

Prof. Müştak Erhan Yalçın

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International Researcher IDs

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Biography

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 recieved 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).

Education Information

Doctorate, Katholieke Universiteit Leuven, Elektrik Mühendisliği Bölümü, Belgium 1999 - 2004

Postgraduate, Istanbul Technical University, Elektrik-Elektronik Fakültesi, Elektronik Ve Haberleşme Mühendisliği Bölümü, Turkey 1993 - 1997

Undergraduate, Istanbul Technical University, Elektrik-Elektronik Fakültesi, Elektronik Ve Haberleşme Mühendisliği Bölümü, Turkey 1989 - 1993

Foreign Languages

English

Dissertations

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

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

Research Areas

Computer Sciences, Equipment, Microprogramming and Control Structure, Application Based Architecture, Electrical and Electronics Engineering, Electronic, Circuit Theory, Electronic Circuits, Engineering and Technology

Academic Titles / Tasks

Professor, Istanbul Technical University, Elektrik-Elektronik, Elektronik Ve Haberleşme Mühendisliği, 2014 - Continues
Associate Professor, Istanbul Technical University, Elektrik-Elektronik, Elektronik Ve Haberleşme Mühendisliği, 2009 - 2014

Expert, University of California, San Diego, Institute For Nonlinear Science, Institute For Nonlinear Science, 2009 - 2010

Assistant Professor, Istanbul Technical University, Elektrik-Elektronik, Elektronik Ve Haberleşme Mühendisliği, 2005 - 2009

Lecturer PhD, Katholieke Universiteit Leuven, Mühendislik Fakültesi, Elektrik-Elektronik, 2004 - 2005

Research Assistant, Katholieke Universiteit Leuven, Mühendislik Fakültesi, Elektrik-Elektronik, 1998 - 2004

Research Assistant, Istanbul Technical University, Elektrik-Elektronik, Elektronik Ve Haberleşme Mühendisliği, 1995 - 2004

Academic and Administrative Experience

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

Courses

Microprocessor System Design, Undergraduate, 2016 - 2017, 2015 - 2016

Sayısal Filtreler&Sistemler , Undergraduate, 2016 - 2017, 2015 - 2016

Advising Theses

Yalçın M. E., Embedded vision system designed on a heterogeneous computing platform and applied to semen analysis, Doctorate, O.LEVENT(Student), 2021

Yalçın M. E., SINGLE PORT PERFORMANCE MEASUREMENT DESIGN FOR UART AND GBIT ETHERNET USING FPGA BASED DUAL CORE ARM, Postgraduate, A.ÖZCAN(Student), 2021

Yalçın M. E., 2-port vector network analyzer implementation using AD9361 and ZYNQ FPGA, Postgraduate, M.KÜLTE(Student), 2021

Yalçın M. E., Hareket halinde kütle ölçümü, Postgraduate, İ.KELEMENÇE(Student), 2021

Yalçın M. E., Design and implementation of a novel physically unclonable function with a new cellular automata model, Doctorate, E.GÖNCÜ(Student), 2020

Yalçın M. E., Implementation of a packet classifier for a router on FPGA, Postgraduate, O.ÇİK(Student), 2019

Yalçın M. E., The design and application of an UWB-based indoor positioning system, Postgraduate, T.CAN(Student), 2017

Yalçın M. E., FPGA üzerinde HYS A ve HYS A'ya özel öğrenme algoritmalarının birlikte gerçekleştirilmesi, Postgraduate, E.KÖSE(Student), 2017

Yalçın M. E., Elde taşınabilir bir gömülü sistem üzerinde kapalı alan konum tahmin yöntemlerinin gerçekleştirilmesi ve

karşılaştırılması, Postgraduate, O.VAHİT(Student), 2017

Yalçın M. E., Fiziksel klonlanamaz fonksiyonlar yardımıyla anahtar üretimi ve lisans doğrulama, Postgraduate, Ş.BAŞ(Student), 2015

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

Yalçın M. E., Bir hücreli yapay sinir ağının sabit noktalı sayı aritmetiğiyle sayısal tasarımı ve gerçekleştirilmesi, Postgraduate, B.KARAKAYA(Student), 2014

Yalçın M. E., Real time skeletonization on fpga with a hand tracking application, Postgraduate, M.ATAY(Student), 2014

Yalçın M. E., Mekatronik sistemlerde klonlamaya karşı elektronik çözümler, Postgraduate, E.ABTİOĞLU(Student), 2014

Yalçın M. E., Doğadan esinlenen koku ve ikili görüye dayalı gerçek zamanlı bir gömülü sistem tasarımı, Postgraduate, S.ERGÜNAY(Student), 2013

Designed Lessons

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

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

Published journal articles indexed by SCI, SSCI, and AHCI

- 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, vol.50, no.11, pp.4171-4178, 2022 (SCI-Expanded)
- IV. **Delayed outputs fractional-order hyperchaotic systems synchronization for images encryption**
Bouridah M. S., Bouden T., Yalçın M. E.
MULTIMEDIA TOOLS AND APPLICATIONS, vol.80, no.10, pp.14723-14752, 2021 (SCI-Expanded)
- V. **Chaos Synchronization of Fractional-Order Lur'e Systems**
Bouridah M. S., Bouden T., Yalçın M. E.
INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS, vol.30, no.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, vol.48, no.8, pp.1244-1255, 2020 (SCI-Expanded)
- VII. **Introduction**
Yalçın M. E., Ayhan T., Yeniçeri R.
SpringerBriefs in Applied Sciences and Technology, vol.208, no.1, pp.73, 2020 (AHCI)
- VIII. **Cellular Automata with Random Memory and Its Implementations**
Göncü E., Yalçın M. E.
International Journal of Bifurcation and Chaos, vol.27, no.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, vol.44, no.6, pp.1211-1221, 2016 (SCI-Expanded)

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, vol.44, no.6, pp.1263-1276, 2016 (SCI-Expanded)
- XI. **Attack on a Chaos-Based Random Number Generator Using Anticipating Synchronization**
Yeniçeri R., Kilinc S., Yalçın M. E.
INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS, vol.25, no.2, 2015 (SCI-Expanded)
- XII. **A chaotic time-delay sampled-data system and its implementation**
Yalçın M. E., YENICERI R., Ozoguz S.
International Journal of Bifurcation and Chaos, vol.24, no.3, 2014 (SCI-Expanded)
- XIII. **True random bit generation with time-delay sampled-data feedback system**
Yeniçeri R., Yalçın M. E.
ELECTRONICS LETTERS, vol.49, no.8, 2013 (SCI-Expanded)
- XIV. **AN APPLICATION OF SMALL-WORLD CELLULAR NEURAL NETWORKS ON ODOR CLASSIFICATION**
Ayhan T., Yalçın M. E.
INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS, vol.22, no.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, vol.20, no.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, vol.20, no.10, pp.3275-3281, 2010 (SCI-Expanded)
- XVII. **A Simple Programmable Autowave Generator Network for Wave Computing Applications**
Yalçın M. E.
IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS II-EXPRESS BRIEFS, vol.55, no.11, pp.1173-1177, 2008 (SCI-Expanded)
- XVIII. **Increasing the entropy of a random number generator using n-scroll chaotic attractors**
Yalçın M. E.
INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS, vol.17, no.12, pp.4471-4479, 2007 (SCI-Expanded)
- XIX. **Multi-scroll and hypercube attractors from a general jerk circuit using Josephson junctions**
Yalçın M. E.
CHAOS SOLITONS & FRACTALS, vol.34, no.5, pp.1659-1666, 2007 (SCI-Expanded)
- XX. **N -scroll chaotic attractors from a first-order time-delay differential equation**
Yalçın M. E., Ozoguz S.
Chaos, vol.17, no.3, 2007 (SCI-Expanded)
- XXI. **Spatiotemporal pattern formation on the ACE16k CNN chip**
Yalçın M. E., SUYKENS J. A. K.
INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS, vol.16, no.5, pp.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, vol.50, pp.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, vol.50, pp.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, vol.50, pp.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, vol.50, pp.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, vol.50, pp.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, vol.50, pp.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, vol.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, vol.32, no.6, pp.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, vol.51, no.7, pp.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, vol.51, no.5, pp.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, vol.13, no.11, pp.3395-3407, 2003 (SCI-Expanded)
- XXXIII. **Chaotic systems synchronization**
Suykens J., Yalçın M. E., Vandewalle J.
CHAOS CONTROL: THEORY AND APPLICATIONS, vol.292, pp.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, vol.12, no.1, pp.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, vol.11, no.6, pp.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, vol.37, no.3, pp.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, vol.47, no.3, pp.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, vol.34, no.15, pp.1504-1506, 1998 (SCI-Expanded)

Articles Published in Other Journals

- I. **A snail-shaped chaotic system with large bandwidth: dynamical analysis, synchronization and secure communication scheme**
Benkouider K., Bouden T., Yalcin M. E.
SN APPLIED SCIENCES, vol.2, no.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, vol.19, pp.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, vol.5, 1999 (Scopus)

Books & Book Chapters

- 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.
in: A Short History of Circuits and Systems, Franco Maloberti and Anthony C. Davies, Editor, River Publishers, delf, pp.257, 2016
- III. **A Chaotic Time-Delay Sampled-Data Systems with Applications**
Yeniçeri R., Yalçın M. E., Özoğuz İ. S.
in: New research trends in nonlinear circuits : design, chaotic phenomena and applications, Kyprianidis I., Stouboulos I., Volos C., Editor, Nova Science Publishers, New York, pp.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.
in: Chaos in Circuits and Systems , Chen G., Ueta T., Editor, World Scientific Publishing , Singapore, pp.151-170, 2002

Refereed Congress / Symposium Publications in Proceedings

- I. **FPGA-Based Implementation of a Matched Filter for Acoustic Shooter Localization System Akustik Atış Yeri Tespit Sistemi için FPGA Tabanlı Eşlenik Süzgeç Gerçekleştirilmesi**
Baki B. M., Yalçın M. E.
31st IEEE Conference on Signal Processing and Communications Applications, SIU 2023, İstanbul, Turkey, 5 - 08 July 2023
- II. **Four-scroll chaotic attractor and four-scroll hyperchaotic attractor generated from a new four-dimensional dynamical system**
Benkouider K., Bouden 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, Indonesia, 15 - 16 July 2020, vol.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, Italy, 29 September - 01 October 2021, vol.2021-September

- IV. **GEZSAN - Real Time Spectrum Analyzer GEZSAN - Gerçek Zamanlı Spektrum Analizörü**
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, Turkey, 5 - 07 October 2020
- V. **A Hardware Accelerated Packet Classifier Design for A Network Router Bir Ağ Yönlendiricisi için Donanımla Hızlandırılmış Bir Paket Sınıflayıcı Tasarımı**
Çik O., Yalçın M. E.
28th Signal Processing and Communications Applications Conference, SIU 2020, Gaziantep, Turkey, 5 - 07 October 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, Turkey, 28 - 30 November 2019, pp.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, Algeria, 19 - 21 October 2019
- VIII. **Design of a pedestrian dead-reckoning system and comparison of methods on the system Bir Yaya Konum Tahmin Sistemi Tasarımı ve Yöntemlerin Sistemin Üzerinde Karşılaştırılması**
Altınpınar O. V., Yalçın M. E.
26th IEEE Signal Processing and Communications Applications Conference, SIU 2018, İzmir, Turkey, 2 - 05 May 2018, pp.1-4
- IX. **Design of an UWB-based indoor positioning system ULTRA GENIS BANT TEMELLİ(UWB) BİR KAPALI ALAN KONUMLAMA SİSTEMİ TASARIMI**
Artunc T. C., Yalçın M. E.
26th IEEE Signal Processing and Communications Applications Conference, SIU 2018, İzmir, Turkey, 2 - 05 May 2018, pp.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, Turkey, 29 November - 02 December 2017, pp.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, Turkey, 29 November - 02 December 2017, pp.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, Turkey, 2 - 05 May 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, Hungary, 28 - 30 August 2018, pp.103
- XIV. **A High Speed True Random Number Generator with Cellular Automata with Random Memory**
Göncü E., Kocdoğan A., Yalçın M. E.
IEEE International Symposium on Circuits and Systems (ISCAS), Florence, Italy, 27 - 30 May 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, Turkey, 2 - 05 May 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 November - 02 December 2017

- XVII. Realization of elementary cellular automata with random minimal memory**
Goncu E., Yalçin M. E.
2017 European Conference on Circuit Theory and Design, ECCTD 2017, Catania, Italy, 4 - 06 September 2017
- XVIII. Partially Reconfigurable IP Protection System with Ring Oscillator Based Physically Unclonable Functions**
Abtioğlu E., Yeniçeri R., Gövem B., Göncü E., Yalçin M. E.
First New Generation of Circuits and Systems Conference (NGCAS 2017), Genova, Italy, 7 - 09 September 2017, pp.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., Yalçin M. E.
European Conference on Circuit Theory and Design 2017 (ECCTD 2017), Catania, Italy, 4 - 06 September 2017, pp.1-4
- XX. Full Digital Implementation of A Chaotic Time-delay Sampled-data System**
Yeniçeri R., Vardar A., Yalçin M. E.
IEEE International Symposium on Circuits and Systems (ISCAS 2017), Baltimore, Md, United States Of America, 28 - 31 May 2017, pp.1-4
- XXI. Network of Locally Coupled Cellular Automata with Random Memory Models**
Göncü E., Yalçin M. E.
10th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Turkey, 30 November - 02 December 2017, pp.804-807
- XXII. Realization of Elementary Cellular Automata with Random Minimal Memory**
Göncü E., Yalçin M. E.
European Conference on Circuit Theory and Design (ECCTD), Catania, Italy, 4 - 06 September 2017
- XXIII. Emulating CNN with Template Learning on FPGA**
Kose E., Yalçin M. E.
European Conference on Circuit Theory and Design (ECCTD), Catania, Italy, 4 - 06 September 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., Yalçin M. E.
10th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Turkey, 30 November - 02 December 2017, pp.1277-1280
- XXV. Computer assisted sperm motility analysis implemented on hybrid CPU+FPGA architecture as an intelligent microscope application**
Levent Şavkay O., Yalçin M. E., Tavşanoğlu V.
15th International Workshop on Cellular Nanoscale Networks and Their Applications, CNNA 2016, Dresden, Germany, 23 - 25 August 2016, pp.33-34
- XXVI. A new implementation of fully programmable complete CNN processor core on FPGA**
Meriç V., Yalçin M. E.
15th International Workshop on Cellular Nanoscale Networks and Their Applications, CNNA 2016, Dresden, Germany, 23 - 25 August 2016, pp.31-32
- XXVII. Design and Implementation of an ARM Based Embedded System for Pedestrian Dead Reckoning**
URMAT S., Yalçin M. E.
9th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Turkey, 26 - 28 November 2015, pp.885-889
- XXVIII. Cellular network of networks on dynamically partial reconfigurable FPGA**
Abtioğlu E., Yeniçeri R., Yalçin M. E.
European Conference on Circuit Theory and Design, ECCTD 2015, Trondheim, Norway, 24 - 26 August 2015
- XXIX. Anticipating Synchronization Between Sampled-Time Master And Discrete-Time Slave Chaotic Systems**
Yeniçeri R., Yalçin M. E.

- 7th International Scientific Conference on Physics and Control (PhysCon 2015), İstanbul, Turkey, 19 - 22 August 2015, pp.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 August 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, Portugal, 24 - 27 May 2015, pp.1514-1517
- XXXII. **Computer Assisted Sperm Analysis System Designed on A Hybrid CPU plus FPGA Architecture**
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- LXIII. **An Application of Cellular Neural Network Maximum Clique Problem**
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4th IEEE International Workshop on Cellular Neural Networks and Their Applications (CNNA), Sevilla, Spain, 24 - 26 June 1996, pp.231-236

Supported Projects

Yalçın M. E., Project Supported by Higher Education Institutions, 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., Project Supported by Higher Education Institutions, Sabit Noktalı Aritmetik Kullanan Dalga Hesaplayıcı Çekirdeği, 2015 - 2018

Yalçın M. E., Project Supported by Higher Education Institutions, HYSA Temelli CASA Sisteminin İşlem Bloklarının CPU ve

FPGA Üzeirinde Gerçeklenmesi, 2014 - 2018

Yalçın M. E., Project Supported by Higher Education Institutions, Doppler Etkisi İle Girişli Sürülen Otomatik Dalgalar, 2013 - 2018

Yalçın M. E., Project Supported by Higher Education Institutions, Koku İşlemeye Yönelik Hibrit İşlemci Populasyonu, 2012 - 2018

Yalçın M. E., Project Supported by Higher Education Institutions, 3 Boyurlu Ortamlar İçn Aktif Dalga Hesaplamaya Dayalı Yol Bulma Yaklaşımı, 2011 - 2018

Yalçın M. E., Project Supported by Higher Education Institutions, N-Sarmal Kaotik Çekici Üreten Birinci Dereceden Zaman Gecikmeli Sistemlerin Senkronizasyonu, 2008 - 2018

Yalçın M. E., Project Supported by Higher Education Institutions, Yerel Bağlantılı Relaxtion Osilatörlerde Autowaveler, 2007 - 2018

Yalçın M. E., Project Supported by Higher Education Institutions, Kare Dalga Üreten Hücrelerden Oluşmuş Yerel Bağlaşımli Bir Boyutlu Hücreyel Yapay Sinir Ağı Dizisi Üzerinde Desen Oluşumu, 2006 - 2018

Yalçın M. E., Project Supported by Higher Education Institutions, Hücreyel Yapay Sinir Ağı Tabanlı Bir Yapay Koku Alma Sistemi, 2010 - 2011

Yalçın M. E., Project Supported by Higher Education Institutions, Uzay Zaman Dalgaları Üreten Programlanabilir Bir Yapay sinir Ağı Modeli Geliştirilmesi ve Gerçeklenmesi, 2006 - 2008

Yalçın M. E., Project Supported by Higher Education Institutions, ACE16k Hücreyel Yapay Sinir Ağı Kırmığı Üstünde Lineer Olmayan Uzay-Zaman Dalgalarının Deneysel Gözlemi, 2005 - 2005

Activities in Scientific Journals

IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS, Committee Member, 2020 - 2021

Committee Member, 2014 - 2019

International Journal Of Bifurcation And Chaos, Assistant Editor/Section Editor, 2013 - 2019

Memberships / Tasks in Scientific Organizations

Cellular Nanoscale Networks and Array Computing Technical Committee (CNNAC), Member, 2008 - Continues

Cellular Nanoscale Networks and Array Computing Technical Committee (CNNAC), Chairman, 2015 - 2017

Scientific Refereeing

International Journal of Bifurcation and Chaos, SCI Journal, January 2017

International Journal of Circuit Theory and Applicationsvv, SCI Journal, January 2017

Scientific Consultations

TÜM ELEKTRONİK MÜH. SAN. TİC. LTD. ŞTİ, Scientific Consultancy, Istanbul Technical University, Elektrik-Elektronik, Elektronik Ve Haberleşme Mühendisliği, Turkey, 2017 - Continues

Simeks Tıbbi Sistemler A.S., Scientific Consultancy, Istanbul Technical University, Elektrik-Elektronik, Elektronik Ve Haberleşme Mühendisliği, Turkey, 2016 - 2016

Tasks In Event Organizations

Yalçın M. E., 17th International Workshop on Cellular Nanoscale Networks and their Applications, Workshop Organization, Italy, Eylül 2020

Yalçın M. E., 9th International Conference on Modern Circuits and Systems Technologies , Scientific Congress, Bremen, Germany, Mayıs 2020

Metrics

Publication: 135

Citation (WoS): 1225

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H-Index (WoS): 13

H-Index (Scopus): 15

Congress and Symposium Activities

IEEE International Symposium on Circuits and Systems (ISCAS), Attendee, Maryland, United States Of America, 2017

International Workshop on Cellular Nanoscale Networks and their Applications (CNNA), Session Moderator, Dresden, Germany, 2016