

## Assoc. Prof. SERDAR KOÇKANAT

### Personal Information

**Email:** skockanat@cumhuriyet.edu.tr

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### International Researcher IDs

ORCID: 0000-0001-6415-0241

Publons / Web Of Science ResearcherID: X-1381-2018

Yoksis Researcher ID: 150804

### Education Information

Doctorate, Erciyes University, Fen Bilimleri Enstitüsü, Turkey 2010 - 2015

Postgraduate, Turkey 2008 - 2010

Undergraduate, Turkey 2003 - 2007

### Foreign Languages

English, B2 Upper Intermediate

German, B1 Intermediate

### Research Areas

Electrical and Electronics Engineering

### Academic Titles / Tasks

Associate Professor, Sivas Cumhuriyet University, Mühendislik Fakültesi, Elektrik Elektronik Mühen., 2021 - Continues

Assistant Professor, Sivas Cumhuriyet University, 2016 - Continues

Lecturer, Sivas Cumhuriyet University, 2007 - 2016

### Academic and Administrative Experience

Head of Department, Sivas Cumhuriyet University, 2017 - Continues

Deputy Head of Department, Sivas Cumhuriyet University, 2019 - 2020

Deputy Head of Department, Sivas Cumhuriyet University, 2017 - 2017

### Courses

Haberleşme - I, Undergraduate, 2019 - 2020

Devre Teorisi - II, Undergraduate, 2018 - 2019

Güç Elektroniği Laboratuvarı, Undergraduate, 2018 - 2019

Haberleşme - II, Undergraduate, 2018 - 2019  
Devre Teorisi - I, Undergraduate, 2019 - 2020  
Haberleşme - II, Undergraduate, 2018 - 2019  
Devre Teorisi - I, Undergraduate, 2019 - 2020  
Mühendislikte Optimizasyon Teknikleri ve Uygulamaları, Postgraduate, 2018 - 2019  
Güç Elektronikliği Laboratuvarı, Undergraduate, 2018 - 2019  
Bitirme Ödevi, Undergraduate, 2019 - 2020  
Bitirme Ödevi, Undergraduate, 2019 - 2020  
Devre Teorisi - II, Undergraduate, 2018 - 2019  
Haberleşme - I, Undergraduate, 2019 - 2020  
Mühendislik Projeleri, Undergraduate, 2017 - 2018  
Mühendislik Projeleri, Undergraduate, 2017 - 2018  
Elektrik Ölçme Tekniği, Undergraduate, 2016 - 2017  
Elektrik Ölçme Lab., Undergraduate, 2016 - 2017  
Güç Elektronikliği, Undergraduate, 2015 - 2016  
Elektrik Ölçme Tekniği, Undergraduate, 2016 - 2017  
Güç Elektronikliği, Undergraduate, 2015 - 2016  
Elektrik Ölçme Lab., Undergraduate, 2016 - 2017  
Sistem Analizi ve Tasarımı, Associate Degree, 2014 - 2015  
Analog Elektronik, Associate Degree, 2014 - 2015  
Mikro İşlemciler/Mikrodenetleyiciler, Associate Degree, 2015 - 2016  
Elektronik - I, Associate Degree, 2014 - 2015  
Elektronik Ölç.Te.Ve İş Güv., Associate Degree, 2015 - 2016  
Mikro İşlemciler/Mikrodenetleyiciler, Associate Degree, 2015 - 2016  
Analog Elektronik, Associate Degree, 2014 - 2015  
Elektronik - I, Associate Degree, 2014 - 2015  
Elektronik Ölçme Tekniği, Associate Degree, 2015 - 2016  
Mikro Denetleyici Tabanlı Kont, Associate Degree, 2014 - 2015  
Elektronik - II, Associate Degree, 2015 - 2016  
Mikro işlem./Mikro Denetleyiciler, Associate Degree, 2015 - 2016  
Mikro İşlemciler/Mikrodenetleyiciler, Associate Degree, 2015 - 2016  
Analog Elektronik - I, Associate Degree, 2014 - 2015  
Analog Elektronik - I, Associate Degree, 2014 - 2015  
İşlemsel Yükselteçler, Associate Degree, 2015 - 2016  
Elektronik - II, Associate Degree, 2015 - 2016  
Analog Elektronik - II, Associate Degree, 2015 - 2016  
Mikro İşlemciler/Mikrodenetleyiciler, Associate Degree, 2015 - 2016  
Antenler ve Mikrodalga Teknolojisi, Associate Degree, 2014 - 2015  
İşlemsel Yükselteçler, Associate Degree, 2015 - 2016  
Bilgisayar Kullanımı, Associate Degree, 2015 - 2016  
Mikroişlemciler/Mikrodenetleyiciler, Associate Degree, 2015 - 2016  
Analog Elektronik - II, Associate Degree, 2015 - 2016  
Elektronik - I, Associate Degree, 2014 - 2015  
İşlemsel Yükselteçler, Associate Degree, 2015 - 2016  
Sayısal Haberleşme, Associate Degree, 2015 - 2016  
Elektronik - I, Associate Degree, 2014 - 2015  
Bilgisayar Destekli Tasarım - II, Associate Degree, 2014 - 2015  
Sayısal Haberleşme, Associate Degree, 2014 - 2015  
Devre Teorisi-1, Undergraduate, 2014 - 2015  
Bilgisayar Destekli Tasarım, Associate Degree, 2014 - 2015  
Bilgisayar Destekli Tasarım, Associate Degree, 2014 - 2015

## Jury Memberships

Post Graduate, Post Graduate, Erciyes Üniversitesi, June, 2019

Doctoral Examination, Doctoral Examination, Erciyes Üniversitesi, May, 2019

Doctorate, Doctorate, Erciyes Üniversitesi, February, 2019

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

- I. **A Novel Approach for Polyphase Filter Bank Design Using ABC Algorithm**  
Loğoğlu A., Koçkanat S., Karaboğa N.  
ELEKTRONIKA IR ELEKTROTEHNIKA, vol.28, no.6, pp.27-34, 2022 (SCI-Expanded)
- II. **A novel classifier architecture based on deep neural network for COVID-19 detection using laboratory findings**  
GÖREKE V., SARI V., KOÇKANAT S.  
APPLIED SOFT COMPUTING, vol.106, 2021 (SCI-Expanded)
- III. **Acceleration harmonics estimation and elimination with MABC-RLS algorithm: Simulation and experimental analyses on shaking table**  
KOÇKANAT S.  
Applied Soft Computing Journal, vol.92, 2020 (SCI-Expanded)
- IV. **Adaptive FIR Filtering Using ABC Algorithm: a Noise Reduction Application on Mitral Valve Doppler Signal**  
KOÇKANAT S., KOZA T., KARABOĞA N., Logoglu A.  
ELEKTRONIKA IR ELEKTROTEHNIKA, vol.24, no.5, pp.62-68, 2018 (SCI-Expanded)
- V. **A modified ABC algorithm approach for power system harmonic estimation problems**  
Kabalci Y., KOÇKANAT S., KABALCI E.  
ELECTRIC POWER SYSTEMS RESEARCH, vol.154, pp.160-173, 2018 (SCI-Expanded)
- VI. **Power Quality Measurement and Analysis in Electric Arc Furnace for Turkish Electricity Transmission System**  
SEKER M., Memmedov A., Huseyinov R., KOÇKANAT S.  
ELEKTRONIKA IR ELEKTROTEHNIKA, vol.23, no.6, pp.25-33, 2017 (SCI-Expanded)
- VII. **The design approaches of two-dimensional digital filters based on metaheuristic optimization algorithms: a review of the literature**  
KOÇKANAT S., KARABOĞA N.  
ARTIFICIAL INTELLIGENCE REVIEW, vol.44, no.2, pp.265-287, 2015 (SCI-Expanded)
- VIII. **A novel 2D-ABC adaptive filter algorithm: A comparative study**  
KOÇKANAT S., KARABOĞA N.  
DIGITAL SIGNAL PROCESSING, vol.40, pp.140-153, 2015 (SCI-Expanded)
- IX. **The parameter extraction of the thermally annealed Schottky barrier diode using the modified artificial bee colony**  
KARABOĞA N., KOÇKANAT S., DOĞAN H.  
APPLIED INTELLIGENCE, vol.38, no.3, pp.279-288, 2013 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Yarasa Algoritması Kullanarak Hidrolik Sarsma Tablası için İvme Harmonik Kestirimi**  
KOÇKANAT S.

European Journal of Science and Technology, vol.15, pp.387-393, 2019 (Peer-Reviewed Journal)

**II. Analysis and Extraction of Fetal Electrocardiogram Signal with Adaptive Filtering Using Differential Evolution Algorithm**

KOÇKANAT S., KOÇKANAT S.

Cumhuriyet Science Journal, vol.39, no.1, pp.294-302, 2018 (Peer-Reviewed Journal)

## **Books & Book Chapters**

**I. Electrical harmonics estimation in power systems using bat algorithm**

KOÇKANAT S.

in: Nature-Inspired Computation and Swarm Intelligence Algorithms, Theory and Applications, Xin-She Yang, Editor, Academic Press (Elsevier), pp.303-321, 2020

**II. Medical Image Denoising Using Metaheuristics**

KOÇKANAT S., KARABOĞA N.

in: Metaheuristics for Medicine and Biology, Amir Nakib, El-Ghazali Talbi, Editor, Springer Berlin Heidelberg, Berlin, pp.155-169, 2017

## **Refereed Congress / Symposium Publications in Proceedings**

**I. Acceleration Harmonic Estimation using an Approach based Artificial Bee Colony Algorithm: A Hydraulic Shaking Table Application**

KOÇKANAT S.

2019 27th Signal Processing and Communications Applications Conference (SIU), Sivas, Turkey, Turkey, 24 - 26 April 2019

**II. Computer Assisted Sensory Transformation and Perception Extension System**

KOÇKANAT S., ÜNSAL E., Tütüncü P., Kopuz E., Esen S.

International Conference on Innovative Engineering Applications 2018, Sivas, Turkey, 20 - 22 September 2018

**III. Controlling The Distributed Energy Resources Using Smart Grid Standards**

ÜNSAL ÇELİMLİ D. B., DOĞAN H., TORUN Y., KOÇKANAT S.

International Conference on Innovative Engineering Applications 2018, Sivas, Turkey, 20 - 22 September 2018, pp.578-585

**IV. Examination of success of the finite impulse response digital filter designed using the bat algorithm**

LOĞOĞLU A., KOZA T., KOÇKANAT S., KARABOĞA N.

2018 26th Signal Processing and Communications Applications Conference (SIU), İzmir, Turkey, 2 - 05 May 2018

**V. PHOTOELECTRICAL PARAMETER CALCULATION OF METAL ORGANIC INORGANIC PHOTO DIODE USING AN APPROACH BASED MABC ALGORITHM**

DOĞAN H., KOÇKANAT S., TÜRKAY Y., ÇIKAN M., ÜNSAL ÇELİMLİ D. B.

5th International Conference on Advanced Technology Sciences, 9 - 12 May 2017

**VI. ELECTRICAL PARAMETER DETERMINATION OF AL P SI SCHOTTKY DIODE FROM I V AND C V CURVES USING MABC BASED METHOD**

KOÇKANAT S., DOĞAN H., TÜRKAY Y., ÇIKAN M., ÜNSAL ÇELİMLİ D. B.

5th International Conference on Advanced Technology Sciences, 9 - 12 May 2017

**VII. DESIGN OF DIFFERENTIAL RELAY APPLICATION WITH MATLAB SIMULINK FOR PROTECTION OF TRANSFORMER IN ELECTRIC ARC FURNACE EAF LOADS**

ŞEKER M., ÇIKAN M., ARIF M., KOÇKANAT S., DOĞAN H.

5th International Conference on Advanced Technology Sciences, 9 - 12 May 2017

**VIII. CURRENT VOLTAGE CURVE PREDICTION OF ANNEALED NI N GAAS SI IN SCHOTTKY BARRIER DIODE USING ANFIS**

KOÇKANAT S., DOĞAN H., TÜRKAY Y., ŞEKER M., ÜNSAL ÇELİMLİ D. B., ÇIKAN M.

5th International Conference on Advanced Technology Sciences, 9 - 12 May 2017

- IX. **INVESTIGATION OF CURRENT AND VOLTAGE FLUCTUATIONS IN ELECTRIC ARC FURNACES WITH THE HELP OF PROBABILITY THEORY**  
ŞEKER M., MEMMEDOV A., ÇIKAN M., DOĞAN H., KOÇKANAT S.  
5th International Conference on Advanced Technology Sciences, 9 - 12 May 2017
- X. **ANNEALING TEMPERATURE DEPENDENT CHARACTERIZATION OF NI AU N GAN SCHOTTKY DIODE USING ARTIFICIAL BEE COLONY ALGORITHM**  
DOĞAN H., KOÇKANAT S., TÜRKAY Y., ŞEKER M., ÇIKAN M., ÜNSAL ÇELİMLİ D. B.  
5th International Conference on Advanced Technology Sciences, 9 - 12 May 2017
- XI. **A New Approach Based on Differential Evolution Algorithm for Harmonic Estimation Problems**  
KOÇKANAT S., Kabalci Y., KABALCI E.  
25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, 15 - 18 May 2017
- XII. **A Differential Search Algorithm Application for Solving Harmonic Estimation Problems**  
Kabalci Y., KOÇKANAT S., KABALCI E.  
9th International Conference on Electronics, Computers and Artificial Intelligence (ECAI), Targovishte, Bulgaria, 29 June - 01 July 2017
- XIII. **Harmonic Estimator Design Using Hybrid Particle Swarm Optimization**  
Kabalci Y., KOÇKANAT S., KABALCI E.  
2017 International Artificial Intelligence and Data Processing Symposium (IDAP), Malatya, Turkey, 16 - 17 September 2017
- XIV. **ABC method analysis for the Capacitance Voltage characteristics of Ni n GaAS In schottky barrier diode**  
DOĞAN H., KOÇKANAT S., ÜNSAL ÇELİMLİ D. B.  
NanoTR-12, 3 - 05 June 2016
- XV. **The parameter extraction of Al Ruthenium II complex p Type Si Heterojunction diode using optimization method**  
ÜNSAL ÇELİMLİ D. B., DOĞAN H., KOÇKANAT S.  
NANOTR12, 3 - 05 June 2016
- XVI. **ABC method analysis for the Capacitance Voltage characteristic of Ni n GaAS In schottky barrier diode**  
DOĞAN H., KOÇKANAT S., ÜNSAL ÇELİMLİ D. B.  
12th International Nanoscience and Nanotechnology Conference, 3 - 05 June 2016
- XVII. **Noise Cancellation Application of ECG Signal Using Artificial Bee Colony Algorithm**  
KOÇKANAT S., KOZA T., KARABOĞA N., ERKOÇ M. E.  
24th Signal Processing and Communication Application Conference (SIU), Zonguldak, Turkey, 16 - 19 May 2016, pp.1017-1020
- XVIII. **SSA Analysis of Noise Eliminated Transcranial Doppler Signals with IIR Filters**  
KOZA T., Karaboga N., Kockana S., LATİFOĞLU F.  
23rd Signal Processing and Communications Applications Conference (SIU), Malatya, Turkey, 16 - 19 May 2015, pp.2021-2024
- XIX. **IIR Filter Paramater Estimation with ABC Algorithm for Mitral Valve Doppler Signal Denoising**  
KOÇKANAT S., KOZA T., KARABOĞA N.  
23rd Signal Processing and Communications Applications Conference (SIU), Malatya, Turkey, 16 - 19 May 2015, pp.1989-1992
- XX. **Parameter Tuning of Artificial Bee Colony Algorithm for Gaussian Noise Elimination on Digital Images**  
KOÇKANAT S., KARABOĞA N.  
IEEE International Symposium on INnovations in Intelligent SysTems and Applications (INISTA), Bulgaria, 19 - 21 June 2013
- XXI. **Noise Cancellation on Mitral Valve Doppler Signal with IIR Digital Filter Using Harmony Search Algorithm**

Kamislioglu B., KOÇKANAT S., KOZA T., KARABOĞA N.

IEEE International Symposium on INnovations in Intelligent SysTems and Applications (INISTA), Bulgaria, 19 - 21 June 2013

- XXII. **YAK Algoritması ile Tasarlanan 2D FIR Süzgeçle Gürültü Azaltma**  
KOÇKANAT S., KARABOĞA N.  
Otomatik Kontrol Türk Milli Komitesi 2012 Ulusal Toplantısı, Niğde, Turkey, 11 - 13 October 2012
- XXIII. **Aort valve Doppler signal noise elimination using IIR filter designed with ABC algorithm**  
KOZA T., KARABOĞA N., KOÇKANAT S.  
2012 International Symposium on Innovations in Intelligent Systems and Applications, Trabzon, Turkey, 2 - 04 July 2012
- XXIV. **Image denoising with 2-D FIR filter by using artificial bee colony algorithm**  
KOÇKANAT S., KARABOĞA N., KOZA T.  
2012 International Symposium on Innovations in Intelligent Systems and Applications, Trabzon, Turkey, 2 - 04 July 2012
- XXV. **Kod Bölmeli Çoklu Erişim Sistemlerinde Gürültü Giderme İçin Yeni Bir Yaklaşım**  
KOZA T., KOÇKANAT S., KABALCI Y.  
Ulusal Meslek Yüksekokulları Çalıştay ve Öğrenci Sempozyumu, Nevşehir, Turkey, 13 - 15 June 2012
- XXVI. **MİTRAL KAPAK İŞARETİ ÜZERİNDEKİ ANATOMİK VE ELEKTRONİK GÜRÜLTÜLERİN ABC ALGORİTMASI İLE TASARLANAN IIR SÜZGEÇLERLE SÜZÜLMESİ**  
KARABOĞA N., UZUNHİSARCIKLİ E., LATİFOĞLU F., KOZA T., KOÇKANAT S.  
Elektrik-Elektronik ve Bilgisayar Sempozyumu 2011, Elazığ, Turkey, 5 - 08 October 2011
- XXVII. **ABC Algoritması ile Tasarlanan FIR Süzgeçlerle Mitral Kapak Doppler İşaretindeki Gürültü Giderimi**  
KOÇKANAT S., KOZA T., KARABOĞA N.  
Elektrik Elektronik Mühendisleri Günleri 2011, Ankara, Turkey, 29 September - 01 October 2011
- XXVIII. **Cancellation of noise on mitral valve Doppler signal using IIR filters designed with artificial bee colony algorithm**  
KOÇKANAT S., KOZA T., KARABOĞA N.  
European Biotechnology Congress, İstanbul, Turkey, 28 September - 01 October 2011, vol.22
- XXIX. **Parameter determination of the Schottky barrier diode using by artificial bee colony algorithm**  
KARABOĞA N., KOÇKANAT S., DOĞAN H.  
2011 International Symposium on INnovations in Intelligent SysTems and Applications, INISTA 2011, İstanbul-Kadıkoy, Turkey, 15 - 18 June 2011, pp.6-10
- XXX. **The Prediction and Comparison of SO2 Concentration Using Multivariate Regression, Artificial Neural Networks and Neuro Fuzzy (ANFIS) Methods**  
YÜKSEK A. G., BİRCAN H., TÜRKAY Y., KOÇKANAT S.  
International Symposium on Innovations in Intelligent Systems and Applications 2009, Trabzon, Turkey, 29 June - 01 July 2009, pp.270-275

## Scientific Refereeing

INTERNATIONAL JOURNAL OF ELECTRICAL POWER & ENERGY SYSTEMS, SCI Journal, April 2020

SOFT COMPUTING, SCI Journal, March 2020

AIRCRAFT ENGINEERING AND AEROSPACE TECHNOLOGY, SCI Journal, March 2020

MULTIDIMENSIONAL SYSTEMS AND SIGNAL PROCESSING, SCI Journal, May 2019

CIRCUITS SYSTEMS AND SIGNAL PROCESSING, SCI Journal, March 2017

## Metrics

Publication: 44

Citation (WoS): 107

Citation (Scopus): 141

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H-Index (Scopus): 6