

## Prof. MUSTAFA ÇAKIR

### Personal Information

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### International Researcher IDs

ScholarID: 1K4qRxUAAAAJ

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Publons / Web Of Science ResearcherID: M-8888-2017

ScopusID: 57022354200

Yoksis Researcher ID: 155232

### Education Information

Doctorate, Kocaeli University, Fen Bilimleri Enstitüsü, Elektronik Ve Haberleşme Mühendisliği (Dr), Turkey 2000 - 2006

Postgraduate, Kocaeli University, Fen Bilimleri Enstitüsü, Elektronik Ve Haberleşme Mühendisliği (YI) (Tezli), Turkey 1996 - 1998

Undergraduate, Yildiz Technical University, Kocaeli Mühendislik Fakültesi, Elektronik Ve Haberleşme Mühendisliği Pr., Turkey 1992 - 1996

### Dissertations

Doctorate, Genetik algoritma ile robot manipulatörlerin gerçek zamanlı yörünge planlaması, Kocaeli Üniversitesi, Fen Bilimleri Enstitüsü, Elektronik Ve Haberleşme Mühendisliği (Dr), 2006

Postgraduate, Bilgisayar destekli bulanık mantık denetler tabanlı ısı denetimi, Kocaeli Üniversitesi, Fen Bilimleri Enstitüsü, Elektronik Ve Haberleşme Mühendisliği (YI) (Tezli), 1998

### Research Areas

Industrial automation, Human and Robot Interaction, Route and Motion Planning, Fuzzy Sets and Systems, Evolutionary Computing, Neural Networks, Numerical Analysis

### Academic Titles / Tasks

Professor, Kocaeli University, Mühendislik Fakültesi, Elektronik ve Haberleşme Mühendisliği, 2023 - Continues

Associate Professor, Kocaeli University, Mühendislik Fakültesi, Elektronik ve Haberleşme Mühendisliği, 2018 - 2023

Assistant Professor, Kocaeli University, Mühendislik Fakültesi, Elektronik ve Haberleşme Mühendisliği, 2018 - 2018

Assistant Professor, Kocaeli University, Mühendislik Fakültesi, Elektronik ve Haberleşme Mühendisliği, 2007 - 2018

Lecturer, Kocaeli University, Sivil Havacılık Yüksekokulu, Uçak Elektrik-Elektronik Bölümü, 2004 - 2007

Research Assistant, Kocaeli University, Mühendislik Fakültesi, Elektronik ve Haberleşme Mühendisliği, 1996 - 2000

## Courses

INDUSTRIAL ROBOT, Undergraduate, 2023 - 2024, 2019 - 2020  
INDUSTRIAL ROBOT, Undergraduate, 2023 - 2024, 2019 - 2020  
COMPUTATIONAL INTELLIGENCE, Undergraduate, 2022 - 2023, 2018 - 2019, 2017 - 2018, 2016 - 2017  
COMPUTATIONAL INTELLIGENCE, Undergraduate, 2022 - 2023, 2018 - 2019, 2017 - 2018, 2016 - 2017  
POWER ELECTRONIC CIRCUITS, Undergraduate, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017  
POWER ELECTRONIC CIRCUITS, Undergraduate, 2019 - 2020, 2018 - 2019, 2017 - 2018, 2016 - 2017  
INTRODUCTION TO CONTROL SYSTEMS, Undergraduate, 2017 - 2018, 2016 - 2017  
INTRODUCTION TO ROBOTIC SYSTEMS, Undergraduate, 2017 - 2018, 2016 - 2017  
INTRODUCTION TO ROBOTIC SYSTEMS, Undergraduate, 2017 - 2018, 2016 - 2017  
INTRODUCTION TO CONTROL SYSTEMS, Undergraduate, 2017 - 2018, 2016 - 2017

## Advising Theses

Çakır M., Otomotiv endüstrisinde nokta direnç kaynağının endüstriyel robot ile tahribatsız muayenesi, Doctorate, C.DENİZ(Student), 2017  
Çakır M., Otomotiv endüstrisinde konvansiyonel robotik hatlarda görüntü işleme tabanlı kontrol, Postgraduate, C.DENİZ(Student), 2011  
Çakır M., Gerçek zamanlı işletim sistemi üzerinde insan-makine arayüzü tasarımı, Postgraduate, YAĞABEYLİ(Student), 2010

## Jury Memberships

Doctorate, Tez Savunma Jürisi, KOU, March, 2016

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

- I. **High precise and zero-cost solution for fully automatic industrial robot TCP calibration**  
ÇAKIR M., Deniz C.  
INDUSTRIAL ROBOT-THE INTERNATIONAL JOURNAL OF ROBOTICS RESEARCH AND APPLICATION, vol.46, no.5, pp.650-659, 2019 (SCI-Expanded)
- II. **In-line stereo-camera assisted robotic spot welding quality control system**  
DENİZ C., ÇAKIR M.  
INDUSTRIAL ROBOT-AN INTERNATIONAL JOURNAL, vol.45, no.1, pp.54-63, 2018 (SCI-Expanded)
- III. **A solution to the hand-eye calibration in the manner of the absolute orientation problem**  
DENİZ C., ÇAKIR M.  
INDUSTRIAL ROBOT-AN INTERNATIONAL JOURNAL, vol.45, no.1, pp.64-77, 2018 (SCI-Expanded)
- IV. **A NOVEL DESIGNED INTERACTIVE TRAINING PLATFORM FOR INDUSTRIAL ROBOT OFFLINE PROGRAMMING AND ROBOTICS EDUCATION**  
DENİZ C., ÇAKIR M.  
INTERNATIONAL JOURNAL OF ROBOTICS & AUTOMATION, vol.32, no.6, pp.665-672, 2017 (SCI-Expanded)
- V. **An FDTD-Based Parallel Virtual Tool for RCS Calculations of Complex Targets**  
ÇAKIR G., ÇAKIR M., Sevgi L.  
IEEE ANTENNAS AND PROPAGATION MAGAZINE, vol.56, no.5, pp.74-90, 2014 (SCI-Expanded)
- VI. **A graphic user interface for evaluation of the camera parameters**  
Cakir M.  
COMPUTER APPLICATIONS IN ENGINEERING EDUCATION, vol.21, no.1, pp.147-157, 2013 (SCI-Expanded)

- VII. **A Novel Reference Current Estimation Schema for Active Power Filters without Synchronization Signal**  
 ÇAKIR M.  
 INTERNATIONAL REVIEW OF ELECTRICAL ENGINEERING-IREE, vol.7, no.4, pp.4684-4696, 2012 (SCI-Expanded)
- VIII. **Accurate and Fast Reference Signal Estimation with Averaged-LMS for Active Power Filters**  
 ÇAKIR M.  
 INTERNATIONAL REVIEW OF ELECTRICAL ENGINEERING-IREE, vol.7, no.2, pp.3739-3748, 2012 (SCI-Expanded)
- IX. **A Low Cost Implementation of a Single-Phase Shunt Active Filter**  
 HEKIMOGLU B., ÇAKIR M., ABUT N.  
 INTERNATIONAL REVIEW OF ELECTRICAL ENGINEERING-IREE, vol.6, no.5, pp.2135-2143, 2011 (SCI-Expanded)
- X. **Path Planning and Image Segmentation Using the FDTD Method**  
 ÇAKIR M., Sevgi L.  
 IEEE ANTENNAS AND PROPAGATION MAGAZINE, vol.53, no.2, pp.230-245, 2011 (SCI-Expanded)
- XI. **Three-Phase Shunt Active Power Filter Control with Line Current Sensing Only, Under Unbalanced Loading Conditions**  
 HEKIMOGLU B., ÇAKIR M., ABUT N.  
 INTERNATIONAL REVIEW OF ELECTRICAL ENGINEERING-IREE, vol.5, no.4, pp.1398-1404, 2010 (SCI-Expanded)
- XII. **SUBSURFACE IMAGING, FDTD-BASED SIMULATIONS AND ALTERNATIVE SCAN/PROCESSING APPROACHES**  
 Karpas E., ÇAKIR M., Sevgi L.  
 MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, vol.51, no.4, pp.1070-1075, 2009 (SCI-Expanded)
- XIII. **Electromagnetic radiation from multilayer printed circuit boards: a 3D FDTD-based virtual emission predictor**  
 ÇAKIR G., ÇAKIR M., Sevgi L.  
 TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.17, no.3, pp.315-325, 2009 (SCI-Expanded)
- XIV. **A two-dimensional FDTD-Based virtual visualization tool for metamaterial-wave interaction**  
 ÇAKIR M., ÇAKIR G., Sevgi L.  
 IEEE ANTENNAS AND PROPAGATION MAGAZINE, vol.50, no.3, pp.166-175, 2008 (SCI-Expanded)
- XV. **Radar cross section (RCS) modeling and simulation, part 2: A novel FDTD-based RCS prediction virtual tool for the resonance regime**  
 ÇAKIR G., ÇAKIR M., Sevgi L.  
 IEEE ANTENNAS AND PROPAGATION MAGAZINE, vol.50, no.2, pp.81-94, 2008 (SCI-Expanded)
- XVI. **Radar cross section (RCS) modeling and simulation, Part 1: A tutorial review of definitions, strategies, and canonical examples**  
 Uluisik C., ÇAKIR G., ÇAKIR M., Sevgi L.  
 IEEE ANTENNAS AND PROPAGATION MAGAZINE, vol.50, no.1, pp.115-126, 2008 (SCI-Expanded)
- XVII. **An educational tool for 6-DOF industrial robots with quaternion algebra**  
 Cakir M., BUTUN E.  
 COMPUTER APPLICATIONS IN ENGINEERING EDUCATION, vol.15, no.2, pp.143-154, 2007 (SCI-Expanded)
- XVIII. **A novel virtual FDTD-based microstrip circuit design and analysis tool**  
 Cakir G., Cakir M., SEVGI L.  
 IEEE ANTENNAS AND PROPAGATION MAGAZINE, vol.48, no.6, pp.161-173, 2006 (SCI-Expanded)
- XIX. **A multipurpose FDTD-based two-dimensional electromagnetic virtual tool**  
 Cakir G., Cakir M., SEVGI L.  
 IEEE ANTENNAS AND PROPAGATION MAGAZINE, vol.48, no.4, pp.142-151, 2006 (SCI-Expanded)
- XX. **Effects of genetic algorithm parameters on trajectory planning for 6-DOF industrial robots**  
 Cakir M., Butun E., Kayman Y.  
 INDUSTRIAL ROBOT-THE INTERNATIONAL JOURNAL OF ROBOTICS RESEARCH AND APPLICATION, vol.33, no.3, pp.205-215, 2006 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Fren Hortumlarının Servis Şartları Altındaki Hareketlerinin Robotik Sistem ile CAD Ortamına Aktarılması**  
ÇAKIR M., Deniz C.  
Uludağ University Journal of The Faculty of Engineering, vol.24, pp.63-76, 2019 (Peer-Reviewed Journal)

## Refereed Congress / Symposium Publications in Proceedings

- I. **Path Planning for Industrial Robot Milling Applications**  
ÇAKIR M., HEKİMOĞLU B., Deniz C.  
3rd World Conference on Technology, Innovation and Entrepreneurship, WOCTINE 2019, İstanbul, İstanbul, Turkey, 21 - 23 June 2019, vol.158, pp.27-36
- II. **Workspace Management in Multi-Robotic Production Stations for Collision Avoidance**  
ÇAKIR M., DENİZ C.  
4th International Mediterranean Science and Engineering Congress, 25 - 27 April 2019
- III. **Robot Collision Avoidance Control And Management Method For Industrial Robots In Automotive Industry**  
DENİZ C., ÇAKIR M.  
ICAT 2017, 9 - 12 May 2017
- IV. **Kamera Destekli Gerçek Zamanlı Robotik Al-Bırak Uygulamaları için Yeni bir Matematiksel Kinematik Güvenlik Modeli**  
DENİZ C., ÇAKIR M.  
ELECO 'xx 2012, Bursa, Turkey, 29 November - 01 December 2012, pp.513-518
- V. **Gerçekçi Hava Hedeflerinin FDTD Tabanlı RKA Simulasyonları**  
ÇAKIR G., ÇAKIR M., SEVGİ L.  
Savunma Teknolojileri Konferansı, ODTU, Ankara, Turkey, 20 - 22 June 2012
- VI. **Endüstriyel Robotik Uygulamalar için Kamera Tabanlı ve PLC Denetimli Bir Görsel Servo Kontrol Sistemi**  
DENİZ C., ÇAKIR M.  
TOK 'xx 2011 Otomatik Kontrol Ulusal Toplantısı, İzmir, Turkey, 14 - 16 September 2011, pp.585-598
- VII. **Constrained Trajectory Planning for Cooperative Work with Behavior Based Genetic Algorithm**  
ÇAKIR M., BÜTÜN E.  
DISTRIBUTED COMPUTING AND ARTIFICIAL INTELLIGENCE, Valencia, Spain, 7 - 10 September 2010, vol.79, pp.497
- VIII. **AN FDTD-BASED SUBSURFACE IMAGING VIRTUAL TOOL FOR TESTING UWB ANTENNA ARRAY CHARACTERISTICS**  
KARPAT E., ÇAKIR M., SEVGİ L.  
EuCAP 2007, Edinburgh, Saint Helena, 11 November - 16 December 2007
- IX. **PARALLEL FDTD-BASED RADAR CROSS SECTION SIMULATIONS**  
ÇAKIR M., ÇAKIR G., SEVGİ L.  
ELECO 2007, Bursa, Turkey, 5 - 09 December 2007
- X. **Metamaterials and FDTD based Numerical Modeling Studies**  
ÇİMEN S., ÇAKIR M., ÇAKIR G., SEVGİ L.  
ELECO 2007, Bursa, Turkey, 5 - 09 December 2007
- XI. **RADAR KESİT ALANI (RKA) MODELLEME VE SİMÜLASYONU**  
ÇAKIR G., ÇAKIR M., SEVGİ L.  
USMOS 007, Ankara, Turkey, 18 - 19 April 2007, pp.156-166
- XII. **Endüstriyel Robotların Koterniyon Kullanılarak Modellenmesi ve Yol Planlaması**  
ÇAKIR M., BÜTÜN E.

TOK 'xx 05 Otomatik Kontrol Ulusal Toplantısı, İstanbul, Turkey, 2 June - 03 December 2005, pp.303-312

XIII. **Genetik Algoritma Parametrelerinin Endüstriyel Robotların Yörünge Planlamasına Etkileri**  
ÇAKIR M., BÜTÜN E.

TOK 'xx 05 Otomatik Kontrol Ulusal Toplantısı, Turkey, 2 - 03 June 2005, pp.313-317

## **Supported Projects**

Çimen S., Çakır M., Çakır G., TUBITAK Project, Ultra Geniş Bantlı UGB Radar Kesit Alanı Azaltılmış Mikroşerit Anten Tasarımı, 2011 - 2014

ÇAKIR M., Industrial Thesis Project, Fren Hortumlarının Servis Şartları Altındaki Yörünge Analizlerinin Robotik Sistem Kullanılarak Görüntü İşleme Destegi İle Gerçekleştirilmesi, 2010 - 2011

## **Activities in Scientific Journals**

INDUSTRIAL ROBOT, Advisory Committee Member, 2023 - Continues

## **Metrics**

Publication: 34

Citation (WoS): 236

Citation (Scopus): 285

H-Index (WoS): 9

H-Index (Scopus): 9

## **Non Academic Experience**

Company, Ford Otosan

Ford Otomotiv A.Ş.