

## Assoc. Prof. ERDOĞAN AYDIN

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: ABC-7428-2020

ScopusID: 35101396100

### Biography

Erdogan Aydin was born in Turkey. He received the B.S. with high honors and the M.S. degrees from Istanbul University, Istanbul, Turkey, in 2007 and 2010, respectively, and the Ph.D. degree from Yıldız Technical University, Istanbul, Turkey, in 2016. He is currently an Associate Professor with the Department of Electronics and Communication Engineering, Istanbul Medeniyet University, Istanbul, Turkey. He has received best paper award including one from the IEEE International Conference on Communications 2018. He has served as a TPC member for several IEEE conferences.

Dr. Aydin currently serves as a Review Editor of the Frontiers in Communications and Networks. He leads the IMCOMLAB research group at Istanbul Medeniyet University.

### Education Information

Doctorate, Yıldız Technical University, Graduate School Of Natural And Applied Sciences, Elektronik Ve Haberleşme Mühendisliği, Turkey 2011 - 2016

Postgraduate, Istanbul University, Institute Of Graduate Studies In Sciences, Elektrik-Elektronik Mühendisliği, Turkey 2007 - 2010

Undergraduate, Istanbul University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği, Turkey 2003 - 2007

### Foreign Languages

English, C1 Advanced

### Dissertations

Doctorate, Uzaysal Modülasyon Tabanlı Yüksek Başarımli Röleli Sistemler, Yıldız Teknik Üniversitesi, Elektrik-Elektronik Mühendisliği, Elektronik Ve Haberleşme Mühendisliği, 2016

Postgraduate, Kanal Kestirimi İçin Bayesçi Yaklaşımlar, İstanbul Üniversitesi, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği, 2010

## Research Areas

Electrical and Electronics Engineering, Engineering and Technology

## Academic Titles / Tasks

Associate Professor, Istanbul Medeniyet University, Faculty Of Engineering And Natural Sciences , Electrical And Electronics Engineering , 2022 - Continues

Assistant Professor, Istanbul Medeniyet University, Faculty Of Engineering And Natural Sciences , Electrical And Electronics Engineering , 2018 - 2022

Assistant Professor, Istanbul Medeniyet University, Faculty Of Engineering And Natural Sciences , Electrical And Electronics Engineering , 2017 - 2018

Assistant Professor, Maltepe University, Faculty Of Engineering And Natural Sciences, Department Of Electrical And Electronics Engineering, 2016 - 2017

Research Assistant, Maltepe University, Faculty Of Engineering And Natural Sciences, Elektrik-Elektronik Mühendisliği, 2007 - 2016

## Academic and Administrative Experience

Head of Department, Istanbul Medeniyet University, Faculty Of Engineering And Natural Sciences , Space Engineering , 2021 - Continues

Vice Dean, Istanbul Medeniyet University, Faculty Of Engineering And Natural Sciences , 2021 - Continues

Fakülte Kurulu Üyesi, Istanbul Medeniyet University, Faculty Of Engineering And Natural Sciences , Electrical And Electronics Engineering , 2017 - Continues

İstanbul Medeniyet Üniversitesi, Faculty of Engineering and Natural Sciences , Elektrik Elektronik Mühendisliği Bölümü, 2017 - Continues

Head of Department, Istanbul Medeniyet University, Faculty Of Engineering And Natural Sciences , Space Engineering , 2017 - 2020

## Courses

Kestirim Kuramı, Postgraduate, 2021 - 2022

Telsiz Haberleşmesinde Modülasyon ve Kodlama Teknikleri, Doctorate, 2021 - 2022

Mikroişlemciler, Undergraduate, 2018 - 2019, 2019 - 2020, 2020 - 2021

Haberleşme Mühendisliğine Giriş, Undergraduate, 2018 - 2019, 2019 - 2020, 2020 - 2021

Rasgele Değişkenler ve Stokastik Süreçler , Undergraduate, 2020 - 2021

Bilgisayar Destekli Tasarım, Undergraduate, 2016 - 2017, 2017 - 2018, 2018 - 2019, 2019 - 2020, 2020 - 2021

İleri Kodlama Kuramı, Doctorate, 2020 - 2021

Signals and Systems, Undergraduate, 2016 - 2017, 2019 - 2020

Digital Signal Processing, Undergraduate, 2019 - 2020

Microprocessors, Undergraduate, 2017 - 2018, 2018 - 2019

Sinyaller ve Sistemler, Undergraduate, 2018 - 2019, 2019 - 2020

Sayısal Sinyal İşleme, Undergraduate, 2019 - 2020

Sayısal Haberleşme Kuramı, Postgraduate, 2016 - 2017, 2017 - 2018, 2019 - 2020

İstatistiksel İşaret İşleme, Postgraduate, 2017 - 2018, 2018 - 2019

Elektrik Devre Laboratuvarı, Undergraduate, 2017 - 2018

Bilgisayar Destekli Tasarım, Undergraduate, 2017 - 2018, 2018 - 2019

Kontrol Teorisi, Undergraduate, 2016 - 2017

Olasılık ve Rastgele Süreçler, Undergraduate, 2016 - 2017

Sinyaller ve Sistemler, Undergraduate, 2016 - 2017

Enformasyon Teorisi, Postgraduate, 2016 - 2017  
İletişim Kuramı II, Undergraduate, 2016 - 2017  
Sayısal İletişim, Undergraduate, 2016 - 2017  
İletişim Kuramı I, Undergraduate, 2016 - 2017

## Advising Theses

Aydın E., İlhan H., Deep Learning Methods in Cooperative Communications, Doctorate, B.Sağır(Student), Continues  
Aydın E., PERFORMANCE ANALYSIS OF ADVANCED INDEX MODULATION SYSTEMS FOR NEXT GENERATION WIRELESS COMMUNICATION SYSTEMS, Postgraduate, B.Ahmet(Student), 2022  
Aydın E., KOD İNDİS MODÜLASYONU TABANLI UZAYSAL MODÜLASYON TEKNİĞİNİN TASARIM VE PERFORMANS ANALİZİ, Postgraduate, F.Çögen(Student), 2020  
Aydın E., Novel Quadrature Spatial Modulation Techniques For Optical MIMO Communication Systems, Postgraduate, C.Arslan(Student), 2020  
Aydın E., TELEKOMÜNİKASYON SEKTÖRÜ ARIZA TESİS VE BAKIM İŞLERİNDE İŞ SAĞLIĞI VE GÜVENLİĞİ UYGULAMALARI, Postgraduate, F.Ocak(Student), 2019  
Aydın E., Code Index Modulation Based Cooperative Spatial Modulation, Postgraduate, E.Talbu(Student), 2019

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

- I. **A new hexagonal quadrature amplitude modulation aided media-based modulation**  
AYDIN E.  
INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEMS, vol.34, no.17, 2021 (Peer-Reviewed Journal)
- II. **Performance analysis of Hexagonal QAM constellations on quadrature spatial modulation with perfect and imperfect channel estimation**  
Cogen F., AYDIN E.  
PHYSICAL COMMUNICATION, vol.47, 2021 (Peer-Reviewed Journal)
- III. **Pulse Index Modulation**  
Aldirmaz-Colak S., AYDIN E., Celik Y., Acar Y., Basar E.  
IEEE COMMUNICATIONS LETTERS, vol.25, no.7, pp.2309-2313, 2021 (Peer-Reviewed Journal)
- IV. **Generalized Code Index Modulation and Spatial Modulation for High Rate and Energy-Efficient MIMO Systems on Rayleigh Block-Fading Channel**  
Cogen F., AYDIN E., KABAOĞLU N., Basar E., İLHAN H.  
IEEE SYSTEMS JOURNAL, vol.15, no.1, pp.538-545, 2021 (Peer-Reviewed Journal)
- V. **Cooperative quadrature spatial modulation with Euclidean distance and capacity optimized antenna selection**  
Cogen F., AYDIN E.  
INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEMS, vol.34, no.1, 2021 (Peer-Reviewed Journal)
- VI. **C-MRC-based cooperative spatial modulation with antenna selection**  
AYDIN E., Basar E., İLHAN H., KABAOĞLU N.  
INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEMS, vol.33, no.17, 2020 (Peer-Reviewed Journal)
- VII. **Code-Index Modulation Aided Quadrature Spatial Modulation for High-Rate MIMO Systems**  
Aydın E., Cogen F., Basar E.  
IEEE TRANSACTIONS ON VEHICULAR TECHNOLOGY, vol.68, pp.10257-10261, 2019 (Peer-Reviewed Journal)
- VIII. **Iterative Receiver with Low Complexity for Downlink Multicarrier Communications over Rapidly Time-Varying Channels**  
KABAOĞLU N., ERDOĞAN E., AYDIN E.  
WIRELESS COMMUNICATIONS & MOBILE COMPUTING, 2018 (Peer-Reviewed Journal)
- IX. **A Novel SM-Based MIMO System With Index Modulation**

Aydin E., İlhan H.

IEEE COMMUNICATIONS LETTERS, vol.20, pp.244-247, 2016 (Peer-Reviewed Journal)

## Articles Published in Other Journals

- I. **Differential Chaos Shift Keying-Assisted Media-Based Modulation**  
ÖNAL B., Cogen F., AYDIN E.  
ELECTRICA, vol.21, no.1, pp.66-73, 2021 (Peer-Reviewed Journal)
- II. **Transmit Antenna Selection for Spatial Modulation Based on Hexagonal Quadrature Amplitude Modulation**  
Çogen F., Aydın E.  
Journal of Innovative Science and Engineering, vol.5, no.2, pp.76-90, 2021 (Peer-Reviewed Journal)
- III. **EDAS/COAS Based Antenna Selection for Code Index Modulation Aided Spatial Modulation**  
Aydın E.  
ELECTRICA, vol.19, pp.113-119, 2019 (Peer-Reviewed Journal)

## Refereed Congress / Symposium Publications in Proceedings

- I. **Reconfigurable Intelligent Surface-Empowered Double Spatial Modulation for MISO Systems**  
Özden B. A. , Aydın E., Çögen F.  
ELEKTRİK-ELEKTRONİK ve BİYOMEDİKAL MÜHENDİSLİĞİ KONFERANSI, Bursa, Turkey, 24 - 26 November 2022, pp.1-4
- II. **Reconfigurable Intelligent Surface Empowered Differential Chaos Shift Keying Assisted Media-Based Modulation over Nakagami-m Fading Channels**  
Önal B., Çögen F., Aydın E., Kabaoğlu N.  
13th INTERNATIONAL CONFERENCE on ELECTRICAL and ELECTRONICS ENGINEERING, Bursa, Turkey, 25 - 27 November 2021, pp.1-5
- III. **Performance Analysis of HQAM Based Spatial Modulation over Nakagami-m Fading Channels**  
Cogen F., Aydın E.  
28. IEEE SİNYAL İŞLEME ve İLETİŞİM UYGULAMALARI KURULTAYI, Gaziantep, Turkey, 22 - 24 April 2020, vol.1, no.1, pp.1-4
- IV. **IOT Based Baby Cradle System with Real Time Data Tracking**  
Duman U., AYDIN E.  
5th International Conference on Computer Science and Engineering (UBMK), Diyarbakır, Turkey, 9 - 11 September 2020, pp.274-279
- V. **Hexagonal Quadrature Amplitude Modulation Aided Spatial Modulation**  
Cogen F., Aydın E.  
11th International Conference on Electrical and Electronics Engineering, ELECO 2019, Bursa, Turkey, 28 - 30 November 2019, pp.730-733
- VI. **Two-way code index modulation İki yönlü kod indis modülasyonu**  
AYDIN E., Cogen F.  
27th Signal Processing and Communications Applications Conference, SIU 2019, Sivas, Turkey, 24 - 26 April 2019
- VII. **Euclidean Distance Based Antenna Selection for Cooperative Spatial Modulation**  
AYDIN E.  
Elektrik-Elektronik ve Biyomedikal Mühendisliği Konferansı, Bursa, Turkey, 30 November 2018, pp.1-5
- VIII. **Code Index Modulation and Spatial Modulation: A New High Rate and Energy Efficient Scheme for MIMO Systems**  
Çogen F., Aydın E., Kabaoğlu N., Başar E., İLHAN H.  
41st International Conference on Telecommunications and Signal Processing, TSP 2018, Athens, Greece, 4 - 06 July

2018

- IX. **A novel MIMO scheme based on code-index modulation and spatial modulation Kod-İndis modülasyonu ve uzaysal modülasyon tabanlı yeni bir MIMO sistem**  
Çöğen F., Aydın E., Kabaoğlu N., Başar E., İlhan H.  
26th IEEE Signal Processing and Communications Applications Conference, SIU 2018, İzmir, Turkey, 2 - 05 May 2018, pp.1-4
- X. **Kod İndis Modülasyonu ve Uzaysal Modülasyon Tabanlı Yeni bir MIMO Sistem**  
Çöğen F., AYDIN E., KABAOĞLU N., Başar E., İLLIAN H.  
26. IEEE Sinyal İşleme ve Uygulamaları Kurultayı (SIU-2018), İzmir, Turkey, 02 May 2018, pp.1-4
- XI. **SNR-based Relay Selection Scheme for Cooperative Relay Networks**  
Aydm E., Illian H.  
11th IEEE International Wireless Communications and Mobile Computing Conference (IEEE IWCMC), Dubrovnik, Croatia, 24 - 25 August 2015, pp.448-453
- XII. **Relay Selection with Threshold Value for DF Based Cooperative Systems**  
Aydin E., İLHAN H.  
23rd Signal Processing and Communications Applications Conference (SIU), Malatya, Turkey, 16 - 19 May 2015, pp.483-486
- XIII. **SNR-based Antenna Selection Schemes for Cooperative Relay Networks in Wireless Channels**  
Aydin E., İLHAN H., Ozdemir O.  
IEEE Wireless Communications and Networking Conference (WCNC), İstanbul, Turkey, 6 - 09 April 2014, pp.1309-1314
- XIV. **Antenna Selection for Decode and Forward Based MIMO Cooperative Networks**  
Aydin E., İLHAN H., Ozdemir O.  
22nd IEEE Signal Processing and Communications Applications Conference (SIU), Trabzon, Turkey, 23 - 25 April 2014, pp.433-436
- XV. **Yapay Sinir Ağları Kullanarak Konuşma Tanıma**  
AYDIN E.  
6. Mühendislik ve Teknoloji Sempozyumu, Ankara, Turkey, 25 April 2013, pp.1-4
- XVI. **SNR-Based Antenna Selection with Threshold Value in Wireless Channels**  
Aydin E., İLHAN H., Ozdemir O.  
21st Signal Processing and Communications Applications Conference (SIU), CYPRUS, 24 - 26 April 2013
- XVII. **SMC-Based Iterative Joint MUD Data Detection, Code Delay and Multipath Estimation in DS-CDMA Systems**  
AYDIN E., Ali Çırpan H.  
Electrical and Electronics Engineering, Bursa, Turkey, 01 November 2011, pp.274-278
- XVIII. **Bayesian-Based Iterative Blind Joint Data Detection, Code Delay and Channel Estimation for DS-CDMA systems in Multipath Environments**  
Aydin E., Çırpan H. A.  
7th IEEE International Wireless Communications and Mobile Computing Conference (IWCMC), İstanbul, Turkey, 4 - 08 July 2011, pp.1413-1417
- XIX. **An Expectation-Maximization Type Receiver for Uplink of a Hopping System with Time Sharing**  
Cam G., Aydın E., Kabaoglu N.  
IEEE 17th Signal Processing and Communications Applications Conference, Antalya, Turkey, 9 - 11 April 2009, pp.447-450
- XX. **Time Sharing Hopped Communication in MC - CDMA Systems**  
Aydın E.  
ELECTRICAL and ELECTRONICS ENGINEERING, Bursa, Turkey, 24 November 2008, pp.1-4

## Supported Projects

Gürses A., Aydın E., TUBITAK Project, Medya Tabanlı Modülasyonun SDR Üzerinde Gerçeklenmesi, 2020 - 2021  
KABAOĞLU N., ERDOĞAN E., AYDIN E., Project Supported by Higher Education Institutions, Elektrik-Elektronik Mühendisliği Bölümü Antenler ve Mikrodalga Tekniği Laboratuvarı Alt Yapı Projesi, 2020 - 2020  
AYDIN E., Çögen F., Project Supported by Higher Education Institutions, Altıgen Karesel Genlik Modülasyonu Tabanlı Uzaysal Modülasyon, 2019 - 2020  
AYDIN E., Project Supported by Higher Education Institutions, İşbirlikli Uzaysal Modülasyon İçin Öklid Uzaklığı Tabanlı Anten Seçimi, 2018 - 2019  
AYDIN E., KABAOĞLU N., Çögen F., Project Supported by Higher Education Institutions, Uzaysal Modülasyon Tabanlı Kod İndeks Modülasyonlu Yüksek Hızlı Enerji Verimli Yeni Bir MIMO Sistem, 2018 - 2019  
AYDIN E., KABAOĞLU N., BAŞAR E., İLHAN H., Çögen F., Project Supported by Higher Education Institutions, Kod İndeks Modülasyonu ve Uzaysal Modülasyon: MIMO Sistemler İçin Yeni Yüksek Hızlı Enerji Verimli Yöntem, 2018 - 2018  
Aydın E., Erdoğan E., İlhan H., TUBITAK Project, İşbirlikli Röleli Sistemlerde Karmaşıklık Azaltıcı Yöntemler ve Hata Başarım Analizleri, 2013 - 2016

## Activities in Scientific Journals

journal of Frontiers in Communications and Networks, Assistant Editor, 2020 - Continues

## Memberships / Tasks in Scientific Organizations

IEEE International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC) Symposium, Member of Science Committee, 2020 - Continues  
IEEE International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC) Symposium, Member of Science Committee, 2019 - 2019  
International Conference on Innovation and Intelligence for Informatics, Computing, and Technologies , Member of Science Committee, 2019 - 2019

## Scientific Refereeing

Electronics Letters, SCI Journal, January 2020  
ELECTRICA, Journal Indexed in SCI-E, December 2019  
IEEE Transactions On Vehicular Technology, SCI Journal, December 2019  
IEEE Transactions On Vehicular Technology, SCI Journal, November 2019  
IEEE Transactions On Communications, SCI Journal, September 2019  
IEEE Transactions On Communications, SCI Journal, June 2019  
Aeu-International Journal Of Electronics And Communications, SCI Journal, January 2019  
IEEE Transactions On Vehicular Technology, SCI Journal, January 2019  
IEEE Journal Of Selected Topics In Signal Processing, SCI Journal, January 2019  
PHYSICAL COMMUNICATION, SCI Journal, November 2018  
Iet Signal Processing, SCI Journal, October 2018  
Ieee Transactions On Vehicular Technology, SCI Journal, September 2018  
IEEE Global Communications Conference (GLOBECOM) , SCI Journal, July 2018  
IEEE International Conference on Wireless and Mobile Computing, Networking and Communications, SCI Journal, July 2018  
Ieee Transactions On Wireless Communications, SCI Journal, December 2016  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING & COMPUTER SCIENCES, SCI Journal, November 2016  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING & COMPUTER SCIENCES, SCI Journal, October 2016  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING & COMPUTER SCIENCES, SCI Journal, August 2016

IEEE Wireless Communications and Networking Conference (WCNC), SCI Journal, October 2015  
International Journal of Communication Systems, SCI Journal, February 2015  
11th International Conference on Electronics, Computer and Computation (ICECCO), SCI Journal, August 2014  
IEEE WIRELESS COMMUNICATIONS LETTERS, SCI Journal, June 2012

## **Metrics**

Publication: 33  
Citation (WoS): 86  
Citation (Scopus): 118  
H-Index (WoS): 4  
H-Index (Scopus): 5

## **Congress and Symposium Activities**

International Conference on Electrical and Electronics Engineering (ELECO 2019), Attendee, Bursa, Turkey, 2019  
IEEE Signal Processing and Communications Applications Conference (SIU), Attendee, Sivas, Turkey, 2019  
International Conference on Electrical and Electronics Engineering (ELECO 2018), Attendee, Bursa, Turkey, 2018  
IEEE 41st International Conference on Telecommunications and Signal Processing (TSP), Attendee, Athens, Greece, 2018  
IEEE Signal Processing and Communications Applications Conference (SIU), Attendee, İzmir, Turkey, 2018  
IEEE 11th International Wireless Communications and Mobile Computing Conference (IWCMC 2015), Attendee, Dubrovnik, Croatia, 2015  
IEEE Signal Processing and Communications Applications Conference (SIU), Attendee, Kayseri, Turkey, 2015  
IEEE Wireless Communications and Networking Conference (WCNC 2014), Attendee, İstanbul, Turkey, 2014  
IEEE Signal Processing and Communications Applications Conference (SIU), Attendee, Trabzon, Turkey, 2014  
IEEE Signal Processing and Communications Applications Conference (SIU), Attendee, Girne, Cyprus (Kkct), 2013  
7th International Conference on Electrical and Electronics Engineering (ELECO 2011), Attendee, Bursa, Turkey, 2011  
IEEE 7th International Wireless Communications and Mobile Computing Conference (IWCMC 2011), Attendee, İstanbul, Turkey, 2011  
Electrical and Electronics Engineering (ELECO 2008), Attendee, Bursa, Turkey, 2008

## **Scholarships**

Yurt İçi Doktora Bursu, TUBITAK, 2016 - Continues

## **Awards**

AYDIN E., Best Paper Award, IEEE 2018 41st International Conference on Telecommunications and Signal Processing (TSP)", July 2018

AYDIN E., Elektrik-Elektronik Mühendisliği Bölüm İkinciliği, İstanbul Üniversitesi, June 2007