

## Asst. Prof. NİMET KORKMAZ

### Personal Information

**Office Phone:** [+90 0352 432 3838](tel:+9003524323838) Extension: 21343

**Email:** [nimetkorkmaz@kayseri.edu.tr](mailto:nimetkorkmaz@kayseri.edu.tr)

**Other Email:** [nimetdahasert@erciyes.edu.tr](mailto:nimetdahasert@erciyes.edu.tr)

**Web:** <https://avesis.kayseri.edu.tr/nimetkorkmaz>

### Education Information

Doctorate, Erciyes University, Mühendislik Fakültesi, Elektrik- Elektronik Mühendisliği , Turkey 2012 - 2018

Postgraduate, Erciyes University, Mühendislik Fakültesi, Elektrik- Elektronik Mühendisliği , Turkey 2010 - 2012

Undergraduate, Erciyes University, Mühendislik Fakültesi, Elektrik- Elektronik Mühendisliği , Turkey 2006 - 2010

### Dissertations

Doctorate, ALTERNATIVE MODELS AND HARDWARE APPROACHES FOR THE REALIZATION OF THE NEUROMORPHIC CENTRAL PATTERN GENERATORS , Erciyes University, Mühendislik Fakültesi, Elektrik- Elektronik Mühendisliği , 2018

Postgraduate, INVESTIGATION OF THE ELECTRONIC HARDWARE OF BIOLOGICAL NEURON MODELS, Kayseri University, Mühendislik, Mimarlık Ve Tasarım Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2012

### Research Areas

Electrical and Electronics Engineering, Electronic

### Academic Titles / Tasks

Assistant Professor, Kayseri University, Mühendislik, Mimarlık Ve Tasarım Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2021 - Continues

Lecturer PhD, Erciyes University, 2019 - 2021

Research Assistant, Erciyes University, Mühendislik Fakültesi, Elektrik- Elektronik Mühendisliği , 2010 - 2018

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

- I. **An extensive FPGA-based realization study about the Izhikevich neurons and their bio-inspired applications**  
Karaca Z., KORKMAZ N., Altuncu Y., KILIÇ R.  
NONLINEAR DYNAMICS, 2021 (Journal Indexed in SCI)
- II. **A Phase Control Method for the Dynamical Attractor of the HR Neuron Model: The Rotation-Transition Process and Its Experimental Realization**  
KORKMAZ N.  
NEURAL PROCESSING LETTERS, 2021 (Journal Indexed in SCI)
- III. **Evaluating the effectiveness of several synchronization control methods applying to the electrically and the chemically coupled hindmarsh-rose neurons**

Cimen Z., Korkmaz N., Altuncu Y., KILIÇ R.

BIOSYSTEMS, vol.198, 2020 (Journal Indexed in SCI)

- IV. **An Alternative Approach for Setting the Optimum Coupling Parameters Among the Neural Central Pattern Generators Considering the Amplitude and the Phase Error Calculations**  
Korkmaz N., KILIÇ R.  
NEURAL PROCESSING LETTERS, vol.50, no.1, pp.645-667, 2019 (Journal Indexed in SCI)
- V. **A Comparative Study on Determining Nonlinear Function Parameters of the Izhikevich Neuron Model**  
Korkmaz N., Ozturk I., KALINLI A., KILIÇ R.  
JOURNAL OF CIRCUITS SYSTEMS AND COMPUTERS, vol.27, no.10, 2018 (Journal Indexed in SCI)
- VI. **Modeling, simulation, and implementation issues of CPGs for neuromorphic engineering applications**  
Korkmaz N., Ozturk I., KILIÇ R.  
COMPUTER APPLICATIONS IN ENGINEERING EDUCATION, vol.26, no.4, pp.782-803, 2018 (Journal Indexed in SCI)
- VII. **The investigation of chemical coupling in a HR neuron model with reconfigurable implementations**  
Korkmaz N., Ozturk I., KILIÇ R.  
NONLINEAR DYNAMICS, vol.86, no.3, pp.1841-1854, 2016 (Journal Indexed in SCI)
- VIII. **Multiple perspectives on the hardware implementations of biological neuron models and programmable design aspects**  
Korkmaz N., Ozturk I., KILIÇ R.  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.24, no.3, pp.1729-1746, 2016 (Journal Indexed in SCI)
- IX. **Implementations of Modified Chaotic Neural Models with Analog Reconfigurable Hardware**  
Korkmaz N., KILIÇ R.  
INTERNATIONAL JOURNAL OF BIFURCATION AND CHAOS, vol.24, no.4, 2014 (Journal Indexed in SCI)
- X. **Experimental realizations of the HR neuron model with programmable hardware and synchronization applications**  
Dahasert N., Ozturk I., KILIÇ R.  
NONLINEAR DYNAMICS, vol.70, no.4, pp.2343-2358, 2012 (Journal Indexed in SCI)

## Articles Published in Other Journals

- I. **The Circuit Synthesis of the Fractional-Order Chaotic Lorenz System**  
Saçu İ. E. , Korkmaz N.  
Avrupa Bilim ve Teknoloji Dergisi, no.24, pp.42-43, 2021 (Other Refereed National Journals)
- II. **Experimenting Chaos with Chaotic Training Boards**  
Kılıç R., Korkmaz N.  
Chaotic Modeling and Simulation (CMSIM), no.1, pp.71-84, 2016 (Refereed Journals of Other Institutions)

## Refereed Congress / Symposium Publications in Proceedings

- I. **A Programmable Analog Device Based Emulation Circuit Design for Excitatory and Inhibitory Neurons**  
Korkmaz N.  
3rd International Congress on Human-Computer Interaction, Optimization and Robotic Applications (HORA), Ankara, Turkey, 11 - 13 June 2021, pp.1-4
- II. **Çok Kanatlı Bir Kaotik Sistemin Fraksiyonel Versiyonu ve Devre Sentezi**  
Saçu İ. E. , Korkmaz N.  
29. IEEE Sinyal İşleme ve İletişim Uygulamaları Kurultayı (SIU2021), İstanbul, Turkey, 9 - 11 June 2021, pp.1-4
- III. **THE CIRCUIT SYNTHESIS OF THE FRACTIONAL-ORDER CHAOTIC RÖSSLER SYSTEM**

Saçu İ. E. , Korkmaz N.

International Symposium of Scientific Research and Innovative Studies, ISSRIS 2021, Balıkesir, Turkey, 22 - 25 February 2021, pp.489-498

- IV. **Lyapunov Kontrolörünün Kuplajlı FHN Nöronlarının Sekronizasyonu Üzerindeki Etkisi ve Sistemin Donanım Doğrulaması**  
Çimen Z., Korkmaz N., Altuncu Y., Kılıç R.  
28. IEEE SİNYAL İŞLEME ve İLETİŞİM UYGULAMALARI KURULTAYI, Gaziantep, Turkey, 05 October 2020 - 07 March 2021, pp.1-4
- V. **Farklı İki Kontrolör Kullanılarak Kuplajlanan Senkron FHN Nöronları Arasındaki Hata Değerlerinin Belirlenmesi**  
Çimen Z., Korkmaz N., Altuncu Y., Kılıç R.  
Elektrik, Elektronik ve Biyomedikal Mühendisliği Konferansı, ELECO 2018, Bursa, Turkey, 30 November - 01 December 2018, pp.47-51
- VI. **Hardware verification: Determining the parameters of the modified Izhikevich neuron model with genetic algorithm**  
Korkmaz N., Ozturk I., KALINLI A., KILIÇ R.  
10th International Conference on Electrical and Electronics Engineering, ELECO 2017, Bursa, Turkey, 29 November - 02 December 2017, pp.588-592
- VII. **Parameter estimations for the modified Izhikevich neuron model with optimization methods**  
Korkmaz N., Öztürk İ., Kalınlı A., Kılıç R.  
10th Chaotic Modeling and Simulation International Conference, Barcelona, Spain, 30 May - 02 June 2017, pp.1
- VIII. **A comparative study on experimental realizations of multiscroll chaos generators**  
Kılıç R., Korkmaz N., Öztürk İ.  
9th Chaotic Modeling and Simulation International Conference,, London, England, 23 - 26 May 2016, pp.51
- IX. **Experimenting chaos with chaotic training boards**  
KILIÇ R., Korkmaz N.  
8th International Conference on Chaotic Modeling and Simulation, CHAOS 2015, Paris, France, 26 - 29 May 2015, pp.379-392
- X. **On the flexible hardware solutions of biological neuron models and synchronization applications**  
Korkmaz N., Öztürk İ., Kılıç R.  
21th International Conference on Nonlinear Dynamics of Electronics Systems,, Bari, Italy, 10 - 12 July 2013, pp.11
- XI. **An introductory study for chaos training board series**  
Kılıç R., Korkmaz N., Günay E.  
21th International Conference on Nonlinear Dynamics of Electronics Systems,, Bari, Italy, 10 - 12 July 2013, pp.1
- XII. **Reconfigurable implementations of PWL-based multiscroll chaos generator**  
Arik S., Korkmaz N., Ozturk I., KILIÇ R., GÜNAY E.  
8th International Conference on Electrical and Electronics Engineering, ELECO 2013, Bursa, Turkey, 28 - 30 November 2013, pp.604-608
- XIII. **Merkezi desen üreteçleri için donanımsal çözümler**  
Günay E., Kılıç R., Korkmaz N., Öztürk İ.  
Elektrik - Elektronik ve Bilgisayar Mühendisliği Sempozyumu ELECO 2012, Bursa, Turkey, 29 November - 01 December 2012, pp.332-335
- XIV. **Implementation of Izhikevich neuron model with field programmable devices Izhikevich nöron modelinin alan programlanabilir elemanlarla gerçekleştirimi**  
Dahasert N., Öztürk İ., KILIÇ R.  
2012 20th Signal Processing and Communications Applications Conference, SIU 2012, Fethiye, Mugla, Turkey, 18 - 20 April 2012
- XV. **SC-CNN based n-scroll generator: Implementation issues and experimental verification**  
KILIÇ R., GÜNAY E., Dahasert N.  
Nonlinear Dynamics of Electronic Systems, NDES 2012, Wolfenbuttel, Germany, 11 - 13 July 2012, pp.165-168
- XVI. **External and internal control applications for SC-CNN-based chaotic circuit**

GÜNAY E., KILIÇ R., Dahasert N.

2011 20th European Conference on Circuit Theory and Design, ECCTD 2011, Linköping, Sweden, 29 - 31 August 2011, pp.620-623

## Supported Projects

Kılıç R., Korkmaz N., Project Supported by Higher Education Institutions, NÖROMORFOLOJİK MERKEZİ DESEN ÜRETEÇLERİNİN GERÇEKLEŞTİRİMİNDE ALTERNATİF MODEL VE DONANIM YAKLAŞIMLARI, 2016 - 2018

Kılıç R., Günay E., Korkmaz N., Project Supported by Higher Education Institutions, KAOTİK DEVRELER VE SİSTEMLERİN İNCELENMESİNE DÖNÜK EĞİTİM SETLERİNİN TASARIMI VE GERÇEKLEŞTİRİLMESİ, 2011 - 2014

Kılıç R., Korkmaz N., Project Supported by Higher Education Institutions, Biyolojik Nöron Modellerinin Elektronik Donanımlarının İncelenmesi, 2011 - 2012

## Citations

Total Citations (WOS):60

h-index (WOS):3