46. "*Real-time analysis of partially polarized light with space-variant subwavelength dielectric grating*", Z. Bomzon, G. Biener, V. Kleiner, E. Hasman, *Opt. Lett.* **27**, 188-190 (2002).
47. "*Efficient formation of high quality beam from a pure high order HG mode*", G. Machavariani, N. Davidson, A. Ishaaya, A.A. Friesem, E. Hasman, *Opt. Lett.* **27**, 1501-1503 (2002).
48. "*Space-variant Pancharatnam-Berry phase optical elements with computer-generated subwavelength gratings*", Z. Bomzon, G. Biener, V. Kleiner, E. Hasman, *Opt. Lett.* **27**, 1141-1143 (2002).
49. "*Polarization Talbot self-imaging with computer-generated space-variant subwavelength dielectric gratings*", Z. Bomzon, A. Niv, G. Biener, V. Kleiner, E. Hasman, *Appl. Opt.* **41**, 5218-5222 (2002).
50. "*Non-diffracting periodically space-variant polarization beams with subwavelength gratings*", Z. Bomzon, A. Niv, G. Biener, V. Kleiner, E. Hasman, *Appl. Phys. Lett.* **80**, 3685-3687 (2002).
51. "*Polarization beam-splitters and optical switches based on space-variant computer-generated subwavelength quasi-periodic structures*", E. Hasman, Z. Bomzon, A. Niv, G. Biener, and V. Kleiner, *Opt. Commun.* **209**, 45-54 (2002).

52. "*Formation of helical beams by use of Pancharatnam-Berry phase optical elements*", G. Biener, A. Niv, V. Kleiner, and E. Hasman, *Opt. Lett.* **27**, 1875-1877 (2002).
53. "*Efficient mode conversion of laser beams*", A.A. Ishaaya, G. Machavariani, N. Davidson, E. Hasman, and A.A. Friesem, (*Optics in 2002*), *OPN, Optics & Photonics News*, **13**, 43 (2002).
54. "*Formation of Pancharatnam-Berry phase optical elements with space-variant subwavelength gratings*", E. Hasman, V. Kleiner, G. Biener, and A. Niv, (*Optics in 2002*), *OPN, Optics & Photonics News*, **13**, 45 (2002).
55. "*Efficient selection of high-order Laguerre-Gaussian modes in a Q-switched Nd:YAG laser*", A.A. Ishaaya, N. Davidson, G. Machavariani, E. Hasman, and A.A. Friesem, *IEEE J. of Quantum Electron.* **39**, 74-82 (2003).
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18. “*Aerosol measurement using a diffractive optical element- Axilens*”, E. Hasman, V. Kleiner, M. Shapiro, S. Lekhtmakher, EAC 2001, European Aerosol Conference 2001, Leipzig, Germany, September 3-7, 2001, J. Aer. Sci. **32**, 841-842, 2001.
19. “*High-order mode selection in Q-switched Nd:YAG lasers*”, A. A. Ishaaya, N. Davidson, G. Machavariani, A.A. Friesem, E. Hasman, accepted to CLEO 2002, Conference on Laser and Electro-Optics, Long Beach CA, Conference, Digest p. 292-293, (CtuV7) May 2002.
20. “*Efficient formation of pure helical beams from a Gaussian beam*”, G. Machavariani, N. Davidson, A.A. Friesem, A. A. Ishaaya, S. Blit, E. Hasman, accepted to CLEO 2002, Conference on Laser and Electro-Optics, Long Beach CA, Conference, Digest p. 214-215, (CtuK28) May 2002.
21. “*Vectorial vortex structures formed by computer-generated space-variant dielectric subwavelength gratings*”, Z. Bomzon, G. Biener, V. Kleiner, E. Hasman, CLEO, 2002 Conference on Laser and Electro-Optics, Long Beach CA, Conference, Digest p. 74-75, (CMP3) May 2002.
22. “*Spatial Fourier-transform polarimetry with space-variant subwavelength dielectric gratings*”, Z. Bomzon, G. Biener, V. Kleiner, E. Hasman, CLEO, 2002 Conference on Laser and Electro-Optics, Long Beach CA, Conference, Digest p. 33, (CMG3) May 2002.
23. “*Optical elements based on space-variant Pancharatnam-Berry phase manipulation*”, Z. Bomzon, G. Biener, V. Kleiner, E. Hasman, QELS 2002, Quantum Electronics and Laser Science Conference, Long Beach CA, Conference, Digest p. 13-14, (QMD4) May 2002.
24. “*Transformation of a high order HG mode to a nearly gaussian beam*”, G. Machavariani, N. Davidson, A.A. Ishaaya, A.A. Friesem, E. Hasman, Proceed. of SPIE, Vol. 5147, (2003) International conference on Advanced Laser Technologies, ATL-02, p. 271-275, Adelboden, Switzerland, September 15-20, 2002.
25. “*Compact optical mode convertor*”, A.A. Ishaaya, G. Machavariani, N. Davidson, A.A. Friesem, E. Hasman, CLEO 2003, Conference on Laser and Electro-Optics, Baltimore, Maryland, USA., Digest CFH4, 1-6 June 2003.
26. “*Quantized Pancharatnam-Berry phase diffractive optics by use of space-variant subwavelength gratings*”, E. Hasman, V. Kleiner, A. Niv, G. Biener, QELS 2003,

Quantum Electronics and Laser Science Conference, Baltimore, Maryland, USA, Digest QtuL7, 1-6 June 2003.

27. “*Effect of phase errors on laser mode selection with binary phase elements*”, G. G. Machavariani, A.A. Ishaaya, N. Davidson, A.A. Friesem, S. Blit, E. Hasman, CLEO Europe/EQEC 2003, Conference on Laser and Electro-Optics, Munich, Germany, CB3T, p. 93, 22-27 June 2003.
28. “*Laser mode selection with intracavity phase elements*”, A.A. Friesem, N. Davidson, E. Hasman, A.A. Ishaaya, G. G. Machavariani, R. Oron, L. Shimshi, CLEO Europe/EQEC 2003, Conference on Laser and Electro-Optics, Munich, Germany, CB3-2-TUE, p. 40, 22-27 June 2003.
29. “*Compact and simple configurations for converting laser beam distributions*”, G. G. Machavariani, A.A. Ishaaya, N. Davidson, A.A. Friesem, E. Hasman, CLEO Europe/EQEC 2003, Conference on Laser and Electro-Optics, Munich, Germany, CEP1-4-THU, (post-deadline), 22-27 June 2003.
30. “*Second harmonic generation with a high-order mode laser beam*”, L. Shimshi, A.A. Ishaaya, N. Davidson, A.A. Friesem, E. Hasman, The 87th OSA annual meeting conference, Tucson, Arizona, USA. Technical Digest, Frontiers in Optics, ThTT4 page 35, October 2003.
31. “*Formation of complex wave fronts by use of quasi-periodic subwavelength structures*”, E. Hasman, A. Niv, G. Biener, V. Kleiner, Photonics West 2004, Micromachining Technology for Microoptics and Nanooptics II, Proceeding of SPIE Vol. 5347, p. 126-136, San Jose, CA, USA. 24-29 January 2004.
32. “*Formation of discrete space-variant subwavelength dielectric gratings for polarimetric measurements*”, G. Biener, A. Niv, Y. Gorodetski, V. Kleiner, E. Hasman, Photonics West 2005, Micromachining Technology for Microoptics and Nanooptics III, Proceeding of SPIE Vol. 5720, p. 148-155, San Jose, CA, USA. 22-27 January 2005.
33. “*Spatial-polarization state scrambling for image encryption obtained with subwavelength gratings*”, G. Biener, A. Niv, V. Kleiner, and E. Hasman, CLEO 2005, Conference on Laser and Electro-Optics, Digest, CTuW6, Baltimore, Maryland, USA., May 2005.
34. “*Propagation-invariant and rotating vectorial Bessel beams by use of quantized Pancharatnam-Berry phase optical elements*”, A. Niv, G. Biener, V. Kleiner, and E. Hasman, CLEO 2005, Conference on Laser and Electro-Optics, Digest, CTuEE1, Baltimore, Maryland, USA., May 2005.
35. “*Space-variant polarization manipulation of a thermal emission by a SiO₂ subwavelength grating supporting surface phonon-polariton*”, E. Hasman, N. Dahan, A. Niv, G. Biener, and V. Kleiner, CLEO 2005, Conference on Laser and Electro-Optics, Digest, CTuL6, Baltimore, Maryland, USA., May 2005.

36. “*Space-variant polarization manipulation for polarimetric measurement by use of subwavelength gratings*”, G. Biener, A. Niv, Y. Gorodetski, V. Kleiner, and E. Hasman, CLEO 2005, Conference on Laser and Electro-Optics, Digest, CThM3, Baltimore, Maryland, USA., May 2005.
37. “*Formation of vectorial vortices by use of discretely oriented space-variant subwavelength gratings*”, A. Niv, G. Biener, V. Kleiner, E. Hasman, Frontiers in Optics 2005, the 89th OSA Annual Meeting, Technical Digest, FThG3, Tucson Arizona, USA. 16-20 October 2005.
38. “*Vectorial vortices obtained with quantized Pancharatnam-Berry phase optical elements*”, E. Hasman, A. Niv, G. Biener, V. Kleiner, Photonics West 2006, Nanomanipulation with light II, Proceeding of SPIE Vol. 6131, p. 613107-1 – 613107-8 , San Jose, CA, USA. 21-26 January 2006.
39. “*Space-variant polarization manipulation of a thermal emission by a polar material subwavelength grating supporting surface phonon-polaritons*”, E. Hasman, N. Dahan, A. Niv, G. Biener, V. Kleiner, Photonics West 2006, Nanomanipulation with light II, Proceeding of SPIE Vol. 6131, p. 61310L-1 – 61310L-6, San Jose, CA, USA. 21-26 January 2006.
40. “*Geometric phase obtained with space-variant subwavelength gratings*”, Y. Gorodetski, G. Biener, A. Niv, V. Kleiner, E. Hasman, European Optical Society, EOS Annual Meeting 2006, Proceeding TOM 4 p. 86 , Paris, France, 16-19 October, 2006.
41. “*Spatial control of the polarization state of thermal emission obtained with subwavelength structures*”, N. Dahan, A. Niv, G. Biener, V. Kleiner, E. Hasman, European Optical Society, EOS Annual Meeting 2006, TOM3 p. 89 , Paris, France, 16-19 October, 2006.
42. “*Enhanced coherent thermal emission of coupled resonant cavities due to surface waves excitation*”, N. Dahan, A. Niv, G. Biener, Y. Gorodetski, V. Kleiner, E. Hasman, OASIS, The 11th Meeting on Optical Engineering and Science in Israel, Tel Aviv, Israel, March 26-27 2007.
43. “*Manipulation of Pancharatnam phase in vectorial vortices*”, A. Niv, G. Biener, Y. Yirmiyahu, V. Kleiner, E. Hasman, OASIS, The 11th Meeting on Optical Engineering and Science in Israel, Tel Aviv, Israel, March 26-27 2007.
44. “*Enhanced coherent thermal emission of coupled resonant cavities due to surface phonon-polariton excitation*”, E. Hasman, N. Dahan, V. Kleiner, A. Niv, G. Biener, Y. Gorodetski, Tech. Digest QTuG7, CLEO/QELS 2007, Conference on Laser and Electro-Optics/ Quantum Electronics and Laser Science Conference, Baltimore, Maryland, USA., 6-11 May 2007.
45. “*Enhanced coherency of thermal emission by coupled resonant cavities supporting surface waves*”, N. Dahan, A. Niv, G. Biener, Y. Gorodetski, V. Kleiner, E. Hasman, Photonic Crystal Materials and Devices VII (OE16), part of SPIE International Symposium on Integrated Optoelectronics Devices 2008,

Photonics West 2008, Proceeding of SPIE Vol. 6901, p. 69010A, San Jose, CA, USA. 19-24 January 2008.

46. “*Coherent thermal source formed by periodic microcavities*”, N. Dahan, A. Niv, G. Biener, Y. Gorodetski, V. Kleiner, E. Hasman, Advanced Fabrication Technologies for Micro/Nano-Optics & Photonics (MF06), part of SPIE MOEMS-MEMS 2008, Photonics West 2008, Proceeding of SPIE Vol. 6883, p. 68830Y, San Jose, CA, USA. 19-24 January 2008.
47. “*Geometric phase of surface waves induced by spin-to-orbital angular momentum transfer in nanoscale periodic structures*”, Y. Gorodetski, A. Niv, V. Kleiner, E. Hasman, ASME – 9th Biennial ASME Conference on Engineering Systems, Design and Analysis, ESDA 2008, Haifa, Israel, July 7-9, 2008.
48. “*Enhanced coherency of thermal emission from SiC by coupled resonant cavity structure*”, N. Dahan, A. Niv, Y. Gorodetski, V. Kleiner, E. Hasman, ASME – 9th Biennial ASME Conference on Engineering Systems, Design and Analysis, ESDA 2008, Proceeding ESDA2008-59026, Haifa, Israel, July 7-9, 2008.
49. “*Inhomogeneous anisotropic subwavelength structures for the excitation of single hollow waveguide modes*”, A. Niv, Y. Yirmiyahu, G. Biener, V. Kleiner, E. Hasman, Tech. Digest CMY4, CLEO/QELS 2008, Conference on Laser and Electro-Optics/ Quantum Electronics and Laser Science Conference, San Jose, CA, USA., 4-9 May 2008.
50. “*Coherent control of thermal emission from SiC due to coupled resonant cavity structure*”, N. Dahan, A. Niv, G. Biener, Y. Gorodetski, V. Kleiner, E. Hasman, Tech. Digest CFO6, CLEO/QELS 2008, Conference on Laser and Electro-Optics/ Quantum Electronics and Laser Science Conference, San Jose, CA, USA., 4-9 May 2008.
51. “*Spin-based plasmonics in nanoscale structures*”, Y. Gorodetski, A. Niv, V. Kleiner, E. Hasman, European Optical Society, EOS Annual Meeting 2008, Tech. Digest TOM4, Paris, France, 29 September-2 October, 2008.
52. “*Modifying the dynamics of surface waves for enhanced coherent thermal emission*”, N. Dahan, A. Niv, G. Biener, Y. Gorodetski, V. Kleiner, E. Hasman, European Optical Society, EOS Annual Meeting 2008, Tech. Digest TOM4, Paris, France, 29 September-2 October, 2008.
53. “*Spinoptics: Dynamics of spinning light in nanoscale-structure*”, E. Hasman, Y. Gorodetski, K. Bliokh, A. Niv and V. Kleiner, Tech. Digest IMG7, CLEO/IQEC 2009, Conference on Laser and Electro-Optics/ Quantum Electronics and Laser Science Conference, Baltimore, Maryland, USA., 31 May- 5 June 2009.
54. “*Spin symmetry breaking in thermal emission*”, E. Hasman, V. Kleiner, K. Frischwasser, N. Dahan, Y. Gorodetski and I. Ballin, Tech. Digest QTuI4, CLEO/IQEC 2011, Conference on Laser and Electro-Optics/ Quantum Electronics and Laser Science Conference, Baltimore, Maryland, USA., 1-6 May 2011.

55. “*Plasmonic Aharonov-Bohm Effect*”, V. Kleiner, S. Nechayev, Y. Gorodetski and E. Hasman, Tech. Digest JTU148, CLEO/IQEC 2011, Conference on Laser and Electro-Optics/ Quantum Electronics and Laser Science Conference, Baltimore, Maryland, USA., 1-6 May 2011.
56. “*Spin-dependent plasmonics based on interfering topological defects*”, N. Shitrit, V. Kleiner, E. Hasman, Tech. Digest XXX, CLEO/IQEC 2012, Conference on Laser and Electro-Optics/ Quantum Electronics and Laser Science Conference, San Francisco, USA., 6-11 May 2012.
57. “*Spinoptical metamaterials: spin-controlled photonics based on symmetry violation*”, N. Shitrit, I. Yulevich, E. Maguid, D. Veksler, D. Ozeri, V. Kleiner and E. Hasman, SPIE Optics+Photonics, NanoScience, **Spintronics VI** (OP108), Proceeding of SPIE Vol. XX , San Diego, CA, USA, 25-29 August 2013.
58. “*Dielectric metasurface optical elements*”, Dianmin Lin, Pengyu Fan, Erez Hasman, Mark Brongersma, Materials Research Society Conference, 2013 MRS fall meeting, Boston, Massachusetts, USA., 1-6 December 2013.
59. “*Molding surface plasmons by spinoptical Rashba metasurfaces*”, N. Shitrit, I. Yulevich, D. Veksler, V. Kleiner, E. Hasman, CLEO/IQEC 2014, Conference on Laser and Electro-Optics/ Quantum Electronics and Laser Science Conference, San Jose, CA USA, 8-13 June, 2014.
60. “*Manipulation of radiative thermal transfer in nano-scale*”, H. Chalabi, E. Hasman and M. Brongersma, Gordon Research Conference on Plasmonics, Sunday River Resort, Newry, Maine, USA, 6-11 July 2014.
61. “*Extreme light absorption in ultrathin lossy film on metallic metasurface*”, P. Junghyun, E. Hasman and M. Brongersma, Gordon Research Conference on Plasmonics, Sunday River Resort, Newry, Maine, USA, 6-11 July 2014.
62. “*Multiple wavefront shaping by a single gradient metasurface*”, N. Shitrit, D. Veksler, E. Maguid, D. Ozeri, V. Kleiner, E. Hasman, CLEO/IQEC 2015, Conference on Laser and Electro-Optics/ Quantum Electronics and Laser Science Conference, San Jose, CA USA, 10-15 May 2015.
63. “*shared-aperture multitasking pancharatnam-Berry phase dielectric nanoantenna array*”, E. Maguid, I. Yulevich, M. Yannai, V. Kleiner, M.L. Brongersma and E. Hasman, CLEO 2017, Laser Science to Photonic Applications San Jose, CA USA, 14-19 May 2017.
64. “*Intra-cavity spin controlled geometric phase metasurface*”, R. Chriki, E. Maguid, C. Tradonsky, V. Kleiner, A.A. Friesem, N. Davidson and Erez Hasman, Conference on Lasers and Electro-Optics Europe (CLEO/Europe) and the European Quantum Electronics Conference (EQEC) 2017, Munich, Germany, 25 - 29 June, 2017.

65. "*Spin-controlled multifunctional metasurfaces*", E. Maguid, I. Yulevich, M. Yannai, V. Kleiner, M.L. Brongersma and Erez Hasman, Conference on Lasers and Electro-Optics Europe (CLEO/Europe) and the European Quantum Electronics Conference (EQEC) 2017, Munich, Germany, 25 - 29 June, 2017.
66. "*Intra-cavity metasurfaces for topologically spin-controlled laser modes*", E. Maguid, R. Chriki, M. Yannai, C. Tradonsky, V. Kleiner and E. Hasman, CLEO 2018, Laser Science to Photonic Applications San Jose, CA USA, 13-18 May 2018.
67. "*Disordered geometric phase: Photonic transition from spin Hall to Rashba effect*", E. Maguid, M. Yannai, A. Faerman, I. Yulevich, V. Kleiner and E. Hasman, CLEO 2018, Laser Science to Photonic Applications San Jose, CA USA, 13-18 May 2018.
68. "*Generating entanglement of spin and orbital angular momentum by metasurfaces*", Tomer Stav, Arkady Faerman, Elhanan Maguid, Dikla Oren, Vladimir Kleiner, Erez Hasman and Mordechai Segev, CLEO 2018, Laser Science to Photonic Applications San Jose, CA USA, 13-18 May 2018.
69. "*Disorder topological defects induce photonic phase transition*", Bo Wang, Elhanan Maguid, Michael Yannai, Arkady Faerman, Vladimir Kleiner and Erez Hasman, CLEO 2018, Laser Science to Photonic Applications San Jose, CA USA, 13-18 May 2018.
70. "*Random Topological Defects-induced Spin-enabled Photonic Transport by Metasurfaces*", Bo Wang, Elhanan Maguid, Michael Yannai, Vladimir Kleiner, Erez Hasman, Conference on Lasers and Electro-Optics Europe (CLEO/Europe) and the European Quantum Electronics Conference (EQEC) 2019, Munich, Germany, 23 - 27 June, 2019.

Plenary, Keynote, Tutorial & Invited Talks (in conferences)

1. "*Advances in holographic optical elements*", E. Hasman, A.A. Friesem, N. Davidson, and O. Kinrot, SPIE Vol. 1319 p. 276-280 (1990).
2. "*Optics in MEMS: Design, Realization, and Applications*", E. Hasman, Workshop on Micro-Electro-Mechanical Systems (MEMS) , Technology, Design and Application, North Carolina – Israel Partnership, May 22-24, 2000.
3. "*Amplitude, phase, wavelength and polarization state manipulations with non-conventional optical elements*", E. Hasman, A Symposium on Modern Methods in Optics, Weizmann Inst. of Science, May 16, 2001.
4. "*Space-variant polarization-state manipulation with computer generated subwavelength gratings*", E. Hasman, Joint IEEE-Israel ComSoc and LEOS seminar on Broadband Communications and Imaging, Ben Gurion University, 28 October 2001.

5. “*Space-variant polarization-state manipulation with computer-generated subwavelength gratings*”, E. Hasman, Photonics West 2003, Micromachining Technology for Microoptics and Nanooptics Conference I, SPIE Vol. 4984, p 171-185, San Jose, CA, USA. 25-31 January 2003.
6. “*Space-variant polarization-state manipulation by use of computer-generated subwavelength gratings*”, E. Hasman, V. Kleiner, A. Niv, G. Biener, ICO Topical Meeting on Polarization Optics, Polvijarvi, Finland, University of Joensuu , Department of Physics, Selected papers 8, P. 30-31, June 30, 2003.
7. “*Pancharatnam-Berry phase optical elements by use of space-variant subwavelength gratings*”, E. Hasman , Physics, Theory, and Applications of Periodic Structures in Optics II, International symposium on optical science and technology SPIE’s 48th Annual meeting, San Diego, CA USA. 3-8 August 2003.
8. “*Polarization-shaping using space-variant subwavelength gratings*”, E. Hasman, Frontiers in Optics 2005, the 89th OSA Annual Meeting, Technical Digest, FWL1, Tucson Arizona, USA. 16-20 October 2005.
9. “*Polarization manipulation of a thermal emission obtained with space-variant subwavelength gratings supporting surface phonon-polaritons*”, E. Hasman, Bi-National Israel-Italian Optronics Workshop, Ben-Gurion University of the Negev, 30 November-1 December 2005.
10. “*Quasi-periodic nanostructures for polarization manipulation in optics*”, E. Hasman, Workshop on Nano-Bio Materials (sponsored by air force materials laboratory-Israel Mod), Technion, 16-17 November 2005.
11. “*Space-variant polarization manipulation by use of subwavelength gratings*”, E. Hasman, Workshop on Photonic Crystals and Related Applications-WPCA, Weizmann Institute of Science, Rehovot, 19 June, 2005.
12. “*Space-variant polarization manipulation by use of subwavelength gratings*”, E. Hasman, Advances in Optics and Computational Imaging, Workshop, Holon Academic Institute of Technology, 1 May, 2005.
13. “*Quasi-periodic subwavelength gratings for polarization manipulation*”, E. Hasman, European Optical Society, EOS Annual Meeting 2006, Proceeding TOM 4 p.60, Paris, France, 16-19 October, 2006.
14. “*Quasi-periodic subwavelength structures*”, E. Hasman, 6th Israeli-French Workshop, "Advances in optical and laser materials: crystals, amorphous materials, photonic crystals and nano-particles", p. 69-70, Maale Hachmisha , Israel, 11-12 December 2006.
15. “*Light manipulation by use of micro and nanostructures*”, E. Hasman, The 53rd Annual Meeting of the Israel Physical Society, (ISP 2007), Weizmann Institute of Science, Rehovot, December 9, 2007, Bulletin of the Israel Physical Society Vol. 53, p. 81, 2007.

16. “*Light manipulation by use of micro and nanostructures*”, A. Niv, G. Biener, N. Dahan, Y. Gorodetski, Y. Yirmiyahu, V. Kleiner, E. Hasman, Turkish Israeli workshop on Nano Photonics, Bar-Ilan University, Ramat-Gan, Israel, 28 March, 2007.
17. “*Light manipulation by use of inhomogeneous anisotropic subwavelength structures*”, E. Hasman, V. Kleiner, N. Dahan, A. Niv, Y. Yirmiyahu, Y. Gorodetski, Complex Light and Optical Forces II (OE20), part of SPIE International Symposium on Integrated Optoelectronics Devices 2008, Photonics West 2008, Proceeding of SPIE Vol. 6905, p. 690509, San Jose, CA, USA. 19-24 January 2008.
18. “*Light manipulation by use of inhomogeneous anisotropic nanoscale structures*”, E. Hasman, Frontiers in Optics 2008, the 92ND OSA Annual Meeting, Tech. Digest, FThV6, Rochester, NY, USA. 19-23 October 2008.
19. * **KEYNOTE Talk** (45 minutes)* “*Spinoptics: Spin symmetry breaking in plasmonic nanostructures*”, E. Hasman, Plasmonics: Metallic Nanostructures and their optical properties VII (OP103), NanoScience, Proceeding of SPIE Vol. 7394, 73941W, San Diego, CA, USA, 2-6 August 2009.
20. “*Spinoptics: Spin symmetry breaking in nanostructures*”, E. Hasman, Workshop on: Meta- and Bio/Nano Materials, (with US AFRL), 2-4 November 2009.
21. * **KEYNOTE Talk** (60 minutes)* “*Spinoptics: Spin symmetry breaking in nanostructures*”, E. Hasman, European Optical Society; EOS Topical Meeting on Diffractive Optics, Koli, Finland, 14-18 February 2010.
22. * **KEYNOTE Talk** (60 minutes)* “*Manipulation of a thermal emission by use of micro- and nanoscale structures*”, E. Hasman, International Heat Transfer Conference (IHTC-14), paper IHTC14-23379, ASME, Washington DC., USA, 8-13 August 2010.
23. * **KEYNOTE Talk** (60 minutes)* “*Spin Hall effect in plasmonics*”, E. Hasman, SPIE Optics+Photonics, NanoScience, Plasmonics: Metallic Nanostructures and their optical properties IX (OP104), Proceeding of SPIE Vol. 8096 80961T, San Diego, CA, USA, 21-25 August 2011.
24. “*Nanoscale spinoptics in plasmonics*”, E. Hasman, 29th Israel Vacuum Society IVS annual conference and technical workshop-2011, Herzliya, 6 June 2011.
25. ** **PLENARY Talk** (60 minutes)* “*Spinoptics: Spin degeneracy removal in nanostructures*”, E. Hasman, SPIE Photonics West, San Francisco, CA, USA, 21-26 January 2012; (Photonics West is the world's leading photonics, laser, and biomedical optics event; about 19,000 attendees).
26. “*Acrobatics for thermal emission using metastructures*”, E. Hasman, SPIE Photonics West, High Contrast Metastructures (OE131), San Francisco, CA, USA, 21-26 January 2012.

27. * **KEYNOTE Talk** (45 minutes)* “*Spinoptics in nanostructures*”, E. Hasman, SPIE Optics+Photonics, NanoScience, *Spintronics V* (OP108), Proceeding of SPIE Vol. 8461 Page 846116-1 846116-9 , San Diego, CA, USA, 12-16 August 2012.
28. “*Spinoptical metamaterials*”, E. Hasman, SPIE Optics+Photonics, NanoScience, Plasmonics: Metallic Nanostructures and their optical properties X (OP104), Proceeding of SPIE Vol. XX , San Diego, CA, USA, 12-16 August 2012.
29. * **PLENARY Talk** (& Colloquium), "Spinoptical metamaterials", Workshop on Spin-orbit interaction for light and matter waves, Max-Planck-Institute for the physics of complex systems, Dresden, Germany 15-19 April 2013.
30. "*Spinoptical Metamaterials: Spin-Controlled Photonics Based on Symmetry Violation*" Nir Shitrit, Igor Yulevich, Elhanan Maguid, Dror Ozeri, Dekel Veksler, Vladimir Kleiner and Erez Hasman*, *Spintronics VI: Symposium of the SPIE Optics & Photonics Conference*, Proc. of SPIE Vol. 8813 Page 881314-1 881314-6, San Diego, CA, 25 – 29 August 2013.
31. "Spinoptical metamaterials: spin-controlled photonics", *Frontiers In Optics 2013, Laser Science XXIX*, (Session; Unconventional polarization and complex optical fields II), Orlando, Florida, USA, 8-9 October 2013.
32. "Spinoptical Metasurfaces: Spin-controlled photonics", *French-Israeli Inter-Academy Symposium in Physics*, 19-20 March 2014.
33. "Spinoptical Metasurfaces: Spin-controlled photonics", *NanoIsrael 2014, The 4th International Nanotechnology Conference*, David Inter Continental Hotel, Tel Aviv, Israel, 24-25 March 2014.
34. "Spinoptical Metamaterials: Spin-controlled photonics", *NTU-Technion workshop on "Advanced photonics and nanophotonics"*. Nanyang Technological University, Singapore, 16-20 May 2014.
35. "Spin-Optical Metasurface Route to Spin-Controlled Photonics", *META 14, the 5th International Conference on Metamaterials, Photonic Crystals and Plasmonics; special session - "Photonic Dirac cone and topological photonic states"*; Singapore, 20-23 May 2014.
36. * **TUTORIAL Talk**; "*Spin-Optical Metasurface Route to Spin-Controlled Photonics*", *CLEO 2014; CLEO/IQEC 2014, Conference on Laser and Electro-Optics/ Quantum Electronics and Laser Science Conference*, San Jose, CA USA, 8-13 June, 2014.
37. “Spin-Optical Metamaterial Route to Spin-Controlled Photonics”, *Gordon Research Conference on Plasmonics*, Sunday River Resort, Newry, Maine, USA, 6-11 July 2014.

38. "Spinoptical metasurfaces: spin-controlled photonics", Workshop on Biomedical Optical Imaging & Laser Manipulations, Tel-Aviv university, September 3, 2014.
39. "Photonic transport control by spin-optical metasurface" Xin Center International Winter school on nano-photonics, Tel Aviv University, February 1-5, 2015.
40. "Multiple wavefront shaping by a single spinoptical gradient metasurface" OASIS-5, The 5th OASIS, International Conference on Optics and Electro-optics, Tel Aviv, Israel, 3-4 March 2015.
42. "Photonic transport control by spin-optical gradient metasurface" ", SPP7, The 7th international conference on surface plasmon photonics, Jerusalem, Israel, 31 May - 5 June 2015.
43. * **KEYNOTE Talk** "Spinoptical Metasurfaces: Spin-controlled photonics", Conference on Lasers and Electro-Optics Europe (CLEO/Europe) and the European Quantum Electronics Conference (EQEC) 2015, Munich, Germany, 21 - 25 June, 2015.
44. " Multiple wavefront shaping by spinoptical gradient metasurface", 36th Progress in Electromagnetics Research Symposium (PIERS), Prague, Czech, 6-9 July 2015.
45. "Spinoptical Gradient Metasurfaces", MRS 2015 Fall Meeting, Materials Research Society, Boston. Massachusetts, USA, 29 November - 4 December 2015.
46. "Spin-controlled functional geometric phase metasurfaces", Metamaterials, SPIE photonic Europe, Brussels, 4-7 April 2016.
47. "Photonic spin-controlled multifunctional shared-aperture antenna array", IEEE photonics Conference, 29th Annual Conference of the IEEE Photonics Society, Waikoloa, Hawaii USA, 2-6 October 2016.
48. "Multifunctional geometric phase metasurfaces", E. Maguid, I. Yulevich, M. Yannai, V. Kleiner, M.L. Brongersma and E. Hasman, SPP8, The 8th International Conference on Surface Plasmon Photonics, Taipei, Taiwan, 22-26 May 2017.
49. "Spin-controlled multifunctional geometric phase metasurfaces" META 2017, 8th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Incheon-Seoul, South Korea, 25-28 July 2017.
50. "Spin-controlled multitasking geometric phase metasurfaces", CLEO Pacific Rim Conference, Singapore, 31 July - 4 Aug. 2017.
51. ***Tutorial Talk**, "A revolution towards multitasking metasurfaces", CLEO Pacific Rim Conference, Hong Kong, 29 July - 3 August 2018.

52. * **KEYNOTE Talk**, "Topologically controlled multifunctional metasurfaces", The 8th International Multidisciplinary Conference on Optofluidics 2018, (IMCO), Shanghai, China 5-8 August 2018.
53. "Topologically controlled multifunctional metasurfaces", Novel Concepts in Photonics, Ein Gedi, Israel, 10-15 February 2019.

Invited seminars & colloquium (selected only)

- University of Cape Town, South Africa, Department of Physics, Seminar, August 1999.
- CSIR, South Africa, Laser System Dep., Seminar, August, 1999.
- Pretoria University, South Africa, Seminar, August, 1999.
- Technion, Haifa, Israel, Seminar, May, 2000.
- Weizmann Inst. of Science, Rehovot, Israel, Seminar, May, 2001.
- University of Pavia, Italy, Seminar, September 2001.
- Ben-Gurion University, Seminar, October 2001.
- Tel Aviv University Departments of Physics & Engineering, Seminar – "*Light manipulation by use of micro & nanostructures*", 7 June 2007.
- Laboratoire Charles Fabry de l'Institut d'Optique, Institut d'Optique Graduate School, 91127 Palaiseau Cedex, France, "*Spinoptics: Spin symmetry breaking in nanostructures*", 16 June 2009.
- Physics **colloquium** at the Hebrew university, "*Spinoptics: Spin symmetry breaking in nanostructures*", 26 October 2009.
- Physics department and BINA center for nano-technology, Bar Ilan University, "*Spinoptics: Spin symmetry breaking in nanostructures*", 1 December 2009.
- Department of Physics of Complex Systems, Weizmann Institute of Science, Rehovot, Israel, Spinoptics: "*Spin symmetry breaking in nanostructures*", 1 February 2010.
- University of Toronto, Faculty of Applied Science and Engineering, "*Spinoptics: Spin symmetry breaking in plasmonics*", October 2011.
- Applied Physics Department at the Hebrew university - seminar "*Spinoptics in nanostructures*", 18 April 2012.
- Stanford University , CA USA - seminar "*Spinoptics: Spin-controlled plasmonics*", 11 May 2012.
- Stanford University, Materials Science & engineering (Brongersma group meeting) "*Acrobatics for thermal emission using metastructures*", 12 October 2012.
- Stanford University, Condensed Matter Physics Seminar, "*Spinoptics in nanoscale structures*", 18 October 2012.
- Berkeley University, **Physics colloquium**, "*Spinoptics in nanoscale structures*", 19 November 2012.
- Stanford University, Optics and Electronics seminar, **colloquium**, "*Spinoptics in Nanostructures*", 26 November 2012.
- Stanford University, Material Science & Engineering; Hosted by Prof. Mark Brongersma; seminar; "*Pancharatnam-Berry phase optical elements*:"

- polarization and phase controlled by space-variant metamaterials*", May 2013.
- Stanford University, Material Science & Engineering; Hosted by Prof. Mark Brongersma; series of tutorial lectures; "*Geometric phase nanophotonics: vectorial beam shaping and applications*", June 2013
 - Berkeley University, SINAM seminar; Center for Scalable & integrated nanomanufacturing - NSF Nanoscale science & engineering; Hosted by Prof. Xiang Zhang; "*Pancharatnam-Berry phase optical elements: polarization and phase controlled by space-variant metamaterials*", 24 May 2013.
 - Technion, **Physics colloquium**, "*Spinoptical metasurfaces: Spin-controlled photonics*", 9 December 2013.
 - Stanford University, Material Science & Engineering; Hosted by Prof. Mark Brongersma; seminar; "*Spinoptical gradient metasurfaces*", 20 July 2014.
 - Opto-Tech 2016 "*Acrobatics of light: spinoptical metasurfaces*", Tel Aviv 17-18 May 2016.
 - Photonics Symposium at Technion, "*Spin-controlled multifunctional geometric phase metasurfaces*", 29 February - 1 March 2016, RBNI, Technion.
 - Asher's Symposium at Weizmann Institute of Science, "*Photonic spin controlled multifunctional shared-aperture antennas array*", 7 April 2016.
 - **KLA Tencor-Lecture in OASIS6**, "Spin-controlled multitasking geometric phase metasurfaces" OASIS-6, The 6th OASIS, International Conference on Optics and Electro-optics, Tel Aviv, Israel, 27-28 February 2017.
 - University of Colorado Boulder, (Prof. Xiaobo Yin - Mechanical Eng & Physics) - seminar, "Spin-controlled multitasking geometric phase metasurfaces" 6 March, 2017.
 - META-Tech workshop, Technion, "*Photonic spin controlled multifunctional shared-aperture antennas array*", Technion, 7-8 June 2017.
 - Opto-Tech 2018 "*A Revolution towards Multitasking Nanoscale Optical Devices*", Tel Aviv 29-30 May 2018.
 - Ben-Gurion University, Seminar in Faculty of Engineering Sciences, "*Topologically controlled multifunctional metasurfaces*", 12 November 2018.
 - Meta –MAFAT, "*A Revolution towards Multitasking Nanoscale Optical Devices*", Tel Aviv 24 January 2019.