

## **Assoc. Prof. İBRAHİM ETHEM SAÇU**

### **Personal Information**

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### **International Researcher IDs**

ScholarID: YL0d81EAAAAJ

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Publons / Web Of Science ResearcherID: AAL-7014-2021

ScopusID: 56040188700

Yoksis Researcher ID: 165068

### **Education Information**

Doctorate, Erciyes University, Fen Bilimleri Enstitüsü, Elektrik-Elektronik Mühendisliği, Turkey 2012 - 2019

Postgraduate, Erciyes University, Fen Bilimleri Enstitüsü, Elektrik-Elektronik Mühendisliği, Turkey 2010 - 2012

Undergraduate, Erciyes University, Mühendislik Fakültesi, Elektrik- Elektronik Mühendisliği, Turkey 2005 - 2010

### **Foreign Languages**

English, B2 Upper Intermediate

### **Dissertations**

Doctorate, Fraksiyonel Dereceden Elektronik Devreler ve Uygulamaları, Erciyes Üniversitesi, Fen Bilimleri Enstitüsü, Elektrik-Elektronik Mühendisliği, 2019

Postgraduate, MEMS' lerin biyomedikal alanındaki uygulamalarının incelenmesi, Erciyes Üniversitesi, Fen Bilimleri Enstitüsü, Elektrik-Elektronik Mühendisliği, 2012

### **Research Areas**

Electrical and Electronics Engineering, Electronic, Electronic Circuits, Engineering and Technology

### **Academic Titles / Tasks**

Associate Professor, Erciyes University, Rektörlük, 2023 - Continues

Lecturer PhD, Erciyes University, Rektörlük, Klinik Müh. Arş. Ve Uyg. Mrk., 2018 - 2023

Research Assistant, Erciyes University, Mühendislik Fakültesi, Biyomedikal Mühendisliği, 2011 - 2014

### **Academic and Administrative Experience**

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

- I. A practical synthesis and analysis of the fractional-order FitzHugh-Nagumo neuronal model  
SAÇU İ. E.  
Journal of Computational Electronics, vol.23, no.1, pp.188-207, 2024 (SCI-Expanded)
- II. Dynamics and synchronization control of fractional conformable neuron system  
SAÇU İ. E.  
Cognitive Neurodynamics, vol.18, no.1, pp.247-263, 2024 (SCI-Expanded)
- III. Effects of high-order interactions on synchronization of a fractional-order neural system  
Saçu İ. E.  
COGNITIVE NEURODYNAMICS, vol.1, no.1, pp.1-17, 2024 (SCI-Expanded)
- IV. An alternative perspective on determining the optimum fractional orders of the synaptic coupling functions for the simultaneous neural patterns  
Korkmaz N., Saçu İ. E.  
Nonlinear Dynamics, vol.110, no.4, pp.3791-3806, 2022 (SCI-Expanded)
- V. An effective method for the reduction of the device utilization amount in experimental realization of a fractional-order system  
SAÇU İ. E., KORKMAZ N.  
NONLINEAR DYNAMICS, vol.108, no.3, pp.2369-2384, 2022 (SCI-Expanded)
- VI. A Practical Fractional-Order Sinusoidal Oscillator Design and Implementation  
SAÇU İ. E.  
Journal of Circuits, Systems and Computers, vol.30, 2021 (SCI-Expanded)
- VII. An Electronically Controllable Fractional Multivibrator  
SAÇU İ. E., ALÇI M.  
IET JOURNAL OF RESEARCH, vol.67, no.3, pp.313-321, 2021 (SCI-Expanded)
- VIII. Design and realisation of a fractional-order sinusoidal oscillator  
Saçu İ. E., Alçı M.  
IET CIRCUITS DEVICES & SYSTEMS, vol.14, no.8, pp.1173-1184, 2020 (SCI-Expanded)
- IX. An Electronically Adjustable Waveform Generator  
SAÇU İ. E.  
Journal of Circuits, Systems and Computers, vol.29, 2020 (SCI-Expanded)
- X. A Current Mode Design of Fractional Order Universal Filter  
Saçu I. E., Alçı M.  
ADVANCES IN ELECTRICAL AND COMPUTER ENGINEERING, vol.19, pp.71-78, 2019 (SCI-Expanded)
- XI. Low-power OTA-C Based Tuneable Fractional Order Filters  
SAÇU İ. E., ALÇI M.  
INFORMACIJE MIDEM-JOURNAL OF MICROELECTRONICS ELECTRONIC COMPONENTS AND MATERIALS, vol.48, no.3, pp.135-144, 2018 (SCI-Expanded)

### Articles Published in Other Journals

- I. Ritmik desen üreteçleri için Rayleigh osilatörünün fraksiyonel versiyonu ve devre sentezi  
Korkmaz N., Saçu İ. E.  
Niğde Ömer Halisdemir Üniversitesi Mühendislik Bilimleri Dergisi, vol.11, no.3, pp.584-591, 2022 (Peer-Reviewed Journal)
- II. An alternative approach for the circuit synthesis of the fractional-order FitzHugh-Nagumo neuron model

- Korkmaz N., Saçu İ. E.  
PAMUKKALE UNIVERSITY JOURNAL OF ENGINEERING SCIENCES-PAMUKKALE UNIVERSITESI MUHENDISLIK  
BİLİMLERİ DERGİSİ, vol.28, no.2, pp.248-254, 2022 (Peer-Reviewed Journal)
- III. **Fractional Integration Based Feature Extractor for EMG Signals**  
Saçu İ. E.  
Balkan Journal of Electrical and Computer Engineering, vol.10, no.2, pp.132-138, 2022 (Peer-Reviewed Journal)
- IV. **An Efficient Design Procedure to Implement the Fractional-order Chaotic Jerk Systems with the Programmable Analog Platform**  
Korkmaz N., Saçu İ. E.  
Chaos Theory and Applications, vol.3, no.2, pp.59-66, 2021 (Peer-Reviewed Journal)
- V. **The Circuit Synthesis of the Fractional-Order Chaotic Lorenz System**  
Saçu İ. E., Korkmaz N.  
Avrupa Bilim ve Teknoloji Dergisi, no.21, pp.42-46, 2021 (Peer-Reviewed Journal)
- VI. **DESIGN OF A BASIC PIEZORESISTIVEMICROCANTILEVER BIOSENSOR**  
SAÇU İ. E., ALÇI M.  
ISTANBUL UNIVERSITY-JOURNAL OF ELECTRICAL AND ELECTRONICS ENGINEERING, vol.13, pp.1641-1645, 2013  
(Peer-Reviewed Journal)

### Refereed Congress / Symposium Publications in Proceedings

- I. Saçu İ. E.  
ICIAS 2022 1st International Conference on Innovative Academic Studies, Konya, Turkey, 10 - 13 September 2022,  
pp.299
- II. **DEVELOPMENT OF A SMART BALANCE DEVICE FOR USE IN PHYSICAL THERAPY AND REHABILITATION**  
Padak G. E., Saçu İ. E., Danışman K.  
9. ULUSLARARASI İSTANBUL BİLİMSEL ARAŞTIRMALAR KONGRESİ, İstanbul, Turkey, 14 - 15 May 2022, pp.1013-1019
- III. **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
- IV. **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
- V. **Closed-Loop Control of Blood Glucose Level in Type-1 Diabetics: A Simulation Study**  
SOYLU S., DANİŞMAN K., SAÇU İ. E., ALÇI M.  
8th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Turkey, 28 - 30 November 2013, pp.371-375
- VI. **Piezorezistif Tabanlı Mikrokiriş Kullanılarak Biyosensör Tasarımı**  
SAÇU İ. E., ALÇI M.  
ELECO 'xx2012 Elektrik - Elektronik ve Bilgisayar Mühendisliği Sempozyumu,, Bursa, Turkey, 29 November - 01 December 2012
- VII. **MEMS' lerin Tıp Alanında Kullanılması Üzerine Bir İnceleme**  
SAÇU İ. E., ALÇI M.  
Tip Teknolojileri Ulusal Kongresi 2011, Antalya, Turkey, 13 - 16 October 2011

## **Supported Projects**

SAÇU İ. E., AL S., DANIŞMAN K., AYDIN Ö., AHMED A. O., Project Supported by Higher Education Institutions, Biyoteknoloji Uygulamaları için Ayarlanabilir Elektroporasyon Cihaz Prototipinin Geliştirilmesi ve Test Edilmesi, 2023 - Continues  
ALÇI M., SAÇU I. E., Project Supported by Higher Education Institutions, Fraksiyonel Dereceden Elektronik Devreler ve Uygulamaları, 2018 - 2019

## **Metrics**

Publication: 24

Citation (WoS): 28

Citation (Scopus): 44

H-Index (WoS): 3

H-Index (Scopus): 4

## **Congress and Symposium Activities**

ELEKTRİK - ELEKTRONİK ve BİLGİSAYAR MÜHENDİSLİĞİ SEMPOZYUMU (ELECO), Attendee, Bursa, Turkey, 2012  
TIP TEKNOLOJİLERİ ULUSAL KONGRESİ (TIPTEKNO), Attendee, Antalya, Turkey, 2011

## **Non Academic Experience**

Other Public Institution, Teiaş 11. Bölge Müdürlüğü

Türkiye Elektrik İletim A.Ş.