Asst. Prof. CENK ALBAYRAK

Personal Information

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International Researcher IDs
ORCID: 0000-0002-1989-1697
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Education Information

Post Doctorate, University of South Florida, College of Engineering, Electrical Engineering, United States Of America 2021 - 2022
Doctorate, Karadeniz Technical University, Mühendislik Fakültesi, Elektrik - Elektronik Anabilimdalı , Turkey 2012 - 2018
Postgraduate, Karadeniz Technical University, Mühendislik Fakültesi, Elektrik - Elektronik Anabilimdalı , Turkey 2007 - 2011
Undergraduate, Firat University, Faculty Of Engıneerıng, Elektrik - Elektronik Anabilimdalı , Turkey 2003 - 2007

Foreign Languages

English, B2 Upper Intermediate

Dissertations

Doctorate, KAPALI MEKANLARDA GÖRÜNÜR IŞIK HABERLEŞMESİ İÇİN ORANSIZ KODLARA DAYALI HIZ UYARLAMASI, Karadeniz Technical University, Elektrik-Elektronik Muhendialiği, Telekomünikasyon, 2018
Postgraduate, FPGA TABANLI BİR AKUSTİK KAYNAK KONUMLANDIRMA SİSTEMİNİN TASARIMI, Karadeniz Technical University, Telekomünikasyon, Elektrik - Elektronik Mühendisliği / Elektronik Bilim Dalı, 2011

Research Areas

Communication Engineering, Simulation, Modelling and Identification, Signal Processing for Communication, Electrical and Electronics Engineering

Academic Titles / Tasks

Assistant Professor, Karadeniz Technical University, Of Teknoloji Fakültesi, Elektronik ve Haberleşme Mühendisliği, 2021 - Continues
Research Assistant, Karadeniz Technical University, Of Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği, 2012 - 2021

Academic and Administrative Experience

Head of Department, Karadeniz Technical University, Of Teknoloji Fakültesi, Elektronik Ve Haberleşme Mühendisliği, 2022 - Continues
Deputy Head of Department, Karadeniz Technical University, Of Teknoloji Fakültesi, Elektronik Ve Haberleşme Mühendisliği, 2021 - 2023

Courses

Embedded systems, Undergraduate, 2022 - 2023
Digital Communication, Undergraduate, 2022 - 2023
Circuit and System Analysis, Undergraduate, 2022 - 2023
Microprocessors, Undergraduate, 2021 - 2022
Introduction to Electronic Communications Engineering, Undergraduate, 2022 - 2023
Electrical Circuit Basics, Undergraduate, 2022 - 2023

Published journal articles indexed by SCI, SSCI, and AHCI

I. **Optical OFDM waveform construction by combining complex symbols' component of IFFT**
Hacıoğlu G., Albayrak C., Türk K.
PHYSICAL COMMUNICATION, vol.60, 2023 (SCI-Expanded)
II. **Physical Layer Security for Visible Light Communication in Reflected Indoor Environments With Inter-Symbol Interference**
Albayrak C., Cetinkaya S., Turk K., Arslan H.
IEEE TRANSACTIONS ON INFORMATION FORENSICS AND SECURITY, vol.18, pp.2709-2722, 2023 (SCI-Expanded)
III. **Seamless rate adaptation for indoor visible light communication without CSI at the transmitter**
Albayrak C., Türk K., Tuğcu E., Yazgan A.
Physical Communication, vol.40, 2020 (SCI-Expanded)
IV. **Red-shift effect in multi-color LEDs based visible light communication**
TUĞCU E., YAZGAN A., ALBAYRAK C., TÜRK K.
OPTICS COMMUNICATIONS, vol.463, 2020 (SCI-Expanded)
V. **Low-Complexity Early Termination Method for Rateless Soft Decoder**
ALBAYRAK C., Simsek C., TÜRK K.
IEEE COMMUNICATIONS LETTERS, vol.21, no.11, pp.2356-2359, 2017 (SCI-Expanded)
VI. **Reduced-Complexity Decoding of LT Codes**
ALBAYRAK C., TÜRK K.
WIRELESS PERSONAL COMMUNICATIONS, vol.94, no.3, pp.969-975, 2017 (SCI-Expanded)

Articles Published in Other Journals

I. **Investigation of Underwater Wireless Optical Communication Monte Carlo Channel Capacity for Various Environments and System Parameters**
Mahmutoğlu Y., Albayrak C., Türk K.
El-Cezerî Journal of Science and Engineering (ECJSE), vol.8, no.2, pp.567-581, 2021 (Scopus)
II. **Modeling of underwater wireless optical communication channel by Monte Carlo based radiative transfer equation**
Albayrak C., Mahmutoğlu Y., Türk K.
Gümüşhane Üniversitesi Fen Bilimleri Dergisi, vol.11, no.1, pp.34-46, 2021 (Peer-Reviewed Journal)

III. **GELECEK NESİL YÜKSEK HIZLI TERAHERTZ KABLOSUZ HABERLEŞME SİSTEMLERİ İÇİN UYGUN İLETİM PENCERELERİ VE LİNK HESABI**
Yazgan A., Tuğcu E., Albayrak C., Türk K.
Niğde Ömer Halisdemir Üniversitesi Mühendislik Bilimleri Dergisi, vol.10, no.1, 2021 (Peer-Reviewed Journal)

IV. **Investigation of Underwater Wireless Optical Communication Channel Capacity for Different Environment and System Parameters**
Mahmutoğlu Y., Türk K., Albayrak C.
Hittite Journal of Science and Engineering, vol.7, no.4, pp.1-7, 2020 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

I. **Physical Layer Security For Indoor Multicolor Visible Light Communication Kapali Mekan Çok Renkli Görünür Işik Haberleşmesi Için Fiziksel Katman Güvenliği**
ÇETİNDERE B., ALBAYRAK C., TÜRK K.
30th Signal Processing and Communications Applications Conference, SIU 2022, Safranbolu, Turkey, 15 - 18 May 2022

II. **Physical Layer Security for Visible Light Communication in the Presence of ISI and NLoS**
ALBAYRAK C., Arslan H., TÜRK K.
2022 IEEE International Conference on Communications Workshops, ICC Workshops 2022, Seoul, South Korea, 16 - 20 May 2022, pp.469-474

III. **Kapalı Mekan Görünür Işık Haberleşme için CSK Modülasyonunun Çokyollu Kanal Şartlarında İncelenmesi**
KÜÇÜK M. A., TÜRK K., ALBAYRAK C.
Elektrik Elektronik Mühendisliği Kongresi 2019, İstanbul, Turkey, 14 - 16 November 2019

IV. **Bit error rate analysis for color shift keying modulation Renk kaydirmali anahtarlama modülasyonu için bit hata orani analizi**
TUĞCU E., ALBAYRAK C., YAZGAN A., ŞİMŞEK C., TÜRK K.
26th IEEE Signal Processing and Communications Applications Conference, SIU 2018, İzmir, Turkey, 2 - 05 May 2018, pp.1-4

V. **Channel measurement of visible light communication for indoor environment Kapali mekanlarda görünür işikli haberleşme için kanal ölçümü**
Albayrak C., Şimşek C., Tuğcu E., Yazgan A., Erdöl H., Türk K.
26th IEEE Signal Processing and Communications Applications Conference, SIU 2018, İzmir, Turkey, 2 - 05 May 2018, pp.1-4

VI. **Experimental Channel Measurement for Indoor Office Visible Light Communication**
YAZGAN A., ŞİMŞEK C., ALBAYRAK C., TUĞCU E., TÜRK K.
41st International Conference on Telecommunications and Signal Processing (TSP), Athens, Greece, 4 - 06 July 2018, pp.746-749

VII. **Channel Measurement of Visible Light Communication for Indoor Environment**
ALBAYRAK C., ŞİMŞEK C., TUĞCU E., YAZGAN A., ERDÖL H., TÜRK K.
26th IEEE Signal Processing and Communications Applications Conference (SIU), İzmir, Turkey, 2 - 05 May 2018

VIII. **Bit Error Rate Analysis for Color Shift Keying Modulation**
TUĞCU E., ALBAYRAK C., YAZGAN A., ŞİMŞEK C., TÜRK K.
26th IEEE Signal Processing and Communications Applications Conference (SIU), İzmir, Turkey, 2 - 05 May 2018

IX. **Performance of Visible Light Communication with Colour Shift Keying Modulation and Polar Code**
ŞİMŞEK C., TUĞCU E., ALBAYRAK C., YAZGAN A., TÜRK K.
41st International Conference on Telecommunications and Signal Processing (TSP), Athens, Greece, 4 - 06 July 2018, pp.750-753

X. **Sign Alterations of LLR Values Based Early Termination Method for LT BP Decoder**
ALBAYRAK C., Simsek C., TÜRK K.

25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, 15 - 18 May 2017

XI. **Rate Adaptive System for Visible Light Communications**
ALBAYRAK C., TÜRK K.
40th International Conference on Telecommunications and Signal Processing (TSP), Barcelona, Spain, 5 - 07 July 2017, pp.200-203

XII. **Hardware Friendly Early Stopping Structure For Polar Code**
ŞİMŞEK C., ALBAYRAK C., TÜRK K.
25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, 15 - 18 May 2017

XIII. **Oransız Kodlar için BP Tabanlı Yakla sıklık Yöntemleri BP based approximation methods for rateless codes**
ALBAYRAK C., TÜRK K.
24th Signal Processing and Communication Application Conference, 16 - 19 May 2016

XIV. **BP-based Approximation Methods For Rateless Codes**
ALBAYRAK C., TÜRK K.
24th Signal Processing and Communication Application Conference (SIU), Zonguldak, Turkey, 16 - 19 May 2016, pp.1897-1900

XV. **Reduced-Complexity Decoding Algorithms of Raptor Codes**
Albayrak C., TÜRK K.
39th International Conference on Telecommunications and Signal Processing (TSP), Vienna, Austria, 27 - 29 June 2016, pp.149-152

XVI. **Low complexity, losless ECG data compression algorthims for wireless sensor network Kablosuz algilayici aglari için düsük karmasiklikli, kayipsiz EKG veri sikistirma algoritmalari**
ŞİMŞEK C., KAYA İ., ALBAYRAK C.
2013 21st Signal Processing and Communications Applications Conference, SIU 2013, Haspolat, Turkey, 24 - 26 April 2013

Supported Projects

TÜRK K., ÇETİNDERE B., TURHAL M., ALBAYRAK C., MAHMUTOĞLU Y., KÜÇÜK M. A., BAŞER O., Project Supported by Higher Education Institutions, Görünür Işık Haberleşmesi için Çok Amaçlı Yüksek Güçlü Verici-Alıcı Gerçeklemesi, 2021 - 2023

Türk K., Albayrak C., Tuğcu E., Yazgan A., TUBITAK Project, Kapalı Mekânlar İçin Görünür Işık Haberleşmesinin İncelenmesi Ve Bir Demo Setinin Gerçeklenmesi, 2017 - 2019

TÜRK K., ALBAYRAK C., TUĞCU E., Project Supported by Higher Education Institutions, Kablosuz Haberleşmede Veri Hızı Uyumlu Yeni Bir Sistemin Geliştirilmesi, 2016 - 2017

ALBAYRAK C., TUBITAK Project, İstemli Göz Kırpma Hareketiyle Tekerlekli Sandalyenin Kontrolü, 2013 - 2014

ALBAYRAK C., Project Supported by Other Official Institutions, Ericsson M2M Akıllı Ağ Geçidi için Kablosuz Arayüzlerin Gerçekleştirilmesi, 2011 - 2012

ALBAYRAK C., Project Supported by Other Official Institutions, Evrensel Veri Erişim Terminali (Universal Data Logger), 2010 - 2011

Patent

ALBAYRAK C., KAYA İ., Grafiksel verilerin öteleme yöntemi ile kayıpsız olarak sıkıştırılması., Patent, CHAPTER H Electricity, 2013

Metrics

Publication: 26
Citation (WoS): 33
Citation (Scopus): 49
H-Index (WoS): 4
H-Index (Scopus): 4

Scholarships

1003 - Öncelikli Alanlar Ar-Ge Projeleri Destekleme Programı, TUBITAK, 2017 - 2018
2211-C Öncelikli Alanlara Yönelik Yurt İçi Doktora Burs Programı, TUBITAK, 2016 - 2016

Awards

ALBAYRAK C., Girişimcilik Ödülü, Trabzon Ticaret ve Sanayi Odası, November 2010

Non Academic Experience

University of South Florida
Biyo Teknoloji Mühendislik ve Danışmanlık Hiz. Ltd. Şti.
Business Establishment Private, Cenk Albayrak
CENK ALBAYRAK