Assoc. Prof. İLHAN BAŞTÜRK

Personal Information

Email: ilhan.basturk@cbu.edu.tr
Web: https://avesis.mcbu.edu.tr/ilhan.basturk

International Researcher IDs
ScholarID: zb_eBbAAAAAJ
ORCID: 0000-0003-1869-6010
Publons / Web Of Science ResearcherID: ABI-7713-2020
ScopusID: 24723643000
Yoksis Researcher ID: 148481

Education

Post Doctorate, University of Warwick, England 2017 - 2018
Doctorate, Izmir Institute Of Technology, Turkey 2007 - 2014
Postgraduate, Izmir Institute Of Technology, Turkey 2003 - 2007
Undergraduate, Kütahya Dumlupinar University, Turkey 1999 - 2003

Foreign Languages

English

Dissertations

Doctorate, Resource management for multiuser systems with multiple antennas in wireless networks, Izmir Institute Of Technology, 2014
Postgraduate, Iterative channel estimation techniques for multiple input multiple output orthogonal frequency division multiplexing systems, Izmir Institute Of Technology, 2007

Research Areas

Avesis Research Areas: Communication Engineering
WoS Research Areas: Engineering Electrical & Electronic, Telecommunications
Scopus Research Areas: Signal Processing, Computer Networks and Communications

Academic Positions

Assistant Professor, Aydin Adnan Menderes University, 2015 - 2021
Research Assistant, Sivas Cumhuriyet University, Mühendislik Fakültesi, 2014 - 2015
Research Assistant, Izmir Institute Of Technology, 2005 - 2014
Research Assistant, Sivas Cumhuriyet University, Mühendislik Fakültesi, 2004 - 2005

Academic and Administrative Experience

Head of Department, Manisa Celal Bayar University, MÜHENDİSLİK VE DOĞA BİLİMLERİ FAKÜLTESİ, ELEKTRİK-ELEKTRONİK MÜHENDİSLİĞİ, 2021 - Present
Deputy Head of Department, Aydin Adnan Menderes University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2015 - 2020

Courses

Undergraduate
Analog Communication, Undergraduate, 2022-2023, 2021-2022
Tasarım 2, Undergraduate, 2022-2023, 2021-2022
Mobile Communication Systems, Undergraduate, 2022-2023, 2021-2022
Signals and Systems 1, Undergraduate, 2022-2023, 2021-2022
Tasarım 1, Undergraduate, 2022-2023, 2021-2022
Signals and Systems 2, Undergraduate, 2022-2023, 2021-2022
Bitirme Projesi 1, Undergraduate, 2020-2021, 2019-2020, 2018-2019
Analog Communication, Undergraduate, 2020-2021
Circuit Theory I, Undergraduate, 2020-2021, 2018-2019, 2016-2017
Tasarım 2, Undergraduate, 2020-2021
Wireless Communications, Undergraduate, 2020-2021, 2019-2020, 2018-2019
Tasarım 1, Undergraduate, 2020-2021
Signals and Systems 2, Undergraduate, 2020-2021
CIRCUIT LABORATORY, Undergraduate, 2019-2020
FUNDAMENTALS OF PROBABİLİTY AND RANDOM VARİABLES, Undergraduate, 2019-2020, 2018-2019
Bitirme Projesi 2, Undergraduate, 2019-2020, 2018-2019
Telecommunication Applications, Undergraduate, 2018-2019
Probability and Statistics, Undergraduate, 2016-2017, 2015-2016
Control Theory, Undergraduate, 2016-2017
Circuit Laboratory I, Undergraduate, 2015-2016
Undergraduate Double Major
Kablosuz ve Mobil Haberleşme Sistemleri, Undergraduate Double Major, 2022-2023, 2021-2022
Olasılık, Rasgele Değişkenler ve Rasgele Süreçler, Undergraduate Double Major, 2021-2022
RASGELE DEĞİŞKENLER VE STOKASTİK SÜREÇLER, Undergraduate Double Major, 2020-2021, 2018-2019
KABLOSUZ VE MOBİL HABERLEŞME SİSTEMLERİ, Undergraduate Double Major, 2019-2020

Jury Memberships

Post Graduate, Post Graduate, Ege Üniversitesi, September, 2026
Post Graduate, Post Graduate, Manisa Celal Bayar Üniversitesi, August, 2026
Post Graduate, Post Graduate, Manisa Celal Bayar Üniversitesi, May, 2026
Post Graduate, Post Graduate, Manisa Celal Bayar Üniversitesi, May, 2026
Assistant Professorship Appointment Committee, Assistant Professorship Appointment Committee, Aydın Adnan Menderes Üniversitesi, January, 2026
Doctorate, Doctorate, Ege Üniversitesi, December, 2025
Post Graduate, Post Graduate, Aydın Adnan Menderes Üniversitesi, February, 2025
Post Graduate, Post Graduate, Aydın Adnan Menderes Üniversitesi, July, 2024
Post Graduate, Post Graduate, Manisa Celal Bayar Üniversitesi, June, 2024
Post Graduate, Post Graduate, Aydın Adnan Menderes Üniversitesi, February, 2024
Post Graduate, Post Graduate, Aydın Adnan Menderes Üniversitesi, August, 2023
Post Graduate, Post Graduate, İzmir Katip Çelebi Üniversitesi, August, 2023

Doctoral Examination, Doctoral Examination, Manisa Celal Bayar Üniversitesi, July, 2023
Post Graduate, Post Graduate, Manisa Celal Bayar Üniversitesi, March, 2023
Post Graduate, Post Graduate, Manisa Celal Bayar Üniversitesi, March, 2023
Doctoral Examination, Doctoral Examination, Manisa Celal Bayar Üniversitesi, August, 2022
Post Graduate, Post Graduate, Dokuz Eylül Üniversitesi, July, 2020
Post Graduate, Post Graduate, Dokuz Eylül Üniversitesi, July, 2020
Post Graduate, Post Graduate, Manisa Celal Bayar Üniversitesi, July, 2020
Post Graduate, Post Graduate, Ege Üniversitesi, January, 2020
Post Graduate, Post Graduate, Ege Üniversitesi, December, 2018
Post Graduate, Post Graduate, Ege Üniversitesi, August, 2017
Post Graduate, Post Graduate, Dokuz Eylül Üniversitesi, June, 2016

Articles

I. **HAPS-RIS-Assisted IoT Networks for Disaster Recovery and Emergency Response: Architecture, Application Scenarios, and Open Challenges**
KARAMAN B., BAŞTÜRK İ., ZEYDAN E., KARA F., AYCAN BEYAZIT E., TAŞKIN S., YANIKÖMEROĞLU H.
IEEE Internet of Things Magazine, vol.9, no.4, pp.37-44, 2026 (Scopus)

II. **Akıllı Yansıtıcı Yüzey Destekli MIMO Sistemlerinde Kanal Kapasitesi Analizi**
Bakbak H. E., Demirci O., Karaman B., Baştürk İ.
International Journal of 3D Printing Technologies and Digital Industry, vol.10, no.1, pp.225-233, 2026 (TRDizin)

III. **Enhancing OFDM Channel Estimation Accuracy with CNN-LSTM Hybrid Architectures**
J. Massalay S., BAŞTÜRK İ., KOÇYİĞİT Y.
Celal Bayar Üniversitesi Fen Bilimleri Dergisi, vol.22, no.1, pp.86-94, 2026 (TRDizin)

IV. **Ubiquity, applications, and potential of emerging MIMO technologies**
YILMAZ M., BAŞTÜRK İ., KALKAN Y.
Journal of scientific reports-A (Online), 2026 (TRDizin)

V. **Proof of Genesis-Supported Blockchain and Resilience Networks for In-Disaster Scenarios**
Çay A., Özçevik M., Karaman B., Baştürk İ., Zeydan E., Taşkın S.
IEEE TRANSACTIONS ON NETWORK AND SERVICE MANAGEMENT, vol.1, pp.1-12, 2026 (SCI-Expanded, Scopus)

VI. **Solutions for Sustainable and Resilient Communication Infrastructure in Disaster Relief and Management Scenarios**
KARAMAN B., BAŞTÜRK İ., TAŞKIN S., Zeydan E., Kara F., Beyazıt E. A., Camelo M., Björnson E., Yanikomeroglu H.
IEEE Communications Surveys and Tutorials, vol.28, pp.716-760, 2026 (SCI-Expanded, Scopus)

VII. **Forecasting day-ahead electricity prices for the electricity market with dynamic time period**
Özcan A. V., ÖZÇEVİK M., KARAMAN B., BAŞTÜRK İ., Zeydan E., TAŞKIN S., Çetinkaya Ü.
Energy, vol.338, 2025 (SCI-Expanded, Scopus)

VIII. **Endüstriyel Tesislerde Makine Öğrenmesi ile Kestirimci Bakım ve Arıza Analizleri**
Pirge İ. G., BAŞTÜRK İ.
Karaelmas Fen ve Mühendislik Dergisi, vol.15, no.1, pp.119-133, 2025 (TRDizin)

IX. **Maximizing user satisfaction in wireless networks with integrated aerial base stations**
BAŞTÜRK İ., Zeydan E., Türk Y.
Telecommunication Systems, vol.88, no.1, 2025 (SCI-Expanded, Scopus)

X. **On-Demand HAPS-Assisted Communication System for Public Safety in Emergency and Disaster Response**
Karaman B., Baştürk İ., Kara F., Zeydan E., Beyazıt E. A., Taşkın S., Björnson E., Yanikomeroglu H.
IEEE COMMUNICATIONS MAGAZINE, vol.63, no.12, pp.54-61, 2025 (SCI-Expanded, Scopus)

XI. **Enhancing Resiliency of Integrated Space-Air Ground-Sea Networks with Renewable Energies: A Use Case After the 2023 Türkiye Earthquake**
KARAMAN B., BAŞTÜRK İ., TAŞKIN S., Kara F., Zeydan E., Yanikomeroglu H.

IEEE Communications Magazine, vol.62, no.12, pp.104-111, 2024 (SCI-Expanded, Scopus)

XII. **Energy-efficient communication for UAV-enabled mobile relay networks**
BAŞTÜRK İ.
Computer Networks, vol.213, 2022 (SCI-Expanded, Scopus)

XIII. **Green communication for OFDMA cellular networks with multiple antennas**
BAŞTÜRK İ.
Computer Communications, vol.168, pp.93-101, 2021 (SCI-Expanded, Scopus)

XIV. **Energy Efficiency for MISO-OFDMA-Based User-Relay Assisted Cellular Networks**
BAŞTÜRK İ., Chen Y.
IEEE Systems Journal, vol.14, no.4, pp.5274-5283, 2020 (SCI-Expanded, Scopus)

XV. **User-relay assisted cellular networks with multiple antennas**
BAŞTÜRK İ., Özbek B.
International Journal of Electronics, vol.106, no.7, pp.1029-1040, 2019 (SCI-Expanded, Scopus)

XVI. **Energy-efficient communication for user-relay aided cellular networks with OFDMA**
BAŞTÜRK İ., Chen Y., Alouini M.
Physical Communication, vol.33, pp.153-164, 2019 (SCI-Expanded, Scopus)

XVII. **Evaluation of Energy-Efficiency Problem in Orthogonal Frequency Division Multiple Access Cellular Networks**
BAŞTÜRK İ.
Celal Bayar Üniversitesi Fen Bilimleri Dergisi, vol.15, no.1, pp.9-15, 2019 (TRDizin)

XVIII. **Channel and queue aware joint relay selection and resource allocation for MISO-OFDMA based user-relay assisted cellular networks**
BAŞTÜRK İ., Özbek B.
Telecommunication Systems, vol.67, no.4, pp.619-633, 2018 (SCI-Expanded, Scopus)

XIX. **Iterative channel estimation for higher order modulated STBC-OFDM systems with reduced complexity**
BAŞTÜRK İ., Özbek B.
KSII Transactions on Internet and Information Systems, vol.10, no.6, pp.2446-2462, 2016 (SCI-Expanded, Scopus)

XX. **Radio resource management for user-relay assisted OFDMA-based wireless networks**
BAŞTÜRK İ., Özbek B.
AEU - International Journal of Electronics and Communications, vol.70, no.5, pp.643-651, 2016 (SCI-Expanded, Scopus)

Papers Presented at Peer-Reviewed Scientific Conferences

I. **HAPS-RIS or HAPS-Relay: Which Outperforms Under Impairments with NOMA in 6G NTN?**
KARAMAN B., Khennoufa F., BAŞTÜRK İ., ÖZTÜRK M., TAŞKIN S., YANIKÖMEROĞLU H.
IEEE Global Communications Conference (GLOBECOM), Macau, China, 21 September 2026, (Full Text)

II. **LMS ALGORİTMASI İLE MIMO SİSTEMDE DİNAMİK AKIŞ KONTROLÜ**
Özkara E., BAŞTÜRK İ.
TRAKYA 1ST INTERNATIONAL CONFERENCE ON APPLIED SCIENCES, Edirne, Turkey, 10 - 12 July 2026, (Summary Text)

III. **Energy- and Hardware-Efficient Phase-Shifter Sharing Architecture for HAPS–RIS Assisted Communication Systems**
KARAMAN B., BAŞTÜRK İ., TAŞKIN S.
34th Signal Processing and Communications Applications Conference (SIU), İstanbul, Turkey, 7 - 10 July 2026, (Full Text)

IV. **ESP32 TABANLI BLE RSSI KULLANARAK YAKLAŞIM TABANLI YAKINLIK ALGILAMA VE TETİKLEME MEKANİZMASI**
Özkara E., BAŞTÜRK İ.

16th INTERNATIONAL CONGRESS ON ENGINEERING, ARCHITECTURE AND DESIGN, İstanbul, Turkey, 20 - 22 December 2025, (Full Text)

V. **On the Trade-Off Between Sum-Rate and EnergyEfficiency through the Convergence of HAPS andActive RIS Technologies**
Karaman B., Baştürk İ., Kara F., Öztürk M., Taşkın S., Yanıkömeroğlu H.
IEEE International Symposium on Personal, Indoor and Mobile Radio Communications, İstanbul, Turkey, 1 - 04 September 2025, (Full Text)

VI. **DEEP LEARNING-BASED CHANNEL ESTIMATION FOR WIRELESS COMMUNICATION NETWORKS**
Massalay S. J., BAŞTÜRK İ., KOÇYİĞİT Y.
ABANT 5th INTERNATIONAL CONFERENCE ON SCIENTIFIC RESEARCHES, Turkey, 18 - 20 July 2025, (Full Text)

VII. **STAR Intelligent Reflecting Surfaces Enhanced Air Networks for 6G and Beyond: NOMA and OMA Performance Analysis**
KARAMAN B., BAŞTÜRK İ., TAŞKIN S.
2025 33rd Signal Processing and Communications Applications Conference (SIU), 25 - 28 June 2025, (Full Text)

VIII. **KESTİRİMCİ BAKIM İLE ÜRETİM VERİMLİLİĞİNİN ARTIRILMASI**
Pirge İ. G., BAŞTÜRK İ.
EGE 12th INTERNATIONAL CONFERENCE ON APPLIED SCIENCES, İzmir, Turkey, 26 December 2024, (Full Text)

IX. **Performance Evaluation of Passive and Active Intelligent Reflecting Surfaces Assisted OMA and NOMA Systems**
KARAMAN B., BAŞTÜRK İ., TAŞKIN S.
2024 32nd Signal Processing and Communications Applications Conference (SIU), Mersin, Turkey, 15 - 18 May 2024, (Full Text)

X. **ORANSAL SELENOİD VALFİN ÇİFT OLARAK DENGELİ KONTROLÜ VE ÇIKIŞ SİNYALİ ANALİZİ**
Özkara E., BAŞTÜRK İ., MAMUR H.
KARADENIZ 15th INTERNATIONAL CONFERENCE ON APPLIED SCIENCES, Rize, Turkey, 8 - 10 March 2024, (Full Text)

XI. **Performance Evaluation of Passive and Active Intelligent Reflecting Surfaces Assisted OMA and NOMA Systems Pasif ve Aktif Akıllı Yansıtıcı Yüzey Destekli OMA ve NOMA Sistemlerinin Performans Değerlendirmesi**
KARAMAN B., BAŞTÜRK İ., TAŞKIN S.
32nd IEEE Conference on Signal Processing and Communications Applications, SIU 2024, Mersin, Turkey, 15 - 18 May 2024, (Full Text)

XII. **Energy efficiency for UAV assisted cellular networks**
BAŞTÜRK İ.
International Congress on Scientific Advances (ICONSAD) 2021, 22 - 25 December 2021, (Summary Text)

XIII. **Energy-efficiency maximization for multi-antenna OFDMA networks Çok antenli DFBÇE ağlari için enerji verimliliği maksimizasyonu**
BAŞTÜRK İ.
29th IEEE Conference on Signal Processing and Communications Applications, SIU 2021, Virtual, Istanbul, Turkey, 9 - 11 June 2021, (Full Text)

XIV. **Energy-Efficiency in Mobile-Relay Aided Networks**
BAŞTÜRK İ., Chen Y.
2019 27th Signal Processing and Communications Applications Conference (SIU), Sivas, Turkey, 24 - 26 April 2019, (Full Text)

XV. **Distance based selection for user-relaying in OFDMA-based wireless networks**
BAŞTÜRK İ., ÖZBEK B.
2016 24th Signal Processing and Communication Application Conference (SIU), Zonguldak, Turkey, 16 - 19 May 2016, (Full Text)

XVI. **Resource allocation for user-relay assisted MISO-OFDMA networks**
BAŞTÜRK İ., ÖZBEK B.
2015 International Symposium on Wireless Communication Systems (ISWCS), Brussels, Belgium, 25 - 28 August

2015, (Full Text)

XVII. **Effect Of mobile relays on the OFDMA-based cellular network performance**
BAŞTÜRK İ., ÖZBEK B.
2014 22nd Signal Processing and Communications Applications Conference (SIU), Trabzon, Turkey, 23 - 25 April 2014, (Full Text)

XVIII. **Radio Resource Management for OFDMA-Based Mobile Relay Enhanced Heterogenous Cellular Networks**
BAŞTÜRK İ., ÖZBEK B., EDEMEN Ç., TAN A. S., ZEYDAN E., ERGÜT S.
2013 IEEE 77th Vehicular Technology Conference (VTC Spring), Dresden, Germany, 2 - 05 June 2013, (Full Text)

XIX. **Queue Aware Resource Allocation for OFDMA Based Mobile Relay Enhanced Networks**
BAŞTÜRK İ., ÖZBEK B., LE RUYET D.
ISWCS 2013 - The Tenth International Symposium on Wireless Communication Systems, Ilmenau, Germany, 27 - 30 August 2013, (Full Text)

XX. **Dikgen Frekans Bölmeli Çoklu Erişim Tabanlı Gezgin Röleli Hücresel Ağlarda Kaynak Yönetimi**
BAŞTÜRK İ., ÖZBEK B.
V. İletişim Teknolojileri Ulusal Sempozyumu, İzmir, Turkey, 16 - 17 May 2013, (Full Text)

XXI. **Fairness aware resource allocation for downlink MISO-OFDMA systems**
BAŞTÜRK İ., ÖZBEK B.
2012 IEEE Wireless Communications and Networking Conference (WCNC), Paris, France, 1 - 04 April 2012, (Full Text)

XXII. **Uzay Zaman Blok Kodlu Dikgen Frekans Bölmeli Çoğullama Sistemleri İçin Yinelemeli Kanal Kestirimi**
BAŞTÜRK İ., ÖZBEK B.
Aselsan Haberleşme ve Bilgi Teknolojileri Çalıştayı 2011, Ankara, Turkey, 11 - 12 October 2011, (Summary Text)

XXIII. **Fair resource allocation for multi-user MISO-OFDMA systems Çoklu kullanicili çgtç-dfbçe sistemleri için adil kaynak paylaşimi**
BAŞTÜRK İ., Ozbek B.
2011 IEEE 19th Signal Processing and Communications Applications Conference, SIU 2011, Antalya, Turkey, 20 - 22 April 2011, pp.506-509, (Full Text)

XXIV. **Performance of EM-based channel estimation for STBC-OFDM systems**
BAŞTÜRK İ., ÖZBEK B.
2009 IEEE 17th Signal Processing and Communications Applications Conference, Antalya, Turkey, 9 - 11 April 2009, (Full Text)

XXV. **Iterative EM-Based Channel Estimation for STBC-OFDM**
BAŞTÜRK İ., ÖZBEK B.
2009 IEEE Wireless Communications and Networking Conference, Budapest, Hungary, 5 - 08 April 2009, (Full Text)

XXVI. **Pilot-based iterative channel estimation for OFDM systems**
BAŞTÜRK İ., ÖZBEK B.
2008 IEEE 16th Signal Processing, Communication and Applications Conference, Aydın, Turkey, 20 - 22 April 2008, (Full Text)

XXVII. **Performance of Pilot-Based EM Channel Estimation for OFDM Systems**
BAŞTÜRK İ., ÖZBEK B.
2007 IEEE 15th Signal Processing and Communications Applications, Eskişehir, Turkey, 11 - 13 June 2007, (Full Text)

Funded Projects

Taşkın S., Onat N., Demirci O., Baştürk İ., TUBITAK Project, 1505 - University-Industry Cooperation Support Program, Kurşun-Asit Akülere Yönelik Akıllı Durum İzleme Sensörü Tasarımı Ve Mobil Uygulama Geliştirilmesi, 2022 - 2024
BAŞTÜRK İ., YILMAZ M., DÖNÜK A., SİNECEN M., KALKAN Y., Project Supported by Higher Education Institutions,

TÜBİTAK 2017 İnsansız Hava Aracı (İHA) Yarışması için ADÜ İHA' larının Geliştirilmesi, 2017 - 2017
BAŞTÜRK İ., DÖNÜK A., YILMAZ M., KALKAN Y., Project Supported by Higher Education Institutions, TÜBİTAK 2016
İnsansız Hava Aracı (İHA) Yarışması için ADÜ İHA'nın Geliştirilmesi, 2016 - 2016
ÖZBEK B., Traffic Management and Efficient Routing in Software Defined Mobile Networks for SIGMONA, 2014 - 2014
ÖZBEK B., MEVICO: Mobile Networks Evolution for Individual User Experience, 2010 - 2012
ÖZBEK B., FEMTOCELL: Interference analyses for home base stations, 2009 - 2010

Memberships and Roles in Scientific Organizations

IEEE, Member, 2009 - Present, United States Of America
Elektrik Mühendisleri Odası, Member, 2003 - Present, Turkey

Peer Reviews in Scientific Publications

Conference Paper (Full Text), January 2017
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, Other journals, January 2017
Conference Paper (Full Text), January 2017
KSII TRANSACTIONS ON INTERNET AND INFORMATION SYSTEMS, Other journals, January 2017
Other journals, January 2017
Conference Paper (Full Text), January 2017
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, Other journals, January 2016
Other journals, January 2016
KSII TRANSACTIONS ON INTERNET AND INFORMATION SYSTEMS, Other journals, January 2016

Metrics

Publication: 48