

## **Prof.Dr. Müştak Erhan Yalçın**

### **Kişisel Bilgiler**

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### **Uluslararası Araştırmacı ID'leri**

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ScopusID: 7005476038

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### **Biyografi**

Mustak E. Yalcin was born in Unye, Turkey , in 1971. In 1993, he obtained the degree in Electronics and Telecommunications Engineering from Istanbul Technical University (I.T.U.), Electrical and Electronic Engineering Faculty. In 1997, he received the Master degree in Electronics and Communications Engineering from I.T.U. Institute of Science and Technology. In 2004, he received the Ph.D. degree in Applied Sciences from the Katholieke Universiteit Leuven, Belgium. Between June 2004-December 2004, he was a postdoctoral fellow at Katholieke Universiteit Leuven, Department of Electrical Engineering (ESAT)/SCD-SISTA. He was also a Visiting Research Fellow at The Institute for Nonlinear Science, University of California San Diego (UCSD) in 2009. He is currently a Professor with Istanbul Technical University, Turkey. His research interests are mainly in the areas of the theory and application of nonlinear circuit and systems. He is co-author of the book "Cellular Neural Networks, Multi-Scroll Chaos and Synchronization" (World Scientific).

### **Eğitim Bilgileri**

Doktora, Katholieke Universiteit Leuven, Elektrik Mühendisliği Bölümü, Belçika 1999 - 2004

Yüksek Lisans, İstanbul Teknik Üniversitesi, Elektrik-Elektronik Fakültesi, Elektronik Ve Haberleşme Mühendisliği Bölümü, Türkiye 1993 - 1997

Lisans, İstanbul Teknik Üniversitesi, Elektrik-Elektronik Fakültesi, Elektronik Ve Haberleşme Mühendisliği Bölümü, Türkiye 1989 - 1993

### **Yabancı Diller**

İngilizce

### **Yaptığı Tezler**

Doktora, Multi-scroll Chaos and Synchronization: Theory, Applications and Implementations, Katholieke Universiteit Leuven, Elektrik Mühendisliği Bölümü, 2004

**Yüksek Lisans, Senkronize Kaotik Devrelerle Haberleşme, İstanbul Teknik Üniversitesi, Elektrik-Elektronik Fakültesi,  
Elektronik Ve Haberleşme Mühendisliği Bölümü, 1997**

## **Araştırma Alanları**

**Bilgisayar Bilimleri, Donanım, Mikroprogramlama ve Kontrol Yapısı , Uygulama Tabanlı Mimari , Elektrik-Elektronik  
Mühendisliği, Elektronik, Devre Kuramı , Elektronik Devreler , Mühendislik ve Teknoloji**

## **Akademik Unvanlar / Görevler**

Prof.Dr., İstanbul Teknik Üniversitesi, Elektrik-Elektronik, Elektronik Ve Haberleşme Mühendisliği, 2014 - Devam Ediyor  
Doç.Dr., İstanbul Teknik Üniversitesi, Elektrik-Elektronik, Elektronik Ve Haberleşme Mühendisliği, 2009 - 2014  
Uzman, University of California, San Diego, Institute For Nonlinear Science, Institute For Nonlinear Science, 2009 - 2010  
Yrd.Doç.Dr., İstanbul Teknik Üniversitesi, Elektrik-Elektronik, Elektronik Ve Haberleşme Mühendisliği, 2005 - 2009  
Öğretim Görevlisi Dr., Katholieke Universiteit Leuven, Mühendislik Fakültesi, Elektrik-Elektronik, 2004 - 2005  
Araştırma Görevlisi, Katholieke Universiteit Leuven, Mühendislik Fakültesi, Elektrik-Elektronik, 1998 - 2004  
Araştırma Görevlisi, İstanbul Teknik Üniversitesi, Elektrik-Elektronik, Elektronik Ve Haberleşme Mühendisliği, 1995 - 2004

## **Akademik İdari Deneyim**

**İstanbul Teknik Üniversitesi, Elektrik-Elektronik Fakültesi, Elektronik Ve Haberleşme Mühendisliği Bölümü, 2011 - 2012**

## **Verdiği Dersler**

**Microprocessor System Design, Lisans, 2016 - 2017, 2015 - 2016  
Sayısal Filtreler&Sistemler , Lisans, 2016 - 2017, 2015 - 2016**

## **Yönetilen Tezler**

Yalçın M. E., Embedded vision system designed on a heterogeneous computing platform and applied to semen analysis, Doktora, O.LEVENT(Öğrenci), 2021  
Yalçın M. E., SINGLE PORT PERFORMANCE MEASUREMENT DESIGN FOR UART AND GBIT ETHERNET USING FPGA BASED DUAL CORE ARM, Yüksek Lisans, A.ÖZCAN(Öğrenci), 2021  
Yalçın M. E., 2-port vector network analyzer implementation using AD9361 and ZYNQ FPGA, Yüksek Lisans, M.KÜLTE(Öğrenci), 2021  
Yalçın M. E., Hareket halinde kütle ölçümü, Yüksek Lisans, İ.KELEMENÇE(Öğrenci), 2021  
Yalçın M. E., Design and implementation of a novel physically unclonable function with a new cellular automata model, Doktora, E.GÖNCÜ(Öğrenci), 2020  
Yalçın M. E., Implementation of a packet classifier for a router on FPGA, Yüksek Lisans, O.ÇIK(Öğrenci), 2019  
Yalçın M. E., The design and application of an UWB-based indoor positioning system, Yüksek Lisans, T.CAN(Öğrenci), 2017  
Yalçın M. E., FPGA üzerinde HYSA ve HYSA'ya özel öğrenme algoritmalarının birlikte gerçeklenmesi, Yüksek Lisans, E.KÖSE(Öğrenci), 2017  
Yalçın M. E., Elde taşınabilir bir gömülü sistem üzerinde kapalı alan konum tahmin yöntemlerinin gerçeklenmesi ve karşılaştırılması, Yüksek Lisans, O.VAHİT(Öğrenci), 2017  
Yalçın M. E., Fiziksel klonlanamaz fonksiyonlar yardımıyla anahtar üretimi ve lisans doğrulama, Yüksek Lisans,

Ş.BAŞ(Öğrenci), 2015

Yalçın M. E., Implementations of novel cellular nonlinear and cellular logic networks and their applications, Doktora, R.YENİÇERİ(Öğrenci), 2015

Yalçın M. E., Bir hücresel yapay sinir ağının sabit noktalı sayı aritmetiğiyle sayısal tasarımları ve gerçeklenmesi, Yüksek Lisans, B.KARAKAYA(Öğrenci), 2014

Yalçın M. E., Real time skeletonization on fpga with a hand tracking application, Yüksek Lisans, M.ATAY(Öğrenci), 2014

Yalçın M. E., Mekatronik sistemlerde klonlamaya karşı elektronik çözümler, Yüksek Lisans, E.ABTİOĞLU(Öğrenci), 2014

Yalçın M. E., Doğadan esinlenen koku ve ikili görüğe dayalı gerçek zamanlı bir gömülü sistem tasarımı, Yüksek Lisans, S.ERGÜNAY(Öğrenci), 2013

## Tasarladığı Dersler

Yalçın M. E., VLSI Digital Signal Processing Systems, Yüksek Lisans, 2020 - 2021

Yalçın M. E., Introduction to Embedded Systems, Lisans, 2018 - 2019

## SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

- I. A novel S-box design based on quantum tent maps and fractional stochastic models with an application in image encryption  
Hematpour N., Gharari F., Örs Yalçın S. B., Yalçın M. E.  
Soft Computing, 2023 (SCI-Expanded)
- II. A statistical method of GPS spoofing detection using power spectral density for hardware  
Tanış M., Erhan Yalçın M. E.  
International Journal of Circuit Theory and Applications, 2023 (SCI-Expanded)
- III. The deep multichannel discrete-time cellular neural network model for classification  
Abtioğlu E., Yalçın M. E.  
INTERNATIONAL JOURNAL OF CIRCUIT THEORY AND APPLICATIONS, cilt.50, sa.11, ss.4171-4178, 2022 (SCI-Expanded)
- IV. Delayed outputs fractional-order hyperchaotic systems synchronization for images encryption  
Bouridah M. S., Boudén T., Yalçın M. E.  
MULTIMEDIA TOOLS AND APPLICATIONS, cilt.80, sa.10, ss.14723-14752, 2021 (SCI-Expanded)
- V. Chaos Synchronization of Fractional-Order Lur'e Systems  
Bouridah M. S., Boudén T., Yalçın M. E.  
INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS, cilt.30, sa.14, 2020 (SCI-Expanded)
- VI. A design of cellular automata-based PUF and its implementation on FPGA  
Goncu E., Yalçın M. E.  
INTERNATIONAL JOURNAL OF CIRCUIT THEORY AND APPLICATIONS, cilt.48, sa.8, ss.1244-1255, 2020 (SCI-Expanded)
- VII. Introduction  
Yalçın M. E., Ayhan T., Yeniçeri R.  
SpringerBriefs in Applied Sciences and Technology, cilt.208, sa.1, ss.73, 2020 (AHCI)
- VIII. Cellular Automata with Random Memory and Its Implementations  
Göncü E., Yalcin M. E.  
International Journal of Bifurcation and Chaos, cilt.27, sa.5, 2017 (SCI-Expanded)
- IX. Asynchronous delay doubler and binary low-pass filter for a time-delay chaotic circuit  
Yeniçeri R., Yalçın M. E.  
INTERNATIONAL JOURNAL OF CIRCUIT THEORY AND APPLICATIONS, cilt.44, sa.6, ss.1211-1221, 2016 (SCI-Expanded)
- X. Multi-scroll chaotic attractors from a generalized time-delay sampled-data system

- Yeniçeri R., Yalçın M. E.  
INTERNATIONAL JOURNAL OF CIRCUIT THEORY AND APPLICATIONS, cilt.44, sa.6, ss.1263-1276, 2016 (SCI-Expanded)
- XI. **Attack on a Chaos-Based Random Number Generator Using Anticipating Synchronization**  
Yeniçeri R., Kilinc S., Yalcin M. E.  
INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS, cilt.25, sa.2, 2015 (SCI-Expanded)
- XII. **A chaotic time-delay sampled-data system and its implementation**  
Yalcin M. E., YENICERI R., Ozoguz S.  
International Journal of Bifurcation and Chaos, cilt.24, sa.3, 2014 (SCI-Expanded)
- XIII. **True random bit generation with time-delay sampled-data feedback system**  
Yeniçeri R., Yalçın M. E.  
ELECTRONICS LETTERS, cilt.49, sa.8, 2013 (SCI-Expanded)
- XIV. **AN APPLICATION OF SMALL-WORLD CELLULAR NEURAL NETWORKS ON ODOR CLASSIFICATION**  
Ayhan T., Yalcin M. E.  
INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS, cilt.22, sa.1, 2012 (SCI-Expanded)
- XV. **Implementation of a cellular neural network-based segmentation algorithm on the bio-inspired vision system**  
Karabiber F., GRASSI G., VECCHIO P., ARIK S., Yalçın M. E.  
JOURNAL OF ELECTRONIC IMAGING, cilt.20, sa.1, 2011 (SCI-Expanded)
- XVI. **Multiscroll chaotic attractors from a hysteresis based time-delay differential equation**  
Kilinc S., YALCIN M. E., Ozoguz S.  
International Journal of Bifurcation and Chaos, cilt.20, sa.10, ss.3275-3281, 2010 (SCI-Expanded)
- XVII. **A Simple Programmable Autowave Generator Network for Wave Computing Applications**  
Yalcin M. E.  
IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS II-EXPRESS BRIEFS, cilt.55, sa.11, ss.1173-1177, 2008 (SCI-Expanded)
- XVIII. **Increasing the entropy of a random number generator using n-scroll chaotic attractors**  
Yalcin M. E.  
INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS, cilt.17, sa.12, ss.4471-4479, 2007 (SCI-Expanded)
- XIX. **Multi-scroll and hypercube attractors from a general jerk circuit using Josephson junctions**  
Yalcin M. E.  
CHAOS SOLITONS & FRACTALS, cilt.34, sa.5, ss.1659-1666, 2007 (SCI-Expanded)
- XX. **N -scroll chaotic attractors from a first-order time-delay differential equation**  
Yalcin M. E., Ozoguz S.  
Chaos, cilt.17, sa.3, 2007 (SCI-Expanded)
- XXI. **Spatiotemporal pattern formation on the ACE16k CNN chip**  
Yalcin M. E., SUYKENS J. A. K.  
INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS, cilt.16, sa.5, ss.1537-1546, 2006 (SCI-Expanded)
- XXII. **Synchronization of Chaotic Lur'e Systems**  
Yalçın M. E., Suykens J. A. K., Vandewalle J. P. L.  
CELLULAR NEURAL NETWORKS, MULTI-SCROLL CHAOS AND SYNCHRONIZATION, cilt.50, ss.105-154, 2005 (SCI-Expanded)
- XXIII. **CELLULAR NEURAL NETWORKS, MULTI-SCROLL CHAOS AND SYNCHRONIZATION Introduction**  
Yalçın M. E., Suykens J. A. K., Vandewalle J. P. L.  
CELLULAR NEURAL NETWORKS, MULTI-SCROLL CHAOS AND SYNCHRONIZATION, cilt.50, ss.1-14, 2005 (SCI-Expanded)
- XXIV. **Multi-Scroll Chaotic and Hyperchaotic Attractors**  
Yalçın M. E., Suykens J. A. K., Vandewalle J. P. L.  
CELLULAR NEURAL NETWORKS, MULTI-SCROLL CHAOS AND SYNCHRONIZATION, cilt.50, ss.45-104, 2005 (SCI-Expanded)
- XXV. **Engineering Applications**

- Yalçın M. E., Suykens J. A. K., Vandewalle J. P. L.  
 CELLULAR NEURAL NETWORKS, MULTI-SCROLL CHAOS AND SYNCHRONIZATION, cilt.50, ss.155-199, 2005 (SCI-Expanded)
- XXVI. General Conclusions and Future Work**  
 Yalçın M. E., Suykens J. A. K., Vandewalle J. P. L.  
 CELLULAR NEURAL NETWORKS, MULTI-SCROLL CHAOS AND SYNCHRONIZATION, cilt.50, ss.201-202, 2005 (SCI-Expanded)
- XXVII. Cellular Neural/Nonlinear Networks**  
 Yalçın M. E., Suykens J. A. K., Vandewalle J. P. L.  
 CELLULAR NEURAL NETWORKS, MULTI-SCROLL CHAOS AND SYNCHRONIZATION, cilt.50, ss.15-44, 2005 (SCI-Expanded)
- XXVIII. CELLULAR NEURAL NETWORKS, MULTI-SCROLL CHAOS AND SYNCHRONIZATION Preface**  
 Yalçın M. E., Suykens J. A. K., Vandewalle J. P. L.  
 CELLULAR NEURAL NETWORKS, MULTI-SCROLL CHAOS AND SYNCHRONIZATION, cilt.50, 2005 (SCI-Expanded)
- XXIX. Watermarking on CNN-UM for image and video authentication**  
 Yalcin M. E., VANDEWALLE J., ARENA P., BASILE A., FORTUNA L.  
 INTERNATIONAL JOURNAL OF CIRCUIT THEORY AND APPLICATIONS, cilt.32, sa.6, ss.591-607, 2004 (SCI-Expanded)
- XXX. True random bit generation from a double-scroll attractor**  
 Yalcin M. E., SUYKENS J., VANDEWALLE J.  
 IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS I-REGULAR PAPERS, cilt.51, sa.7, ss.1395-1404, 2004 (SCI-Expanded)
- XXXI. Toward CNN chip-specific robustness**  
 Xavier-de-Souza S., Yalcin M. E., SUYKENS J., VANDEWALLE J.  
 IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS I-REGULAR PAPERS, cilt.51, sa.5, ss.892-902, 2004 (SCI-Expanded)
- XXXII. Steady-state analysis of nonlinearly coupled Chua's circuits with periodic input**  
 Savaci F., Yalcin M. E., GUZELIS C.  
 INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS, cilt.13, sa.11, ss.3395-3407, 2003 (SCI-Expanded)
- XXXIII. Chaotic systems synchronization**  
 Suykens J., Yalçın M. E., Vandewalle J.  
 CHAOS CONTROL: THEORY AND APPLICATIONS, cilt.292, ss.117-135, 2003 (SCI-Expanded)
- XXXIV. Families of scroll grid attractors**  
 Yalcin M. E., SUYKENS J., VANDEWALLE J., Ozoguz S.  
 International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, cilt.12, sa.1, ss.23-41, 2002 (SCI-Expanded)
- XXXV. Master-slave synchronization of Lur'e systems with time-delay**  
 Yalcin M. E., SUYKENS J., VANDEWALLE J.  
 INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS, cilt.11, sa.6, ss.1707-1722, 2001 (SCI-Expanded)
- XXXVI. n-scroll chaos generators: A simple circuit model**  
 Yalcin M. E., OZOGUZ S., SUYKENS J., VANDEWALLE J.  
 Electronics Letters, cilt.37, sa.3, ss.147-149, 2001 (SCI-Expanded)
- XXXVII. Experimental confirmation of 3-and 5-scroll attractors from a generalized Chua's circuit**  
 Yalcin M. E., SUYKENS J., VANDEWALLE J.  
 IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS I-FUNDAMENTAL THEORY AND APPLICATIONS, cilt.47, sa.3, ss.425-429, 2000 (SCI-Expanded)
- XXXVIII. Solving maximum clique problem by cellular neural network**  
 Sengor N. S., Yalcin M. E., CAKIR Y., UCER M., GUZELIS C., PEKERGIN F., MORGUL O.  
 ELECTRONICS LETTERS, cilt.34, sa.15, ss.1504-1506, 1998 (SCI-Expanded)

## **Düzenlenen Dergilerde Yayınlanan Makaleler**

- I. A snail-shaped chaotic system with large bandwidth: dynamical analysis, synchronization and secure communication scheme  
Benkouider K., Boudin T., Yalcin M. E.  
SN APPLIED SCIENCES, cilt.2, sa.6, 2020 (ESCI)
- II. Sperm motility analysis system implemented on a hybrid architecture to produce an intelligent analyzer  
Şavkay I., YALÇIN M. E., TAVŞANOĞLU A. V.  
Informatics in Medicine Unlocked, cilt.19, ss.100324, 2020 (Scopus)
- III. On the realization of n-scroll attractors  
Yalcin M. E., Suykens J., Vandewalle J.  
Proceedings - IEEE International Symposium on Circuits and Systems, cilt.5, 1999 (Scopus)

## **Kitap & Kitap Bölümleri**

- I. Reconfigurable Cellular Neural Networks and Their Applications  
YALÇIN M. E., AYHAN T., YENİÇERİ R.  
Springer, 2020
- II. Cellular Nanoscale Networks and Array Computing  
YALÇIN M. E.  
A Short History of Circuits and Systems, Franco Maloberti and Anthony C. Davies, Editör, River Publishers, delf, ss.257, 2016
- III. A Chaotic Time-Delay Sampled-Data Systems with Applications  
Yeniçeri R., Yalçın M. E., Özoguz İ. S.  
New research trends in nonlinear circuits : design, chaotic phenomena and applications, Kyprianidis I., Stouboulos I., Volos C., Editör, Nova Science Publishers, New York, ss.59-72, 2014
- IV. Cellular Neural Networks, Multi-scroll Chaos and Synchronization  
Yalçın M. E., Suykens J., Vandewalle J.  
World Scientific Publishing , Singapur, 2005
- V. A Generic Class of Chaotic and Hyperchaotic Circuits with Synchronization Methods  
Yalçın M. E.  
Chaos in Circuits and Systems , Chen G., Ueta T., Editör, World Scientific Publishing , Singapore, ss.151-170, 2002

## **Hakemli Kongre / Sempozyum Bildiri Kitaplarında Yer Alan Yayınlar**

- I. FPGA-Based Implementation of a Matched Filter for Acoustic Shooter Localization System Akustik Atış Yeri Tespit Sistemi için FPGA Tabanlı Eşlenik Sürgeç Gerçekleştirilmesi  
Baki B. M., Yalçın M. E.  
31st IEEE Conference on Signal Processing and Communications Applications, SIU 2023, İstanbul, Türkiye, 5 - 08 Temmuz 2023
- II. Four-scroll chaotic attractor and four-scroll hyperchaotic attractor generated from a new four-dimensional dynamical system  
Benkouider K., Boudin T., Yalçın M. E., Sambas A., Mujiarto M., Pahmi M. A., Sutoni A., Widjajani W.  
1st Paris Van Java International Seminar on Computer, Science, Engineering, and Technology, PVJ ISComSET 2020, Tasikmalaya, Virtual, Endonezya, 15 - 16 Temmuz 2020, cilt.1764
- III. A Triangular Systolic Array Based Digital Architecture for Computing Eigenvalues of Asymmetric Matrix  
Ozturk E., Koseoglu I., Yalçın M. E.

- 17th International Workshop on Cellular Nanoscale Networks and their Applications, CNNA 2021, Catania, İtalya, 29 Eylül - 01 Ekim 2021, cilt.2021-September
- IV. **GEZSAN - Real Time Spectrum Analyzer GEZSAN - Gercek Zamanli Spektrum Analizoru**  
Sezgin B. H., Direk M., Kulte M., Eskin M., Sudaduran M. E., Abtioglu E., Tanış M., Yalçın M. E.  
28th Signal Processing and Communications Applications Conference, SIU 2020, Gaziantep, Türkiye, 5 - 07 Ekim 2020
- V. **A Hardware Accelerated Packet Classifier Design for A Network Router Bir Ağ Yonlendiricisi icin Donanimla Hizlandirilmis Bir Paket Siniflayici Tasarimi**  
Cik O., Yalçın M. E.  
28th Signal Processing and Communications Applications Conference, SIU 2020, Gaziantep, Türkiye, 5 - 07 Ekim 2020
- VI. **Dynamic Weighing Using a Time-variant Low Pass Filter**  
Kelemence I., Yalçın M. E.  
11th International Conference on Electrical and Electronics Engineering, ELECO 2019, Bursa, Türkiye, 28 - 30 Kasım 2019, ss.552-556
- VII. **Dynamics, Circuit Design and synchronization of a new five equilibrium hyperchaotic system**  
Benkouider K., BOUDEN T., YALÇIN M. E.  
the 2019 International Conference on Advanced Electrical Engineering (ICAEE), al hamma, Cezayir, 19 - 21 Ekim 2019
- VIII. **Design of a pedestrian dead-reckoning system and comparison of methods on the system Bir Yaya Konum Tahmin Sistemi Tasarimi ve Yöntemlerin Sistemin Üzerinde Karşlaştırılması**  
Altınpınar O. V., Yalçın M. E.  
26th IEEE Signal Processing and Communications Applications Conference, SIU 2018, İzmir, Türkiye, 2 - 05 Mayıs 2018, ss.1-4
- IX. **Design of an UWB-based indoor positioning system ULTRA GENIS BANT TEMELLI(UWB) BIR KAPALI ALAN KONUMLAMA SISTEMI TASARIMI**  
Artunc T. C., Yalçın M. E.  
26th IEEE Signal Processing and Communications Applications Conference, SIU 2018, İzmir, Türkiye, 2 - 05 Mayıs 2018, ss.1-4
- X. **Network of locally coupled cellular automata with random memory models**  
Göncü E., Yalçın M. E.  
10th International Conference on Electrical and Electronics Engineering, ELECO 2017, Bursa, Türkiye, 29 Kasım - 02 Aralık 2017, ss.804-807
- XI. **Implementation of a chaotic time-delay RNG based secure communication system on FPGA**  
Akçay L., Cil E., Vardar A., Yaman I., Yeniçeri R., Yalçın M. E.  
10th International Conference on Electrical and Electronics Engineering, ELECO 2017, Bursa, Türkiye, 29 Kasım - 02 Aralık 2017, ss.1277-1280
- XII. **Design of A Pedestrian Dead-Reckoning System and Comparison of Methods on The System**  
Altınpınar O. V., Yalçın M. E.  
26th IEEE Signal Processing and Communications Applications Conference (SIU), İzmir, Türkiye, 2 - 05 Mayıs 2018
- XIII. **A new architecture for emulating CNN with template learning on FPGA**  
Köse E., Yalçın M. E.  
16th International Workshop on Cellular Nanoscale Networks and Their Applications, CNNA 2018, Budapest, Macaristan, 28 - 30 Ağustos 2018, ss.103
- XIV. **A High Speed True Random Number Generator with Cellular Automata with Random Memory**  
Göncü E., Kocdogan A., Yalcin M. E.  
IEEE International Symposium on Circuits and Systems (ISCAS), Florence, İtalya, 27 - 30 Mayıs 2018
- XV. **DESIGN OF AN UWB-BASED INDOOR POSITIONING SYSTEM**  
Artunc T. C., Yalçın M. E.  
26th IEEE Signal Processing and Communications Applications Conference (SIU), İzmir, Türkiye, 2 - 05 Mayıs 2018
- XVI. **Network of Locally Coupled Cellular Automata with Random Memory Models**

- GÖNCÜ E., YALÇIN M. E.  
10th International Conference on Electrical and Electronics Engineering, 30 Kasım - 02 Aralık 2017
- XVII. **Realization of elementary cellular automata with random minimal memory**  
Goncu E., Yalçın M. E.  
2017 European Conference on Circuit Theory and Design, ECCTD 2017, Catania, İtalya, 4 - 06 Eylül 2017
- XVIII. **Partially Reconfigurable IP Protection System with Ring Oscillator Based Physically Unclonable Functions**  
Abtioğlu E., Yeniçeri R., Gövem B., Göncü E., Yalçın M. E.  
First New Generation of Circuits and Systems Conference (NGCAS 2017), Genova, İtalya, 7 - 09 Eylül 2017, ss.1-4
- XIX. **A Chaotic Time-delay System Based Digital RNG and Integrated Autonomous Test Suite**  
Yeniçeri R., Vardar A., Çil E., Akçay L., Göncü E., Yalçın M. E.  
European Conference on Circuit Theory and Design 2017 (ECCTD 2017), Catania, İtalya, 4 - 06 Eylül 2017, ss.1-4
- XX. **Full Digital Implementation of A Chaotic Time-delay Sampled-data System**  
Yeniçeri R., Vardar A., Yalçın M. E.  
IEEE International Symposium on Circuits and Systems (ISCAS 2017), Baltimore, Md, Amerika Birleşik Devletleri, 28 - 31 Mayıs 2017, ss.1-4
- XXI. **Network of Locally Coupled Cellular Automata with Random Memory Models**  
Göncü E., Yalcin M. E.  
10th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Türkiye, 30 Kasım - 02 Aralık 2017, ss.804-807
- XXII. **Realization of Elementary Cellular Automata with Random Minimal Memory**  
Göncü E., Yalcin M. E.  
European Conference on Circuit Theory and Design (ECCTD), Catania, İtalya, 4 - 06 Eylül 2017
- XXIII. **Emulating CNN with Template Learning on FPGA**  
Kose E., Yalcin M. E.  
European Conference on Circuit Theory and Design (ECCTD), Catania, İtalya, 4 - 06 Eylül 2017
- XXIV. **Implementation of a Chaotic Time-Delay RNG Based Secure Communication System on FPGA**  
Akçay L., Cil E., Vardar A., Yaman I., Yeniçeri R., Yalcin M. E.  
10th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Türkiye, 30 Kasım - 02 Aralık 2017, ss.1277-1280
- XXV. **Computer assisted sperm motility analysis implemented on hybrid CPU+FPGA architecture as an intelligent microscope application**  
Levent Şavkay O., Yalçın M. E., Tavşanoğlu V.  
15th International Workshop on Cellular Nanoscale Networks and Their Applications, CNNA 2016, Dresden, Almanya, 23 - 25 Ağustos 2016, ss.33-34
- XXVI. **A new implementation of fully programmable complete CNN processor core on FPGA**  
Meriç V., Yalçın M. E.  
15th International Workshop on Cellular Nanoscale Networks and Their Applications, CNNA 2016, Dresden, Almanya, 23 - 25 Ağustos 2016, ss.31-32
- XXVII. **Design and Implementation of an ARM Based Embedded System for Pedestrian Dead Reckoning**  
URMAT S., Yalçın M. E.  
9th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Türkiye, 26 - 28 Kasım 2015, ss.885-889
- XXVIII. **Cellular network of networks on dynamically partial reconfigurable FPGA**  
Abtioğlu E., Yeniçeri R., Yalcin M. E.  
European Conference on Circuit Theory and Design, ECCTD 2015, Trondheim, Norveç, 24 - 26 Ağustos 2015
- XXIX. **Anticipating Synchronization Between Sampled-Time Master And Discrete-Time Slave Chaotic Systems**  
Yeniçeri R., Yalçın M. E.  
7th International Scientific Conference on Physics and Control (PhysCon 2015), İstanbul, Türkiye, 19 - 22 Ağustos 2015, ss.1-4

- XXX. **A New Random Number Generator with A New Cellular Automata Model**  
Goncu E., YALÇIN M. E.  
7th International Scientific Conference on Physics and Control (PhysCon 2015), 19 - 22 Ağustos 2015
- XXXI. **Wave Computer Core Using Fixed-point Arithmetic**  
Karakaya B., Yeniçeri R., Yalcin M. E.  
IEEE International Symposium on Circuits and Systems (ISCAS), Lisbon, Portekiz, 24 - 27 Mayıs 2015, ss.1514-1517
- XXXII. **Computer Assisted Sperm Analysis System Designed on A Hybrid CPU plus FPGA Architecture**  
SAVKAY O. L., Tavsanoglu V., Yalçın M. E., Cesur E.  
23rd Signal Processing and Communications Applications Conference (SIU), Malatya, Türkiye, 16 - 19 Mayıs 2015, ss.1425-1428
- XXXIII. **Key Generation and License Authentication Using Physical Unclonable Functions**  
BAS S., Yalçın M. E.  
23rd Signal Processing and Communications Applications Conference (SIU), Malatya, Türkiye, 16 - 19 Mayıs 2015, ss.387-390
- XXXIV. **Sperm Morphology Analysis with CNN Based Algorithms**  
SAVKAY O. L., CESUR E., Yalcin M. E., TAVSANOGLU V.  
14th International Workshop on Cellular Nanoscale Networks and their Applications (CNNA), Indiana, Amerika Birleşik Devletleri, 29 - 31 Temmuz 2014
- XXXV. **Realization of Processing Blocks of CNN Based CASA system on CPU and FPGA**  
SAVKAY O. L., Cesur E., Yildiz N., Yalcin M. E., Tavsanoglu V.  
IEEE International Symposium on Circuits and Systems (ISCAS), Melbourne, Avustralya, 1 - 05 Haziran 2014, ss.2081-2084
- XXXVI. **DIGITAL DESIGN OF SKELETONIZATION**  
ATAY M., Yalcin M. E.  
22nd IEEE Signal Processing and Communications Applications Conference (SIU), Trabzon, Türkiye, 23 - 25 Nisan 2014, ss.718-721
- XXXVII. **A 16 x 16 Cellular Logical Network with Partial Reconfiguration Feature**  
Yeniçeri R., Abtioğlu E., GOVEM B., Yalcin M. E.  
14th International Workshop on Cellular Nanoscale Networks and their Applications (CNNA), Indiana, Amerika Birleşik Devletleri, 29 - 31 Temmuz 2014
- XXXVIII. **A 16 x 16 Cellular Logical Network with partial reconfiguration feature**  
Yeniçeri R., Abtioğlu E., Govem B., Yalçın M. E.  
2014 14th International Workshop on Cellular Nanoscale Networks and Their Applications, CNNA 2014, Indiana, Amerika Birleşik Devletleri, 29 - 31 Temmuz 2014
- XXXIX. **A parallelized distance transformation architecture for FPGAs**  
Atay M., Yalçın M. E.  
2013 European Conference on Circuit Theory and Design, ECCTD 2013, Dresden, Almanya, 8 - 12 Eylül 2013
- XL. **Realization of preprocessing blocks of CNN based CASA system on FPGA**  
Savkay O. L., Yildiz N., Cesur E., Yalçın M. E., Tavsanoglu V.  
2013 European Conference on Circuit Theory and Design, ECCTD 2013, Dresden, Almanya, 8 - 12 Eylül 2013
- XLI. **Throughput Enhancement for a New Time-delay Sampled-data System Based True Random Bit Generator**  
Yeniçeri R., Ustaoğlu B., Yalçın M. E.  
21st European Conference on Circuit Theory and Design (ECCTD 2013), Dresden, Almanya, 8 - 12 Eylül 2013, ss.1-4
- XLII. **The Doppler Effect with Input Driven Autowaves**  
Yeniçeri R., Yalçın M. E.  
21st European Conference on Circuit Theory and Design (ECCTD 2013), Dresden, Almanya, 8 - 12 Eylül 2013, ss.1-4
- XLIII. **Dynamic Behavior of 1-D Array of the Memristively-coupled Chua's Circuits**

- Yalcin M. E.  
8th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Türkiye, 28 - 30 Kasım 2013, ss.13-16
- XLIV. Autowaves in 3-D Memristive Cellular Neural Networks**  
Sotera G., Yalcin M. E., Frasca M.  
8th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Türkiye, 28 - 30 Kasım 2013, ss.9-12
- XLV. A new CNN based path planning algorithm improved by the Doppler effect**  
Yeniceri R., Yalcin M. E.  
2012 13th International Workshop on Cellular Nanoscale Networks and their Applications, CNNA 2012, Turin, İtalya, 29 Ağustos 2012
- XLVI. Nonlinear spatio-temporal wave computing for real-time applications on GPU**  
Tükel M., Yeniçeri R., Yalçın M. E.  
2012 13th International Workshop on Cellular Nanoscale Networks and their Applications, CNNA 2012, Turin, İtalya, 29 Ağustos 2012
- XLVII. Hybrid Processor Population for Odor Processing**  
Ayhan T., Yeniceri R., ERGUNAY S., Yalcin M. E.  
IEEE International Symposium on Circuits and Systems, Seoul, Güney Kore, 20 - 23 Mayıs 2012, ss.177-180
- XLVIII. Analysis of Sperm Motility with CNN Architecture**  
Savkay O. L., Yalcin M. E.  
13th International Workshop on Cellular Nanoscale Networks and their Applications (CNNA), Turin, İtalya, 29 - 31 Ağustos 2012
- XLIX. A practical authentication method of FPGA designs suitable for mass production**  
Süzer O., Kaya G., Dönmez F., Saldamli G., Yalçın M. E.  
7th International Conference on Electrical and Electronics Engineering, ELECO 2011, Bursa, Türkiye, 1 - 04 Aralık 2011
- L. Randomly reconfigurable cellular neural network**  
Ayhan T., Yalçın M. E.  
2011 20th European Conference on Circuit Theory and Design, ECCTD 2011, Linköping, İsveç, 29 - 31 Ağustos 2011, ss.604-607
- LI. Temperature-centric evaluation of sensor transients**  
Ayhan T., MUEZZINOGLU K., VERGARA A., Yalcin M. E.  
14th International Symposium on Olfaction and Electronic Nose, ISOEN 2011, New-York, Amerika Birleşik Devletleri, 2 - 05 Mayıs 2011, cilt.1362, ss.236-238
- LII. CMOS realization of a cellular neural network generating autowaves**  
Kilinç S., Yalçın M. E., Özoğuz S.  
2011 International Symposium on INnovations in Intelligent SysTems and Applications, INISTA 2011, İstanbul-Kadıkoy, Türkiye, 15 - 18 Haziran 2011, ss.305-309
- LIII. Supression of noise from speech signal using spectral subtraction with FPGA** **FPGA üzerinde izgesel bastırma yöntemi ile konuşma işaretinden gürültü giderme**  
Gönen B., Yeniçeri R., Ayhan T., Yalçın M. E.  
2011 IEEE 19th Signal Processing and Communications Applications Conference, SIU 2011, Antalya, Türkiye, 20 - 22 Nisan 2011, ss.598-601
- LIV. A feature filtering method for eeg data classification** **Eeg sınıflama için bir öznitelik filtreleme uygulaması**  
Alban Y., Ayhan T., Varol O., Yalçın M. E.  
2011 IEEE 19th Signal Processing and Communications Applications Conference, SIU 2011, Antalya, Türkiye, 20 - 22 Nisan 2011, ss.442-445
- LV. An Active Wave Computing Based Path Finding Approach for 3-D Environment**  
KILIC V., Yalcin M. E.  
IEEE International Symposium on Circuits and Systems (ISCAS), Rio-De-Janeiro, Brezilya, 15 - 18 Mayıs 2011,

ss.2165-2168

- LVI. **A new spatio-temporal wave based target tracking algorithm Uzay zaman dalgalarına dayalı yeni bir hedef takip algoritması**  
Yeniçeri R., Kılıç V., Yalçın M. E.  
18th IEEE Signal Processing and Communications Applications Conference, SIU 2010, Diyarbakır, Türkiye, 22 - 24 Nisan 2010, ss.562-565
- LVII. **Hardware-Software Co-design of Nonlinear Active Wave Generator with Microblaze Soft Core Processor**  
Ergünay S., Yeniçeri R., Yalçın M. E.  
2010 International Symposium on Nonlinear Theory and its Applications (NOLTA2010), Krakow, Polonya, 5 - 08 Eylül 2010, ss.157-160
- LVIII. **A New Active Wave Computing Based Real Time Mobile Robot Navigation Algorithm for Dynamic Environment**  
Kılıç V., Yeniçeri R., Yalçın M. E.  
12th International Workshop on Cellular Nanoscale Networks and Applications (CNNA 2010), Berkeley, Ca, Amerika Birleşik Devletleri, 3 - 05 Şubat 2010, ss.1-6
- LIX. **Path Planning on Cellular Nonlinear Network Using Active Wave Computing Technique**  
Yeniçeri R., Yalçın M. E.  
Conference on the Bioengineered and Bioinspired Systems IV, Dresden, Almanya, 4 - 06 Mayıs 2009, cilt.7365
- LX. **Multi-scroll and hypercube attractors from Josephson junctions**  
Yalcin M. E., Suykens J. A. K., Vandewalle J.  
IEEE International Symposium on Circuits and Systems, Kos, Yunanistan, 21 - 24 Mayıs 2006, ss.718-721
- LXI. **Coupled chaotic simulated annealing processes**  
SUJKENS J., Yalcn M. E., VANDEWALLE J.  
IEEE International Symposium on Circuits and Systems, BANGKOK, Tayland, 25 - 28 Mayıs 2003, ss.582-585
- LXII. **On the realization of n-scroll attractors**  
Yalcin M. E., SUYKENS J., VANDEWALLE J.  
1999 IEEE International Symposium on Circuits and Systems (ISCAS 99), Florida, Amerika Birleşik Devletleri, 30 Mayıs - 02 Haziran 1999, ss.483-486
- LXIII. **An Application of Cellular Neural Network Maximum Clique Problem**  
ŞENGÖR N. S., YALÇIN M. E., ÇAKIR Y., KIRCI M., GÜZELİŞ C., MORGÜL Ö.  
Proceedings of Cellular Neural Network A, 14 - 17 Nisan 1998, ss.208-211
- LXIV. **Application of cellular neural network: Maximum clique problem**  
Şengör N. S., Yalçın M. E., Çakır Y., Ucer M., Guzelis C., Pekergin F., Morgul O.  
Proceedings of the 1998 5th IEEE International Workshop on Cellular Neural Networks and Their Applications, CNNA, London, Kanada, 14 - 17 Nisan 1998, ss.208-211
- LXV. **CNNs with radial basis input function**  
Yalcin M. E., Guzelis C.  
4th IEEE International Workshop on Cellular Neural Networks and Their Applications (CNNA), Sevilla, İspanya, 24 - 26 Haziran 1996, ss.231-236

## Desteklenen Projeler

Yalçın M. E., Yükseköğretim Kurumları Destekli Proje, Yeni Bir Programlanabilir HYSA işlemcisinin FPGA üzerinde Gerçeklenmesi ve Akıllı Mikroskop Uygulaması olarak CPU+FPGA Hibrit Mimari üzerinde Bilgisayar destekli sperm hareketlilik Analizi Gerçeklemesi, 2016 - 2018

Yalçın M. E., Yükseköğretim Kurumları Destekli Proje, Sabit Noktalı Aritmetik Kullanan Dalga Hesaplayıcı Çekirdeği, 2015 - 2018

Yalçın M. E., Yükseköğretim Kurumları Destekli Proje, HYSA Temelli CASA Sisteminin İşlem Bloklarının CPU ve FPGA Üzerinde Gerçeklenmesi, 2014 - 2018

Yalçın M. E., Yükseköğretim Kurumları Destekli Proje, Doppler Etkisi İle Girişli Sürülen Otomatik Dalgalar, 2013 - 2018  
Yalçın M. E., Yükseköğretim Kurumları Destekli Proje, Koku İşlemeye Yönelik Hibrit İşlemci Populasyonu, 2012 - 2018  
Yalçın M. E., Yükseköğretim Kurumları Destekli Proje, 3 Boyurlu Ortamlar İçin Aktif Dalga Hesaplamaya Dayalı Yol Bulma Yaklaşımı, 2011 - 2018  
Yalçın M. E., Yükseköğretim Kurumları Destekli Proje, N-Sarmal Kaotik Çekici Üreten Birinci Dereceden Zaman Gecikmeli Sistemlerin Senkronizasyonu, 2008 - 2018  
Yalçın M. E., Yükseköğretim Kurumları Destekli Proje, Yerel Bağlantılı Relaxtion Osilatörlerde Autowaveler, 2007 - 2018  
Yalçın M. E., Yükseköğretim Kurumları Destekli Proje, Kare Dalga Üreten Hücrelerden Oluşmuş Yerel Bağlaşımlı Bir Boyutlu Hücresel Yapay Sinir Ağrı Dizisi Üzerinde Desen Oluşumu, 2006 - 2018  
Yalçın M. E., Yükseköğretim Kurumları Destekli Proje, Hücresel Yapay Sinir Ağrı Tabanlı Bir Yapay Koku Alma Sistemi, 2010 - 2011  
Yalçın M. E., Yükseköğretim Kurumları Destekli Proje, Uzay Zaman Dalgaları Üreten Programlanabilir Bir Yapay sinir Ağrı Modeli Geliştirilmesi ve Gerçeklenmesi, 2006 - 2008  
Yalçın M. E., Yükseköğretim Kurumları Destekli Proje, ACE16k Hücresel Yapay Sinir Ağrı Kırmızı Üstünde Lineer Olmayan Uzay-Zaman Dalgalarının Deneysel Gözlemi, 2005 - 2005

### **Bilimsel Dergilerdeki Faaliyetler**

IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS, Editörler Kurulu Üyesi, 2020 - 2021  
Editörler Kurulu Üyesi, 2014 - 2019  
International Journal Of Bifurcation And Chaos, Yardımcı Editör/Bölüm Editörü, 2013 - 2019

### **Bilimsel Kuruluşlardaki Üyelikler / Görevler**

Cellular Nanoscale Networks and Array Computing Technical Committee (CNNAC), Üye, 2008 - Devam Ediyor  
Cellular Nanoscale Networks and Array Computing Technical Committee (CNNAC), Başkan, 2015 - 2017

### **Bilimsel Hakemlikler**

International Journal of Bifurcation and Chaos, SCI Kapsamındaki Dergi, Ocak 2017  
International Journal of Circuit Theory and Applicationsvv, SCI Kapsamındaki Dergi, Ocak 2017

### **Bilimsel Danışmanlıklar**

TÜM ELEKTRONİK MÜH. SAN. TİC. LTD. ŞTİ, Kurum veya Organizasyonlar İçin Yapılan Danışmanlık, İstanbul Teknik Üniversitesi, Elektrik-Elektronik, Elektronik Ve Haberleşme Mühendisliği, Türkiye, 2017 - Devam Ediyor  
Simeks Tibbi Sistemler A.S., Kurum veya Organizasyonlar İçin Yapılan Danışmanlık, İstanbul Teknik Üniversitesi, Elektrik-Elektronik, Elektronik Ve Haberleşme Mühendisliği, Türkiye, 2016 - 2016

### **Etkinlik Organizasyonlarındaki Görevler**

Yalçın M. E., 17th International Workshop on Cellular Nanoscale Networks and their Applications, Çalıştay Organizasyonu, İtalya, Eylül 2020  
Yalçın M. E., 9th International Conference on Modern Circuits and Systems Technologies , Bilimsel Kongre / Sempozyum Organizasyonu, Bremen, Almanya, Mayıs 2020

## **Metrikler**

Yayın: 135

Atıf (WoS): 1240

Atıf (Scopus): 2211

H-İndeks (WoS): 13

H-İndeks (Scopus): 15

## **Kongre ve Sempozyum Katılımı Faaliyetleri**

IEEE International Symposium on Circuits and Systems (ISCAS), Katılımcı, Maryland, Amerika Birleşik Devletleri, 2017  
International Workshop on Cellular Nanoscale Networks and their Applications (CNNA), Oturum Başkanı, Dresden,  
Almanya, 2016