

# Prof. İsmail Serdar Özoğuz

## Personal Information

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## International Researcher IDs

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## Education Information

Doctorate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Elektronik Ve Haberleşme Mühendisliği Anabilim Dalı, Turkey 1995 - 2000

Postgraduate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Elektronik Ve Haberleşme Mühendisliği Anabilim Dalı, Turkey 1991 - 1993

Undergraduate, Istanbul Technical University, Elektrik-Elektronik Fakültesi, Elektronik Ve Haberleşme Mühendisliği Bölümü, Turkey 1987 - 1991

## Foreign Languages

English

## Dissertations

Doctorate, Akım taşıyıcı kullanan devrelerin gerçekleştirilmesinde yeni yöntemler ve sonuçlar, İstanbul Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Elektronik Ve Haberleşme Mühendisliği Anabilim Dalı, 2000

Postgraduate, Akım taşıyıcı kullanarak akım transfer fonksiyonu sentezi, İstanbul Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Elektronik Ve Haberleşme Mühendisliği Anabilim Dalı, 1993

## Research Areas

Technical Sciences, Electrical and Electronics Engineering, Electronic

## Academic Titles / Tasks

Professor, Istanbul Technical University, Elektrik-Elektronik Fakültesi, Elektronik Ve Haberleşme Mühendisliği Bölümü, 2009 - Continues

Associate Professor, Istanbul Technical University, Elektrik-Elektronik Fakültesi, Elektronik Ve Haberleşme Mühendisliği Bölümü, 2003 - 2009

Assistant Professor, Istanbul Technical University, Elektrik-Elektronik Fakültesi, Elektronik Ve Haberleşme Mühendisliği

## Academic and Administrative Experience

İstanbul Teknik Üniversitesi, Elektrik-Elektronik, 2017 - Continues

İstanbul Teknik Üniversitesi, Elektrik-Elektronik Fakültesi, Elektronik Ve Haberleşme Mühendisliği Bölümü, 2012 - 2013

İstanbul Teknik Üniversitesi, Fen Bilimleri Enstitüsü, 2010 - 2011

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

- I. **Broadband performance assessment of a microwave power transistor employing the real frequency technique**  
Kilinc S., Ejaz M. E., Yarman B. S., Ozoguz S., Srivastava S., Nurellari E.  
INTERNATIONAL JOURNAL OF CIRCUIT THEORY AND APPLICATIONS, vol.50, no.11, pp.3725-3748, 2022 (SCI-Expanded)
- II. **Overview of evolutionary algorithms and neural networks for modern mobile communication**  
Kouhalvandi L., Shayea I., Ozoguz S., Mohamad H.  
TRANSACTIONS ON EMERGING TELECOMMUNICATIONS TECHNOLOGIES, vol.33, no.9, 2022 (SCI-Expanded)
- III. **Multi-Tone Harmonic Balance Optimization for High-Power Amplifiers through Coarse and Fine Models Based on X-Parameters**  
Kouhalvandi L., Ceylan O., Ozoguz S., Matekovits L.  
SENSORS, vol.22, no.11, 2022 (SCI-Expanded)
- IV. **A GaN Microwave Power Amplifier Design Based on the Source/Load Pull Impedance Modeling via Virtual Gain Optimization**  
KILINÇ S., Yarman B. S., Ozoguz S.  
IEEE ACCESS, vol.10, pp.50677-50691, 2022 (SCI-Expanded)
- V. **MOS-only implementation of memristor emulator circuit**  
Yildiz H. A., Ozoguz S.  
AEU-INTERNATIONAL JOURNAL OF ELECTRONICS AND COMMUNICATIONS, vol.141, 2021 (SCI-Expanded)
- VI. **Automated top-down pruning optimization approach in RF power amplifier designs**  
Kouhalvandi L., Ceylan O., Ozoguz S.  
ANALOG INTEGRATED CIRCUITS AND SIGNAL PROCESSING, vol.106, no.3, pp.525-534, 2021 (SCI-Expanded)
- VII. **Optimization techniques for analog and RF circuit designs: an overview**  
Kouhalvandi L., Ceylan O., Ozoguz S.  
ANALOG INTEGRATED CIRCUITS AND SIGNAL PROCESSING, vol.106, no.3, pp.511-524, 2021 (SCI-Expanded)
- VIII. **Guest editorial: introduction to the special issue on selected papers from the ELECO'2019 conference**  
Ozoguz S., Cicekoglu O., Kuntman H. H.  
ANALOG INTEGRATED CIRCUITS AND SIGNAL PROCESSING, vol.106, no.3, pp.473-474, 2021 (SCI-Expanded)
- IX. **Automated Deep Neural Learning-Based Optimization for High Performance High Power Amplifier Designs**  
Kouhalvandi L., Ceylan O., Ozoguz S.  
IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS I-REGULAR PAPERS, vol.67, no.12, pp.4420-4433, 2020 (SCI-Expanded)
- X. **Emulation of a constant phase element by utilizing a lattice structure based fractional-order differentiator**  
Rezazadehshabilouyoliya V., Atasoyu M., Ozoguz S.  
AEU-INTERNATIONAL JOURNAL OF ELECTRONICS AND COMMUNICATIONS, vol.127, 2020 (SCI-Expanded)
- XI. **Sensing schemes for STT-MRAMs structured with high TMR in low RA MTJs**

- Atasoyu M., Altun M., Ozoguz S.  
MICROELECTRONICS JOURNAL, vol.89, pp.30-36, 2019 (SCI-Expanded)
- XII. **Wide range high precision CMOS exponential circuit based on linear least squares approach**  
Naderi Saatlo A., Ozoguz S.  
Radioengineering, vol.27, no.4, pp.1092-1099, 2018 (SCI-Expanded)
- XIII. **A class of MOSFET-C multifunction filters**  
Metin B., Cicekoglu O., Ozoguz S.  
Analog Integrated Circuits and Signal Processing, vol.97, no.1, pp.5-13, 2018 (SCI-Expanded)
- XIV. **Introduction to the special issue on selected papers from the ELECO'2017 conference**  
Kuntman H. H., Cicekoglu O., Ozoguz S.  
ANALOG INTEGRATED CIRCUITS AND SIGNAL PROCESSING, vol.97, no.1, pp.1-4, 2018 (SCI-Expanded)
- XV. **AN ADC BASED RANDOM BIT GENERATOR BASED ON A DOUBLE SCROLL CHAOTIC CIRCUIT**  
Tavas V., DEMIRKOL A. S., Ozoguz S., ZEKI A., TOKER A.  
JOURNAL OF CIRCUITS SYSTEMS AND COMPUTERS, vol.19, no.7, pp.1621-1639, 2010 (SCI-Expanded)
- XVI. **Sinusoidal oscillators with lower gain requirements at higher frequencies based on an explicit  $\tanh(x)$  nonlinearity**  
Elwakil A. S., Ozoguz S., SALAMA K. N.  
INTERNATIONAL JOURNAL OF CIRCUIT THEORY AND APPLICATIONS, vol.38, no.7, pp.747-760, 2010 (SCI-Expanded)
- XVII. **Truly random number generators based on non-autonomous continuous-time chaos**  
Ergun S., Ozoguz S.  
INTERNATIONAL JOURNAL OF CIRCUIT THEORY AND APPLICATIONS, vol.38, no.1, pp.1-24, 2010 (SCI-Expanded)
- XVIII. **Multiscroll chaotic attractors from a hysteresis based time-delay differential equation**  
Kilinc S., YALCIN M. E., Ozoguz S.  
International Journal of Bifurcation and Chaos, vol.20, no.10, pp.3275-3281, 2010 (SCI-Expanded)
- XIX. **Experimental verification of rank 1 chaos in switch-controlled Chua circuit**  
Oksasoglu A., Ozoguz S., DEMIRKOL A. S., AKGUL T., Wang Q.  
CHAOS, vol.19, no.1, 2009 (SCI-Expanded)
- XX. **Integrated cross-coupled chaos oscillator applied to random number generation**  
Tavas V., DEMIRKOL A. S., Ozoguz S., ZEKI A., TOKER A.  
IET CIRCUITS DEVICES & SYSTEMS, vol.3, no.1, pp.1-11, 2009 (SCI-Expanded)
- XXI. **A system and circuit for generating "Multi-Butterflies"**  
Elwakil A. S., OZOGUZ S.  
INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS, vol.18, no.3, pp.841-844, 2008 (SCI-Expanded)
- XXII. **N -scroll chaotic attractors from a first-order time-delay differential equation**  
Yalcin M. E., Ozoguz S.  
Chaos, vol.17, no.3, 2007 (SCI-Expanded)
- XXIII. **Truly random number generators based on a non-autonomous chaotic oscillator**  
Ergun S., Ozoguz S.  
AEU-INTERNATIONAL JOURNAL OF ELECTRONICS AND COMMUNICATIONS, vol.61, no.4, pp.235-242, 2007 (SCI-Expanded)
- XXIV. **Cross-coupled chaotic oscillators and application to random bit generation**  
Oezoguz S., ELWAKIL A. S., ERGUN S.  
IEE PROCEEDINGS-CIRCUITS DEVICES AND SYSTEMS, vol.153, no.5, pp.506-510, 2006 (SCI-Expanded)
- XXV. **Multiscroll chaotic oscillators: The nonautonomous approach**  
Elwakil A. S., Ozoguz S.  
IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS II-EXPRESS BRIEFS, vol.53, no.9, pp.862-866, 2006 (SCI-Expanded)
- XXVI. **On the generation of higher order chaotic oscillators via passive coupling of two identical or nonidentical sinusoidal oscillators**  
Elwalkil A. S., Ozoguz S.

- IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS I-REGULAR PAPERS, vol.53, no.7, pp.1521-1532, 2006 (SCI-Expanded)
- XXVII. **Novel approximate square-root domain all-pass filter with application to multiphase oscillators**  
Ozoguz S., ABDELRAHMAN T., ELWAKIL A.  
ANALOG INTEGRATED CIRCUITS AND SIGNAL PROCESSING, vol.46, no.3, pp.297-301, 2006 (SCI-Expanded)
- XXVIII. **Pulse-excited RC nonautonomous chaotic oscillator structures**  
Elwakil A., Ozoguz S.  
INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS, vol.15, no.7, pp.2257-2261, 2005 (SCI-Expanded)
- XXIX. **On the realization of circuit-independent nonautonomous pulse-excited chaotic oscillator circuits**  
Ozoguz S., ELWAKIL A.  
IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS II-EXPRESS BRIEFS, vol.51, no.10, pp.552-556, 2004 (SCI-Expanded)
- XXX. **Linearly tunable transconductor using modified CDBA**  
Zeki A., TOKER A., Ozoguz S.  
ANALOG INTEGRATED CIRCUITS AND SIGNAL PROCESSING, vol.26, no.2, pp.179-183, 2001 (SCI-Expanded)
- XXXI. **n-scroll chaos generators: A simple circuit model**  
Yalcin M. E., OZOGUZ S., SUYKENS J., VANDEWALLE J.  
Electronics Letters, vol.37, no.3, pp.147-149, 2001 (SCI-Expanded)
- XXXII. **Integrable current-mode filter realisation using dual-output current conveyors for low-frequency operation**  
Toker A., Ozoguz S.  
AEU-INTERNATIONAL JOURNAL OF ELECTRONICS AND COMMUNICATIONS, vol.55, no.2, pp.145-149, 2001 (SCI-Expanded)
- XXXIII. **Insensitive current-mode universal filter with low component spread using dual-output current conveyors**  
Güneş E. O., Özoğuz S., Toker A.  
AEU-Archiv fur Elektronik und Ubertragungstechnik, vol.54, no.2, pp.127-132, 2000 (SCI-Expanded)
- XXXIV. **CDBA-based fully-integrated gyrator circuit suitable for electronically tunable inductance simulation**  
Toker A., Özoğuz S., Acar C.  
AEU-Archiv fur Elektronik und Ubertragungstechnik, vol.54, no.5, pp.293-296, 2000 (SCI-Expanded)
- XXXV. **A new current mode multifunction filter with minimum components using dual output current conveyors**  
Özoğuz İ. S.  
IEICE TRANSACTIONS ON FUNDAMENTALS OF ELECTRONICS COMMUNICATIONS AND COMPUTER SCIENCES, vol.83, no.11, pp.2382-2384, 2000 (SCI-Expanded)
- XXXVI. **Current-mode all-pass filters using current differencing buffered amplifier and a new high-Q bandpass filter configuration**  
Toker A., Ozoguz S., CICEKOGLU O., ACAR C.  
IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS II-ANALOG AND DIGITAL SIGNAL PROCESSING, vol.47, no.9, pp.949-954, 2000 (SCI-Expanded)
- XXXVII. **First-order allpass sections-based current-mode universal filter using ICCIIs**  
Ozoguz S., Toker A., CICEKOGLU O.  
Electronics Letters, vol.36, no.17, pp.1443-1444, 2000 (SCI-Expanded)
- XXXVIII. **Insensitive current-mode universal filter using dual output current conveyors**  
Toker A., Ozoguz S.  
INTERNATIONAL JOURNAL OF ELECTRONICS, vol.87, no.6, pp.667-674, 2000 (SCI-Expanded)
- XXXIX. **N-th-order voltage transfer function synthesis using a commercially available active component, CFA: Signal-flow graph approach**  
Acar C., Özoğuz S.  
Frequenz, vol.54, pp.134-137, 2000 (SCI-Expanded)
- XL. **nth-order current transfer function synthesis using current differencing buffered amplifier: signal-**

### **flow graph approach**

Acar C., Ozoguz S.

MICROELECTRONICS JOURNAL, vol.31, no.1, pp.49-53, 2000 (SCI-Expanded)

- XLII. **Insensitive current mode universal filter with low component spread using dual output current conveyors**  
Özoğuz İ. S.  
AEU-INTERNATIONAL JOURNAL OF ELECTRONICS AND COMMUNICATIONS, vol.54, no.2, pp.127-132, 2000 (SCI-Expanded)
- XLIII. **Current-mode KHN-equivalent biquad using CDBAs**  
Toker A., Ozoguz S., ACAR C.  
ELECTRONICS LETTERS, vol.35, no.20, pp.1682-1683, 1999 (SCI-Expanded)
- XLIV. **Insensitive current-mode universal filter with minimum components using dual-output current conveyors**  
Gunes E. O., Toker A., Ozoguz S.  
Electronics Letters, vol.35, no.7, pp.524-525, 1999 (SCI-Expanded)
- XLV. **New current-mode universal filters using only four (CCII+)s**  
Ozoguz S., TOKER A., CICEKOGLU O.  
MICROELECTRONICS JOURNAL, vol.30, no.3, pp.255-258, 1999 (SCI-Expanded)
- XLVI. **A new versatile building block: current differencing buffered amplifier suitable for analog signal-processing filters**  
Acar C., Ozoguz S.  
MICROELECTRONICS JOURNAL, vol.30, no.2, pp.157-160, 1999 (SCI-Expanded)
- XLVII. **Current-mode continuous-time fully-integrated universal filter using CDBAs**  
Özoğuz S., Toker A., Acar C.  
Electronics Letters, vol.35, no.2, pp.97-98, 1999 (SCI-Expanded)
- XLVIII. **Insensitive current mode universal filter with minimum components using dual output current conveyors**  
Özoğuz İ. S.  
ELECTRONICS LETTERS, vol.35, no.7, pp.524-525, 1999 (SCI-Expanded)
- XLIX. **High output impedance current-mode multifunction filters with minimum number of active and passive elements using dual-output current conveyors**  
Toker A., Özoğuz S., Çiçekoğlu O.  
Frequenz, vol.53, pp.206-209, 1999 (SCI-Expanded)
- L. **On the realization of floating immitance function simulators using current conveyors**  
Ozoguz S., ACAR C.  
INTERNATIONAL JOURNAL OF ELECTRONICS, vol.85, no.4, pp.463-475, 1998 (SCI-Expanded)
- L. **High output impedance current-mode multifunction filter with minimum number of active and reduced number of passive elements**  
Özoğuz S., Toker A., Çiçekoğlu O.  
Electronics Letters, vol.34, no.19, pp.1807-1809, 1998 (SCI-Expanded)
- LI. **Single-input and three-output current-mode universal filter using a reduced number of active elements**  
Ozoguz S., ACAR C.  
ELECTRONICS LETTERS, vol.34, no.7, pp.605-606, 1998 (SCI-Expanded)
- LII. **Universal current-mode filter with reduced number of active and passive components**  
Özoguz S., Acar C.  
Electronics Letters, vol.33, no.11, pp.948-949, 1997 (SCI-Expanded)
- LIII. **Universal filter with three inputs using CCII+**  
Özoğuz S., Güneş E. O.  
Electronics Letters, vol.32, no.23, pp.2134-2135, 1996 (SCI-Expanded)
- LIV. **High-order voltage transfer function synthesis using CCII+ based unity gain current amplifiers**

Acar C., Ozoguz S.

ELECTRONICS LETTERS, vol.32, no.22, pp.2030-2031, 1996 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Characterization of Microstrip Transmission Lines Using Fractional-order Circuit Model**  
Aydin O., Samancı B., ÖZOĞUZ İ. S.  
Balkan Journal of Electrical and Computer Engineering, pp.57-61, 2018 (Peer-Reviewed Journal)
- II. **High output impedance current-mode multifunction filter using FTFNs**  
Toker A., Ozoguz S., Cicekogl u O.  
Proceedings - IEEE International Symposium on Circuits and Systems, vol.2, 1999 (Scopus)
- III. **On the current-mode current conveyer-based high-order filter realizations**  
Ozoguz S., Acar C.  
Proceedings of the IEEE International Conference on Electronics, Circuits, and Systems, vol.3, pp.127-130, 1998 (Scopus)
- IV. **CCII-based balanced fully integrated continuous-time filter synthesis: Signal-flow graph approach**  
Ozoguz S., Güneş E. O., Elwan H. O., Tarim T. B.  
Proceedings of the IEEE International Conference on Electronics, Circuits, and Systems, vol.3, pp.131-133, 1998 (Scopus)

## Supported Projects

- Özoğuz İ. S., Project Supported by Higher Education Institutions, Düşük Frekanslı Çalışmaya Uygun Yeni bir Salt Aktif Integral Alıcı, 2016 - 2018
- Özoğuz İ. S., Project Supported by Higher Education Institutions, Analog İşaret İşlemede Uygulamalarına Yönelik Bir CMOS Kare Alıcı Devre, 2015 - 2018
- Özoğuz İ. S., Project Supported by Higher Education Institutions, Geniş Çalışma Bölgesi Salt Aktif MOS Süzgeçler, 2014 - 2018
- Özoğuz İ. S., Project Supported by Higher Education Institutions, Gerçek Salt Aktif Süzgeç Gerçeklemleri, 2012 - 2018
- Özoğuz İ. S., Project Supported by Higher Education Institutions, Çıkış Lineerlik Aralığı İyileştirilmiş CMOS Üst Alıcı Devre Tasarımı, 2011 - 2018
- Özoğuz İ. S., Project Supported by Higher Education Institutions, Kaos Tabanlı Tümlleşik Bir rastgele Sayı Üretici, 2010 - 2018
- Özoğuz İ. S., Project Supported by Higher Education Institutions, True Random Number Generation Based on Double-Scroll Chaotic System, 2008 - 2018
- Özoğuz İ. S., Project Supported by Higher Education Institutions, Periyodik Darbe Uyarımlı Otonom Olmayan 2-Boyutlu Kaotik Devreler, 2006 - 2018
- Özoğuz İ. S., Project Supported by Higher Education Institutions, Otonom Olmayan Kaotik Devreler Yardımıyla Çok Sarmallı Kaotik Çekicilerin Elde Edilmesi, 2005 - 2018

## Metrics

Publication: 173

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