

## Asst. Prof. EMİN TUĞCU

### Personal Information

**Office Phone:** [+90 462 377 8452](tel:+904623778452)

**Email:** [emintugcu@ktu.edu.tr](mailto:emintugcu@ktu.edu.tr)

**Web:** <https://avesis.ktu.edu.tr//emintugcu>

**Address:** Karadeniz Teknik Üniversitesi Of Teknoloji Fakültesi Elektronik ve Haberleşme Mühendisliği Bölümü

### International Researcher IDs

ORCID: 0000-0001-5308-3071

Yoksis Researcher ID: 125805

### Education Information

Doctorate, Karadeniz Technical University, Fen Bilimleri Enstitüsü, Elektrik-Elektronik Mühendisliği Bölümü, Turkey 2007 - 2014

Postgraduate, Karadeniz Technical University, Fen Bilimleri Enstitüsü, Elektrik-Elektronik Mühendisliği Bölümü, Turkey 2004 - 2007

Undergraduate, Karadeniz Technical University, Mühendislik Mimarlık Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, Turkey 1999 - 2004

### Foreign Languages

English, B2 Upper Intermediate

### Dissertations

Doctorate, Kablosuz Haberleşme Sistemleri İçin Kanal Karşılama Filtresi Tabanlı Yeni Bir Kör Kanal Denkleştirme Yöntemi, Karadeniz Technical University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği, 2014

Postgraduate, Turbo kodlar ve turbo denkleştiriciler, Karadeniz Technical University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği, 2007

### Research Areas

Information Systems, Communication and Control Engineering, Communication Engineering, Information Theory, Communication System Theory, Error Corrector Codes, Wireless Communication, Modulation Methods, Telecommunication Applications, Signal Processing, Signal Processing for Communication, Engineering and Technology

### Academic Titles / Tasks

Karadeniz Technical University, Of Teknoloji Fakültesi, Elektronik ve Haberleşme Mühendisliği, 2018 - Continues

Assistant Professor, Karadeniz Technical University, Of Teknoloji Fakültesi, Elektronik ve Haberleşme Mühendisliği, 2015 - 2018

Lecturer PhD, Karadeniz Technical University, Of Teknoloji Fakültesi, Enerji Sistemleri Mühendisliği, 2014 - 2015

## Academic and Administrative Experience

Karadeniz Technical University, Of Teknoloji Fakültesi, Elektronik ve Haberleşme Mühendisliği, 2014 - Continues

## Published journal articles indexed by SCI, SSCI, and AHCI

- I. **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)
- II. **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)
- III. **CMF-DFE Based Adaptive Blind Equalization Using Particle Swarm Optimization**  
TUĞCU E., KAYA İ., YAZGAN A.  
RADIOENGINEERING, vol.25, no.1, pp.124-131, 2016 (SCI-Expanded)
- IV. **CMF-DFE Based Adaptive Blind Equalization Using Particle Swarm Optimization**  
TUĞCU E., KAYA İ., YAZGAN A.  
RADIOENGINEERING, vol.25, no.1, pp.124-131, 2016 (SCI-Expanded)
- V. **CMF-DFE Based Adaptive Blind Equalization Using Particle Swarm Optimization**  
TUĞCU E., KAYA İ., YAZGAN A.  
RADIOENGINEERING, vol.25, no.1, pp.124-131, 2016 (SCI-Expanded)
- VI. **CMF-DFE Based Adaptive Blind Equalization Using Particle Swarm Optimization**  
TUĞCU E., KAYA İ., YAZGAN A.  
RADIOENGINEERING, vol.25, no.1, pp.124-131, 2016 (SCI-Expanded)
- VII. **Emitter Location Finding using Particle Swarm Optimization**  
ÇAKIR O., KAYA İ., YAZGAN A., ÇAKIR Ö., TUĞCU E.  
RADIOENGINEERING, vol.23, no.1, pp.252-258, 2014 (SCI-Expanded)
- VIII. **A New Step Size Control Technique for Blind and Non-Blind Equalization Algorithms**  
TUĞCU E., Cakir F., ÖZEN A.  
RADIOENGINEERING, vol.22, no.1, pp.44-51, 2013 (SCI-Expanded)
- IX. **A New Step Size Control Technique for Blind and Non-Blind Equalization Algorithms**  
TUĞCU E., ÇAKIR F., ÖZEN A.  
Radioengineering Journal, no.22, pp.44-51, 2013 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Symbol Error Rate Analysis of Color Shift Keying Modulation Using QLED in VLC Systems**  
Tuğcu E.  
Karadeniz Fen Bilimleri Dergisi, vol.14, no.2, pp.850-862, 2024 (Peer-Reviewed Journal)
- II. **Performance Analysis of Color Shift Keying Modulation in Different Color Spaces in Visible Light Communication Systems**  
Tuğcu E.  
EMO Bilimsel Dergi, vol.13, no.1, pp.7-12, 2023 (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.

## Books & Book Chapters

### I. A Novel Approach for Blind Channel Equalization

ÖZEN A., GÜNER A., ÇAKIR O., TUĞCU E., SOYSAL B., KAYA İ.

in: Advanced Intelligent Computing Theories and Applications: With Aspects of Artificial Intelligence, Huang, D.-S., Wunsch, D.C., Levine, D.S., Jo, K.-H., Editor, Springer-Verlag Berlin Heidelberg, Berlin, pp.347-357, 2008

### II. A Novel Approach for Blind Channel Equalization

ÖZEN A., GÜNER A., ÇAKIR O., TUĞCU E., SOYSAL B., KAYA İ.

in: Advanced Intelligent Computing Theories and Applications: With Aspects of Artificial Intelligence, Huang, D.-S., Wunsch, D.C., Levine, D.S., Jo, K.-H., Editor, Springer-Verlag Berlin Heidelberg, Berlin, pp.347-357, 2008

## Refereed Congress / Symposium Publications in Proceedings

### I. Channel measurement of visible light communication for indoor environment Kapalı mekanlarda görünür ışıklı 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

### II. Bit error rate analysis for color shift keying modulation Renk kaydirmalı anahtarlama modülasyonu için bit hata oranı 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

### III. 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

### IV. 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

### V. 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

### VI. 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

### VII. Particle Swarm Optimization Algorithm Based Decision Feedback Equalizer for Underwater Acoustic Communication

Mahmutoglu Y., TÜRK K., TUĞCU E.

39th International Conference on Telecommunications and Signal Processing (TSP), Vienna, Austria, 27 - 29 June 2016, pp.153-156

### VIII. Fast convergence algorithm for blind channel estimation and equalization using CMF-DFE

KAYA İ., TUĞCU E., Ozen A., Nix A. R.

81st IEEE Vehicular Technology Conference, VTC Spring 2015, Glasgow, United Kingdom, 11 - 14 May 2015, vol.2015

### IX. Fast Convergence Algorithm for Blind Channel Estimation and Equalization using CMF-DFE

KAYA İ., TUĞCU E., ÖZEN A., Nix A. R.

81st IEEE Vehicular Technology Conference (VTC Spring), Glasgow, United Kingdom, 11 - 14 May 2015

- X. **The Effects of Sea Environmental Conditions on the Underwater Acoustic Communication Systems**  
Mahmutoglu Y., YAZGAN A., TUĞCU E., ÇAVDAR İ. H.  
36th International Conference on Telecommunications and Signal Processing (TSP), Rome, Italy, 2 - 04 July 2013, pp.133-137
- XI. **A novel PSO based blind channel estimation and equalization**  
TUĞCU E., KAYA İ., ÖZEN A.  
2012 20th Signal Processing and Communications Applications Conference (SIU), Mugla, Turkey, Turkey, 18 - 20 April 2012, pp.1-4
- XII. **Novel Cascaded Turbo-Permutation Coding for Frequency Selective Rayleigh Fading Channels**  
Cakir F., TUĞCU E., ÖZEN A., KAYA İ.  
35th International Conference on Telecommunications and Signal Processing (TSP), Prague, Czech Republic, 3 - 04 July 2012, pp.237-241
- XIII. **A Novel Variable Step Size Constant Modulus Algorithm Employing Cross Correlation between Channel Output and Error Signal**  
TUĞCU E., Cakir F., ÖZEN A.  
35th International Conference on Telecommunications and Signal Processing (TSP), Prague, Czech Republic, 3 - 04 July 2012, pp.678-683
- XIV. **Novel Composite Method for Determining the Location of the Transmitter using Particle Swarm Optimization**  
ÇAKIR O., YAZGAN A., ÇAKIR Ö., TUĞCU E., KAYA İ.  
35th International Conference on Telecommunications and Signal Processing (TSP), Prague, Czech Republic, 3 - 04 July 2012, pp.335-339
- XV. **Çok Taşıyıcılı WiMAX Radyoda Çift İkili Turbo Kodlayıcı ile Klasik Kodlayıcıların BER Başarım Analizleri**  
TUĞCU E., ÇAKIR O., GÜNER A., ÖZEN A., KAYA İ.  
Haberleşme Teknolojileri ve Uygulamaları Sempozyumu, İstanbul, Turkey, 26 - 29 December 2009, vol.3, pp.9-14
- XVI. **Comparative Study of Supervised and Blind Training Techniques for Communication Systems**  
TUĞCU E., ÇAKIR O., GÜNER A., ÖZEN A., KAYA İ.  
International Computer Instructional Technologies Symposium, Trabzon, Turkey, 1 - 03 October 2009, vol.3, pp.1-4
- XVII. **Çok Taşıyıcılı Gerçek Zaman WiMAX Radyoda Zaman Bölgesi ve Frekans Bölgesi Kanal Denkleştiricilerin Teorik ve Deneysel BER Başarım Analizleri**  
TUĞCU E., ÇAKIR O., GÜNER A., ÖZEN A., SOYSAL B., KAYA İ.  
İletişim Teknolojileri ve Ulusal Sempozyumu, Adana, Turkey, 1 - 03 October 2009, vol.4, pp.31-36
- XVIII. **Neural Network Based Learning and RF Probing Measurements using Non-Specific Mode Wave Guide**  
ÇAKIR O., TUĞCU E., ŞİMŞEK C., YAZGAN A., KAYA İ.  
International Symposium on Innovations in Intelligent Systems and Applications, Trabzon, Turkey, 29 June - 01 July 2009, vol.4, pp.342-348
- XIX. **Tek Taşıyıcılı Gerçek Zaman WiMAX Radyo için Kör Uyarlanırlı Denkleştirme Algoritmalarının Deneysel Başarımları**  
ÖZEN A., GÜNER A., ÇAKIR O., TUĞCU E., SOYSAL B., KAYA İ.  
Signal Processing and Communications Applications Conference, Antalya, Turkey, 9 - 11 April 2009, vol.17, pp.472-475
- XX. **Performance analysis of OFDM system over AWGN channels**  
YAZGAN A., TUĞCU E., ŞİMŞEK C., AYDEMİR Ö.  
Akademik Bilişim, Şanlıurfa, Turkey, 11 - 13 February 2009, pp.785-790
- XXI. **A Novel Approach for Blind Channel Equalization**  
ÖZEN A., GÜNER A., ÇAKIR Ö., TUĞCU E., Soysal B., KAYA İ.  
4th International Conference on Intelligent Computing, Shanghai, China, 15 - 18 September 2008, vol.5227, pp.347-349

## **Supported Projects**

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

## **Scientific Refereeing**

TURKISH JOURNAL OF ELECTRICAL ENGINEERING & COMPUTER SCIENCES, SCI Journal, December 2015

TURKISH JOURNAL OF ELECTRICAL ENGINEERING & COMPUTER SCIENCES, SCI Journal, August 2015

TURKISH JOURNAL OF ELECTRICAL ENGINEERING & COMPUTER SCIENCES, SCI Journal, June 2015

TURKISH JOURNAL OF ELECTRICAL ENGINEERING & COMPUTER SCIENCES, SCI Journal, April 2015

TURKISH JOURNAL OF ELECTRICAL ENGINEERING & COMPUTER SCIENCES, SCI Journal, March 2015

## **Metrics**

Publication: 35

Citation (WoS): 54

Citation (Scopus): 88

H-Index (WoS): 5

H-Index (Scopus): 6