Curriculum Vitae of Muhsin Caner GÖKÇE

Personal Information:

Date of Birth	January 1985
Citizenship	Turkish
Phone	(+90) (312) 585 03 47
E-mail	muhsin.gokce@tedu.edu.tr
Title	Associate Professor

Education:

Ph.D. (2016)	Çankaya University, Electronic and Communication Engineering, Ankara, Turkey, GPA: 3.88 / 4. Thesis Title: "*Beam Shaping effects on MIMO Free-Space Optical Communication Systems*"
M.Sc. (2012)	Ankara University, Electrical and Electronics Engineering, Ankara, Turkey, GPA: 3.43 / 4. Thesis Title: "*Scintillation Analysis and Evaluation of super Lorentz-Gaussian Laser Beams for Optical Wireless*".
B.Sc. (2010)	Çankaya University, Computer Engineering (Double Major), Ankara, Turkey.
B.Sc. (2009)	Çankaya University, Electronic and Communication Engineering, Ankara, Turkey, GPA 3.60 / 4 High Honour. Thesis Title: "*Target Tracking with Antenna Arrays*".

Awards&Achievements

2021	Associate Professor (September, 2021)
2015-2016	Teknogirişim Project 2015 (*High Data Rate Communication with Free Space Optics 0448. TGSD.2015*) from Ministry of Science, Industry and Technology
2014-2017	TUBITAK, Scholarship Program for PhD Students (2211)
2012- 2016	Scholarship from Çankaya University for Ph.D. Study
2011-2021	TUBITAK, Incentive Program for International Scientific Publications
2006-2009	Scholarship from Çankaya University for Undergraduate Study

Work Experience:

2022-	Associate Professor in TED University, Department of Electrical-Electronics Engineering.
2019-2021	Assistant Professor in TED University, Department of Electrical-Electronics Engineering.
2015-2020	MG Technology - FSO solutions.
2009-2018	Instructor in Çankaya University, Department of Electronic and Communication Engineering.

Publications:

SCI

[J54] Yalçın Ata, Yahya Baykal, Muhsin Caner Gökçe, "Analysis of optical wireless MIMO communication in underwater medium," *IEEE Internet of Things Journal*, February 2024 (Accepted for publication).

[J53] Yalçın Ata, Muhsin Caner Gökçe, Yahya Baykal, "Intelligent reflecting surface aided vehicular optical wireless communication systems using higher order mode in underwater channel," *IEEE Transactions on Vehicular Technology*, February 2024 (Accepted for publication).

[J52] Muhsin Caner Gökçe, Yahya Baykal, Yalçın Ata, Hamza Gerçekcioğlu "Multimode beam propagation through atmospheric turbulence," *Journal of Quantitative Spectroscopy and Radiative Transfer,* vol. 314, article number 108857, January 2024.

[J51] Yahya Baykal, Muhsin Caner Gökçe, Hamza Gerçekcioğlu, Yalçın Ata, "Correlations of multimode optical incidences in turbulent biological tissue," *Journal of the Optical Society of America A*, vol. 40, no. 11, pp. 2045-2051, Oct. 2023.

[J50] Muhsin Caner Gökçe, Yalçın Ata, Yahya Baykal, "Tissue turbulence and its effects on optical waves: A review", *Optics Communications*, vol. 546, 129816, Nov. 2023.

[J49] Muhsin Caner Gökçe, Yahya Baykal, Yalçın Ata, "Coupling efficiency of multimode beam to fiber in atmospheric

turbulence," *Journal of Quantitative Spectroscopy and Radiative Transfer,* vol. 303, 108590, July 2023.

[J48] Muhsin Caner Gökçe, Yalçın Ata, Yahya Baykal, "Fiber-coupling efficiency in ocean with adaptive optics corrections," *Journal of the Optical Society of America B,* vol. 40, no. 5, pp. 949-957, April 2023.

[J47] Yalçın Ata, Muhsin Caner Gökçe, Yahya Baykal, "Modulation transfer function variation through anisotropic turbulence in biological tissue," *Journal of the Optical Society of America B,* vol. 40, no. 4, pp. 807-815, March 2023

[J46] Yahya Baykal, Muhsin Caner Gökçe, Yalçın Ata, and Hamza Gerçekcioğlu, "Correlation of multimode fields in atmospheric turbulence," *Journal of the Optical Society of America A*, vol. 40, no. 3, pp. 462-469, Feb. 2023.

[J45] Yalçın Ata, Yahya Baykal, Muhsin Caner Gökçe, "Structure functions for optical waves in a complex medium of turbulent biological tissues," *Journal of the Optical Society of America A,* vol. 39, no. 12, pp. 2271-2281, Dec. 2022.

[J44] M. C. Gökçe, Y. Baykal and Y. Ata, "Fiber-Coupling Efficiency of Laser Array Beam From Turbulent Atmosphere to Fiber Link," in *Journal of Lightwave Technology*, vol. 41, no. 1, pp. 59-65, Jan. 2023.

[J43] Yahya Baykal, Yalçın Ata, and Muhsin C. Gökçe, "Laser array field correlations in underwater turbulence", *Journal of Modern Optics*, vol. 69, no. 22, Dec. 2022.

[J42] Yahya Baykal, Yalçın Ata, Muhsin Caner Gökçe, "Tip and tilt corrected bit error rate improvement of M-ary pulse position modulated optical wireless communication in marine atmosphere," *Waves in Random and Complex Media*, (Accepted)

[J41] Yahya Baykal, Yalçın Ata, Muhsin Caner Gökçe, "Underwater Turbulence, its Effects on Optical Wireless Communication and Imaging: A Review*," Optics and Laser Technology*, vol.

156, pp. 108642 (27pp), December 2022.

[J40] Muhsin Caner Gökçe, Yalçın Ata, Yahya Baykal, "Performance evaluation of aeronautical uplink/downlink free-space optical communication system with adaptive optics over gamma-gamma turbulence channel," *Journal of Optics*, vol. 24, no. 10, pp. 10560 (12pp), September 2022.

[J39] Yalçın Ata, Muhsin Caner Gökçe, Yahya Baykal, "Intensity fluctuations in biological tissues at any turbulence strength," *Physica Scripta*, vol. 97, no. 9, pp. 095501 (12pp), August 2022.

[J38] Yalçın Ata, Muhsin Caner Gökçe, Yahya Baykal, "Mitigation of atmospheric turbulence on up and downlink optical communication systems using receiver diversity and adaptive optics," *Optical and Quantum Electronics*, vol. 54, pp. 659 (19pp), August 2022.

[J37] Yalçın Ata, Yahya Baykal, Muhsin Caner Gökçe, "Analysis of wander and spreading of optical beam by using oceanic turbulence optical power spectrum," *Journal of the Optical Society of America B*, vol. 39, no. 8, pp. 2129-2137, July 2022.

[J36] Yalçın Ata, Yahya Baykal, Muhsin Caner Gökçe, "Performance of free-space optical communication system employing receive diversity techniques in anisotropic atmospheric non-Kolmogorov turbulence," *Journal of the Optical Society of America B*, vol. 39, no. 8, pp. 2100-2108, July 2022.

[J35] Volkan Akbucak, Görkem Aymelek, Begüm Yolcu, Orkun Kayam, Onur Ünal, Muhsin Caner Gökçe, Yahya Baykal, "Effect of partial coherence on signal-to-noise ratio performance of free space optical communication system in weak turbulence", *Optics Communications*, vol. 518, pp. 128395 (7pp), May 2022.

[J34] Yalçın Ata, Muhsin Caner Gökçe, Yahya Baykal, "Underwater Turbulence Effect on Optical Imaging," *Physica Scripta*, vol.

97, no. 5, pp. 055505 (11pp), March 2022.

[J33] Muhsin Caner Gökçe, Yahya Baykal, Yalçın Ata, "Effects of adaptive optics on bit error rate of *M*-ary PPM oceanic optical wireless communication systems with aperture averaging in strong turbulence," *Laser Physics*, vol. 31, no.11, pp. 115204 (11pp), November 2021.

[J32] Yalçın Ata, Yahya Baykal, Muhsin Caner Gökçe, "Adaptive optics compensation of *M*-ary pulse position modulated communication systems in anisotropic non-Kolmogorov turbulent atmosphere," *Optics Communications*, vol. 501, pp. 127379 (9pp), December 2021.

[J31] Yalçın Ata, Yahya Baykal, Muhsin Caner Gökçe, "Signal-to-noise ratio with adaptive optics compensation in non-Kolmogorov weak turbulent atmosphere," *Wave Random Complex.* August 2021, doi: 10.1080/17455030.2021.1959084.

[J30] Yahya Baykal, Yalçın Ata, and Muhsin Caner Gökçe, "Performance of *M*-ary pulse position modulated optical wireless communication systems in marine atmosphere," *Appl. Opt.,* vol. 60(8), pp. 2166-2170, March, 2021.

[J29] Muhsin Caner Gökçe, "Aperture Averaged Scintillation of Gaussian beam in strong oceanic turbulence," *Gazi University Journal of Science,* vol 34(1), pp. 100-110, March 2021.

[J28] Muhsin Caner Gökçe, Yahya Baykal, Yalçın Ata, "Adaptive optics effect on performance of BPSK-SIM oceanic optical wireless communication systems with aperture averaging in weak turbulence," *Journal of Quantitative Spectroscopy and Radiative Transfer*, vol. 256, pp. 107335 (8pp), September 2020.

[J27] Yalçın Ata, Yahya Baykal, and Muhsin Caner Gökçe, "BER performance of *M*-ary pulse position modulated communication systems in anisotropic non-Kolmogorov turbulent atmosphere," *Wave Random Complex.,* DOI:10.1080/17455030.2020.1807072.

[J26] Yalçın Ata, Muhsin Caner Gökçe, and Yahya Baykal, "*M*-ary pulse position modulation performance with adaptive optics corrections in atmospheric turbulence," *J. Mod. Opt.,* vol. 67, no. 6, pp. 563-568, May 2020.

[J25] Yahya Baykal, Muhsin Caner Gökçe, and Yalçın Ata, "Application of adaptive optics on bit error rate of *M*-ary pulse position modulated oceanic optical wireless communication Systems," *Laser Physics*, vol. 30, no. 7, pp. 076202 (8pp), May 2020.

[J24] Muhsin Caner Gökçe, Yahya Baykal, Yalçın Ata, "Effect of anisotropy on performance of *M*-ary phase shift keying subcarrier intensity modulated optical wireless communication links operating in strong oceanic turbulence," *Laser Phys. Letters*, vol. 17, no. 5, pp. 056002 (8pp), April 2020.

[J23] Muhsin Caner Gökçe, Yahya Baykal, Yalçın Ata, "Laser array beam propagation through liver tissue," *Journal of Visualization*, vol. 23, pp. 331-338, April 2020.

[J22] Muhsin Caner Gökçe, "Average capacity analysis of underwater optical wireless communication links over anisotropic strong oceanic turbulence channels," *J. Opt. Soc. Am. A*, vol. 36, no. 12, pp. 2040-2047, November 2019.

[J21] Muhsin Caner Gökçe, Yahya Baykal, Yalçın Ata, "Binary phase shift keying-subcarrier intensity modulation performance in weak oceanic turbulence," *Phys. Commun.*, vol. 37, pp. 100904, December 2019.

[J20] Yahya Baykal, Muhsin Caner Gökçe, Yalçın Ata, "Anisotropy effect on performance of subcarrier intensity modulated binary phase shift keying optical wireless communication links in weakly turbulent underwater channel", *J. Mod. Opt.*, vol. 66, no 19, pp. 1871-1875, October 2019.

[J19] Yalçın Ata, Yahya Baykal, and Muhsin Caner Gökçe, "Performance of *M*-ary pulse position modulation for aeronautical uplink communications in atmospheric turbulent

medium," *Appl. Opt.*, vol. 58, no. 28, pp. 7909-7914, October 2019.

[J18] Yalçın Ata, Yahya Baykal, and Muhsin Caner Gökçe, "Average channel capacity in anisotropic atmospheric non-Kolmogorov turbulent medium," *Opt. Commun*., vol. 451, pp. 129-135, November 2019.

[J17] Muhsin Caner Gökçe, Yahya Baykal, and Yalçın Ata, "*M*-ary phase shift keying-subcarrier intensity modulation performance in strong oceanic turbulence," *Opt. Eng.*, vol. 58, no. 5, pp. 056105, May 2019.

[J16] Yalçın Ata, Yahya Baykal, and Muhsin Caner Gökçe, "Effect of strong atmospheric non-Kolmogorov turbulence on the *M*-ary PSK subcarrier intensity modulated free space optical communications system performance," *Appl. Opt.,* vol. 58, no. 13, pp. 3639-3645, May 2019.

[J15] Yalçın Ata, Yahya Baykal, and Muhsin Caner Gökçe, "Error performance of optical wireless communication systems exercising BPSK subcarrier intensity modulation in non-Kolmogorov turbulent atmosphere," *Opt. Commun*., vol. 436, pp. 108-112, April 2019.

[J14] Yahya Baykal, Yalçın Ata, and Muhsin Caner Gökçe, "Structure parameter of anisotropic atmospheric turbulence expressed in terms of anisotropy factors and oceanic turbulence parameters," *Appl. Opt.,* vol. 58, no. 2, pp. 454-460, Jan. 2019.

[J13] Muhsin Caner Gökçe, Yahya Baykal, Yalçın Ata, "*M*-ary PPM performance in strong atmospheric turbulence," *J. Opt. Soc. Am. A,* vol. 35, no. 12, pp. 2020-2025, December 2018.

[J12] Yalçın Ata, Yahya Baykal, Muhsin Caner Gökçe, "*M*-ary Pulse Position Modulation Performance in non-Kolmogorov Turbulent Atmosphere," *Appl. Opt*., vol. 57, no. 24, pp. 7006-7011, August 2018.

[J11] Muhsin Caner Gökçe, Yahya Baykal, Yalçın Ata,

"Performance analysis of *M*-ary pulse position modulation in strong oceanic turbulence," *Opt. Commun.,* vol. 427, no. 15, pp. 573-577, November 2018.

[J10] Muhsin Caner Gökçe and Yahya Baykal, "Effects of liver tissue turbulence on propagation of annular beam," *Optik,* vol. 171, pp. 313-318, June 2018.

[J9] Muhsin Caner Gökçe and Yahya Baykal, "Aperture averaging in strong oceanic turbulence," *Opt. Commun.,* vol. 413, no. 7, pp. 196-199, April 2018.

[J8] Muhsin Caner Gökçe, Yahya Baykal "Aperture averaging and BER for Gaussian beam in underwater oceanic turbulence," *Opt. Commun.* vol. 410, no. 5, pp. 830-835. March 2018.

[J7] Muhsin Caner Gökçe, Yahya Baykal, and Murat Uysal, "Performance analysis of multiple-input multiple-output free-space optical systems with partially coherent Gaussian beams and finite-sized detectors," *Opt. Eng.,* vol. 55, no. 11, pp. 111607, November 2016.

[J6] Muhsin Caner Gökçe, Yahya Baykal, "Scintillation analysis of multiple-input single-output underwater optical links," *Appl. Opt*., vol. 55, no. 22, pp. 6130-6136, August 2016.

[J5] Muhsin Caner Gökçe, Yahya Baykal and Murat Uysal, "Bit error rate analysis of MISO FSO systems," *Wave Random Complex*., vol. 26, no. 4, pp. 642-649, May 2016.

[J4] Muhsin Caner Gökçe, Yahya Baykal and Murat Uysal, "Aperture averaging in multiple-input single-output free space optical systems using partially coherent radial array beams," *J. Opt. Soc. Am. A* vol. 33, no. 6, pp. 1041-1048, June 2016.

[J3] Muhsin Caner Gökçe, Yahya Baykal, Canan Kamacıoğlu, and Murat Uysal, "Aperture averaging in MISO FSO systems," *Opt. Eng.,* vol. 54, no. 6, pp. 066103, June 2015.

[J2] M.C. Gökçe, F. Sari., F. Ozek, "Ber analysis for super Lorentz-Gaussian laser beams propagating in turbulent media," *J Fac. Eng. Archit. Gaz.* vol. 28, no. 4, pp. 705-710. 2013.

[J1] M.C. Gokce and H.T. Eyyuboglu, "Irradiance fluctuations of partially coherent super Lorentz Gaussian beams", *Opt. Commun.*, vol. 284, no. 20, pp. 4857-4861, 2011.

Conference

[C9] Muhsin Caner Gökçe, Yahya Baykal, Yalçın Ata, and Hamza Gerçekcioğlu, "Multimode beam propagation in atmospheric turbulence", NATO Workshop on Light Propagation in Random Media and Impact on Wireless Optical Communications Systems in Evolving Climate Conditions, NATO STO Centre for Maritime Research and Experimentation (CMRE), La Spezia, Italy, 29-31 Aug. 2023.

[C8] Ecenaz Özalp, Alp Eren Aydoğdu, Muhsin Caner Gökçe, Yahya Baykal, "Sualtı Kablosuz Optik Haberleşme Sistemleri için Kısmi Eş-Fazlı Lazer Dizi Demeti Sinyal-Gürültü Oranı Analizi," EMO İlk Bildiriler Konferansı, Ankara, Turkey, 10-11 July 2021.

[C7] Muhsin Caner Gökçe, "Adaptive Optics Effects on Average Channel Capacity of Oceanic Optical Wireless Communication Systems in Strong Turbulence," Global Power, Energy and Communication Conference (IEEE-GPECOM), İzmir, Turkey, 20-23 October 2020.

[C6] Muhsin Caner Gökçe, "Effect of Adaptive Optics on Average Channel Capacity of Underwater Optical Wireless Communication System," Innovations in Intelligent Systems and Applications Conference (IEEE-ASYU), İstanbul, Turkey, 15-17 October 2020.

[C5] Yahya Baykal, Yalçın Ata, and Muhsin Caner Gökçe, "Okyanus türbülansında lazer hüzme dizisi sintilasyonu (Laser array beam scintillation in oceanic turbulence)", Signal Processing and Communications Applications Conference (IEEE-SIU), Gaziantep, Turkey, 5-7 October 2020.

[C4] Muhsin C. Gökçe, Yahya Baykal, and Murat Uysal, "Effect of partial coherence on MISO FSO systems," 2015 4th

International Workshop in Optical Wireless Communications (IEEE-IWOW), İstanbul, Turkey, 07-08 September 2015.

[C3] Muhsin C. Gökçe, Canan Kamacıoğlu, Murat Uysal, and Yahya Baykal, "Performance analysis of MIMO FSO systems with radial array beams and finite sized detectors", SPIE Optics + Photonics, 2014 Optical Engineering + Application, Optical Design and Systems Engineering, Laser Beam Shaping XV (OP308) to be held during 17 - 21 August 2014 in San Diego, California, USA. SPIE Proc. A. M. J. van Eijk, C. C. Davis, and S. M. Hammel, Editors, 9224, 922409-1, 922409-13, 2014.

[C2] Muhsin C. Gökçe, Yahya. Baykal, Murat Uysal, "Effect of LED sources on the performance of MIMO FSO systems", Çankaya University Symposium MTS 7, Ankara, pp. 133-135, 2014.

[C1] K. Tugyan, Muhsin C. Gökçe, H.T. Eyyuboğlu, and E. Sermutlu, "Mühendislik uygulamalarında kullanılan çok katlı integralin sembolik çözümü". Çankaya University Symposium MTS 3, Ankara, pp. 371-380, 2010.

Skills:

Computer related

- Matlab
- C++, Java
- Proteus
- HTML

Languages

- English: Advanced