

Hamza Kurt, Professor
TOBB University of Economics and Technology
Department of Electrical and Electronics Engineering
Ankara, 06560 Turkey
Tel: 312 292 4258
Fax: 312 292 4180
Emails: hkurt@etu.edu.tr, hamza.kurt@gmail.com
<http://nanophotonics.etu.edu.tr/>

EDUCATION

Degree: Ph.D. in Electrical and Computer Engineering, 2006

Institution: Georgia Institute of Technology (GaTech), Atlanta, Georgia, USA

Advisor: Prof. Dr. David S. Citrin

Degree: M.S. in Electrical Engineering, 2002

Institution: University of Southern California (USC), Los Angeles, California, USA

Degree: B.S. in Electrical and Electronics Engineering, 2000

Institution: Middle East Technical University (METU), Ankara, Turkey

WORK EXPERIENCE

Duration: November 2015 -

Status: Professor

Institution: TOBB University of Economics and Technology, Ankara, Turkey

Duration: April 2010 - November 2015

Status: Associate Prof.

Institution: TOBB University of Economics and Technology, Ankara, Turkey

Duration: 2007 - 2010

Status: Assistant Prof.

Institution: TOBB University of Economics and Technology, Ankara, Turkey

Duration: 2006 - 2007

Status: Postdoctoral Fellow

Institution: Institute d'Optique, Paris, France

Duration: 2002 - 2006

Status: Research Assistant

Institution: Georgia Institute of Technology, Atlanta, USA

Duration: 2001 - 2002

Status: Research Fellow

Institution: Cedars Sinai Medical Center, Los Angeles, USA

RESEARCH INTERESTS

A – Manipulations of Photons: Slow-Light, Graded Index Photonic Crystals, Low symmetric

nano-photonic structures, Meta-surfaces, Flat-optics, Bio-inspired Photonics Design, Nano-photonic Wires and Optical Interconnects, Transformation Optics, Optical cavities, Micro-ring-disk Resonators, Plasmonics, Sub-Wavelength Structures, Generations of Beams: Airy and Bessel Beams, One-way (quasi) light propagation, Optical Filters, Photonic Quasi and random crystals, Photonic Nano-jets, Spiral and nano-slot waveguide, LED/OLED Lighting and Display

B - Renewable Energy Sources: Concentrated Solar Energy and Photovoltaic Technology, Electricity Generation from Wasted Heat Energy, Thermo-electricity

C- Bio-chemical Optical Sensors: Surface Modes Bio-chemical sensors, Optical Waveguides and Resonators for Chemical Sensors, Lab-on-a-chip sensor applications

PROFESSIONAL ACTIVITIES

- COST Action MC Member. MP0720: Towards Functional Sub Wavelength Photonic Structures
- Reviewer for the following journals: IEEE, Journal of Quantum Electronics, Photonics Technology Letters, Optics Letters, Optics Express, Applied Optics, IEEE, Journal of Lightwave Technology, Applied Physics B – Lasers and Optics, Optics Communications, Sensors and Actuators B, Applied Physics Letters, Photonics and Nanostructures - Fundamentals and Applications, Optical Materials, Optical and Quantum Electronics, Japanese Applied Physics, Journal of Optical Society of America B, IEEE Photonics Journal
- Panel member for TEYDEB, KAMAG, SAVTAG, DPT, TEKNO-GİRİŞİM, TBAG, EEEAG
- National Scientific Committee Member: LED Lighting
- IEEE Photonics Society Member
- Optical Society of America Member
- Associate Editor, Advanced Electromagnetics Journal
- Technical Committee Member, Advanced Electromagnetics Symposium
- Advisory Board Member of MFAG-TÜBİTAK

ADMINISTRATIVE DUTIES

- Department Chair: 2011-2013 (two years)

AWARDS

- Associate Member of Turkish Academy of Sciences since 2012
- Turkish Academy of Sciences Distinguished Young Scientist Award (TUBA-GEBİP), 2010
- TOBB University of Economics and Technology Distinguished Researcher Award 2010
- Scientific and Technological Research Council of Turkey Career Award, 2009-2011
- Postdoctoral Scholarship, Institute d'Optique, Paris France 2006-2007
- PhD Scholarship, Georgia Institute of Technology, Atlanta, 2002-2006
- Outstanding academic achievement award, University of Southern California, 2001
- Two-year Turkish Education Foundation (TEV) scholarship for master program, 2000-2002

LANGUAGES

English (fluent), Turkish (native), French (beginner)

SUPERVISED GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

Postdoctoral Fellow:

1. Dr. Neslihan Eti, Postdoc, TUBITAK Fellowship (2014-2016).

PhD Degree Awarded:

1. Mirbek Turduev, Design, implementation and characterization of inhomogeneous photonic crystal medium, 2015.

MSc Degree Awarded with thesis:

1. Kadir Üstün, Slow Light in Photonic Crystals, 2011
2. Lokman Ayas, Photonic Crystal Waveguide for Slow Light and Biochemical Sensing, 2011
3. Muhammet N. Erim, Photonic Crystal Surface Modes: Biosensing and Waveguide Applications, 2013
4. Nur Erim, Modified Periodic Photonic Structures for Surface States and Mode Converters, 2013
5. Döne Yılmaz, Functional Photonic Crystal Device Designs, 2013
6. Ibrahim H. Giden, Low Symmetry and Graded Index Photonic Crystals Analysis, 2013
7. Bilgehan B. Öner, Inhomogeneous Photonic Media from Mode Converters to Optical Cloaking, 2015
8. Melih G. Can, Annular Photonic Crystals and One-dimensional Random Photonic Structure, 2015

TEACHING ACTIVITIES

Undergraduate Level Courses

ELE 231: Electromagnetic Field Theory, ELE 331: Electromagnetic Wave Theory

Graduate Level Courses

ELE 551: Optics, ELE 552: Photonics, ELE 553: Optical Communication

ELE 554 Optoelectronics, ELE 555: Fourier Optics and Holography

ELE 557: Solar Energy Systems

ORGANISATION OF SCIENTIFIC MEETINGS

Advanced Electromagnetics Symposium, Technical Committee Member

Advanced Electromagnetics Symposium, China, Session Chair, 2014

15th International Conference on Transparent Optical Networks, Spain, Session Chair, 2013

PROJECTS

(Completed)

1. Design of Graded Index Dielectric Structures and Photonic Applications

Duration: 2010-2013

Principal Investigator: Prof. Dr. Hamza Kurt

Budget: 353.079 TL

Supported by: Scientific and Technological Research Council of Turkey

2. Slow Down Speed of Light in Photonic Crystal Waveguide Structures

Duration: 2009-2011

Principal Investigator: Prof. Dr. Hamza Kurt

Budget: 84.182 TL

Supported by: Scientific and Technological Research Council of Turkey

Active Projects

1. Low Symmetry Periodic and Quasi-Periodic Photonic Structures

Supported by: TÜBİTAK (National funding), 115R036

Principal Investigator: Prof. Dr. Hamza Kurt

Budget: € 159.000

Duration: 01.09.2015- 01.05.2018

2. Nanostructures for Highly Efficient Infrared Detection

NATO Project (International funding), SPS MYP G5048

Partners from Spain (director), Turkey, Lithuania, Australia, and Japan

Budget: € 416.950

Duration: 01.01.2016-01.01.2019

3. Design of Nanofotonic Structure by Non-intuitive Methods

Supported by: TÜBİTAK (National funding), 116F200

Principal Investigator: Prof. Dr. Hamza Kurt

Budget: ~ € 170.000

Duration: 2017-2020

PUBLICATIONS: Journals (SCI Indexed)

Total number of journal paper: 74

Total number of citations:

Web of Science > 900

Google Scholar > 1390

2 invited articles, 5 single-author articles

1. M. Turduev, I. H. Giden, C. Babayiğit, Z. Hayran, E. Bor, Ç. Boztuğ, H. Kurt, and K. Staliunas, "Mid-infrared T-shaped photonic crystal waveguide for optical refractive index sensing," *Sensors and Actuators B: Chemical*, in press, (2017).
2. N. Eti, I. H. Giden, Z. Hayran, B. Rezaei, and H. Kurt, "Manipulation of photonic nanojet using liquid crystals for elliptical and circular core-shell variations," *Journal of Modern Optics*, in press, (2017).
3. U. G.Yasa, M. Turduev, I. Giden, H. Kurt, "High extinction ratio polarization beam splitter design by low-symmetric photonic crystals," *Journal of Lightwave Technology*, in press, (2017).

4. B. Rezaei, I.H. Giden, H. Kurt, "Tuning light focusing with liquid crystal infiltrated graded index photonic crystals," *Optics Communications* 382, 28-35 (2017).
5. Z. Hayran, M. Turduev, M. Botey, R. Herrero, K. Staliunas, and H. Kurt, "Numerical and experimental demonstration of a wavelength demultiplexer design by point-defect cavity coupled to a tapered photonic crystal waveguide," *Optics Letters*, 41 (1), 119-122 (2016).
6. I. Mahariq and H. Kurt, "Strong field enhancement of resonance modes in dielectric microcylinders," *J. Optical Society of America B*, 33, 656-662 (2016).
7. I. Mahariq, V. N. Astratov, and H. Kurt, "Persistence of photonic nanojet formation under the deformation of circular boundary," *J. Opt. Soc. Am. B*, 33 (4), 535-542 (2016).
8. E. Bor, M. Turduev, and H. Kurt, "Differential evolution algorithm based photonic structure design: numerical and experimental verification of subwavelength $\lambda/5$ focusing of light," *Sci. Rep.* 6, 30871 (2016).
9. I. H. Giden, K. Dadashi, M. Botey, R. Herrero, K. Staliunas, and H. Kurt, "Asymmetric Light Transmission in PT-Symmetric Microring Resonators," *IEEE J. Selected Topics in Quantum Electronics*, 22(5), 1-6 (2016).
10. N. Erim, M.N. Erim, D. Yilmaz, and H. Kurt, "Biosensing With Asymmetric High Refractive Index Contrast Gratings," *IEEE Sensors Journal* 16 (20), 7494-7499 (2016).
11. N. Eti and H. Kurt, "Model Analysis of Ridge and Rib Types of Silicon Waveguides With Void Compositions," *IEEE Journal of Quantum Electronics*, 52 (10), 1-7(2016).
12. I. H. Giden, N. Eti, B. Rezaei, and H. Kurt, "Adaptive Graded Index Photonic Crystal Lens Design via Nematic Liquid Crystals," *IEEE Journal of Quantum Electronics* 52 (10), 1-7 (2016).
13. M. Turduev, Z. Hayran, H. Kurt, "Focusing of light beyond the diffraction limit by randomly distributed graded index photonic medium," *Journal of Applied Physics* 120 (24), 243102 (2016).
14. M. Turduev, M. Botey, I. H. Giden, R. Herrero, H. Kurt, E. Ozbay, and K. Staliunas, "Two-dimensional complex parity-time-symmetric photonic structures," *Physical Review A* 91(2), 023825 (2015).
15. M. Can, B. Oner, and H. Kurt, "Polarization Independent Photonic Crystal Fabry-Perot Cavity," *IEEE Photonics Technology Letters*, 27, 113-116 (2015).
16. M. Turduev, I.H. Giden, and H. Kurt, "Design of flat lens-like graded index medium by photonic crystals: Exploring both low and high frequency regimes," *Optics Communications*, 339, 22-33 (2015).
17. B. B. Oner, K. Ustun, H. Kurt, A. K. Okyay, and G. Turhan-Sayan, "Large bandwidth mode order converter by differential waveguides," *Opt. Express* 23, 3186-3195 (2015).
18. I. Mahariq and H. Kurt, "On-and off-optical-resonance dynamics of dielectric microcylinders under plane wave illumination," *J. Opt. Soc. Am. B*, 32, 1022-1030 (2015).
19. I. Mahariq, H. Kurt, M. Kuzuoğlu, "Questioning degree of accuracy offered by the spectral

- element method in computational electromagnetics," *Applied Computational Electromagnetics Society Journal*, 30 (7) (2015).
20. I. H. Giden, B. Rezaei, H. Kurt, "Method of implementing graded index media by symmetry-reduced helical photonic structures," *JOSA B* 32 (10), 2153-2157 (2015).
 21. B. B. Oner, M. G. Can, and H. Kurt, "Dual polarized broadband and all dielectric partial cloaking using stacked graded index structures," *Optics Express* 22, 20457-20462 (2014).
 22. (Invited) I. H. Giden, M. Turduev, and H. Kurt, "Reduced symmetry and analogy to chirality in periodic dielectric media," *J. European Optical Society Rapid Publication*, 9, 14045i (2014).
 23. K. Dadashi, H. Kurt, K. Üstün, and R. Esen, "Graded index optical microresonators: analytical and numerical analyses," *J. Opt. Soc. Am. B* 31, 2239-2245 (2014).
 24. I. H. Giden, D. Yilmaz, M. Turduev, H. Kurt, E. Colak, E. Ozbay, "Theoretical and experimental investigations of asymmetric light transport in graded index photonic crystal waveguides," *Applied Physics Letters* 104 (3), 031116 (2014).
 25. I. Mahariq, M. Kuzuoglu, I. H. Tarman, and H. Kurt, "Photonic Nanojet Analysis by Spectral Element Method," *IEEE Photonics Journal*, 6, 6802714 (2014).
 26. A. E. Serebryannikov, A. O. Cakmak, E. Colak, H. Caglayan, H. Kurt, and E. Ozbay, "Multiple slow waves and relevant transverse transmission and confinement in chirped photonic crystals," *Optics Express* 22 (18), 21806-21819 (2014).
 27. (Invited) H. Kurt, "All-Dielectric Periodic Media Engineered for Slow Light Studies," *International Journal of Modern Physics B*, 27, 1330020 (31 pages) (2013).
 28. M. G. Can, B. B. Oner, and H. Kurt, "Optical analysis of human eye using electromagnetic wave theory," *Journal of Biomedical Optics*, 18, 105006 (2013).
 29. M. Turduev, B. Oner, I. Giden, and H. Kurt, "Mode transformation using graded photonic crystals with axial asymmetry," *J. Opt. Soc. Am. B* 30, 1569-1579 Jun (2013).
 30. M. Turduev, I.H. Giden, H. Kurt, "Extraordinary wavelength dependence of self-collimation effect in photonic crystal with low structural symmetry," *Photonics and Nanostructures - Fundamentals and Applications*, (2013).
 31. B. Oner, M. Turduev, and H. Kurt, "High Efficiency Beam Bending using Graded Photonic Crystals," *Opt. Lett.* 38(10), 1688-1690 May (2013).
 32. D. Yilmaz, I. H. Giden, M. Turduev, and H. Kurt, "Design of Wavelength Selective Medium by Graded Index Photonic Crystals," *IEEE Journal of Quantum Electronics*, 49, 477-484 (2013).
 33. M. N. Erim, N. Erim, and H. Kurt, "Optical surface modes of photonic crystals for dual-polarization waveguide," *Photonics and Nanostructures - Fundamentals and Applications*, 11, 123-131 (2013).
 34. I. H. Giden, M. Turduev, and H. Kurt, "Broadband super-collimation with low-symmetric photonic crystal," *Photonics and Nanostructures - Fundamentals and Applications*, 11, 132-

138 (2013).

35. B. B. Oner, M. Turduev, I. H. Giden, and H. Kurt, "Efficient mode converter design using asymmetric graded index photonic structures," *Optics Letters*, 38, 220-222 (2013).
36. H. Kurt and D. Yilmaz, "Rainbow trapping using chirped all-dielectric periodic structures," *Applied Physics B Optics and Lasers*, 110, 411-417 (2013).
37. N. Erim, I. Giden, M. Turduev, H. Kurt, "Efficient mode-order conversion using a photonic crystal structure with low symmetry," *J. Opt. Soc. Am. B*, 3086-3094 (2013).
38. K. Ustun and H. Kurt, "Efficient and broadband guided wave one-way mode-order conversion with theoretical and numerical analysis," *J. Opt. Soc. Am. B*, 2992-2998 (2013).
39. H. Kurt, B. Oner, M. Turduev, and I. Giden, "Modified Maxwell fish-eye approach for efficient coupler design by graded photonic crystals," *Opt. Express* 20, 22018-22033 (2012).
40. H. Kurt, D. Yilmaz, A. Akosman, and E. Ozbay, "Asymmetric light propagation in chirped photonic crystal waveguides," *Opt. Express* 20, 20635-20646 (2012).
41. K. Ustun and H. Kurt, "Slow light structure with enhanced delay-bandwidth product," *J. Opt. Soc. Am. B* 29, 2403-2409 (2012).
42. A. E. Akosman, M. Mutlu, H. Kurt, E. Ozbay, Dual-frequency division de-multiplexer based on cascaded photonic crystal waveguides, *Physica B: Condensed Matter*, 407, 4043-4047 (2012).
43. M. Turduev, I. Giden, and H. Kurt, "Modified annular photonic crystals with enhanced dispersion relations: polarization insensitive self-collimation and nanophotonic wire waveguide designs," *J. Opt. Soc. Am. B* 29, 1589-1598 (2012).
44. H. Kurt, N. Erim, and K. Ustun, "Slow light based on optical surface modes of two-dimensional photonic crystals," *J. Opt. Soc. Am. B* 29, 1187-1193 (2012).
45. H. Kurt and M. Turduev, "Generation of a two-dimensional limited-diffraction beam with self-healing ability by annular-type photonic crystals," *Journal of Optical Society of America B*, 29, 1245-1256 (2012).
46. H. Kurt, M. N. Erim, and N. Erim, "Various photonic crystal bio-sensor configurations based on optical surface modes," *Sensors and Actuators B*, 165, 68-75 (2012).
47. H. Kurt, M. Turduev, and I. H. Giden, "Crescent shaped dielectric periodic structure for light manipulation," *Optics Express*, 20, 7184-7194 (2012).
48. I. H. Giden and H. Kurt, "Modified annular photonic crystals for enhanced band gap properties and iso-frequency contour engineering," *Applied Optics*, 51, 1287-1296 (2012).
49. H. Kurt, I. H. Giden, and D. S. Citrin, "Design of T-shaped nanophotonic wire waveguide for optical interconnection in H-tree network," *Optics Express*, 19, 26827-26838 (2011).
50. K. Ustun and H. Kurt, "Compact coupling of light from conventional photonic wire to slow light waveguides", *Journal of Applied Physics*, 110, 113109 (1-7) (2011).

51. A. E. Akosman, M. Mutlu, H. Kurt, and E. Ozbay, "Compact wavelength de-multiplexer design using slow light regime of photonic crystal waveguides," *Optics Express*, 19, 24129-24138 (2011).
52. H. Kurt, "Manipulating wavelength-selective emission with heterogeneous photonic crystals," *Applied Optics*, 50, 5256-5262, (2011).
53. H. Kurt, I. H. Giden, and K. Ustun, "Highly efficient and broadband light transmission in 90° nanophotonic wire waveguide bends," *Journal of Optical Society of America B*, 28, 495-501 (2011).
54. H. Kurt, K. Ustun, and L. Ayas, "Study of different spectral regions and delay bandwidth relation in slow light photonic crystal waveguides," *Optics Express*, 18, 26965-26977 (2010).
55. R. Hao, E. Cassan, H. Kurt, X. Le Roux, D. Marris-Morini, L. Vivien, D. Gao, and X. Zhang, "Novel kind of semi-slow light photonic crystal waveguides with large delay-bandwidth product," *IEEE Photon. Technol. Lett.* 22, 844-846 (2010).
56. K. Ustun and H. Kurt, "Ultra slow light achievement in photonic crystals by merging coupled cavities with waveguides," *Optics Express*, 18, 21155-21161, (2010).
57. R. Hao, E. Cassan, H. Kurt, X. Le Roux, D. Marris-Morini, L. Vivien, H. Wu, Z. Zhou, and X. Zhang, "Novel slow light waveguide with controllable delay-bandwidth product and ultra-low dispersion," *Optics Express*, 18, 5942-5950, (2010).
58. H. Kurt, "Bend free optical power transfer using photonic crystal waveguide arrays," *IEEE Journal of Lightwave Technology*, 27, 1402-1407 (2009).
59. O. Cakmak, E. Colak, H. Caglayan, H. Kurt, and E. Ozbay, "High efficiency of graded index photonic crystal as an input coupler," *Journal of Applied Physics*, 105, 103708 (1-5), (2009).
60. H. Kurt, "Limited-diffraction light propagation with axicon-shape photonic crystals," *Journal of Optical Society of America B*, 26, 981-986, (2009).
61. H. Kurt, "The directional emission sensitivity of photonic crystal waveguides to air holes removal," *Applied Physics B; Optics and Lasers*, 95, 341-344, (2009).
62. J. Feng, Y. Chen, J. Blair, H. Kurt, R. Hao, D. S. Citrin, C. J. Summers, and Z. Zhou, "Fabrication of annular photonic crystals by atomic layer deposition and sacrificial etching," *Journal of Vacuum Science and Technology B*, 22, 568-572, (2009).
63. H. Kurt, E. Colak, O. Cakmak, H. Caglayan, and E. Ozbay, "The focusing effect of graded index photonic crystals," *Applied Physics Letters*, 93, 171108 (1-3), (2008).
64. H. Kurt, "Theoretical study of directional emission enhancement from photonic crystal waveguides with tapered exits," *IEEE Photonics Technology Letters*, 20, 1682-1684, (2008).
65. H. Kurt and D. S. Citrin, "Reconfigurable multimode photonic-crystal waveguides," *Optics Express*, 16, 11995-12001, (2008).

66. H. Kurt, H. Benisty, T. Melo, O. Khayam, and C. Cambournac, "Slow-light regime and critical coupling in highly multimode corrugated waveguides," *Journal of Optical Society of America B*, 25, C1-C14, (2008).
67. H. Kurt, R. Hao, Y. Chen, J. Feng, J. Blair, C. Summers, D. S. Citrin, and Z. Zhou, "Design of annular photonic crystal slabs," *Optics Letters*, 33, 1614-1616, (2008).
68. H. Kurt and D. S. Citrin, "A novel optical coupler design with graded-index photonic crystals," *IEEE Photonics Technology Letters*, 19, 1532-1534, (2007).
69. H. Kurt and D. S. Citrin, "Graded index photonic crystals," *Optics Express*, 15, 1240-1253, (2007).
70. H. Kurt and D. S. Citrin, "Photonic-crystal heterostructure waveguides," *IEEE Journal of Quantum Electronics*, 43, 78-84, (2007).
71. T. Hasek, H. Kurt, D. S. Citrin, and M. Koch, "Photonic crystals for fluid sensing in the subterahertz range," *Applied Physics Letters*, 89, 173508 (1-3), (2006).
72. H. Kurt and D. S. Citrin, "Annular photonic crystals," *Optics Express*, 13, 10316-10326, (2005).
73. H. Kurt and D. S. Citrin, "Coupled-resonator optical waveguide for biochemical sensing of nanoliter volumes of analyte in the terahertz region," *Applied Physics Letters*, 87, 241119 (1-3), (2005).
74. H. Kurt and D. S. Citrin, "Photonic crystals for biochemical sensing in the terahertz region," *Applied Physics Letters*, 87, 41108 (1-3), (2005).

Book Chapter

M. Botey, R. Herrero, M. Turduev, I. Giden, H. Kurt, and K. Staliunas, "Chiral modes in 2D PT-symmetric nanostructures," Springer, *Nonlinear Dynamics: Materials, Theory and Experiments*, 125-138 (2016).

Conferences (Partial List)

Total number of conference papers: 68

1. Z. Hayran, M. Turduev, D. Gailevičius, V. Mizeikis, S. Juodkazis, M. Malinauskas, K. Staliunas, H. Kurt, "Enhanced cavity-waveguide interaction in three-dimensional photonic crystals, *Proc. of SPIE*, 10112, 1011228 (2017).
2. D. Gailevicius, Z. Hayran, M. Turduev, H. Kurt, S. Juodkazis, M. Malinauskas, V. Mizeikis, K. Staliunas, "Nanostructures for highly efficient infrared detection," *Proc. of SPIE*, 10115, 101150Z (2017).
3. D. Gailevicius, L. Jonušauskas, D. Sakalauskas, Z. Hayran, H. Kurt, M. Turduev, S. Šakirzanovas, S. Juodkazis, V. Mizeikis, R. Gadonas, K. Staliunas, M. Malinauskas, "Laser nanolithography and pyrolysis of SZ2080 hybrid for slowing light in 3D photonic crystals, *Proc. of SPIE Vol 10115*, 1011511 (2017).

4. (Invited) Z. Hayran, M. Turduev, M. Botey, R. Herrero, K. Staliunas, and H. Kurt, "Slow light enabled wavelength demultiplexing, 18th International Conference on Transparent Optical Networks (ICTON), 2016.
5. (Invited) Z. Hayran, K. Staliunas and H. Kurt, "Different approaches for subwavelength light focusing," 8th Mediterranean Conference on Nano-Photonics (MediNano 8), 2016.
6. B. Küçükates, M. Turduev, E. Bor, and H. Kurt, "Photonic crystal sub-wavelength $\lambda/5$ focusing lens design using optimization method," 18th International Conference on Transparent Optical Networks (ICTON), 2016.
7. U. G. Yasa, N. Eti, H. Kurt, "Manipulation of light using semi-Dirac dispersion in low-symmetric photonic crystals," 18th International Conference on Transparent Optical Networks (ICTON), 2016.
8. Z. Hayran, H. Kurt, and K. Staliunas, "Light localization in chirped woodpile photonic crystals," 18th International Conference on Transparent Optical Networks (ICTON), 2016.
9. C. Babayiğit, M. Turduev, I.H. Giden, E. Bor, and H. Kurt, "T-shape slotted photonic crystal based sensor with high sensitivity," 18th International Conference on Transparent Optical Networks (ICTON), 2016.
10. B. Telliöglu, E. Bor, M. Turduev, and H. Kurt, "Polarization independent focusing of light by gradually modulated annular photonic structure," 18th International Conference on Transparent Optical Networks (ICTON), 2016.
11. (Invited) Z. Hayran, M. Turduev, M. Botey, R. Herrero, K. Staliunas, and H. Kurt, "Slow light enabled wavelength demultiplexing, 18th International Conference on Transparent Optical Networks (ICTON), 2016.
12. (Invited) Z. Hayran, K. Staliunas and H. Kurt, "Different approaches for subwavelength light focusing," 8th Mediterranean Conference on Nano-Photonics (MediNano 8), 2016.
13. B. Küçükates, M. Turduev, E. Bor, and H. Kurt, "Photonic crystal sub-wavelength $\lambda/5$ focusing lens design using optimization method," 18th International Conference on Transparent Optical Networks (ICTON), 2016.
14. U. G. Yasa, N. Eti, H. Kurt, "Manipulation of light using semi-Dirac dispersion in low-symmetric photonic crystals," 18th International Conference on Transparent Optical Networks (ICTON), 2016.
15. Z. Hayran, H. Kurt, and K. Staliunas, "Light localization in chirped woodpile photonic crystals," 18th International Conference on Transparent Optical Networks (ICTON), 2016.
16. C. Babayiğit, M. Turduev, I.H. Giden, E. Bor, and H. Kurt, "T-shape slotted photonic crystal based sensor with high sensitivity," 18th International Conference on Transparent Optical Networks (ICTON), 2016.
17. B. Telliöglu, E. Bor, M. Turduev, and H. Kurt, "Polarization independent focusing of light by gradually modulated annular photonic structure," 18th International Conference on Transparent Optical Networks (ICTON), 2016.
18. B.B. Oner, M.G. Can, H. Kurt, "Partial cloaking by graded index photonic crystals," SPIE Photonics Europe, 912708-912708-9 (2014).
19. (Invited) B.B. Oner, M.G. Can, and H. Kurt, "Broadband Directional Cloaking Using Graded Index Structures," 16th International Conference on Transparent Optical Networks, Graz, Austria (2014).
20. M.G. Can, B.B. Oner, H. Kurt, "Polarization independent nanobeam cavity tuning using annular photonic crystals," SPIE Photonics Europe, 912716-912716-8 (2014).

21. M. Botey, R. Herrero, M. Turduev, D. Zhao, I. Giden, H. Kurt, K. Staliunas, "Asymmetric transmission from a 2D PT-symmetric honeycomb nanostructure," 16th International Conference on Transparent Optical Networks (ICTON), 2014.
22. B. Oner, K. Ustun and H. Kurt, "Broadband One Way Propagation Via Dielectric Waveguides with Unequal Effective Index," IEEE Photonics Conference, USA, 12-16 October 2014.
23. E. M. Gayur, B. B. Oner and H. Kurt, "Enhanced Sub-Wavelength Focusing by Tilted and Modified Graded Index Medium," IEEE Photonics Conference, USA, 12-16 October 2014.
24. M. Turduev, H. Kurt, "Asymmetric Light Transmission by Using 2D PT-Symmetric Photonic Nanostructure," IEEE Photonics Conference, USA, 12-16 October 2014.
25. I. H. Giden, H. Kurt, "Compact Rainbow Trapping and Demultiplexing by Photonic Crystal Waveguides," IEEE Photonics Conference, USA, 12-16 October 2014.
26. A. B. Parim, M. Turduev, Z. Hayran, E. Bor, and H. Kurt, "Optical Resonators Modified by Random Modulation of Refractive Index," Advanced Electromagnetics Symposium, China, 2014.
27. M. G. Can, B. B. Oner, and H. Kurt, "Nano-beam cavity design with randomly located reflectors," Advanced Electromagnetics Symposium, China, 2014.
28. Z. Hayran, M. Turduev, A. B. Parim, E. Bor, and H. Kurt, "Light Focusing by Randomly Distributed Index Gradient Medium," Advanced Electromagnetics Symposium, China, 2014.
29. K. Dadashi, M. Turduev, H. Kurt, and R. Esen, "Novel properties of Maxwell's fish eye as an optical microresonator," Advanced Electromagnetics Symposium, China, 2014.
30. M. Turduev, M. G. Can, K. Dadashi, and H. Kurt, "Subwavelength focusing by all dielectric graded index photonic crystal lens," Advanced Electromagnetics Symposium, China, 2014.
31. M. G. Can, B. B. Oner, and H. Kurt, "Numerical Modeling of Human Eye with Electromagnetic Approach," OWTNM The 21st International Workshop on Optical Wave & Waveguide Theory and Numerical Modelling, 2013.
32. (Invited) Kurt, H. Nanophotonic periodic structures with reduced symmetry, 6th Mediterranean Conference on Nano-Photonics MediNano-6, Lyon France, 2013.
33. B. B. Oner, M. Turduev, I. H. Giden, and H. Kurt, "Enhancing Light Manipulation by Graded Index Photonic Crystal Media," OWTNM The 21st International Workshop on Optical Wave & Waveguide Theory and Numerical Modelling, 2013.
34. (Invited) H. Kurt, "Asymmetric Light Propagation in Photonic Devices," 15th International Conference on Transparent Optical Networks ICTON, 2013.
35. K. Ustun, H. Kurt, Delay bandwidth product enhanced slow light in photonic crystal waveguides, 14th International Conference on Transparent Optical Networks (ICTON), 2012.
36. I. H. Giden, M. Turduev, H. Kurt, Dispersion engineering of modified annular photonic crystals and their use in polarization independent optical devices, Integrated Photonics Research, Silicon and Nanophotonics, 2012.
37. H. H. Ozbenli, E. Yazgan, H. Kurt, Slow light analysis in 8-fold symmetric quasicrystal waveguides, Signal Processing and Communications Applications Conference (SIU), 2012.

38. (Invited) H. Kurt, "Artificially structured graded index materials for designing of functional photonic elements" International Conference on Transparent Optical Networks (ICTON), Stockholm, Sweden, 2011.
39. M. Turduev and H. Kurt, "Manipulating of light propagation using crescent-shaped photonic crystals," International Conference on Optical MEMS and Nanophotonics (OMN), 2011.
40. M. Turduev and H. Kurt, "Two-dimensional Quasi-Bessel Beam Creation," International Conference on Optical MEMS and Nanophotonics (OMN), 2011.
41. A. E. Akosman, M. Mutlu, H. Kurt, and E. Ozbay, "Photonic Crystal Based Multi-Mode High-Q Cavity," International Conference on Optical MEMS and Nanophotonics (OMN), 2011.
42. A.E. Akosman, M. Mutlu, H. Kurt, and E. Ozbay, "Tight-Binding Mechanism in Slow Light Regime," International Conference on Optical MEMS and Nanophotonics (OMN), 2011.
43. K. Üstün and H. Kurt, "Efficient and Compact Coupling to Slow Light Structures," International Conference on Optical MEMS and Nanophotonics (OMN), 2011.
44. H. Kurt and I. H. Giden, "Yüksek İletim Verimli Keskin Köşeli ve T-Şekilli Nanofotonik Dalga Kılavuzu Tasarımı," IEEE 19. Sinyal İşleme ve İletişim Uygulamaları Kurultayı - SİU 2011.
45. H. Kurt and D. Erbas, "Quasi One-way Light Propagation Crystal Waveguides," 7. Türkiye Nanobilim ve Nanoteknoloji Konferansı, 2011.
46. M. Turduev, H. Kurt, and K. Üstün, "Quasi-bessel Beam Generation by Annular Photonic Crystals," 7. Türkiye Nanobilim ve Nanoteknoloji Konferansı, 2011.
47. K. Üstün and H. Kurt, "Wavelength Division Demultiplexer on Diffraction Inhibited Photonic Crystal," 7. Türkiye Nanobilim ve Nanoteknoloji Konferansı, 2011.
48. H. Kurt, M. N. Erim and N. Erbas, "A Novel Surface Mode Photonic Crystal Bio-sensor," 7. Türkiye Nanobilim ve Nanoteknoloji Konferansı, 2011.
49. (Invited) H. Kurt, "Design of photonic structures for slow light applications" 3rd Mediterranean Conference on Nanophotonics, Belgrade, Serbia, 2010.
50. H. Kurt, I. H. Giden and K. Ustun, "Nano-photonic wire waveguides," NANO-TR6, İzmir, 2010.
51. K. Ustun, L. Ayas, and H. Kurt, "Slow Light Photonic Crystal Waveguides with Adjustable Group Index and Bandwidth Values," NANO-TR6, İzmir, 2010.
52. L. Ayas and H. Kurt, "Corrugated dielectric slab embedded in photonic crystal waveguides," NANO-TR6, İzmir, 2010.
53. K. Sezgin and H. Kurt, "A Novel Approach to Produce Electricity From Solar Thermal Energy Sources by Means of Thermoelectric Module with Enhanced Efficiency," SOLARTR1, Ankara, 2010.
54. L. Ayas, K. Üstün and H. Kurt, "Corrugated Dielectric Slab with Shifted Air Holes embedded in Photonic Crystal Waveguide," 9th International Conference on Photonic and Electromagnetic Crystal Structures, Granada, İspanya, 2010.
55. K. Üstün and H. Kurt, "Slow Light with Structural Dispersion Management," 9th International Conference on Photonic and Electromagnetic Crystal Structures, Granada, İspanya, 2010.
56. H. Kurt, "Axicon-shape photonic crystals and limited-diffraction light propagation," Proceedings of SPIE, vol. 7366, 2009.

57. K. Ustun and H. Kurt, "Engineering Group Index Parameter in Slow Light Photonic Crystal Waveguides," 22nd IEEE Photonics Society Annual Meeting, 829-830, 2009.
58. A. E. Akosman and H. Kurt, "Annular type periodic dielectric structures," 22nd IEEE Photonics Society Annual Meeting, 825-826, 2009.
59. (Invited) H. Kurt, "Fotonik Kristallerin Entegre Devre Tasarımına Uyarlanması," 11. Ulusal Optik, Elektro-Optik ve Fotonik Çalıştayı, Ankara, 2009.
60. H. Kurt, "Photonic crystal waveguide arrays," *Proceedings of SPIE*, vol. 6989, 69891R (1-8), 2008.
61. O. Khayam, H. Benisty, H. Kurt, and C. Cambournac, "Critical coupling and flat-band engineering in multimode photonic crystal waveguides," 21st Annual Meeting of the IEEE Lasers and Electro-Optics Society, LEOS, 814-815, 2008.
62. H. Ran, H. Kurt, D. S. Citrin, and Z. Zhiping, "The complete bandgap in ring-shaped photonic crystal SOI slab," 5th IEEE International Conference on Group IV Photonics, 291-293, 2008.
63. T. Hasek, H. Kurt, D. S. Citrin, and M. Koch, "A fluid sensor based on a sub-terahertz photonic crystal waveguide," *Proceedings of SPIE*, vol. 6480, pp. 648011 (1-8), 2007.
64. T. Hasek, R. Wilk, H. Kurt, D. S. Citrin, and M. Koch, "Sub-terahertz 2D Photonic Crystal Waveguides for Fluid Sensing Applications," Joint 31st International Conference on Infrared Millimeter Waves and 14th International Conference on Terahertz Electronics, IRMMW-THz 239, 2006.
65. H. Kurt and D. S. Citrin, "Biochemical sensors with photonic crystals in the terahertz region," Conference on Lasers and Electro-Optics (CLEO), Vol. 2, 1174-1176, 2005.
66. H. Kurt and D. S. Citrin, "New approaches in biochemical sensing using photonic crystals in the terahertz region," The Joint 30th International Conference on Infrared and Millimeter Waves and 13th International Conference on Terahertz Electronics, Vol. 1, 36-37, 2005.
67. T. Papaioannou, N. Preyer, Q. Fang, H. Kurt, M. Carnohan, R. Ross, A. Brightwell, G. Cottone, L. Jones, and L. Marcu, "Performance evaluation of fiber optic probes for tissue lifetime fluorescence spectroscopy," *Proceedings of SPIE*, vol. 4958, pp. 43-50, 2003.
68. L. Marcu, A. Elbarbary, P. Zuk, D. A. Ugarte, P. Benhaim, H. Kurt, M. H. Hedrick, and P. Ashjian, "Lifetime fluorescence spectroscopy for in situ investigation of osteogenic differentiation," *Proceedings of SPIE*, vol. 4961, pp. 250-257, 2003.