

## Prof. RAMAZAN ÇOBAN

### Personal Information

**Office Phone:** [+90 322 338 7101](tel:+903223387101) Extension: 15

**Email:** rcoban@cu.edu.tr

**Web:** <https://avesis.cu.edu.tr//rcoban>

**Address:** Çukurova Üniversitesi Mühendislik-Mimarlık Fakültesi Bilgisayar Mühendisliği Bölümü 01330 Balcalı, Sarıçam, Adana

### International Researcher IDs

ORCID: 0000-0002-4505-0437

Yoksis Researcher ID: 129578

### Education Information

Doctorate, Gebze Yüksek Teknoloji Enstitüsü, Mühendislik Ve Fen Bilimleri, Elektronik Müh., Turkey 1999 - 2006

Postgraduate, Gebze Yüksek Teknoloji Enstitüsü, Mühendislik Ve Fen Bilimleri, Elektronik Müh., Turkey 1996 - 1999

Undergraduate, Yıldız Technical University, Faculty Of Electrical & Electronics, Elektrik Müh , Turkey 1990 - 1994

### Dissertations

Doctorate, İTÜ TRİGA MARK-II REAKTÖRÜNÜN YAPAY SİNİR AĞLARI VE GENETİK ALGORİTMALAR İLE BULANIK KONTROLÜ, Gebze Yüksek Teknoloji Enstitüsü, Mühendislik Ve Fen Bilimleri Enst, Elektronik Müh., 2006

### Research Areas

Information Systems, Communication and Control Engineering, Control and System Engineering, Simulation, Modelling and Identification, Controllers, Nonlinear Systems, Status Observers and Estimation, Stability, Discrete Time Systems and Computer Control, Optimal Control, System Diagnostics, Electrical and Electronics Engineering, Power Electronics, Electric Motor Drivers, Power Apparatus (transformers,reactors,switchgear,etc.), Engineering and Technology

### Academic Titles / Tasks

Associate Professor, Cukurova University, Mühendislik-Mimarlık , Bilgisayar Müh., 2013 - Continues

Assistant Professor, Cukurova University, Mühendislik-Mimarlık Fakültesi, Bilgisayar Mühendisliği, 2008 - 2013

Research Assistant, Gebze Yüksek Teknoloji Enstitüsü, Mühendislik Fakültesi, Elektronik , 1996 - 2001

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

- PID sliding surface-based adaptive dynamic second-order fault-tolerant sliding mode control design and experimental application to an electromechanical system**  
AYDIN M. N., ÇOBAN R.  
INTERNATIONAL JOURNAL OF CONTROL, vol.95, no.7, pp.1767-1776, 2022 (SCI-Expanded)
- Decoupled Adaptive Backstepping Sliding Mode Control of Underactuated Mechanical Systems**  
ATA B., ÇOBAN R.

CONTROL ENGINEERING AND APPLIED INFORMATICS, vol.24, no.1, pp.45-56, 2022 (SCI-Expanded)

- III. **A numerical approach to solve the model of an electromechanical system**  
Alkan S., Aydin M. N., ÇOBAN R.  
MATHEMATICAL METHODS IN THE APPLIED SCIENCES, vol.42, no.16, pp.5266-5273, 2019 (SCI-Expanded)
- IV. **Decoupled Backstepping Sliding Mode Control of Underactuated Systems with Uncertainty: Experimental Results**  
ATA B., ÇOBAN R.  
ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, vol.44, no.8, pp.7013-7021, 2019 (SCI-Expanded)
- V. **Adaptive backstepping sliding mode control with tuning functions for nonlinear uncertain systems**  
ÇOBAN R.  
INTERNATIONAL JOURNAL OF SYSTEMS SCIENCE, vol.50, no.8, pp.1517-1529, 2019 (SCI-Expanded)
- VI. **Sliding mode PI control with backstepping approach for MIMO nonlinear cross-coupled tank systems**  
aksu I. O., ÇOBAN R.  
INTERNATIONAL JOURNAL OF ROBUST AND NONLINEAR CONTROL, vol.29, no.6, pp.1854-1871, 2019 (SCI-Expanded)
- VII. **Neuro-Controller Design by Using the Multifeedback Layer Neural Network and the Particle Swarm Optimization**  
ÇOBAN R., aksu I. O.  
TEHNICKI VJESNIK-TECHNICAL GAZETTE, vol.25, no.2, pp.437-444, 2018 (SCI-Expanded)
- VIII. **Dynamical adaptive integral backstepping variable structure controller design for uncertain systems and experimental application**  
ÇOBAN R.  
INTERNATIONAL JOURNAL OF ROBUST AND NONLINEAR CONTROL, vol.27, no.18, pp.4522-4540, 2017 (SCI-Expanded)
- IX. **Backstepping Sliding Mode Tracking Controller Design and Experimental Application to an Electromechanical System**  
ÇOBAN R.  
CONTROL ENGINEERING AND APPLIED INFORMATICS, vol.19, no.3, pp.88-96, 2017 (SCI-Expanded)
- X. **Backstepping integral sliding mode control of an electromechanical system**  
ÇOBAN R.  
AUTOMATIKA, vol.58, no.3, pp.266-272, 2017 (SCI-Expanded)
- XI. **Power level control of the TRIGA Mark-II research reactor using the multifeedback layer neural network and the particle swarm optimization**  
Coban R.  
ANNALS OF NUCLEAR ENERGY, vol.69, pp.260-266, 2014 (SCI-Expanded)
- XII. **A context layered locally recurrent neural network for dynamic system identification**  
Coban R.  
ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE, vol.26, no.1, pp.241-250, 2013 (SCI-Expanded)
- XIII. **Identification of linear dynamic systems using the artificial bee colony algorithm**  
Erçin O., ÇOBAN R.  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.20, pp.1175-1188, 2012 (SCI-Expanded)
- XIV. **A fuzzy controller design for nuclear research reactors using the particle swarm optimization algorithm**  
Coban R.  
NUCLEAR ENGINEERING AND DESIGN, vol.241, no.5, pp.1899-1908, 2011 (SCI-Expanded)
- XV. **Computational intelligence-based trajectory scheduling for control of nuclear research reactors**  
Coban R.  
PROGRESS IN NUCLEAR ENERGY, vol.52, no.4, pp.415-424, 2010 (SCI-Expanded)
- XVI. **A trajectory tracking genetic fuzzy logic controller for nuclear research reactors**  
ÇOBAN R., Can B.

ENERGY CONVERSION AND MANAGEMENT, vol.51, no.3, pp.587-593, 2010 (SCI-Expanded)

XVII. **An expert trajectory design for control of nuclear research reactors**

ÇOBAN R., Can B.

EXPERT SYSTEMS WITH APPLICATIONS, vol.36, no.9, pp.11502-11508, 2009 (SCI-Expanded)

XVIII. **Identification and control of ITU Triga Mark-II Nuclear Research Reactor using neural networks and fuzzy logic**

Coban R., Can B.

AI 2005: ADVANCES IN ARTIFICIAL INTELLIGENCE, vol.3809, pp.1057-1062, 2005 (SCI-Expanded)

## Articles Published in Other Journals

I. **An Evaluation of Autoencoder Neural Network Role in IoT Edge Computing**

Çoban R., Kakız M. T., Tekin Kakız A.

Osmaniye Korkut Ata Üniversitesi Fen Bilimleri Enstitüsü Dergisi (Online), vol.5, no.3, pp.1383-1392, 2022 (Peer-Reviewed Journal)

II. **Linear Quadratic Optimal Control of an Inverted Pendulum on a Cart using Artificial Bee Colony Algorithm: An Experimental Study**

ATA B., ÇOBAN R.

Çukurova Üniversitesi Mühendislik Mimarlık Fakültesi Dergisi, vol.32, no.2, pp.109-124, 2017 (Peer-Reviewed Journal)

III. **Yapay Arı Kolonisi Algoritması ile Bir Arabalı Ters Sarkacın Lineer Kuadratik Kontrolü: Deneysel Bir Çalışma**

ATA B., ÇOBAN R.

Çukurova Üniversitesi Mühendislik-Mimarlık Fakültesi Dergisi, vol.32, no.2, pp.109-124, 2017 (Peer-Reviewed Journal)

IV. **Artificial Bee Colony Algorithm Based Linear Quadratic Optimal Controller Design for a Nonlinear Inverted Pendulum**

Ata B., Çoban R.

INTERNATIONAL JOURNAL OF INTELLIGENT SYSTEMS AND APPLICATIONS IN ENGINEERING, vol.3, no.1, pp.1-6, 2015 (Peer-Reviewed Journal)

V. **Multi objective bees algorithm to optimal tuning of PID controller**

ÇOBAN R., erçin ö.

Çukurova University Journal of the Faculty of Engineering and Architecture, vol.27, no.2, pp.13-26, 2012 (Peer-Reviewed Journal)

VI. **Optimal trajectory planning for control of nuclear research reactors using genetic algorithms and artificial neural networks**

ÇOBAN R.

Istanbul University Engineering Faculty Journal of Electrical & Electronics, vol.9, no.2, pp.1115-1128, 2009 (Peer-Reviewed Journal)

VII. **Extraction of facial features using genetic cellular neural networks**

UÇAN O. N., BİLGİLİ E., ÇOBAN R.

Istanbul University Engineering Faculty Journal of Electrical & Electronics, vol.2, no.2, pp.601-609, 2002 (Peer-Reviewed Journal)

## Refereed Congress / Symposium Publications in Proceedings

I. **EEG Signal Classification Using Artificial Neural Network and Support Vector Machine in a Neuromarketing Study**

ÖZBEYAZ A., ÇOBAN R., ASLAN R.

14th International Conference on Pattern Recognition and Information Processing (PRIP'2019), Minsk, Belarus, 21 - 23 May 2019, pp.31-34

- II. **LMI-Based Sliding Mode Control Design and Experimental Application to an Electromechanical Plant**  
AYDIN M. N., ÇOBAN R.  
6th International Conference on Electrical and Electronics Engineering (ICEEE), İstanbul, Turkey, 16 - 17 April 2019, pp.69-72
- III. **Second Order Sliding Mode Control of MIMO Nonlinear Coupled Tank System**  
Aksu I. O., ÇOBAN R.  
14th International Conference on Advanced Trends in Radioelectronics, Telecommunications and Computer Engineering (TCSET), Lviv, Ukraine, 20 - 24 February 2018, pp.826-830
- IV. **Speed Control of DC motor using PID and SMC**  
AYDIN M. N., ALKAN S., ARSLAN E., ÇOBAN R.  
ICAI4.0, 15 - 17 November 2017
- V. **Sliding Mode Control for a MIMO Nonlinear Coupled Tank System**  
AKSU İ. Ö., ÇOBAN R.  
6th International Conference on Advanced Technology Sciences (ICAT' RIGA), Riga, Latvia, 12 - 15 September 2017
- VI. **Dynamic Integral Sliding Mode Control of an Electromechanical System**  
SINEKLI E. S., ÇOBAN R.  
International Conference on Mechanical, System and Control Engineering (ICMSC), St Petersburg, Russia, 19 - 21 May 2017, pp.160-164
- VII. **Second-Order Sliding Mode Control Design and Experimental Application to a Servo Motor**  
AYDIN M. N., ÇOBAN R.  
International Conference on Mechanical, System and Control Engineering (ICMSC), St Petersburg, Russia, 19 - 21 May 2017, pp.141-144
- VIII. **Adaptive Backstepping Control Design for Electromechanical Systems**  
ÇOBAN R.  
1st IEEE Ukraine Conference on Electrical and Computer Engineering (UKRCON), Kyiv, Ukraine, 29 May - 02 June 2017, pp.268-271
- IX. **Decoupled Sliding Mode Control of An Inverted Pendulum on A Cart: An Experimental Study**  
ÇOBAN R., ATA B.  
IEEE International Conference on Advanced Intelligent Mechatronics (AIM), Munich, Germany, 3 - 07 July 2017, pp.993-997
- X. **Prediction of an Electromechanical System Parameters using the Particle Swarm Optimization Algorithm**  
Aksu I. O., ÇOBAN R.  
20th Jubilee IEEE International Conference on Intelligent Engineering Systems (INES), Budapest, Hungary, 30 June - 02 July 2016, pp.85-88
- XI. **Sliding Mode Control Design and Experimental Application to an Electromechanical Plant**  
AYDIN M. N., ÇOBAN R.  
57th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), Riga, Latvia, 13 - 14 October 2016
- XII. **Identification of An Inverted Pendulum using the Multifeedback-Layer Neural Network and the Particle Swarm Optimization Algorithm**  
ÇOBAN R., ATA B.  
III. International Electrical & Electronic Engineering and Technologies Conference (Electrotech '15), İstanbul, Turkey, 2 - 03 October 2015, pp.104-110
- XIII. **Çok Katmanlı Geri Beslemeli Yapay Sinir Ağı MFLNN ve Parçacık Sürü Optimizasyon Algoritması PSO Kullanarak Bir DC Motor Tanılaması**  
AKSU İ. Ö., ÇOBAN R.  
8. Elektrik – Elektronik – Bilgisayar ve Biyomedikal Mühendisliği Sempozyumu, (ELECO 2014), Turkey, 27 - 29

November 2014, pp.758-761

- XIV. **Artificial Bee Colony Algorithm Based Linear Quadratic Optimal Controller Design for a Nonlinear Inverted Pendulum**  
ATA B., ÇOBAN R.  
International Conference on Advanced Technology & Sciences (ICAT'14), 12 - 15 August 2014, pp.47-52
- XV. **Comparison of the Artificial Bee Colony and the Bees Algorithm for PID Controller Tuning**  
erçin ö., ÇOBAN R.  
International Symposium on innovations in intelligent systems and applications (INISTA 2011), 15 June 2011 - 18 June 2014, pp.595-598
- XVI. **Linear Quadratic Optimal Control of an Inverted Pendulum Using the Artificial Bee Colony Algorithm**  
ATA B., ÇOBAN R.  
IEEE 19th International Conference on Automation, Quality and Testing, Robotics (THETA), Cluj-Napoca, Romania, 22 - 24 May 2014
- XVII. **TRAINING THE MULTIFEEDBACK-LAYER NEURAL NETWORK USING THE PARTICLE SWARM OPTIMIZATION ALGORITHM**  
Aksu I. O., ÇOBAN R.  
10th International Conference on Electronics, Computer and Computation (ICECCO), Ankara, Turkey, 7 - 09 November 2013, pp.172-175
- XVIII. **Identification of Disk Drive Systems using the Multifeedback-Layer Neural Network and the Particle Swarm Optimization Algorithm**  
Aksu I. O., ÇOBAN R.  
International Conference on Technological Advances in Electrical, Electronics and Computer Engineering (TAECE), Konya, Turkey, 9 - 11 May 2013, pp.230-234
- XIX. **İplik İşletmesinde İstatiksel Proses Kontrol ve Kontrol Tablolarının Bulanık Mantık Yöntemi ile Yorumlanması**  
SABIR E. C., DÖNMEZ U., ÇOBAN R., AKSU İ. Ö.  
Yöneyem Araştırması ve Endüstri Mühendisliği 32. Ulusal Kongresi, YAEM2012, İstanbul, Turkey, 20 - 22 June 2012
- XX. **EEG İşaretlerinin DVM İle Sınıflandırılmasında Ayarlama Parametrelerinin ve Çekirdek Parametrelerinin PSO Algoritmasına Dayalı Optimizasyonu**  
ÖZBEYAZ A., GÜRSOY M. İ., ÇOBAN R.  
IEEE 19. Sinyal İşleme ve İletişim Uygulamaları Kurultayı (SİU 2011), Turkey, 20 - 22 April 2011, pp.399-402
- XXI. **Modeling of ITU TRIGA MARK II Reactor Using Neural Networks**  
ÇOBAN R., CAN B.  
The International Conference on Modeling and Simulation (AMSE'06), 28 - 30 August 2006, vol.1075
- XXII. **A New Recurrent Neural Network for Dynamic System Identification**  
ÇOBAN R., AVAN D., erçin ö.  
International Symposium on innovations in intelligent systems and applications (INISTA 2010), 21 - 24 June 2010, pp.31-34
- XXIII. **Dinamik Sistem Modelleme İçin Yeni Bir Geri Beslemeli Sinir Ağı Yaklaşımı**  
ÇOBAN R., AVAN D., erçin ö.  
", Elektrik-Elektronik Bilgisayar ve Biyomedikal Mühendisliği 13. Ulusal Kongresi, Turkey, 23 - 26 December 2009, pp.107-110
- XXIV. **Sualtı ve Suüstü Gemilerinin Akustik İz Çıkartımı**  
BAŞARAN E., ÇOBAN R., AKSOY S.  
SAVTEK 2008, Savunma Teknolojileri Kongresi, Turkey, 26 - 27 June 2008, pp.489-496
- XXV. **Integral Gauge Pressure Sensor With Frequency Output Signal**  
Beshliu V. S., Kantser V. G., Beldiman L. N., Beshliu V. V., ÇOBAN R.  
1999 International Semiconductor Conference, 5 - 09 October 1999, pp.491-494
- XXVI. **Görüntü Tanıma Uygulamalarında Cisim Zemin Sınırının Tespit Edilmesinde Bir Yöntem**  
BİLGİLİ E., KARAÇUHA E., ÇOBAN R.

## Supported Projects

- ÇOBAN R., ÖZBEYAZ A., ASLAN R., Project Supported by Higher Education Institutions, MARKA UYARANINA KARŞI ELDE EDİLEN EEG İŞARETLERİNİN DEĞİŞİK MAKİNE ÖĞRENMESİ ALGORİTMALARI İLE SINIFLANDIRILMASI, 2018 - 2019
- ÇOBAN R., Aksu İ. Ö., Project Supported by Higher Education Institutions, Çok girişli çok çıkışlı MIMO birleşik tank sistemi için ikinci derece kayan kipli kontrol tasarımı, 2017 - 2018
- ÇOBAN R., Şenyiğit (Sinekli) E., Project Supported by Higher Education Institutions, Elektromekanik sistemler için dinamik kayan kipli kontrol tasarımı, 2016 - 2018
- ÇOBAN R., Project Supported by Higher Education Institutions, Servo Motor Sistemi için Yörünge İzleyen Uyarlamalı GeriAdımlı Kontrolör Tasarımı, 2017 - 2017
- ÇOBAN R., AYDIN M. N., Project Supported by Higher Education Institutions, Second-Order Sliding Mode Control Design and Experimental Application to a Servo Motor, 2017 - 2017
- ÇOBAN R., Project Supported by Higher Education Institutions, Prediction of an Electromechanical System Parameters using the Particle Swarm Optimization Algorithm, 2016 - 2016
- ÇOBAN R., Aydın M. N., Project Supported by Higher Education Institutions, Servo motor deney sisteminin modelinin çıkartılması ve kayan kipli kontrol tasarımı, 2016 - 2016
- ÇOBAN R., ATA B., AKSU İ. Ö., Project Supported by Higher Education Institutions, Identification of An Inverted Pendulum using the MultifeedbackLayer Neural Network and the Particle Swarm Optimization Algorithm, 2015 - 2015
- ÇOBAN R., Project Supported by Higher Education Institutions, Çok Katmanlı Geri Beslemeli Yapay Sinir Ağı (MFLNN) ve Parçacık Sürü Optimizasyon Algoritması (PSO) Kullanarak Bir DC Motor Tanılaması, 2014 - 2014
- ÇOBAN R., Project Supported by Higher Education Institutions, Optimal Control of Inverted Pendulum Using the Artificial Bee Colony Algorithm, 2014 - 2014
- ÇOBAN R., Project Supported by Higher Education Institutions, Artificial Bee Colony Algorithm Based Linear Quadratic Optimal Controller Design for a Nonlinear Inverted Pendulum, 2014 - 2014

## Metrics

- Publication: 51  
Citation (WoS): 261  
Citation (Scopus): 274  
H-Index (WoS): 11  
H-Index (Scopus): 11

## Non Academic Experience

- Çukurova Üniversitesi, Öğretim üyesi  
Other Public Institution, Türk Standardları Enstitüsü  
Türk Standardları Enstitüsü, Mühendis  
Gebze Yüksek Teknoloji Enstitüsü, Araştırma Görevlisi  
Business Establishment Private, İnterdeka Telekomünikasyon A.Ş.  
İnterdeka AŞ, Şantiye şefi