

# Prof. ALI ÖZGÜR YILMAZ

## Personal Information

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## International Researcher IDs

ScholarID: gt\_p8aQAAAAJ

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Publons / Web Of Science ResearcherID: A-8392-2018

ScopusID: 7101627991

Yoksis Researcher ID: 111575

## Education Information

Doctorate, University of Michigan, Electrical Engineering, United States Of America 1999 - 2003

Undergraduate, University of Michigan, Electrical Engineering, United States Of America 1996 - 1999

## Foreign Languages

English, C1 Advanced

## Research Areas

Communication Engineering, Information Theory, Communication System Theory, Error Corrector Codes, Wireless Communication, Modulation Methods, Radar Theory, Telecommunication Applications, Sattelite Communication, Electrical and Electronics Engineering, Engineering and Technology

## Academic Titles / Tasks

Professor, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, 2015 - Continues

Associate Professor, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, 2010 - 2015

Assistant Professor, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, 2003 - 2010

## Courses

TELECOMMUNICATIONS II, Undergraduate, 2019 - 2020

Wireless Communications, Postgraduate, 2020 - 2021

ENGINEERING DESIGN II, Undergraduate, 2019 - 2020

Signals and Systems, Undergraduate, 2019 - 2020

ENGINEERING DESIGN I, Undergraduate, 2019 - 2020

## Advising Theses

- Yılmaz A. Ö., Pseudo-random quantization based detection in one-bit massive MIMO systems, Postgraduate, G.YILMAZ(Student), 2023
- Yılmaz A. Ö., Massive multiple-input multiple-output communication systems with low-resolution quantizers, Doctorate, A.BULUT(Student), 2021
- Yılmaz A. Ö., Beamforming design for network multiple-input multiple-output (MIMO) systems with multiple cooperating base stations, Doctorate, F.EMRE(Student), 2021
- YILMAZ A. Ö., Testbed implementation of a MIMO-OFDM data link at sub 6 GHz frequency bands using an SDR platform, Postgraduate, U.TAMER(Student), 2018
- YILMAZ A. Ö., Detection of high order M-ARY QAM symbols under transmitter nonlinearities, Postgraduate, Z.GÜLGÜN(Student), 2018
- YILMAZ A. Ö., Multicell resource allocation for multicarrier networks with multiuser decoding receivers, Doctorate, Y.KADRİ(Student), 2017
- YILMAZ A. Ö., Design and implementation of wireless sensor networks utilizing sector antennas, Postgraduate, Y.ALPER(Student), 2016
- YILMAZ A. Ö., On self-interference cancellation in wireless full duplex, Postgraduate, A.FATİH(Student), 2016
- YILMAZ A. Ö., Interference suppression capability of faster than symbol rate sampling and frequency domain oversampling, Doctorate, E.BALEVİ(Student), 2016
- YILMAZ A. Ö., ORGUNER U., INDOOR LOCALIZATION AND TRACKING BASED ON RSSI AND ACCELEROMETER MEASUREMENTS, Postgraduate, M.DOĞAN(Student), 2015
- YILMAZ A. Ö., Out-of-band radiation and cfo immunity of potential 5G multicarrier modulation schemes, Postgraduate, A.BULUT(Student), 2015
- YILMAZ A. Ö., Graph-based joint channel estimation and data detection for large-scale multiuser MIMO-OFDM systems /, Postgraduate, Ş.YAŞAR(Student), 2015
- YILMAZ A. Ö., ORGUNER U., On localization and tracking using received signal strength measurements /, Postgraduate, A.YILMAZ(Student), 2015
- YILMAZ A. Ö., KOÇ S. S., Design of an experimental FMCW weather radar, Postgraduate, S.COŞKUN(Student), 2015
- YILMAZ A. Ö., OFDMA based device-to-device communication protocols, Postgraduate, Y.CAN(Student), 2015
- YILMAZ A. Ö., Channel estimation refinement by training sequence extension and interleaver design /, Postgraduate, S.GELİNCİK(Student), 2014
- YILMAZ A. Ö., TANIK Y., A reduced complexity Ungerboeck type receiver for multi-code signaling in dispersive channels, Doctorate, G.MUZAFFER(Student), 2014
- YILMAZ A. Ö., Reducing mimo detection complexity via hierarchical modulation, Postgraduate, Y.UĞUR(Student), 2014
- YILMAZ A. Ö., Wireless network coding for multiple unicast transmissions, Doctorate, T.AKTAŞ(Student), 2014
- YILMAZ A. Ö., Secure communication in cooperative networks using cooperative jamming techniques, Postgraduate, K.ERKAN(Student), 2014
- YILMAZ A. Ö., Factor graph based linear minimum mean square error equalization for wireless communications /, Postgraduate, P.ŞEN(Student), 2014
- YILMAZ A. Ö., Reducing MIMO detection complexity via hierarchical modulation /, Postgraduate, Y.Uğur(Student), 2014
- YILMAZ A. Ö., ÇİLOĞLU T., Implementation of an underwater acoustic FSK system and investigation of the effects of surface reflections /, Postgraduate, O.ŞENTÜRK(Student), 2014
- YILMAZ A. Ö., An experimental investigation on indoor rssi-based localization, Postgraduate, M.KORAY(Student), 2013
- YILMAZ A. Ö., A comparison of spatial modulation and spatial multiplexing systems in multipath fading channels, Postgraduate, H.SAYGILI(Student), 2013
- YILMAZ A. Ö., Compressive sensing for radar target detection, Postgraduate, F.ÇAĞLIYAN(Student), 2013
- YILMAZ A. Ö., Tracking by classifications, Postgraduate, T.Marpuç(Student), 2013
- YILMAZ A. Ö., Graph based iterative detection and channel estimation for sparse frequency selective channels, Postgraduate, A.BARAN(Student), 2013
- YILMAZ A. Ö., A Comparison of spatial modulation and spatial multiplexing systems in multipath fading channels, Postgraduate, H.Saygılı(Student), 2013

YILMAZ A. Ö., A bidirectional LMS algorithm for estimation of fast time-varying channels, Doctorate, Y.YAPICI(Student), 2011

YILMAZ A. Ö., Telsiz sistemlerde çift yönlü röleli haberleşme, Doctorate, Ö.ÖZDEMİR(Student), 2011

YILMAZ A. Ö., A comparison of time-switched transmit diversity and space-time coded systems over time-varying miso channels, Postgraduate, E.KÖKEN(Student), 2011

YILMAZ A. Ö., The Hilbert space of probability mass functions and applications on probabilistic inference, Doctorate, M.FATİH(Student), 2011

YILMAZ A. Ö., Blind channel estimation based on the Lloyd-Max algorithm in narrowband fading channels and jamming, Postgraduate, O.DİZDAR(Student), 2011

YILMAZ A. Ö., The Hilbert Space of probability mass functions and applications on probabilistic Inference, Doctorate, M.Fatih(Student), 2011

YILMAZ A. Ö., Opportunistic multiple relaying in wireless ad hoc networks, Postgraduate, G.YENİHAYAT(Student), 2011

YILMAZ A. Ö., MMSE based iterative turbo equalization for antenna switching systems, Postgraduate, R.Ali(Student), 2010

YILMAZ A. Ö., MMSE based iterative turbo equalization for antenna switching systems, Postgraduate, R.ALİ(Student), 2010

YILMAZ A. Ö., Spectral and statistical analyses of experimental radar clutter data, Postgraduate, N.DENİZ(Student), 2010

YILMAZ A. Ö., Achievable coding rates for AWGN and block fading channels in the finite blocklength regime, Postgraduate, M.VURAL(Student), 2010

YILMAZ A. Ö., Design of self-organizing map type electromagnetic target classifiers for dielectric spheres and conducting aircraft targets with investigation of their noise performances, Postgraduate, T.Taylan(Student), 2009

YILMAZ A. Ö., FPGA implementation of jointly operating channel estimator and parallelized decoder, Postgraduate, Ç.KILCIOĞLU(Student), 2009

YILMAZ A. Ö., Performance of parallel decodable turbo and repeat accumulate codes implemented on an FPGA platform, Postgraduate, E.ERDİN(Student), 2009

YILMAZ A. Ö., Performance of parallel decodable turbo and repeat-accumulate codes implemented on an fpga platform, Postgraduate, E.Erdin(Student), 2009

YILMAZ A. Ö., Near capacity operating practical transceivers for wireless fading channels, Postgraduate, G.MUZAFFER(Student), 2009

YILMAZ A. Ö., Multi-transducer ultrasonic communication, Postgraduate, E.Ersagun(Student), 2009

YILMAZ A. Ö., Interference suppression by using space-time adaptive processing for airborne radar, Postgraduate, Ö.ERYİĞİT(Student), 2008

YILMAZ A. Ö., CANDAN Ç., A study of precoding schemes for OFDM systems, Postgraduate, F.SELCEN(Student), 2008

UYSAL BIYIKOĞLU E., YILMAZ A. Ö., Subcarrier allocation in OFDMA systems with time varying channel and packet arrivals, Postgraduate, E.TOKTAŞ(Student), 2008

YILMAZ A. Ö., Parallel decodable channel coding implemented on a MIMO testbed, Postgraduate, T.AKTAŞ(Student), 2007

YILMAZ A. Ö., Parallelized architectures for low latency turbo structures, Doctorate, O.Gazi(Student), 2007

YILMAZ A. Ö., Successive target cancelation for radar waveform sidelobe reduction, Postgraduate, O.HALİLOĞLU(Student), 2006

YILMAZ A. Ö., Implementation of a digital signal synthesizer with high spurious free dynamic range, Postgraduate, A.KILIÇ(Student), 2006

YILMAZ A. Ö., Soft decoding of convolutional product codes on an FPGA platform, Postgraduate, M.SANLI(Student), 2005

YILMAZ A. Ö., BAYKAL B., Sub-graph approach in iterative sum-product algorithm, Postgraduate, M.FATİH(Student), 2005

## Jury Memberships

Associate Professor Exam, Associate Professor Exam, Middle East Technical University, December, 2021

Associate Professor Exam, Associate Professor Exam, Middle East Technical University, August, 2021

Associate Professor Exam, Associate Professor Exam, Middle East Technical University, August, 2020

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

- I. **Identification of the Linear Systems of the Wiener Hammerstein RF Power Amplifier Model Using DFT Analysis**  
Yesil S., YILMAZ A. Ö.  
RADIOENGINEERING, no.2, pp.265-273, 2024 (SCI-Expanded)
- II. **Pseudo-Random Quantization Based Two-Stage Detection in One-Bit Massive MIMO Systems**  
Yilmaz G., YILMAZ A. Ö.  
IEEE Transactions on Wireless Communications, vol.23, no.5, pp.4397-4410, 2024 (SCI-Expanded)
- III. **Quasi-Newton FDE in One-Bit Pseudo-Randomly Quantized Massive MIMO-OFDM Systems**  
Yilmaz G., YILMAZ A. Ö.  
IEEE Communications Letters, vol.28, no.4, pp.917-921, 2024 (SCI-Expanded)
- IV. **A Theoretical Performance Bound for Joint Beamformer Design of Wireless Fronthaul and Access Links in Downlink C-RAN**  
Kadan F. E., Yilmaz A. Ö.  
IEEE Transactions on Wireless Communications, vol.21, no.4, pp.2177-2192, 2022 (SCI-Expanded)
- V. **A Bound Based Method for Beamformer Design in Downlink Cloud Radio Access Networks**  
Kadan F. E., YILMAZ A. Ö.  
IEEE COMMUNICATIONS LETTERS, vol.25, no.10, pp.3350-3354, 2021 (SCI-Expanded)
- VI. **A Reduced Complexity Ungerboeck Receiver for Quantized Wideband Massive SC-MIMO**  
ÜÇÜNCÜ A. B., GÜVENSEN G. M., YILMAZ A. Ö.  
IEEE Transactions on Communications, vol.69, no.7, pp.4921-4936, 2021 (SCI-Expanded)
- VII. **Beamformer Design With Smooth Constraint-Free Approximation in Downlink Cloud Radio Access Networks**  
Kadan F. E., YILMAZ A. Ö.  
IEEE ACCESS, vol.9, pp.36399-36416, 2021 (SCI-Expanded)
- VIII. **Performance Analysis of Quantized Uplink Massive MIMO-OFDM with Oversampling under Adjacent Channel Interference**  
ÜÇÜNCÜ A. B., Bjornson E., Johansson H., YILMAZ A. Ö., Larsson E. G.  
IEEE Transactions on Communications, vol.68, no.2, pp.871-886, 2020 (SCI-Expanded)
- IX. **Detection Schemes for High Order M-Ary QAM Under Transmit Nonlinearities**  
Gulgun Z., YILMAZ A. Ö.  
IEEE TRANSACTIONS ON COMMUNICATIONS, vol.67, no.7, pp.4825-4834, 2019 (SCI-Expanded)
- X. **Oversampling in One-Bit Quantized Massive MIMO Systems and Performance Analysis**  
ÜÇÜNCÜ A. B., YILMAZ A. Ö.  
IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS, vol.17, no.12, pp.7952-7964, 2018 (SCI-Expanded)
- XI. **Efficient scheduling and power allocation for multiuser decoding receivers in OFDMA networks with minimum rate requirements**  
Yazarel Y. K., YILMAZ A. Ö.  
PHYSICAL COMMUNICATION, vol.26, pp.60-70, 2018 (SCI-Expanded)
- XII. **Interference mitigation in multiuser communication by faster than symbol rate sampling**  
Balevi E., YILMAZ A. Ö.  
PHYSICAL COMMUNICATION, vol.25, pp.148-157, 2017 (SCI-Expanded)
- XIII. **A Low-Complexity Graph-Based LMMSE Receiver for MIMO ISI Channels With M-QAM Modulation**  
Sen P., YILMAZ A. Ö.  
IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS, vol.16, no.2, pp.1185-1195, 2017 (SCI-Expanded)
- XIV. **Analysis of Frequency Domain Oversampled MMSE SC-FDE**  
Balevi E., YILMAZ A. Ö.  
IEEE COMMUNICATIONS LETTERS, vol.20, no.2, pp.232-235, 2016 (SCI-Expanded)
- XV. **Factor Graph Based LMMSE Filtering for Colored Gaussian Processes**  
Sen P., YILMAZ A. Ö.

- IEEE SIGNAL PROCESSING LETTERS, vol.21, no.10, pp.1206-1210, 2014 (SCI-Expanded)
- XVI. **A Reduced-State Ungerboeck Type MAP Receiver with Bidirectional Decision Feedback for M-ary Quasi Orthogonal Signaling**  
GÜVENSEN G. M., TANIK Y., YILMAZ A. Ö.  
IEEE TRANSACTIONS ON COMMUNICATIONS, vol.62, no.2, pp.552-566, 2014 (SCI-Expanded)
- XVII. **Error Rate Analysis of GF(q) Network Coded Detect-and-Forward Wireless Relay Networks Using Equivalent Relay Channel Models**  
Safak I., AKTAŞ E., YILMAZ A. Ö.  
IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS, vol.12, no.8, pp.3908-3919, 2013 (SCI-Expanded)
- XVIII. **Practical Methods for Wireless Network Coding With Multiple Unicast Transmissions**  
Aktas T., YILMAZ A. Ö., AKTAŞ E.  
IEEE TRANSACTIONS ON COMMUNICATIONS, vol.61, no.3, pp.1123-1133, 2013 (SCI-Expanded)
- XIX. **A General Framework for Optimum Iterative Blockwise Equalization of Single Carrier MIMO Systems and Asymptotic Performance Analysis**  
GÜVENSEN G. M., YILMAZ A. Ö.  
IEEE TRANSACTIONS ON COMMUNICATIONS, vol.61, no.2, pp.609-619, 2013 (SCI-Expanded)
- XX. **An Analysis of the Bidirectional LMS Algorithm over Fast-Fading Channels**  
Yapici Y., YILMAZ A. Ö.  
IEEE TRANSACTIONS ON COMMUNICATIONS, vol.60, no.7, pp.1759-1764, 2012 (SCI-Expanded)
- XXI. **Blind Channel Estimation Based on the Lloyd-Max Algorithm in Narrowband Fading Channels and Partial-Band Jamming**  
Dizdar O., YILMAZ A. Ö.  
IEEE TRANSACTIONS ON COMMUNICATIONS, vol.60, no.7, pp.1986-1995, 2012 (SCI-Expanded)
- XXII. **ML performance analysis of digital relaying in bi-directional relay channels**  
Ozdemir O., YILMAZ A. Ö.  
WIRELESS COMMUNICATIONS & MOBILE COMPUTING, vol.12, no.8, pp.676-688, 2012 (SCI-Expanded)
- XXIII. **Spectral Mask Compliance and Amplifier Nonlinearity in Single Carrier and OFDM Systems**  
Koken E., YILMAZ A. Ö.  
WIRELESS PERSONAL COMMUNICATIONS, vol.63, no.3, pp.579-586, 2012 (SCI-Expanded)
- XXIV. **Calculating Outage Probability of Block Fading Channels Based on Moment Generating Functions**  
Yilmaz A. Ö.  
IEEE TRANSACTIONS ON COMMUNICATIONS, vol.59, no.11, pp.2945-2950, 2011 (SCI-Expanded)
- XXV. **Implementation and performance of parallellised turbo decoders**  
Erdin E., Kilcioglu C., YILMAZ A.  
IET COMMUNICATIONS, vol.5, no.1, pp.39-50, 2011 (SCI-Expanded)
- XXVI. **Efficient Methods of Clutter Suppression for Coexisting Land and Weather Clutter Systems**  
CANDAN Ç., YILMAZ A. Ö.  
IEEE TRANSACTIONS ON AEROSPACE AND ELECTRONIC SYSTEMS, vol.45, no.4, pp.1641-1650, 2009 (SCI-Expanded)
- XXVII. **An Upper Bound for Limited Rate Feedback MIMO Capacity**  
GÜVENSEN G. M., YILMAZ A. Ö.  
IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS, vol.8, no.6, pp.2748-2754, 2009 (SCI-Expanded)
- XXVIII. **Cooperative diversity in carrier frequency offset**  
Yilmaz A. Ö.  
IEEE Communications Letters, vol.11, no.4, pp.307-309, 2007 (SCI-Expanded)
- XXIX. **Fast decodable turbo codes**  
Gazi O., Yilmaz A. Ö.  
IEEE Communications Letters, vol.11, no.2, pp.173-175, 2007 (SCI-Expanded)
- XXX. **Zero state doped turbo equalizer**  
Gazi O., Yilmaz A. Ö.  
IEEE Communications Letters, vol.11, no.2, pp.164-166, 2007 (SCI-Expanded)

XXXI. **Turbo product codes based on convolutional codes**  
Gazi O., Yilmaz A. O.  
ETRI JOURNAL, vol.28, no.4, pp.453-460, 2006 (SCI-Expanded)

## **Refereed Congress / Symposium Publications in Proceedings**

- I. **Joint Mitigation of IQ Imbalance and Power Amplifier Impairments by Real Valued Time Delay Neural Networks**  
Yeşil S., Gürtunca B., YILMAZ A. Ö.  
2019 27th Signal Processing and Communications Applications Conference (SIU), Sivas, Turkey, Turkey, 24 - 26 April 2019
- II. **Experimental Analysis and FPGA Implementation of the Real Valued Time Delay Neural Network Based Digital Predistortion**  
Yesil S., Sen C., YILMAZ A. Ö.  
26th IEEE International Conference on Electronics, Circuits and Systems (ICECS), Genoa, Italy, 27 - 29 November 2019, pp.614-617
- III. **Performance of One-Bit Massive MIMO With Oversampling Under Adjacent Channel Interference**  
ÜÇÜNCÜ A. B., Bjornson E., Johansson H., YILMAZ A. Ö., Larsson E. G.  
IEEE Global Communications Conference (GLOBECOM), Hawaii, United States Of America, 9 - 13 December 2019
- IV. **High Order QAM Performance Under Phase and Amplitude Distortions**  
Gulgun Z., YILMAZ A. Ö.  
IEEE 5G World Forum (5GWF), Santa-Clara, Cuba, 9 - 11 July 2018, pp.363-368
- V. **Usage of device-to-device communication with multiple antennas at the cell edges Çoklu antenli cihazdan cihaza haberleşme yönteminin hücre kenarındaki alanlarda kullanımı**  
Erkan K., YILMAZ A. Ö.  
26th IEEE Signal Processing and Communications Applications Conference, SIU 2018, İzmir, Turkey, 2 - 05 May 2018, pp.1-4
- VI. **Micro-Doppler analysis of rotary-wing air vehicles using pulsed-Doppler radar Darbe-Doppler Radar ile Döner Kanatlı Hava Araçlarının Mikro-Doppler Analizi**  
Aybar B., YILMAZ A. Ö.  
26th IEEE Signal Processing and Communications Applications Conference, SIU 2018, İzmir, Turkey, 2 - 05 May 2018, pp.1-4
- VII. **An experimental study on Power Amplifier linearisation by artificial neural networks Yapay Sinir Ağları ile Güç Yükselteç Doğrusallaştırma Amaçlı Deneysel Bir Çalışma**  
Yesil S., Kolagasioglu A. E., YILMAZ A. Ö.  
26th IEEE Signal Processing and Communications Applications Conference, SIU 2018, İzmir, Turkey, 2 - 05 May 2018, pp.1-4
- VIII. **Uplink Performance Analysis of Oversampled Wideband Massive MIMO with One-Bit ADCs**  
ÜÇÜNCÜ A. B., Yilmaz A. Ö.  
88th IEEE Vehicular Technology Conference, VTC-Fall 2018, Illinois, United States Of America, 27 - 30 August 2018
- IX. **Performance of High Order QAM under Transmit Nonlinearities**  
YILMAZ A. Ö., GÜLGÜN Z.  
2018 IEEE 87th Vehicular Technology Conference (VTC Spring), Porto, Portugal, 3 - 06 June 2018
- X. **A Novel Transceiver Architecture for Highly Dispersive NOMA Channels**  
Güvensen G. M., Tanık Y., Yılmaz A. Ö.  
2018 IEEE 87th Vehicular Technology Conference (VTC Spring), Porto, Portugal, 3 - 06 June 2018, pp.1-6
- XI. **Micro-Doppler Analysis of Rotary-Wing Air Vehicles Using Pulsed-Doppler Radar**  
Aybar B., YILMAZ A. Ö.  
26th IEEE Signal Processing and Communications Applications Conference (SIU), İzmir, Turkey, 2 - 05 May 2018
- XII. **An Experimental Study on Power Amplifier Linearisation by Artificial Neural Networks**

- Yesil S., Kolagasioglu A. E., YILMAZ A. Ö.  
26th IEEE Signal Processing and Communications Applications Conference (SIU), İzmir, Turkey, 2 - 05 May 2018
- XIII. **Usage of Device-to-Device Communication with Multiple Antennas at the Cell Edges**  
Erkan K., YILMAZ A. Ö.  
26th IEEE Signal Processing and Communications Applications Conference (SIU), İzmir, Turkey, 2 - 05 May 2018
- XIV. **Sequential Linear Detection in One-Bit Quantized Uplink Massive MIMO with Oversampling**  
ÜÇÜNCÜ A. B., YILMAZ A. Ö.  
88th IEEE Vehicular Technology Conference (VTC-Fall), Illinois, United States Of America, 27 - 30 August 2018
- XV. **Performance Analysis of Faster than Symbol Rate Sampling in 1-Bit Massive MIMO Systems**  
ÜÇÜNCÜ A. B., YILMAZ A. Ö.  
IEEE International Conference on Communications (ICC), Paris, France, 21 - 25 May 2017
- XVI. **Quantifying The Improvement of MMSE Equalizers by Faster Sampling Rates**  
Balevi E., YILMAZ A. Ö.  
25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, 15 - 18 May 2017
- XVII. **A Novel Practical CP Based Mismatched MMSE Equalization**  
Balevi E., YILMAZ A. Ö.  
IEEE Wireless Communications and Networking Conference (WCNC), San-Francisco, Costa Rica, 19 - 22 March 2017
- XVIII. **Diversity performance of microstrip patch antennas placed on human body at ISM and MBAN frequencies**  
Ozturk M. A., Tamer U., YILMAZ A. Ö., Ozdemir T., KAYA İ.  
International Conference on Medical and Biological Engineering in Bosnia and Herzegovina (CMBEBIH), Sarajevo, Bosnia And Herzegovina, 16 - 18 March 2017, vol.62, pp.698-704
- XIX. **Wireless Body Area Network Studies for Telemedicine Applications Using IEEE 802.15.6 Standard**  
Ozderya H. Y., ERDÖL H., KAYIKÇIOĞLU T., Yılmaz A. O., KAYA İ.  
International Conference on Medical and Biological Engineering in Bosnia and Herzegovina (CMBEBIH), Sarajevo, Bosnia And Herzegovina, 16 - 18 March 2017, vol.62, pp.666-670
- XX. **Optimized Asymmetric Cooperation for Downlink Cloud Radio Access Network under per-Base Station Data Transfer Constraint**  
Kadan F. E., YILMAZ A. Ö.  
IEEE International Conference on Communications (ICC) / Wireless Communications Symposium / 3rd Workshop on Optical Wireless Communications (OWC), Paris, France, 21 - 25 May 2017, pp.132-137
- XXI. **A New Sampling Method for Massive MIMO Systems**  
ÜÇÜNCÜ A. B., YILMAZ A. Ö.  
25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, 15 - 18 May 2017
- XXII. **1 bit Nicemlemeli Çok Büyük Çoklu Girdili Çoklu Çıktılı Sistemlerde Aşırı Örnekleme**  
ÜÇÜNCÜ A. B., YILMAZ A. Ö.  
Aselsan HBT Çalıştayı, Turkey, 14 October 2016
- XXIII. **Güç Yükseltecinin Büyük Yıldız Kare Dördün Genlik Kiplenimi QAM Üzerine Etkileri ve Çözüm Önerisi**  
GÜLGÜN Z., YILMAZ A. Ö.  
Aselsan HBT Çalıştayı, Turkey, 14 October 2016
- XXIV. **Tam Çoklama Kablosuz Haberleşme**  
öncel f. a., YILMAZ A. Ö.  
URSI-TÜRKİYE'2016 VIII. Bilimsel Kongresi, Turkey, 1 - 03 September 2016
- XXV. **Yeni Nesil Çoklu Taşıyıcılı Kipleme Çeşitlerinin Yükselteç Doğrusalsızlığı Altında Karşılaştırılması**  
ÜÇÜNCÜ A. B., YILMAZ A. Ö.  
SİU 2016, Turkey, 16 - 19 May 2016
- XXVI. **Comparison of New Multi-carrier Modulation Schemes under Amplifier Nonlinearity**  
ÜÇÜNCÜ A. B., YILMAZ A. Ö.  
24th Signal Processing and Communication Application Conference (SIU), Zonguldak, Turkey, 16 - 19 May 2016, pp.249-252

- XXVII. **Doppler Capable FMCW Cloud Detection Radar**  
Coskun S., Celik M., YILMAZ A. Ö., Koc S.  
Conference on Remote Sensing of Clouds and the Atmosphere XX, Toulouse, France, 23 - 24 September 2015, vol.9640
- XXVIII. **Polarimetrik FMCW Meteoroloji Radarı**  
çoşkun s., YILMAZ A. Ö., KOÇ S. S., çelik m.  
SİU 2015, Turkey, 16 - 19 May 2015
- XXIX. **Polarimetric FMCW Weather Radar**  
Coskun S., YILMAZ A. Ö., KOÇ S. S., Celik M.  
23rd Signal Processing and Communications Applications Conference (SIU), Malatya, Turkey, 16 - 19 May 2015, pp.200-203
- XXX. **Çok Kullanıcı Çok Girişli Çok Çıkışlı Sistemlerde Hüzmeleme Tekniklerinin RF Bozulmaları ile Analizi**  
YILMAZ A. Ö., ufuk t.  
2015 IEEE Sinyal İşleme ve İletişim Uygulamaları Kurultayı, Turkey, 16 - 19 May 2015
- XXXI. **Performance Analysis of Beamforming Techniques in MU-MIMO Systems with Residual RF Impairments**  
Tamer U., SUNU C., AKTAŞ E., YILMAZ A. Ö.  
23rd Signal Processing and Communications Applications Conference (SIU), Malatya, Turkey, 16 - 19 May 2015, pp.1631-1634
- XXXII. **MIMO Communication Systems Using Hierarchical Modulation**  
Ugur Y., YILMAZ A. Ö.  
22nd IEEE Signal Processing and Communications Applications Conference (SIU), Trabzon, Turkey, 23 - 25 April 2014, pp.758-761
- XXXIII. **A Low-Complexity Graph-Based LMMSE Receiver Designed for Colored Noise Induced by FTN-Signaling**  
Sen P., Aktas T., YILMAZ A. Ö.  
IEEE Wireless Communications and Networking Conference (WCNC), İstanbul, Turkey, 6 - 09 April 2014, pp.642-647
- XXXIV. **ISI channel equalizers based on the factor graphs for M-QAM signalling M-QAM kipleme için garpan gizge temelli ISI kanal denkleştiriciler**  
Sen P., Gelincik S., Aktas T., YILMAZ A. Ö.  
2013 21st Signal Processing and Communications Applications Conference, SIU 2013, Haspolat, Turkey, 24 - 26 April 2013
- XXXV. **An efficient ungerboeck type MAP receiver for multi-user channel with M-Ary quasi orthogonal signaling M-Ary yaklaşık dikgen sinyalleşme ile çoklu erişim için etkin ungerboeck tipinde MAP alicisi**  
GÜVENSEN G. M., TANIK Y., YILMAZ A. Ö.  
2013 21st Signal Processing and Communications Applications Conference, SIU 2013, Haspolat, Turkey, 24 - 26 April 2013
- XXXVI. **Neighbor discovery in network with directional antennas Yönlü antenli ağlarda komşu tespiti**  
Bilgin Y. A., YILMAZ A. Ö.  
2013 21st Signal Processing and Communications Applications Conference, SIU 2013, Haspolat, Turkey, 24 - 26 April 2013
- XXXVII. **Analysis of the performance of network coding using the sampling property of Q-function Ağ Kodlama için q-fonksiyonun örnek alma özelliğinden yararlanarak başarımların analizi**  
Aktaş T., Yılmaz A. Ö., Aktaş E.  
2013 21st Signal Processing and Communications Applications Conference, SIU 2013, Haspolat, Turkey, 24 - 26 April 2013
- XXXVIII. **Generalizing the Sampling Property of the Q-function for Error Rate Analysis of Cooperative Communication in Fading Channels-**  
Aktas T., YILMAZ A. Ö., Aktas E.  
IEEE International Symposium on Information Theory (ISIT), İstanbul, Turkey, 7 - 12 July 2013, pp.46-47



- XXXIX. **An Efficient Ungerboeck Type MAP Receiver for Multi-User Channel with M - ary Quasi Orthogonal Signaling**  
GÜVENSEN G. M., TANIK Y., YILMAZ A. Ö.  
21st Signal Processing and Communications Applications Conference (SIU), CYPRUS, 24 - 26 April 2013
- XL. **A comparison of TSTD and STBCs over block-fading and time-varying MISO channels**  
Köken E., YILMAZ A. Ö.  
2012 IEEE Wireless Communications and Networking Conference, WCNC 2012, Paris, France, 1 - 04 April 2012, pp.602-607
- XLI. **Robust spread spectrum type communication with M-ary quasi orthogonal signaling for wireless fading channels M-ary yaklaşık dikgen sinyalleşme ile yayili spektruma sahip sistemler için etkin telsiz haberleşme**  
GÜVENSEN G. M., TANIK Y., YILMAZ A. Ö.  
2012 20th Signal Processing and Communications Applications Conference, SIU 2012, Fethiye, Mugla, Turkey, 18 - 20 April 2012
- XLII. **A diversity and coding gain analysis for the cooperative wireless communication channel under fading using sampling property of the Q-function İşbirlikli kablosuz haberleşmede sönümlenmeli kanal için Q-fonksiyonunun örnekleme özelliğinden yararlanan bir çeşitleme ve kodlama kazancı analizi**  
Aktaş T., YILMAZ A. Ö., AKTAŞ E.  
2012 20th Signal Processing and Communications Applications Conference, SIU 2012, Fethiye, Mugla, Turkey, 18 - 20 April 2012
- XLIII. **Comparison of TSTD and STBCs Over Block-Fading and Time-Varying MISO Channels**  
Koken E., YILMAZ A. Ö.  
IEEE Wireless Communications and Networking Conference (WCNC), Paris, France, 1 - 04 April 2012
- XLIV. **Performance Comparisons of Relaying Schemes in Bi-directional Demodulate-and-Forward Channels**  
ÖZDEMİR Ö., YILMAZ A. Ö., Aktas E.  
IEEE Wireless Communications and Networking Conference (WCNC), Paris, France, 1 - 04 April 2012, pp.2940-2944
- XLV. **Practical Wireless Network Coding and Decoding Methods for Multiple Unicast Transmissions**  
Aktas T., YILMAZ A. Ö., Aktas E.  
IEEE Wireless Communications and Networking Conference (WCNC), Paris, France, 1 - 04 April 2012
- XLVI. **Diversity Analysis of Optimal SC-FDE MIMO Systems and Comparison with OFDM Based Transmission**  
GÜVENSEN G. M., YILMAZ A. Ö.  
22nd IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), Toronto, Canada, 11 - 14 September 2011, pp.1448-1453
- XLVII. **Cooperative relaying schemes for narrow-band frequency hopping wireless ad hoc networks**  
Yenihayat G., Onat F. A., Kolağasioğlu E., YILMAZ A. Ö.  
2011 IEEE 73rd Vehicular Technology Conference, VTC2011-Spring, Budapest, Hungary, 15 - 18 May 2011
- XLVIII. **The effect of network coding on error performance in a noisy cooperative relay network Gürültülü işbirlikçi telsiz röle ağında ağ kodlamasının başarımlar üzerindeki etkisi**  
Şafak I., AKTAŞ E., YILMAZ A. Ö.  
2011 IEEE 19th Signal Processing and Communications Applications Conference, SIU 2011, Antalya, Turkey, 20 - 22 April 2011, pp.1125-1128
- XLIX. **Implementation of cooperative communications using ultrasonic wireless terminals Ses-üstü telsiz terminaller kullanılarak işbirlikli iletişimin gerçekleştirilmesi**  
Özdemir Ö., YILMAZ A. Ö., Herdem S.  
2011 IEEE 19th Signal Processing and Communications Applications Conference, SIU 2011, Antalya, Turkey, 20 - 22 April 2011, pp.438-441
- L. **MMSE based iterative turbo equalization for antenna switching system Anten anahtarlamalı sistemler için MMSE tabanlı yinelemeli turbo denkleştirici**  
Yildirim R. A., YILMAZ A. Ö.

- 18th IEEE Signal Processing and Communications Applications Conference, SIU 2010, Diyarbakır, Turkey, 22 - 24 April 2010, pp.125-128
- L.I. **Joint network-channel coding with C-MRC based demodulate and forward protocol in two-way relay channels C-MRC tabanlı kipleme çöz ve ilet protokolü ile iki yönlü röleli kanallarda birleşik ağ-kanal kodlaması**  
Özdemir Ö., YILMAZ A. Ö.  
18th IEEE Signal Processing and Communications Applications Conference, SIU 2010, Diyarbakır, Turkey, 22 - 24 April 2010, pp.407-410
- L.II. **A general representation for classical detection theory with Euclidean geometry Klasik tespit kuramı için Öklid geometrisi ile genel bir gösterim**  
Bayramoğlu M. F., YILMAZ A. Ö.  
18th IEEE Signal Processing and Communications Applications Conference, SIU 2010, Diyarbakır, Turkey, 22 - 24 April 2010, pp.419-422
- L.III. **Cut-off Rate based Outage Probability Analysis of Frequency Hopping Mobile Radio under Jamming Conditions**  
GÜVENSEN G. M., TANIK Y., YILMAZ A. Ö.  
MILCOM Military Communications Conference, San-Jose, Costa Rica, 31 October - 03 November 2010, pp.1684-1689
- L.IV. **On the Carrier Frequency Offset Estimation for Frequency Hopping Burst Mode Mobile Radio**  
GÜVENSEN G. M., TANIK Y., YILMAZ A. Ö.  
MILCOM Military Communications Conference, San-Jose, Costa Rica, 31 October - 03 November 2010, pp.1244-1249
- L.V. **Subcarrier allocation in OFDMA with time varying channel and packet arrivals**  
Toktas E., Uysal-Biyikoglu E., YILMAZ A. Ö.  
2009 European Wireless Conference, EW 2009, Aalborg, Denmark, 17 - 20 May 2009, pp.178-183
- L.VI. **Joint network-channel coding with repeat accumulate codes for wireless relay networks Röleli telsiz ağlarda tekrarlı biriktir kodlar ile bütünlük ağ-kanal kodlaması**  
Özdemir Ö., YILMAZ A. Ö.  
2009 IEEE 17th Signal Processing and Communications Applications Conference, SIU 2009, Antalya, Turkey, 9 - 11 April 2009, pp.205-208
- L.VII. **Differential network coding in wireless networks Telsiz ağlarda farksal ağ kodlaması**  
Özdemir Ö., YILMAZ A. Ö.  
2009 IEEE 17th Signal Processing and Communications Applications Conference, SIU 2009, Antalya, Turkey, 9 - 11 April 2009, pp.201-204
- L.VIII. **Probability of Full-Diversity for Simple Coded and Rotated Multidimensional Constellation Systems**  
GÜVENSEN G. M., Aktas T., YILMAZ A. Ö.  
20th IEEE Symposium on Personal, Indoor and Mobile Radio Communications, Tokyo, Japan, 13 - 16 September 2009, pp.885-889
- L.IX. **Iterative Frequency Domain Equalization for Single-Carrier Wideband MIMO Channels**  
GÜVENSEN G. M., YILMAZ A. Ö.  
20th IEEE Symposium on Personal, Indoor and Mobile Radio Communications, Tokyo, Japan, 13 - 16 September 2009, pp.2661-2665
- L.X. **Factorization of Joint Probability Mass Functions into Parity Check Interactions**  
Bayramoglu M. F., Yilmaz A. O.  
IEEE International Symposium on Information Theory (ISIT 2009), Seoul, South Korea, 28 June - 03 July 2009, pp.1749-1753
- L.XI. **Iterative Decision Feedback Equalization and Decoding for Rotated Multidimensional Constellations in Block Fading Channels**  
GÜVENSEN G. M., YILMAZ A. Ö.  
69th IEEE Vehicular Technology Conference, Barcelona, Spain, 26 - 29 April 2009, pp.1269-1274
- L.XII. **Turbo-like Codes Over Block-Fading and Time-Varying Narrowband Fading Channels**

- Yapici Y., YILMAZ A. Ö.  
69th IEEE Vehicular Technology Conference, Barcelona, Spain, 26 - 29 April 2009, pp.1672-1673
- LXIII. **Ultrasonic communication in wireless sensor networks Kablosuz algılayıcı ağlarda sesüstü haberleşme**  
Ersagun E., YILMAZ A. Ö.  
2008 IEEE 16th Signal Processing, Communication and Applications Conference, SIU, Aydın, Turkey, 20 - 22 April 2008
- LXIV. **A Hilbert Space of Probability Mass Functions and Applications on the Sum-Product Algorithm**  
Bayramoglu M. F., Yilmaz A. O.  
5th International Symposium on Turbo Codes and Related Topics, Lausanne, Switzerland, 1 - 05 September 2008, pp.338-343
- LXV. **Efficient Methods of Doppler Processing for Coexisting Land and Weather Clutter**  
CANDAN Ç., YILMAZ A. Ö.  
2008 IEEE Radar Conference, Rome, Italy, 26 - 30 May 2008, pp.568-572
- LXVI. **Pilot-aided packet synchronization and single-tone parameter estimation on an FPGA platform FPGA platformunda pilot dizini ekleme yöntemiyle paket senkronizasyonu ve tek ton parametre kestirimi**  
Özel Ö., Vural M., Yilmaz A. Ö.  
2007 IEEE 15th Signal Processing and Communications Applications, SIU, Eskişehir, Turkey, 11 - 13 June 2007
- LXVII. **MIMO channels with limited rate feedback and RVQ MIMO kanallarda sınırlı hızda geribesleme ve RVQ**  
Yilmaz A. O., Guevensen G. M.  
2007 IEEE 15th Signal Processing and Communications Applications, SIU, Eskişehir, Turkey, 11 - 13 June 2007
- LXVIII. **Effect of water-filling method on the PAPR for OFDM and MIMO systems**  
Vural M., Akta T., Yilmaz A. O.  
IEEE 15th Signal Processing and Communications Applications Conference, Eskişehir, Turkey, 11 - 13 June 2007, pp.901-904
- LXIX. **Successive Target Cancellation in Pulse Compression Radars**  
haliloğlu o., YILMAZ A. Ö.  
2007 IEEE Radar Conference, Waltham, MA, USA, 17 - 20 April 2007
- LXX. **Cooperative diversity techniques for wireless networks**  
Bilgin A., YILMAZ A. Ö.  
IEEE 14th Signal Processing and Communications Applications, Antalya, Turkey, 16 - 19 April 2006, pp.425-426
- LXXI. **Waterfall region analysis for iterative decoding**  
Yilmaz A. Ö.  
2004 IEEE 15th International Symposium on Personal, Indoor and Mobile Radio Communications, PIMRC 2004, Barcelona, Spain, 5 - 08 September 2004, vol.4, pp.2576-2580

## Expert Reports

- I. **Hakemlik 2**  
YILMAZ A. Ö.  
2015

## Supported Projects

- YILMAZ A. Ö., TUBITAK Project, Kablosuz Vücut Algılayıcı Ağları Ve Uzaktan Hasta Takip Sistemi, 2015 - 2017
- YILMAZ A. Ö., Project Supported by Other Private Institutions, Geniş Bantlı İletişimde Girişim Yönetimi, 2014 - 2015
- YILMAZ A. Ö., Project Supported by Other Private Institutions, Meteoroloji Radarı Geliştirme Projesi, 2013 - 2015
- YILMAZ A. Ö., TUBITAK Project, Gürültülü Telsiz Ağlar için Ağ Kodlaması Stratejileri, 2010 - 2012

YILMAZ A. Ö., TUBITAK Project, Yüksek Başarımlı Gezgin Haberleşme: Çarpım kodları Kullanarak Ortak Kanal Kestirimi, 2005 - 2009

## Patent

1-bit Yarı-Newton Dedektörü, Patent, CHAPTER H Electricity, The Invention Registration Number: 2024-I-003251 , Standard Registration, 2024

1-BİT ANALOG SAYISAL DÖNÜŞTÜRÜCÜLER İÇİN NİCELEME VE TESPİT YÖNTEMİ, Patent, CHAPTER H Electricity, The Invention Registration Number: 2024-I-003857 , Standard Registration, 2024

Yılmaz A. Ö., Üçüncü A. B., QUANTIZED DETECTION IN UPLINK MIMO WITH OVERSAMPLING, Patent, CHAPTER H Electricity, The Invention Registration Number: 10447504 , Standard Registration, 2019

## Scientific Refereeing

IEEE TRANSACTIONS ON COMMUNICATIONS, SCI Journal, December 2021

TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Middle East Technical University, Turkey, December 2020

TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCE, National Scientific Refreed Journal, October 2020

IEEE Transactions On Communications, SCI Journal, September 2020

TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Middle East Technical University, Turkey, September 2020

IEEE Transactions On Communications, SCI Journal, August 2020

TUBITAK Project, 1501 - Industry R & D Projects Support Program, Middle East Technical University, Turkey, August 2020

TUBITAK Project, 1501 - Industry R & D Projects Support Program, Middle East Technical University, Turkey, August 2020

IEEE TRANSACTIONS ON VEHICULAR TECHNOLOGY, SCI Journal, April 2020

TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Middle East Technical University, Turkey, February 2020

IEEE Transactions On Communications, SCI Journal, January 2020

TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, TÜBİTAK, Turkey, June 2019

## Metrics

Publication: 103

Citation (WoS): 274

Citation (Scopus): 297

H-Index (WoS): 10

H-Index (Scopus): 9

## Entrepreneurship Activities

Limited, Anketek Elektronik Teknoloji Ltd. Şti., 01 April 2012, Co-Founder

## **Non Academic Experience**

Ritekom İletişim Teknolojileri A.Ş.

Company, Anketek Elektronik Teknoloji San. Tic. Ltd. Şti., Anketek Elektronik Teknoloji San. Tic. Ltd. Şti.

Anketek Ankara Elektronik Teknoloji San. ve Tic. Ltd. Şti.

University of Michigan