

## Assoc. Prof. Ahmet SERBES

### Personal Information

**Email:** aserbes@yildiz.edu.tr

**Web:** <https://avesis.yildiz.edu.tr/aserbes>

### Education Information

Doctorate, Yildiz Technical University, Elektrik Elektronik Fakültesi, Elektronik Ve Haberleşme Mühendisliği Bölümü, Turkey Continues

Yildiz Technical University, Elektrik Elektronik Fakültesi, Elektronik Ve Haberleşme Mühendisliği Bölümü, Turkey Continues

Undergraduate, Istanbul Technical University, Elektrik Elektronik Fakültesi, Elektronik Ve Haberleşme Mühendisliği Bölümü, Turkey Continues

### Research Areas

Information Systems, Communication and Control Engineering, Signal Processing, Multi-mode Signal Processing, Image and Video Processing, Signal Processing for Communication, Signal Processing Theory and Methods, Engineering and Technology

### Academic Titles / Tasks

Associate Professor, Yildiz Technical University, Faculty Of Electrical & Electronics, Electronics And Communication Engineering, 2018 - Continues

Assistant Professor, Yildiz Technical University, Faculty Of Electrical & Electronics, Electronics And Communication Engineering, 2011 - 2018

Research Assistant, Yildiz Technical University, Faculty Of Electrical & Electronics, Electronics And Communication Engineering, 2006 - 2011

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

- I. **LFM signal parameter estimation in the fractional Fourier domains: Analytical models and a high-performance algorithm**  
Serbes A., Aldimashki O.  
SIGNAL PROCESSING, vol.214, pp.109224-109236, 2024 (SCI-Expanded)
- II. **Fast and Efficient 2-D and K-D DFT-Based Sinusoidal Frequency Estimation**  
Solak V., Aldirmaz Çolak S., Serbes A.  
IEEE TRANSACTIONS ON SIGNAL PROCESSING, vol.70, pp.5087-5101, 2022 (SCI-Expanded)
- III. **Threshold Regions in Frequency Estimation**  
Serbes A., Qaraqe K.  
IEEE Transactions on Aerospace and Electronic Systems, vol.58, no.5, pp.4850-4856, 2022 (SCI-Expanded)
- IV. **Fast and Efficient Estimation of Frequencies**  
SERBES A.

- IEEE TRANSACTIONS ON COMMUNICATIONS, vol.69, no.6, pp.4054-4066, 2021 (SCI-Expanded)
- V. **Performance of Chirp Parameter Estimation in the Fractional Fourier Domains and an Algorithm for Fast Chirp-Rate Estimation**  
Aldimashki O., Serbes A.  
IEEE TRANSACTIONS ON AEROSPACE AND ELECTRONIC SYSTEMS, vol.56, pp.3685-3700, 2020 (SCI-Expanded)
- VI. **Probabilities of False Alarm and Detection for the First-Order Cyclostationarity Test: Application to Modulation Classification**  
SERBES A., ÇUKUR H., QARAQE K.  
IEEE COMMUNICATIONS LETTERS, vol.24, no.1, pp.57-61, 2020 (SCI-Expanded)
- VII. **A Fast Method for Estimating Frequencies of Multiple Sinusoidals**  
SERBES A., QARAQE K.  
IEEE SIGNAL PROCESSING LETTERS, vol.27, pp.386-390, 2020 (SCI-Expanded)
- VIII. **Fast and Efficient Sinusoidal Frequency Estimation by Using the DFT Coefficients**  
SERBES A.  
IEEE TRANSACTIONS ON COMMUNICATIONS, vol.67, no.3, pp.2333-2342, 2019 (SCI-Expanded)
- IX. **On the Estimation of LFM Signal Parameters: Analytical Formulation**  
SERBES A.  
IEEE TRANSACTIONS ON AEROSPACE AND ELECTRONIC SYSTEMS, vol.54, no.2, pp.848-860, 2018 (SCI-Expanded)
- X. **Compact Fractional Fourier Domains**  
SERBES A.  
IEEE SIGNAL PROCESSING LETTERS, vol.24, no.4, pp.427-431, 2017 (SCI-Expanded)
- XI. **The discrete fractional Fourier transform based on the DFT matrix**  
SERBES A., DURAK-ATA L.  
SIGNAL PROCESSING, vol.91, no.3, pp.571-581, 2011 (SCI-Expanded)
- XII. **Efficient computation of DRT commuting matrices by a closed-form infinite order approximation to the second differentiation matrix**  
SERBES A., DURAK-ATA L.  
SIGNAL PROCESSING, vol.91, no.3, pp.582-589, 2011 (SCI-Expanded)
- XIII. **Optimum signal and image recovery by the method of alternating projections in fractional Fourier domains**  
SERBES A., DURAK L.  
COMMUNICATIONS IN NONLINEAR SCIENCE AND NUMERICAL SIMULATION, vol.15, no.3, pp.675-689, 2010 (SCI-Expanded)
- XIV. **Spectrally Efficient OFDMA Lattice Structure via Toroidal Waveforms on the Time-Frequency Plane**  
Aldirmaz S., Serbes A., Durak-Ata L.  
EURASIP JOURNAL ON ADVANCES IN SIGNAL PROCESSING, 2010 (SCI-Expanded)
- XV. **Eigenvectors of the Discrete Fourier Transform Based on the Bilinear Transform**  
Serbes A., Durak-Ata L.  
EURASIP JOURNAL ON ADVANCES IN SIGNAL PROCESSING, 2010 (SCI-Expanded)

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

- I. **Speaker Diarization using Embedding Vectors**  
Toruk M. M., Bilgin G., Serbes A.  
2020 28th Signal Processing and Communications Applications Conference (SIU), Gaziantep, Turkey, 5 - 07 October 2020, pp.1-4
- II. **Speech Segmentation and Speaker Diarization using Time-Delay Neural Network**  
TORUK M., SERBES A., BİLGİN G.  
IEEE Innovations in Intelligent Systems and Applications Conference (ASYU 2019), İzmir, Turkey, 31 October - 02 November 2019, pp.1-5

- III. **Selection of the Threshold for First-Order Cyclostationarity Test**  
Çukur H., Serbes A.  
2019 IEEE Wireless Communications and Networking Conference (WCNC), Marrakush, Morocco, 15 - 19 April 2019, pp.1-5
- IV. **Deniz Hedefi Sınıflandırmada Farklı Kargaşa Giderme Yöntemleri İçin Performans Analizi**  
Kartal M. Z., Karabayır O., SERBES A.  
26. IEEE Sinyal İşleme ve İletişim Uygulamaları Sempozyumu, İzmir, Turkey, 02 May 2018, pp.1-4
- V. **Fast frequency estimation of a complex sinusoidal when the phase is already known**  
SERBES A.  
International Telecommunications Conference, İstanbul, Turkey, 28 - 29 December 2017
- VI. **A fast and accurate chirp rate estimation algorithm based on the fractional Fourier transform**  
SERBES A., Aldimashki O.  
EUSIPCO, Kos Adası, Greece, 28 August 2017, pp.1-6
- VII. **Performance analysis of feature extraction methods in indoor sound classification**  
Çalık N., Durak Ata L., Serbes A., Bolat B., Yavuz E.  
2015 23rd Signal Processing and Communications Applications Conference (SIU), Malatya, Turkey, 16 - 19 May 2015
- VIII. **Ortam Seslerinin Sınıflandırımı için Öznitelik Çıkartma Yöntemlerinin Başarım Analizi**  
Durak-Ata L., SERBES A., Bolat B., Yavuz E.  
23. IEEE Sinyal İşleme ve İletişim Uygulamaları Sempozyumu, 01 April 2015
- IX. **An unsupervised face clustering model by self-enhanced side information**  
SERBES A., Karaduman B., Durak-Ata L.  
33rd Telecommunications and Signal Processing Conference, 01 August 2010
- X. **Çift-doğrusal dönüşüme dayalı DFT ve ayrık kesirli Fourier dönüşümü özvektörleri**  
SERBES A., Durak-Ata L.  
IEEE 18. Sinyal İşleme ve Uygulamaları Kurultayı (SIU), 01 April 2010
- XI. **Yeni bir OFDM kafes yapısı: zaman-frekans düzleminde toroidal kafes**  
SERBES A., Durak-Ata L.  
IEEE 18. Sinyal İşleme ve Uygulamaları Kurultayı (SIU), 01 April 2010
- XII. **A centered DFT-based discrete fractional Fourier transform and its application to chirp signal parameter estimation**  
SERBES A., Durak L.  
17th European Signal Processing Conference, 01 August 2009
- XIII. **Method of alternating projections for signal and image recovery in fractional Fourier domains**  
SERBES A., Durak L., Aldırmaz S.  
Fractional Differentiation and Applications, 01 November 2008
- XIV. **Düşük çözünürlüklü görüntüler üzerinden yüz tanıma**  
SERBES A., Durak L.  
Akıllı Sistemlerde Yenilikler ve Uygulamaları Sempozyumu (ASYU), 01 June 2008
- XV. **Kesirli Fourier Bölgesinde LMS Tabanlı Uyarlanırlı Süzgeçleme Algoritmaları ile Aktif Gürültü Kontrolü**  
Durak L., SERBES A.  
16. IEEE Sinyal İşleme, İletişim ve Uygulamaları Kurultayı, 01 April 2008

## Supported Projects

Serbes A., Ünlüel M., TUBITAK Project, Offline Preanalitik Ve Tüp Alikotlama Sistemi, 2021 - 2023

Serbes A., Kurt S., TUBITAK Project, Uğultu-çınlama Tedavisinde Müzikal Terapi Sistemi Geliştirilmesi, 2021 - 2022

Serbes A., Ünlüel M., TUBITAK Project, Tam Otomatik Koagülasyon Cihazı, 2020 - 2022

SERBES A., Project Supported by Higher Education Institutions, Frekans Kestiriminde SNR Bozulma Eşiğinin Belirlenmesi,

2021 - 2021

Serbes A., Durak Ata L., Project Supported by Defense Industry, Gürültü Radarı Dalgaformu Tasarımı Danışmanlık Hizmet Alımı Projesi , 2019 - 2020

Türelı M. S. U., Görçın A., Yıldırım T., Bolat B., Serbes A., Niyaz Ö., Project Supported by Defense Industry, Multidimensional Wireless Communication Signal Analysis Platform (EXPLORER), 2018 - 2020

Serbes A., TUBITAK Project, Derin öğrenme ile görüntü bölütleme, 2018 - 2018

Bolat B., Serbes A., Durak Ata L., Yavuz E., Altınkök G., Industrial Thesis Project, Ortam Seslerinin TV Aracılığıyla Kullanıcıya Görsel Olarak Bildirilmesi, 2014 - 2015

Serbes A., Demirörs A., TUBITAK Project, Tam Otomatik Koagülasyon Cihazı Tasarımı Ve Prototip Üretimi, 2010 - 2012

Serbes A., Demirörs A., TUBITAK Project, Aktive Edilmiş Kanama Zamanı (act) Test Sistemi Tasarımı Ve Prototip Üretimi , 2011 - 2011

DURAK ATA L., SERBES A., TUBITAK Project, Yüksek Çözünürlüklü Zaman-Frekans Dağılımlarının Geliştirilmesi ve Yaylı İzge Haberleşmesi Uygulamaları ile Zaman-Frekans Dağılımlarında Benzeşme ve Erişim, 2009 - 2009

## **Metrics**

Publication: 31

Citation (WoS): 210

Citation (Scopus): 305

H-Index (WoS): 8

H-Index (Scopus): 9