Mirbek Turduev, Ph.D.
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EDUCATION

Ph.D. in Electrical and Electronics Engineering, 2015
TOBB University of Economics and Technology, Ankara, Turkey
Advisor: Prof. Dr. Hamza Kurt

M.Sc. in Electrical and Electronics Engineering, 2010
TOBB University of Economics and Technology, Ankara, Turkey
Advisor: Prof. Dr. Veysel Gazi

B.S. in Electrical and Control Engineering, 2006
Kyrgyz State Technical University, Bishkek, Kyrgyzstan
Advisor: Prof. Dr. K. Moldobekov

WORK EXPERIENCE

Associate Professor, since September 2018
Assistant Professor, between September 2015– September 2018
Department of Electrical and Electronics Engineering, TED University, Ankara, Turkey.
Research output: 24 high impact factor journal papers and 25 conference papers

Visiting Research Scholar, between June 2020-October 2020
Photonic MATerials Research group, under supervision of Prof. Juejun Hu
Massachusetts Institute of Technology (MIT),
Department of Materials Science and Engineering, Cambridge, MA 02139, USA
Research output: 1 high impact factor journal paper and 1 conference paper

Research Fellow, between October 2013-Februray 2014
Nonlinear Dynamics, Nonlinear Optics and Lasers research group, under supervision of Prof. K. Staliunas
Universitat Politecnica de Catalunya (UPC), Barcelona, Spain.
Research output: 1 high impact factor journal paper and 2 conference papers

Research Assistant, between 2010 and 2015
TOBB University of Economics and Technology, Nanophotonics Research Group, Ankara, Turkey
Research output: 16 high impact factor journal papers and 15 conference papers

Research and Teaching Assistant, between 2008 and 2010
TOBB University of Economics and Technology, Swarm Systems Research Group
Department of Electrical and Electronics Eng., Ankara, Turkey
Research output: 1 high impact factor journal paper and 5 conference papers

RESEARCH INTERESTS

Manipulations of Photons: Graded Index Photonic Crystals, Bio-inspired Photonics Design, Nano-photonic Wires and Optical Interconnects, Transformation Optics, Sub-Wavelength Structures, Generations of Airy and Bessel Beams, One-way light propagation, PT-symmetry Photonic Structures,

Surface Modes Bio-sensors, Photonic Crystal Waveguides and Resonators for Chemical Sensors, Lab-on-a-chip applications

PROFESSIONAL ACTIVITIES

- Reviewer for the following journals: Optics Letters, Applied Physics Letters, IEEE Journal of Quantum Electronics, IEEE Photonics Technology Letters, Optics Express, Applied Optics, Journal of Applied Physics, IEEE Journal of Lightwave Technology, Optics Communications, Sensors and Actuators B, Photonics and Nanostructures - Fundamentals and Applications, Journal of Optical Society of America B, IEEE Photonics Journal, Journal of Optics
- Optical Society of America Member
- Panel member for TEYDEB and TÜBİTAK
- EEEAG (national funding groups)
- PhD Thesis Monitoring Committee Member
- MSc/PhD Thesis Defense Jury Member

ADMINISTRATIVE DUTIES

- Assistant Chair of Electrical and Electronic Engineering Department (2015-2020)
- Engineering Faculty Board Member (Since 2017)
- Graduate School Board Member (Since 2018)
- University Executive Board Member (Since 2019)
- Scientific Research Committee Board Member (Since 2017)

PROFESSIONAL SKILLS

- Simulation Environments: MEEP (FDTD method), Lumerical (FDTD method), PWE, MEEP, MPB (PWE method), RSoft (FDTD method), COMSOL (FEM)
- Programming Languages: Matlab, C, and C++
- Others: Solid Works, Surfer9 Surface Mapping Package for Scientists and Engineers, LATEX
- Microwave experiments (professional user of VNA device)

AWARDS

- Received Kyrgyzstan Presidential stipend (2000-2001)
- Received Full Scholarship from Kyrgyzstan Government undergraduate education (2001-2006)
- Received Turkish Republic Scholarship on MSc Education (2006-2007)
- Received Full Assistantship from TOBB ETU University for MSc Education (2007-2010)
- Received Full Scholarship from TUBITAK BIDEB, 2215 - Graduate Scholarship Programme for International Students (2011-2014)
- Received Full Assistantship from TOBB ETU University for PhD Education (2012-2015)
- Received Full Scholarship from TUBITAK BIDEB, 2224-A Scientific Meetings Grant Programmes (07.12.2014 - 10.12.2014).

LANGUAGES

Kyrgyz (Native), Russian (Native), Turkish (Fluent), English (Fluent)

PROJECTS (Completed)

1. **Graduate Research Engineer at Swarm Systems Research Lab.**

Duration: 2008-2010
Title: "GUARDIANS: Group of Unmanned Assistant Robots Deployed In Aggregative Navigation supported by Scent detection," Specific Targeted Research Project (STREP),
Funding: Supported by European Commission – 6'th Framework Programme Objective 2, Information and Communication Technologies.

2. **Graduate Research Engineer at Swarm Systems Research Lab.**

Duration: 2009-2010
Title: "Particle Swarm Optimization: Parallel and Asynchronous Implementation, Rigorous Convergence Analysis, and Implementation on a Multi-Robot System,"

Funding: Research Project supported by TÜBİTAK (National funding).

3. Graduate Research Engineer at Nanophotonics Research Lab.
Duration: 2010-2013
Title: "Design of Graded Index Dielectric Structures and Photonic Applications"
Funding: Research supported by TÜBITAK (National funding)

4. Senior Researcher
Duration: 2016 - 2019
Title: SPS 985048: Nanostructures for Highly Efficient Infrared Detection
Funding: Research Project supported by NATO Science for Peace and Security (SPS) Programme
Total Support: **417K** Euros.

5. Researcher
Duration: 2015 - 2018
Title: Low Symmetry Periodic and Quasi-Periodic Photonic Structures",
Funding: Research supported by TÜBITAK (National funding)
Total Support: **159K** Euros.

6. Principal Investigator
Duration: 2016-2019 (30 months)
Title: Numerical Modelling and Analyses of High Performance Photonic Devices via Optimization Algorithm
Funding: Research Project supported by TÜBİTAK under 3501 - Career Development Program.
Total Support: **366K** TL.

Active Projects:

1. Principal Investigator
Duration: 2020-2021 (9 months)
Title: Optimization based design of multilevel diffractive lens for polarization insensitive and achromatic focusing of light
Funding: Research Project supported by TED University.
Total Support: **32.5K** TL.

TEACHING EXPERIENCE

EE252: Microelectronic Devices and Circuits
EE205: Software Tools for Electrical Engineering
EE202: Circuit Theory II
EE201: Circuit Theory I
EE332: Feedback Control Systems
EE 309: Fundamentals of Electrical and Electronics Engineering
EE 351: Analog Circuit Design
EE353: Analog Electronics
EE417: Introduction to Photonics
EE462: Power System Analysis
EE491: Senior Project I
EE492: Senior Project II

PUBLICATIONS:

Book Chapter

M. Botey, R. Herrero, **M. Turduev**, I. Giden, H. Kurt, K. Staliunas, "Chiral Modes in 2D PT-Symmetric Nanostructures", *Nonlinear Dynamics: Materials, Theory and Experiments* 173. pp.125-138, Springer International Publishing (2016)

Journals (SCI Indexed):

1. H. Kurt and **M. Turduev**, "Generation of a two-dimensional limited-diffraction beam with self-healing ability by annular-type photonic crystals," *J. Opt. Soc. Am. B*, vol. 29, pp. 1245-1256 (2012)
2. H. Kurt, **M. Turduev**, and I. H. Giden, "Crescent shaped dielectric periodic structure for light manipulation," *Optics Express*, vol. 20, pp. 7184-7194 (2012)
3. **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*, vol. 29, 1589-1598 (2012)
4. 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)
5. I. H. Giden, **M. Turduev**, H. Kurt, "Broadband super-collimation with low-symmetric photonic crystal," *Photonics and Nanostructures - Fundamentals and Applications* 11(2), 132-138 (2013).
6. B. Oner, **M. Turduev**, I. Giden, and H. Kurt, "Efficient mode converter design using asymmetric graded index photonic structures," *Opt. Lett*. 38, 220-222 (2013).
7. D. Yilmaz, I. H. Giden, **M. Turduev** and H. Kurt, "Design of wavelength selective medium by GRIN PC," *Journal of Quant. Electron*. 49(5), 477-484 May (2013).
8. **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).
9. **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*, vol. 11(3), pp. 241–252, August 2013.
10. B. Oner, **M. Turduev**, and H. Kurt, "High Efficiency Beam Bending using Graded Photonic Crystals," *Opt. Lett*. 38(10), 1688-1690 May (2013).
11. N. Erim, I. H. Giden, **M. Turduev**, and H. Kurt, "Efficient Mode-order Conversion using Photonic Crystal Structure with Low Symmetry," *J. Opt. Soc. Am. B* 30, 3086-3094 (May 2013).
12. I. H. Giden, D. Yilmaz, **M. Turduev**, H. Kurt, E. Colak, and E. Ozbay "Theoretical and experimental investigations of asymmetric light transport in graded index photonic crystal waveguides," *Applied Physics Letters*, vol. 104, 031116 (2014).
13. (*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, 14045, (2014).
14. **M. Turduev**, G. Cabrita, M. Kırtay, V. Gazi, and L. Marques, "Experimental Studies On Chemical Concentration Map Building By A Multi-Robot Systems Using Bio-Inspired Algorithms," in *Journal of Autonomous Agents and Multi-Agent Systems*, Volume 28, Issue 1, pp 72-100 January 2014.
15. **M. Turduev**, I.H. Giden, H. Kurt, "Design of flat lens-like graded index medium by photonic crystals: Exploring both low and high frequency regimes," *Optics Communications*, Volume 339, 15 March 2015, Pages 22-33, ISSN 0030-4018, http://dx.doi.org/10.1016/j.optcom.2014.11.048.
16. **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).
17. 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," *Opt. Lett*. 41, 119-122 (2016)
18. **M. Turduev**, Z. Hayran, and H. Kurt, "Focusing of light beyond the diffraction limit by randomly distributed graded index photonic medium," *Journal of Applied Physics* 120(24), 243102 (2016).
19. E. Bor, **M. Turduev**, and H. Kurt, "Differential Evolution Algorithm Based Photonic Structure Design: Numerical and Experimental Verification of Subwavelength λ/5 focusing of Light," *Scientific Reports 6* (2016): 30871
20. **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*, Volume 245, June 2017, Pages 765-773, ISSN 0925-4005
21. U. G. Yasa, **M. Turduev**, I. H. Giden, and H. Kurt, "High Extinction Ratio Polarization Beam Splitter Design by Low-Symmetric Photonic Crystals," *IEEE J. Lightwave Technol*. 35, 1677-1683 (2017).

22. Y. A. Yilmaz, S. E. Tandogan, Z. Hayran, I. H. Giden, **M. Turduev**, and H. Kurt, "Theoretical and experimental investigations of efficient light coupling with spatially varied all dielectric striped waveguides," *Journal of Applied Physics* 122(3), pp.033101, 2017.
23. **M. Turduev**, E. Bor, and H. Kurt, "Design and analysis of all-dielectric subwavelength focusing flat lens" *J. Phys. D: Appl. Phys.* 50 38LT02 (2017).
24. **M. Turduev**, E. Bor, and H. Kurt, "Photonic crystal based polarization insensitive flat lens," *J. Phys. D: Appl. Phys.* 50 275105 (2017).
25. U. G. Yasa, I. H. Giden, **M. Turduev** and H. Kurt, "Polarization splitting phenomenon of photonic crystals constructed by two-fold rotationally symmetric unit-cells," *Journal of Optics* 19 (9), 095005 (2017).
26. U. G. Yasa, **M. Turduev**, I. H. Giden, and H. Kurt, "Full utilization of semi-Dirac cones in photonics," *Phys. Rev. B* 97(19), 195131 (2018).
27. **M. Turduev**, E. Bor, C. Latifoglu, I. H. Giden, Y. S. Hanay, and H. Kurt, "Ultracompact Photonic Structure Design for Strong Light Confinement and Coupling Into Nanowaveguide," *IEEE J. Lightwave Technol.* 36, 2812-2819 (2018).
28. M. Gumus, I. H. Giden, O. Akcaalan, **M. Turduev**, and H. Kurt, "Enhanced superprism effect in symmetry reduced photonic crystals," *Appl. Phys. Lett.* 113, 131103 (2018).
29. E. Bor, O. Alparslan, **M. Turduev**, Y. Sinan Hanay, H. Kurt, S. Arakawa, and M. Murata, "Integrated silicon photonic device design by attractor selection mechanism based on artificial neural networks: optical coupler and asymmetric light transmitter," *Opt. Express* 26, 29032-29044 (2018).
30. E. Bor, C. Babayigit, H. Kurt, K. Staliunas, and **M. Turduev**, "Directional invisibility by genetic optimization," *Opt. Lett.* 43, 5781-5784 (2018) (*Appeared in Spotlight on Optics link*: https://www.osapublishing.org/spotlight/summary.cfm?id=402203).
31. E. Bor, **M. Turduev**, U. G. Yasa, H. Kurt, and K. Staliunas, "Asymmetric light transmission effect based on an evolutionary optimized semi-Dirac cone dispersion photonic structure," *Phys. Rev. B* 98(24), 245112 (2018).
32. L. Grineviciute, C. Babayigit, D. Gailevičius, E. Bor, **M. Turduev**, V. Purlys, T. Tolenis, H. Kurt, and K. Staliunas, "Angular filtering by Bragg photonic microstructures fabricated by physical vapour deposition," *Applied Surface Science* 481, 353-359 (2019).
33. C. Babayiğit, Aydın S. Evren, E. Bor, H. Kurt, and **M. Turduev**, "Analytical, numerical, and experimental investigation of a Luneburg lens system for directional cloaking," *Phys. Rev. A* 99(4), 043831 (2019).
34. E. Bor, H. Kurt, **M. Turduev**, "Metaheuristic approach enabled mode order conversion in photonic crystals: numerical design and experimental realization," *Journal of Optics* 21 (8), 085801 (2019).
35. C. Babayiğit, H. Kurt, **M. Turduev**, "Active beam steering and afocal zooming by nematic liquid crystal infiltrated graded index photonic structures," *Journal of Physics D: Applied Physics* 52 (33), (2019).
36. C. Babayigit, C. Boztug, H. Kurt, and **M. Turduev**, "Fabry-Perot Microtube Cavity Structure for Optical Sensing at Mid-infrared Spectrum," in *IEEE Sensors Journal*, vol. 20, no. 5, pp. 2390-2397, 1 March, 2020. **(2019 Impact Factor: 3.076)**
37. M. Tutgun, D. Yılmaz, A. Yeltik, **M. Turduev**, and H. Kurt, "Inverse design of all-dielectric parallel-plane mirror optical resonator," *Photonics and Nanostructures - Fundamentals and Applications* 40 (100787), (2020).
38. B. Neşeli, E. Bor, H. Kurt, and **M. Turduev**, "Rainbow trapping in a tapered photonic crystal waveguide and its application in wavelength demultiplexing effect," *J. Opt. Soc. Am. B* 37, 1249-1256 (2020). **(2019 Impact Factor: 2.106)**
39. E. Bor, U. G. Yasa, H. Kurt, and **M. Turduev**, "Demonstration of carpet cloaking by an anisotropic zero refractive index medium," *Opt. Lett.* 45, 2423-2426 (2020). **(2019 Impact Factor: 3.776)**
40. S. Yu, X. Qiu, H. Zuo, **M. Turduev**, T. Gu and J. Hu, "Compact and Fabrication-Tolerant Waveguide Bends Based on Quadratic Reflectors," in *Journal of Lightwave Technology*, vol. 38, no. 16, pp. 4368-4373, 15 Aug.15, 2020. **(2019 Impact Factor: 4.288)**
41. B. K. Yildirim, E. Bor, H. Kurt, **M. Turduev**, "Zones optimized multilevel diffractive lens for polarization-insensitive light focusing," *Journal of Physics D: Applied Physics 53*, 495109 (2020).

42. Grineviciute, L., Babayigit, C., Gailevičius, D., Peckus, M., **Turduev, M.**, Tolenis, T., Vengris, M., Kurt, H., Staliunas, K., Nanostructured Multilayer Coatings for Spatial Filtering. *Adv. Optical Mater.* 2021, 9, 2001730. (**2020 Impact Factor: 9.926**)
43. B. K. Yildirim, H. Kurt, **M. Turduev**, "Ultra-compact, high-NA achromatic multilevel diffractive lens via metaheuristic approach," *Photonics Research* (**2020 Impact Factor:7.08**, accepted for publication 20/08/2021).
44. A. Icli, A. Alpkilic, Y. Yilmaz, B. Yildirim, **M. Turduev**, H. Kurt, "Numerical and Experimental Demonstration of Inverse Designed Low-index Polarization-insensitive Wavelength Demultiplexer," *Journal of Physics D: Applied Physics (***2019 Impact Factor: 3.169**, *accepted for publication 01/09/2021).*

Conference Papers and proceedings:

1. M. Turduev, V. Gazi, J. Penders, and E. Cervera, "Implementation of a Collision Free Path Planning and Navigation Algorithm for Mobile Robots Using 2D-Voronoi Diagrams, the A* Algorithm, and Potential Functions," in *Proceedings of the EURON/IARP International Workshop on Robotics for Risky Interventions and Surveillance of the Environment*, Brussels, Belgium, January 2009.
2. M. Turduev, V. Gazi, J. Penders, ve E. Cervera, "2D-Voronoi izelgeleri, A* Arama Yontemi ve Yapay Potansiyel Fonksiyonlar Kullanilarak Carpismasz Gezgin Robot Guzergah Planlama ve Gezinme Uygulamas", in *Proceeding of the TOK2009 (Turkish National Committee of Automatic Control) National Conference on Automatic Control 2009* Istanbul, October 2009
3. M. Turduev, Y. Atas, P. Sousa, V. Gazi, and L. Marques, "Cooperative chemical concentration map building using decentralized asynchronous particle swarm optimization based search algorithm by mobile robots," in *IEEE/RSJ International Conference on Intelligent Robots and Systems IROS*, pp. 4175–4180, Taipei, Taiwan,October 2010
4. M. Turduev, M. Kirtay, P. Sousa, V. Gazi, and L. Marques, "Chemical concentration map building through bacterial foraging optimization based search algorithm by mobile robots," in *IEEE International Conference on Systems, Man, and Cybernetics SMC*, pp. 3242–3249, Istanbul, Turkey, October 2010.
5. M. Kirtay, M. Turduev, P. Sousa, and L. Marques, "Chemical concentration map building through ant colony optimization based search algorithm," *in TOK2010 (Turkish National Committee of Automatic Control) National Conference on Automatic Control 2010*, pp. 180–186, Gebze, Turkey, October 2010
6. H. Kurt and M. Turduev, "Two-dimensional quasi-bessel beam creation,"in *IEEE International Conference on Optical MEMS and Nanophotonics (OMN)*, pp. 219–220, Istanbul, Turkey, 2011
7. M. Turduev and H. Kurt, "Manipulating of light propagation using crescent-shaped photonic crystals,"in *IEEE International Conference on Optical MEMS and Nanophotonics (OMN)*, pp. 217–218, Istanbul, Turkey, 2011
8. M. Turduev, I. Giden, and H. Kurt, "Polarization insensitive photonic devices: Waveguides, splitter, and sharp bends," *Transparent Optical Networks (ICTON), 2012 14th International Conference on* , pp.1-4, 2-5 July 2012 doi: 10.1109/ICTON.2012.6254406
9. B. B. Oner, M. Turduev, I. H. Giden and H. Kurt, "Enhancing Light Manipulation by Graded Index Photonic Crystal Media," in *Proceeding of the XXI International Workshop on Optical Wave & Waveguide Theory and Numerical Modelling*, University of Twente, Enschede, Netherlands,pp. O-3.3, April 19-20, 2013.
10. M. Botey, R. Herrero, M. Turduev, D. Zhao, I. Giden, H. Kurt, K. Staliunas, "Asymmetric transmission from a 2D PT-symmetric honeycomb nanostructure, " *2014 16th International Conference on Transparent Optical Networks (ICTON)*, vol., no., pp.1,4, 6-10 July 2014 doi: 10.1109/ICTON.2014.6876621
11. M. Turduev, M. Botey, R. Herrero, I. Giden, H. Kurt, K. Staliunas, "Asymmetric light transmission by using 2D PT-symmetric photonic nanostructure," *Photonics Conference (IPC)*, 2014 IEEE , vol., no., pp. 164, 165, 12-16 Oct. 2014 doi: 10.1109/ IPCon.2014.6995263
12. I. H. Giden, H. Kurt, M. Turduev, K. Staliunas, "Compact rainbow trapping and demultiplexing by photonic crystal waveguides," *Photonics Conference (IPC)*, 2014 IEEE , vol., no., pp.587,588, 12-16 Oct. 2014 doi: 10.1109/IPCon.2014.6995277

13. M. Turduev, M. G. Can, Kh. Dadashi, H. Kurt, "Subwave-length focusing by all dielectric graded index photonic crystal lens" *Proceeding of The 3rd Advanced Electromagnetics Symposium*, Hangzhou - China, pp. 141, 7-10 December (2014).
14. Kh. Dadashi, M. Turduev, H. Kurt, R. Esen, " Novel properties of Maxwell's fish eye as an optical microresonator" *Proceeding of The 3rd Advanced Electromagnetics Symposium*, Hangzhou, China, pp. 150, 7-10 December (2014).
15. Z. Hayran, M. Turduev, A.B. Parim, E. Bor, and H. Kurt, "Light Focusing by Randomly Distributed Index Gradient Medium," *Proceeding of The 3rd Advanced Electromagnetics Symposium*, Hangzhou - China, pp. 146, 7-10 December (2014).
16. A.B. Parim, M. Turduev, Z. Hayran, E. Bor, and H. Kurt, "Optical Resonators Modified by Random Modulation of Refractive Index," *Proceeding of The 3rd Advanced Electromagnetics Symposium*, Hangzhou - China, pp. 149, 7-10 December (2014).
17. M. Turduev, I. I. Taskiran, H. Kurt, "Penrose type graded photonic quasi-crystal for light manipulation," *17th International Conference on Transparent Optical Networks (ICTON)*, Budapest, Hungary, pp.1,4, 5-9 July (2015).
18. M. Botey, M. Turduev, H. Kurt, R. Herrero, K. Staliunas, "Self-collimation in 2D complex and PT-symmetric media," *17th International Conference on Transparent Optical Networks (ICTON)*, Budapest, Hungary, pp.1,5, 5-9 July (2015).
19. Z. Hayran, M. Turduev, H. Kurt, "Sub-wavelength light focusing with random photonic medium," *17th International Conference on Transparent Optical Networks (ICTON)*, Budapest, Hungary, pp.1,4, 5-9 July (2015).
20. Z. Hayran, M. Turduev, M. Botey, R. Herrero, K. Staliunas, H. Kurt, "Tunable wavelength-demultiplexer by tapered photonic crystal waveguide," *17th International Conference on Transparent Optical Networks (ICTON)*, Budapest, Hungary, pp.1,4, 5-9 July (2015).
21. B. Tellioğlu, E. Bor, M. Turduev and H. Kurt, "Polarization independent focusing of light by gradually modulated annular photonic structure," 2016 18th International Conference on Transparent Optical Networks (ICTON), Trento, 2016, pp. 1-4. doi: 10.1109/ICTON.2016.7550310.
22. C. Babayiğit, M. Turduev, I. H. Giden, E. Bor and H. Kurt, "T-shape slotted photonic crystal based sensor with high sensitivity," 2016 18th International Conference on Transparent Optical Networks (ICTON), Trento, 2016, pp. 1-4. doi: 10.1109/ICTON.2016.7550437.
23. B. Küçükates, M. Turduev, E. Bor and H. Kurt, "Photonic crystal sub-wavelength λ/5 focusing lens design using optimization method," *2016 18th International Conference on Transparent Optical Networks (ICTON)*, Trento, 2016, pp. 1-4.doi: 10.1109/ICTON.2016.7550405.
24. Z. Hayran, M. Turduev, M. Botey, R. Herrero, K. Staliunas and H. Kurt, "Slow light enabled wavelength demultiplexing," *2016 18th International Conference on Transparent Optical Networks (ICTON)*, Trento, 2016, pp. 1-4. doi: 10.1109/ICTON.2016.7550306
25. 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. SPIE 10112, Photonic and Phononic Properties of Engineered Nanostructures VII, 1011228 (20 February 2017); doi:10.1117/12.2252365;http://dx.doi.org/10.1117/12.2252365
26. Z. Hayran, M. Turduev, H. Kurt, K. Staliunas, "Stopped microwave-rainbow in 3D chirped photonic crystals", Proc. SPIE 10098, Physics and Simulation of Optoelectronic Devices XXV, 100981I (22 February 2017); doi: 10.1117/12.2253899; http://dx.doi.org/10.1117/12.2253899
27. D. Gailevicius, Z. Hayran, M. Turduev, H. Kurt, S. Juodkazis, M. Malinauskas, V. Mizeikis, K. Staliunas, "Nanostructures for highly efficient infrared detection", Proc. SPIE 10115, Advanced Fabrication Technologies for Micro/Nano Optics and Photonics X, 101150Z (20 February 2017); doi: 10.1117/12.2252048; http://dx.doi.org/10.1117/12.2252048
28. D. Gailevicius, L.. Jonušauskas, D. Sakalauskas, Z. Hayran, H. Kurt, M. Turduev, S. Šakirzanovas, Saulius Juodkazis, V. Mizeikis, R. Gadonas, K. Staliunas, M. Malinauskas, "Laser nanolithography and pyrolysis of SZ2080 hybrid for slowing light in 3D photonic crystals", Proc. SPIE 10115, Advanced Fabrication Technologies for Micro/Nano Optics and Photonics X, 1011511 (20 February 2017); doi: 10.1117/12.2250537; http://dx.doi.org/10.1117/12.2250537
29. M. Gumus, I. H. Giden, M. Turduev and H. Kurt, "Non-diffraction Bloch modes in low-symmetric photonic crystals," *2017 Conference on Lasers and Electro-Optics Europe &*

European Quantum Electronics Conference (CLEO/Europe-EQEC), Munich, 2017, pp. 1-1. doi: 10.1109/CLEOE-EQEC.2017.8087164.

30. I.H. Giden, C. Babayigit, H. Kurt, M. Turduev, "Tunable Beam Steering and Afocal Zooming of light via Liquid Crystal Infiltrated Photonic Structure," *ICO The 24th Congress of the International Commission for Optics (ICO24)*, Tokyo, Japan, pp. P14-08, 21-25 August (2017).
31. M. Turduev, E. Bor, I.H. Giden, H. Kurt, "Efficient and Compact Discrete Photonic Device Design by Evolutionary Optimization Approach," *ICO The 24th Congress of the International Commission for Optics (ICO24)*, Tokyo, Japan, pp. W1J-05, 21-25 August (2017).
32. S.Y. Hanay, O. Alparslan, M. Turduev, I. H. Giden, E. Bor, C. Latifoglu, H. Kurt, S. Arakawa, and M. Murata, "Compact Air-To-Waveguide Coupler Design Based on Neural Networks," *ICO The 24th Congress of the International Commission for Optics (ICO24)*, Tokyo, Japan, pp. F1E-05, 21-25 August (2017).
33. C. Babayiğit, E. Bor, H. Kurt, K. Staliunas, M. Turduev, "Directional invisibility of elliptical shaped all dielectric structure induced by evolutionary optimization approach," *20th International Conference on Transparent Optical Networks (ICTON2018)*, Bucharest, Romania, pp.1-4, 1-5 July (2018).
34. E. Bor, C. Babayiğit, H. Kurt, M. Turduev, "All dielectric mode order transformation photonic structure design by evolutionary optimization approach," *20th International Conference on Transparent Optical Networks (ICTON2018)*, Bucharest, Romania, pp.1-4, 1-5 July (2018).
35. A. S. Evren, C. Babayiğit, E. Bor, H. Kurt, M. Turduev, "Directional cloaking by quadruple Luneburg lens system," *20th International Conference on Transparent Optical Networks (ICTON2018)*, Bucharest, Romania, pp.1-4, 1-5 July (2018).
36. M. Turduev, E. Bor, U. G. Yasa, H. Kurt,"Optimization of epsilon-and-mu-near-zero refractive index photonic structure to design unidirectional transmission device," *20th International Conference on Transparent Optical Networks (ICTON2018)*, Bucharest, Romania, pp.1-4, 1-5 July (2018).
37. V. Mizeikis, Z. Hayran, H. Kurt, M. Turduev, D. Gailevičius, M. Malinauskas, S. Juodkazis, K. Staliunas, "Direct laser writing of optical field concentrators based on chirped three-dimensional photonic crystals," *InCLEO: Science and Innovations* (*Optical Society of America*), May 5 (pp. SF3J-7), 2019.
38. D. Gailevičius, L. Grinevičiūtė, C. Babayigit, E. Bor, M. Turduev, V. Purlys, T. Tolenis, H. Kurt, and K. Staliunas, "Photonic Crystal Spatial Filters fabricated by Physical Vapour Deposition," in 2019 Conference on Lasers and Electro-Optics Europe and European Quantum Electronics Conference, OSA Technical Digest (Optical Society of America, 2019), paper ck_p_29.
39. C. Babayigit et al., "Photonic Wavy Structures for Angular Filtering of Light," *21st International Conference on Transparent Optical Networks (ICTON2019)*, Angers, France, 2019, pp. 1-4. doi: 10.1109/ICTON.2019.8840570
40. B. Ozkarali, E. Bor, H. Kurt and M. Turduev, "Photonic Crystal Rectangular Hole Based Nanobeam Cavity Refractive Index Sensor," 2019 21st International Conference on Transparent Optical Networks (ICTON), Angers, France, 2019, pp. 1-4. doi: 10.1109/ICTON.2019.8840150
41. B. Neseli, E. Bor, H. Kurt and M. Turduev, "Transmission Enhanced Wavelength Demultiplexer Design Based on Photonic Crystal Waveguide with Gradually Varied Width," 2019 21st International Conference on Transparent Optical Networks (ICTON), Angers, France, 2019, pp. 1-4. doi: 10.1109/ICTON.2019.8840385
42. B. K. Yildirim, E. Bor, H. Kurt and M. Turduev, "A Broadband Polarization-Insensitive Diffractive Lens Design for Subwavelength Focusing of Light," 2019 21st International Conference on Transparent Optical Networks (ICTON), Angers, France, 2019, pp. 1-4. doi: 10.1109/ICTON.2019.8840266
43. U. Sahin, E. Bor, H. Kurt and M. Turduev, "Genetically Optimized Design of Ultra-Compact and Highly Efficient Waveguide Crossing, Optical Attenuator and Reflector," 2019 21st International Conference on Transparent Optical Networks (ICTON), Angers, France, 2019, pp. 1-4. doi: 10.1109/ICTON.2019.8840566
44. A. S. Evren, E. Bor, H. Kurt and M. Turduev, "Hyperbolic Secant Graded Index Photonic Crystal Flat Lens for Subwavelength Focusing of Light," 2019 21st International Conference on Transparent Optical Networks (ICTON), Angers, France, 2019, pp. 1-4. doi: 10.1109/ICTON.2019.8840468

45. Mizeikis, V., Hayran, Z., Kurt, H., Turduev, M., Gailevičius, D., Malinauskas, M., Juodkazis, S. and Staliūnas, K., 2020, February. Direct laser writing of optical field concentrators based on chirped three-dimensional photonic crystals. In Advanced Fabrication Technologies for Micro/Nano Optics and Photonics XIII (Vol. 11292, p. 1129206). International Society for Optics and Photonics.
46. S. Yu, X. Qiu, H. Zuo, Mirbek Turduev, T. Gu, and Juejun Hu, "Compact and Fabrication-Tolerant Single-Mode Polymer Waveguide Bends," in Frontiers in Optics / Laser Science, B. Lee, C. Mazzali, K. Corwin, and R. Jason Jones, eds., OSA Technical Digest (Optical Society of America, 2020), paper FW5D.4.