

Prof. Müştak Erhan Yalçın

Personal Information

Fax Phone: [+90 212 285 3565](tel:+902122853565)

Email: yalcinmust@itu.edu.tr

Web: <http://web.itu.edu.tr/yalcinmust/index.html>

Address: İstanbul Teknik Üniversitesi Elektrik-Elektronik Fakültesi Elektronik ve Haberleşme Mühendisliği Bölümü Maslak, 34469 İstanbul

Biography

Mustak E. Yalçın 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).

Education Information

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

Postgraduate, İstanbul Teknik Üniversitesi, Elektrik-Elektronik Fakültesi, Elektronik Ve Haberleşme Mühendisliği Bölümü, Turkey 1993 - 1997

Undergraduate, İstanbul Teknik Üniversitesi, 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, 2015 - 2016, 2016 - 2017
Sayısal Filtreler&Sistemler , Undergraduate, 2015 - 2016, 2016 - 2017

Advising Theses

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

Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **Delayed outputs fractional-order hyperchaotic systems synchronization for images encryption**
Bouridah M. S. , Bouden T., Yalçın M. E.
MULTIMEDIA TOOLS AND APPLICATIONS, 2021 (Journal Indexed in SCI)
- II. **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 (Journal Indexed in SCI)
- III. **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 (Journal Indexed in SCI)
- IV. **Introduction**
Yalçın M. E. , Ayhan T., Yeniçeri R.
SpringerBriefs in Applied Sciences and Technology, pp.1-3, 2020 (Journal Indexed in AHCI)
- V. **Cellular Automata with Random Memory and Its Implementations**
Göncü E., Yalçın M. E.
International Journal of Bifurcation and Chaos, vol.27, no.5, 2017 (Journal Indexed in SCI)
- VI. **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 (Journal Indexed in SCI)
- VII. **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 (Journal Indexed in SCI)
- VIII. **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 (Journal Indexed in SCI)
- IX. **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 (Journal Indexed in SCI)
- X. **True random bit generation with time-delay sampled-data feedback system**
Yeniçeri R., Yalçın M. E.
ELECTRONICS LETTERS, vol.49, no.8, 2013 (Journal Indexed in SCI)
- XI. **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 (Journal Indexed in SCI)
- XII. **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 (Journal Indexed in SCI)
- XIII. **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 (Journal Indexed in SCI)
- XIV. **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 (Journal Indexed in SCI)
- XV. **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 (Journal Indexed in SCI)

- XVI. **Multi-scroll and hypercube attractors from a general jerk circuit using Josephson junctions**
Yalcin M. E.
CHAOS SOLITONS & FRACTALS, vol.34, no.5, pp.1659-1666, 2007 (Journal Indexed in SCI)
- XVII. **N -scroll chaotic attractors from a first-order time-delay differential equation**
Yalcin M. E. , Ozoguz S.
Chaos, vol.17, no.3, 2007 (Journal Indexed in SCI)
- XVIII. **Spatiotemporal pattern formation on the ACE16k CNN chip**
Yalcin M. E. , SUYKENS J. A. K.
INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS, vol.16, no.5, pp.1537-1546, 2006 (Journal Indexed in SCI)
- XIX. **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 (Journal Indexed in SCI)
- XX. **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 (Journal Indexed in SCI)
- XXI. **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 (Journal Indexed in SCI)
- XXII. **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 (Journal Indexed in SCI)
- XXIII. **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 (Journal Indexed in SCI)
- XXIV. **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 (Journal Indexed in SCI)
- XXV. **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 (Journal Indexed in SCI)
- XXVI. **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 (Journal Indexed in SCI)
- XXVII. **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 (Journal Indexed in SCI)
- XXVIII. **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 (Journal Indexed in SCI)
- XXIX. **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 (Journal Indexed in SCI)

XXX. Chaotic systems synchronization

Suykens J., Yalçın M. E. , Vandewalle J.

CHAOS CONTROL: THEORY AND APPLICATIONS, vol.292, pp.117-135, 2003 (Journal Indexed in SCI)

XXXI. 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 (Journal Indexed in SCI)

XXXII. 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 (Journal Indexed in SCI)

XXXIII. 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 (Journal Indexed in SCI)

XXXIV. 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 (Journal Indexed in SCI)

XXXV. Solving maximum clique problem by cellular neural network

Sengor N. S. , Yalcin M. E. , ÇAKIR Y., UCER M., GUZELIS C., PEKERGIN F., MORGUL O.

ELECTRONICS LETTERS, vol.34, no.15, pp.1504-1506, 1998 (Journal Indexed in SCI)

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 (Journal Indexed in 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 (Refereed Journals of Other Institutions)

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 (Refereed Journals of Other Institutions)

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. **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

II. **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

III. **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

IV. **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

V. **Design of an UWB-based indoor positioning system ULTRA GENIS BANT TEMELLI(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

VI. **Design of a pedestrian dead-reckoning system and comparison of methods on the system Bir Yaya Konum Tahmin Sistemi Tasarımı ve Yöntemlerin Sistemin Üzerinde Karsılaştırılması**

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

VII. **A High Speed True Random Number Generator with Cellular Automata with Random Memory**

Göncü E., Koçdoğan A., Yalçın M. E.

2018 IEEE International Symposium on Circuits and Systems, ISCAS 2018, Florence, Italy, 27 - 30 May 2018

VIII. **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

IX. **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

- X. **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
- XI. **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
- XII. **A High Speed True Random Number Generator with Cellular Automata with Random Memory**
Göncü E., Kocdogan A., Yalçın M. E.
IEEE International Symposium on Circuits and Systems (ISCAS), Florence, Italy, 27 - 30 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. **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
- XV. **Realization of elementary cellular automata with random minimal memory**
Göncü E., Yalçın M. E.
2017 European Conference on Circuit Theory and Design, ECCTD 2017, Catania, Italy, 4 - 06 September 2017
- XVI. **Emulating CNN with template learning on FPGA**
Köse E., Yalçın M. E.
2017 European Conference on Circuit Theory and Design, ECCTD 2017, Catania, Italy, 4 - 06 September 2017
- XVII. **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, Italy, 7 - 09 September 2017, pp.1-4
- XVIII. **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, Italy, 4 - 06 September 2017, pp.1-4
- XIX. **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, United States Of America, 28 - 31 May 2017, pp.1-4
- XX. **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), Bursa, Turkey, 30 November - 02 December 2017, pp.1277-1280
- XXI. **Network of Locally Coupled Cellular Automata with Random Memory Models**
Göncü E., Yalçın 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., Yalçın M. E.
European Conference on Circuit Theory and Design (ECCTD), Catania, Italy, 4 - 06 September 2017
- XXIII. **Emulating CNN with Template Learning on FPGA**
Köse E., Yalçın M. E.
European Conference on Circuit Theory and Design (ECCTD), Catania, Italy, 4 - 06 September 2017
- XXIV. **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, Germany, 23 - 25 August 2016, pp.31-32

- 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, Germany, 23 - 25 August 2016, pp.33-34
- XXVI. **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, Turkey, 26 - 28 November 2015, pp.885-889
- XXVII. **Cellular network of networks on dynamically partial reconfigurable FPGA**
Abtioğlu E., Yeniçeri R., Yalçın M. E.
European Conference on Circuit Theory and Design, ECCTD 2015, Trondheim, Norway, 24 - 26 August 2015
- XXVIII. **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, Turkey, 19 - 22 August 2015, pp.1-4
- XXIX. **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
- XXX. **Wave Computer Core Using Fixed-point Arithmetic**
Karakaya B., Yeniçeri R., Yalçın M. E.
IEEE International Symposium on Circuits and Systems (ISCAS), Lisbon, Portugal, 24 - 27 May 2015, pp.1514-1517
- XXXI. **Computer Assisted Sperm Analysis System Designed on A Hybrid CPU plus FPGA Architecture**
SAVKAY O. L., Tavşanoğlu V., Yalçın M. E., Cesur E.
23rd Signal Processing and Communications Applications Conference (SIU), Malatya, Turkey, 16 - 19 May 2015, pp.1425-1428
- XXXII. **Key Generation and License Authentication Using Physical Unclonable Functions**
BAS S., Yalçın M. E.
23rd Signal Processing and Communications Applications Conference (SIU), Malatya, Turkey, 16 - 19 May 2015, pp.387-390
- XXXIII. **Sperm Morphology Analysis with CNN Based Algorithms**
SAVKAY O. L., CESUR E., Yalçın M. E., TAVSANOĞLU V.
14th International Workshop on Cellular Nanoscale Networks and their Applications (CNNA), Indiana, United States Of America, 29 - 31 July 2014
- XXXIV. **Realization of Processing Blocks of CNN Based CASA system on CPU and FPGA**
SAVKAY O. L., Cesur E., Yildiz N., Yalçın M. E., Tavşanoğlu V.
IEEE International Symposium on Circuits and Systems (ISCAS), Melbourne, Australia, 1 - 05 June 2014, pp.2081-2084
- XXXV. **DIGITAL DESIGN OF SKELETONIZATION**
ATAY M., Yalçın M. E.
22nd IEEE Signal Processing and Communications Applications Conference (SIU), Trabzon, Turkey, 23 - 25 April 2014, pp.718-721
- XXXVI. **A 16 x 16 Cellular Logical Network with Partial Reconfiguration Feature**
Yeniçeri R., Abtioğlu E., GOVEM B., Yalçın M. E.
14th International Workshop on Cellular Nanoscale Networks and their Applications (CNNA), Indiana, United States Of America, 29 - 31 July 2014
- XXXVII. **A 16 × 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, United States Of America, 29 - 31 July 2014

XXXVIII. Realization of preprocessing blocks of CNN based CASA system on FPGA

Savkay O. L. , Yildiz N., Cesur E., Yalçın M. E. , Tavsanoğlu V.

2013 European Conference on Circuit Theory and Design, ECCTD 2013, Dresden, Germany, 8 - 12 September 2013

XXXIX. A parallelized distance transformation architecture for FPGAs

Atay M., Yalçın M. E.

2013 European Conference on Circuit Theory and Design, ECCTD 2013, Dresden, Germany, 8 - 12 September 2013

XL. Throughput Enhancement for a New Time-delay Sampled-data System Based True Random Bit Generator

Yeniçeri R., Ustaoglu B., Yalçın M. E.

21st European Conference on Circuit Theory and Design (ECCTD 2013), Dresden, Germany, 8 - 12 September 2013, pp.1-4

XLI. The Doppler Effect with Input Driven Autowaves

Yeniçeri R., Yalçın M. E.

21st European Conference on Circuit Theory and Design (ECCTD 2013), Dresden, Germany, 8 - 12 September 2013, pp.1-4

XLII. 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, Turkey, 28 - 30 November 2013, pp.13-16

XLIII. 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, Turkey, 28 - 30 November 2013, pp.9-12

XLIV. Dynamic behavior of 1-D array of the memristively-coupled Chua's circuits

Yalçın M. E.

8th International Conference on Electrical and Electronics Engineering, ELECO 2013, Bursa, Turkey, 28 - 30 November 2013, pp.13-16

XLV. Autowaves in 3-D memristive cellular neural networks

Sotera G., Yalçın M. E. , Frasca M.

8th International Conference on Electrical and Electronics Engineering, ELECO 2013, Bursa, Turkey, 28 - 30 November 2013, pp.9-12

XLVI. Analysis of sperm motility with CNN architecture

Şavkay O. L. , Yalçın M. E.

2012 13th International Workshop on Cellular Nanoscale Networks and their Applications, CNNA 2012, Turin, Italy, 29 August 2012

XLVII. 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, Italy, 29 August 2012

XLVIII. 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, Italy, 29 August 2012

XLIX. Hybrid Processor Population for Odor Processing

Ayhan T., Yeniceri R., ERGUNAY S., Yalcin M. E.

IEEE International Symposium on Circuits and Systems, Seoul, South Korea, 20 - 23 May 2012, pp.177-180

L. 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, Italy, 29 - 31 August 2012

- LI. **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, Turkey, 1 - 04 December 2011
- LII. **Randomly reconfigurable cellular neural network**
Ayhan T., Yalçın M. E.
2011 20th European Conference on Circuit Theory and Design, ECCTD 2011, Linköping, Sweden, 29 - 31 August 2011, pp.604-607
- LIII. **Temperature-centric evaluation of sensor transients**
Ayhan T., MUEZZINOGLU K., VERGARA A., Yalçın M. E.
14th International Symposium on Olfaction and Electronic Nose, ISOEN 2011, New-York, United States Of America, 2 - 05 May 2011, vol.1362, pp.236-238
- LIV. **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, Istanbul-Kadikoy, Turkey, 15 - 18 June 2011, pp.305-309
- LV. **Suppression 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, Turkey, 20 - 22 April 2011, pp.598-601
- LVI. **A feature filtering method for eeg data classification Eeg siniflama için bir öznelik filtreleme uygulaması**
Alban Y., Ayhan T., Varol O., Yalçın M. E.
2011 IEEE 19th Signal Processing and Communications Applications Conference, SIU 2011, Antalya, Turkey, 20 - 22 April 2011, pp.442-445
- LVII. **An Active Wave Computing Based Path Finding Approach for 3-D Environment**
KILIC V., Yalçın M. E.
IEEE International Symposium on Circuits and Systems (ISCAS), Rio-De-Janeiro, Brazil, 15 - 18 May 2011, pp.2165-2168
- LVIII. **A new spatio-temporal wave based target tracking algorithm Uzay zaman dalgalarına dayali yeni bir hedef takip algoritması**
Yeniçeri R., Kiliç V., Yalçın M. E.
18th IEEE Signal Processing and Communications Applications Conference, SIU 2010, Diyarbakır, Turkey, 22 - 24 April 2010, pp.562-565
- LIX. **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, Poland, 5 - 08 September 2010, pp.157-160
- LX. **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, United States Of America, 3 - 05 February 2010, pp.1-6
- LXI. **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, Germany, 4 - 06 May 2009, vol.7365
- LXII. **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, Greece, 21 - 24 May 2006, pp.718-721

LXIII. Coupled chaotic simulated annealing processes

SUYKENS J., Yalcin M. E. , VANDEWALLE J.

IEEE International Symposium on Circuits and Systems, BANGKOK, Thailand, 25 - 28 May 2003, pp.582-585

LXIV. 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, United States Of America, 30 May - 02 June 1999, pp.483-486

LXV. 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 April 1998, pp.208-211

LXVI. 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, Canada, 14 - 17 April 1998, pp.208-211

LXVII. CNNs with radial basis input function

Yalcin M. E. , Guzelis C.

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 Üzerinde 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 İçin 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 Hücresel Yapay Sinir Ağı Dizisi Üzerinde Desen Oluşumu, 2006 - 2018

Yalçın M. E. , Project Supported by Higher Education Institutions, Hücresel 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 Hücresel 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, 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 Applications, 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

Edit 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

Citations

Total Citations (WOS):1136

h-index (WOS):12