

Asst. Prof. BARIŞ YÜKSEKAYA

Personal Information

Office Phone: [+90 312 780 7061](tel:+903127807061)

Office Phone: [+90 312 297 7000](tel:+903122977000) Extension: 130

Fax Phone: [+90 312 299 2125](tel:+903122992125)

Email: byuksekhacettepe.edu.tr

Web: <http://ee.hacettepe.edu.tr/~barisy/>

Address: Hacettepe Üniversitesi Beytepe Kampüsü Elektrik ve Elektronik Mühendisliği Bölümü

International Researcher IDs

ORCID: 0000-0002-4915-3863

Publons / Web Of Science ResearcherID: O-2122-2018

ScopusID: 15023802300

Yoksis Researcher ID: 169820

Education Information

Doctorate, Hacettepe University, Fen Bilimleri Enstitüsü, Elektrik Ve Elektronik Mühendisliği Bölümü, Turkey 2009 - 2016

Postgraduate, Hacettepe University, Fen Bilimleri Enstitüsü, Elektrik Ve Elektronik Mühendisliği Bölümü, Turkey 2006 - 2009

Undergraduate, Hacettepe University, Mühendislik Fakültesi, Elektrik Ve Elektronik Mühendisliği Bölümü, Turkey 2002 - 2006

Foreign Languages

English, C1 Advanced

Dissertations

Doctorate, GELECEK NESİL HABERLEŞME SİSTEMLERİ İÇİN VERİ HIZI ARTTIRICI YÖNTEMLER VE KAYNAK TAHSİSİ, Hacettepe Üniversitesi, Fen Bilimleri Enstitüsü, Elektrik Ve Elektronik Mühendisliği, 2016

Postgraduate, ÇOK KULLANICILI MIMO KANAL KISALTMA DENKLEŞTİRME İÇİN GENEL BİR ALTYAPI, Hacettepe Üniversitesi, Fen Bilimleri Enstitüsü, Elektrik Ve Elektronik Mühendisliği, 2009

Research Areas

Information Systems, Communication and Control Engineering, Communication Engineering, Information Theory, Communication Networks, Communication System Theory, Wireless Communication, Optical Communication, Telecommunication Applications, Signal Processing, Signal Processing for Communication, Electrical and Electronics Engineering, Engineering and Technology

Academic Titles / Tasks

Assistant Professor, Hacettepe University, Mühendislik Fakültesi, Elektrik ve Elektronik Bölümü, 2019 - Continues
Research Assistant, Hacettepe University, Mühendislik Fakültesi, Elektrik Ve Elektronik Mühendisliği, 2006 - 2019

Courses

Elektrik Devreleri, Undergraduate, 2017 - 2018

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Joint uplink-downlink user-cell association for ultra-dense NOMA networks**
YÜKSEKKAYA B.
INTERNET OF THINGS, 2024 (SCI-Expanded)
- II. **Interference aware two-tier fair user-cell association**
YÜKSEKKAYA B., Demir U., BULU G.
AEU - International Journal of Electronics and Communications, vol.177, 2024 (SCI-Expanded)
- III. **Interference-aware resource allocation for multi-tier uplink NOMA under feedback constraints**
YÜKSEKKAYA B., TOKER C.
PHYSICAL COMMUNICATION, vol.35, 2019 (SCI-Expanded)
- IV. **Power and Interference Regulated Water-Filling for Multi-Tier Multi-Carrier Interference Aware Uplink**
YÜKSEKKAYA B., TOKER C.
IEEE WIRELESS COMMUNICATIONS LETTERS, vol.7, no.4, pp.494-497, 2018 (SCI-Expanded)
- V. **Joint transceiver FIR filter design for multiuser MIMO channel shortening equalization and full equalization using channel duality**
YÜKSEKKAYA B., TOKER C.
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.25, no.5, pp.4077-4090, 2017 (SCI-Expanded)
- VI. **Indoor Channel Modelling for SISO and Massive SIMO in the 60 GHz mm-Wave Band**
Yuksekkaya B.
ELEKTRONIKA IR ELEKTROTEHNIKA, vol.23, pp.39-44, 2017 (SCI-Expanded)
- VII. **Minimum Outage Probability for the Relay Channel under Individual Power Constraints**
Yuksel M., YÜKSEKKAYA B.
IEEE COMMUNICATIONS LETTERS, vol.16, no.7, pp.982-985, 2012 (SCI-Expanded)
- VIII. **A GSM, Internet and speech controlled wireless interactive home automation system**
Yuksekkaya B., KAYALAR A. A., TOSUN M. B., OZCAN M. K., Alkar A. Z.
IEEE TRANSACTIONS ON CONSUMER ELECTRONICS, vol.52, no.3, pp.837-843, 2006 (SCI-Expanded)

Articles Published in Other Journals

- I. **60 GHz mm-Dalga Bandı için Üç Boyutlu Bina İçi Büyükölçek ÇGÇÇ Kanal Modelleme**
Yüksekkaya B.
Firat Üniversitesi Mühendislik Bilimleri Dergisi, vol.30, no.2, pp.175-184, 2018 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

- I. **5G Network Slicing with Multi-Purpose AI models**
Endes A., YÜKSEKKAYA B.
IEEE International Black Sea Conference on Communications and Networking (BlackSeaCom), Sofija, Bulgaria, 6 -

09 June 2022, pp.20-25

- II. **5G Network Slicing using Machine Learning Techniques Makine Öğrenmesi Teknikleri ile 5G Ağ Dilimleme**
Endes A., YÜKSEKKAYA B.
30th Signal Processing and Communications Applications Conference, SIU 2022, Safranbolu, Turkey, 15 - 18 May 2022
- III. **AI-based Liquid Classification with Laser-Induced Graphene Flex-Sensor**
BOZYEL İ., Endes A., Akkoca A., YÜKSEKKAYA B., GÖKCEN D.
2022 IEEE International Conference on Flexible and Printable Sensors and Systems, FLEPS 2022, Vienna, Austria, 10 - 13 July 2022
- IV. **Machine learning assisted cell association for two-tier communication networks İki katmanlı iletişim ağları için makine öğrenimi destekli hücre ilişkilendirme**
Ucas H. R., YÜKSEKKAYA B.
29th IEEE Conference on Signal Processing and Communications Applications, SIU 2021, Virtual, Istanbul, Turkey, 9 - 11 June 2021
- V. **Interference Aware Optimal Resource Allocation on V2X Networks**
DEMİR U., YÜKSEKKAYA B., TOKER C.
27th Signal Processing and Communications Applications Conference (SIU), Sivas, Turkey, 24 - 26 April 2019
- VI. **Power Control for Two-Tier Multi-Carrier MAC Under Interference Constraints**
YÜKSEKKAYA B., Inaltekin H., TOKER C.
24th Signal Processing and Communication Application Conference (SIU), Zonguldak, Turkey, 16 - 19 May 2016, pp.1549-1552
- VII. **Power Control for Two-Tier Uplink Under Feedback and Interference Constraints**
YÜKSEKKAYA B., DEMİR U., Inaltekin H., TOKER C.
24th Signal Processing and Communication Application Conference (SIU), Zonguldak, Turkey, 16 - 19 May 2016, pp.1545-1548
- VIII. **Energy Efficient Power Control and Radio Resource Management in Multi-Connectivity Framework**
HALİLOĞLU Ö., TOKER C., BULU G., YÜKSEKKAYA B., Yanikomeroğlu H.
24th Signal Processing and Communication Application Conference (SIU), Zonguldak, Turkey, 16 - 19 May 2016, pp.1101-1104
- IX. **Near-optimum power control for two-Tier SIMO uplink under power and interference constraints**
YÜKSEKKAYA B., Inaltekin H., TOKER C., YANIKOMEROĞLU H.
16th IEEE International Workshop on Signal Processing Advances in Wireless Communications, SPAWC 2015, Stockholm, Sweden, 28 June - 01 July 2015, pp.645-649
- X. **Power control for two-tier SIMO-MIMO uplink under interference constraints İki Katmanlı TGÇÇ-ÇGÇÇ Çoklu Erişim Kanalları için Girişim Kisitleri Altında Güç Kontrolü**
YÜKSEKKAYA B., Inaltekin H., TOKER C., YANIKOMEROĞLU H.
2015 23rd Signal Processing and Communications Applications Conference, SIU 2015, Malatya, Turkey, 16 - 19 May 2015, pp.931-934
- XI. **Country of origin estimation from composite faces using kernel principal component analysis Çekirdek temel bileşenler analizi ile birleşik yüzlerden köken ülke kestirimi**
CATALBAS M. C., YÜKSEKKAYA B.
2014 22nd Signal Processing and Communications Applications Conference, SIU 2014, Trabzon, Turkey, 23 - 25 April 2014, pp.1207-1210
- XII. **Optimum Uplink Power Control Under Power and Interference Constraints**
YÜKSEKKAYA B., INALTEKİN H., TOKER C.
IEEE 78th Vehicular Technology Conference (VTC Fall), Nevada, United States Of America, 2 - 05 September 2013
- XIII. **Joint transceiver design for multiuser MIMO channel equalization Çok kullanıcı MIMO kanal denkleştirme için ortak verici-alici tasarımı**
YÜKSEKKAYA B., TOKER C.
18th IEEE Signal Processing and Communications Applications Conference, SIU 2010, Diyarbakır, Turkey, 22 - 24

April 2010, pp.316-319

XIV. A General Joint Transceiver Design for Multiuser MIMO Channel Equalization

YÜKSEKKAYA B., TOKER C.

IEEE 72nd Vehicular Technology Conference Fall 2010, Ottawa, Canada, 6 - 09 September 2010

XV. A general framework for joint transceiver design for multiuser MIMO channel shortening equalization

YÜKSEKKAYA B., TOKER C.

2009 IEEE/SP 15th Workshop on Statistical Signal Processing, SSP '09, Cardiff, United Kingdom, 31 August - 03 September 2009, pp.105-108

Supported Projects

YÜKSEKKAYA B., ALKAR A. Z., TOKER C., AKTAŞ E., KUMBAY YILDIZ Ş., UYANIK İ., Project Supported by Higher Education Institutions, Elektrik ve Elektronik Mühendisliği Bölümü Araştırma Altyapısının Güçlendirilmesi, 2023 - Continues

YÜKSEKKAYA B., TUBITAK Project, Gelecek Nesil Ultra Yoğun Heterojen Haberleşme Ağlarında Girişim Farkında Ve Adil Hücre İlişkilendirme, Kullanıcı Çizelgeleme Ve Kaynak Tahsisi, 2019 - 2021

YÜKSEKKAYA B., Project Supported by Higher Education Institutions, 60 GHz milimetre dalga bandı için TGTÇ ve büyükölçek TGÇÇ kapalı ortam kanal modelleme, 2017 - 2017

YÜKSEKKAYA B., Project Supported by Higher Education Institutions, Gelecek Nesil 5G Milimetre Dalga İletişim Sistemlerinde Anten Dizilimi ve Dizilim İşleme Teknikleri, 2016 - 2017

YÜKSEKKAYA B., Project Supported by Higher Education Institutions, İki Katmanlı Çok-Taşıyıcılı Çoklu Erişim Kanalları için Girişim Kısıtları Altında Güç Kontrolü, 2016 - 2016

TUBITAK Project, Dynamic Radio Resource Management and Allocation for Next Generation Wireless Communications Systems, 2012 - 2015

YÜKSEKKAYA B., TUBITAK Project, Otomatik Sperm Analizörü (OSA), 2011 - 2012

TUBITAK Project, OFDM-Based Resource Allocation in Cooperative Wireless Communications, 2009 - 2011

Scientific Refereeing

Physical Communication, SCI Journal, October 2017

Physical Communication, SCI Journal, August 2017

TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, SCI Journal, July 2017

TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, SCI Journal, July 2016

Metrics

Publication: 25

Citation (WoS): 65

Citation (Scopus): 108

H-Index (WoS): 2

H-Index (Scopus): 3

Congress and Symposium Activities

IEEE 24. Signal Processing and Communications Applications Conference, Attendee, Zonguldak, Turkey, 2016

IEEE 16. International Workshop on Signal Processing Advances in Wireless Communications, Attendee, Stockholm, Sweden, 2015

IEEE 22. Signal Processing and Communications Applications Conference, Attendee, Trabzon, Turkey, 2014

IEEE 78nd Vehicular Technology Conference Fall, Attendee, Nevada, United States Of America, 2013
2011 IEEE International Symposium on Information Theory, Attendee, Sankt Peterburg, Russia, 2011
IEEE 72nd Vehicular Technology Conference Fall, Attendee, Ottawa, Canada, 2010
IEEE 18. Signal Processing and Communications Applications Conference, Attendee, Diyarbakır, Turkey, 2010
IEEE/SP 15th Workshop on Statistical Signal Processing, Attendee, Cardiff, United Kingdom, 2009

Non Academic Experience

Imperial College London
Carleton University