

## **Prof. MELİK DÖLEN**

### **Personal Information**

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### **International Researcher IDs**

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Publons / Web Of Science ResearcherID: AGV-7654-2022

ScopusID: 6602137631

Yoksis Researcher ID: 167324

### **Education Information**

Doctorate, University of Wisconsin-Madison, Makina Mühendisliği, United States Of America 1995 - 2000

Postgraduate, University of New Hampshire, Makina Mühendisliği, United States Of America 1993 - 1994

Undergraduate, Istanbul Technical University, Makine Fakültesi, Turkey 1986 - 1990

### **Dissertations**

Doctorate, Modeling and Estimation for CNC Machine Tools by Structured Neural Networks, University Of Wisconsin-Madison, Makina Mühendisliği, 2000

Postgraduate, Cutting Force Estimation for CNC Machine Tools by Feed Drive Current Monitoring, University Of New Hampshire, Makina Mühendisliği, 1994

### **Research Areas**

Mechanical Engineering, Machine Design, Computer Aided Design and Manufacturing, Non-traditional manufacturing methods, Machining Methods, System Dynamics and Control, Robotics, Modeling and Simulation of Dynamic Systems, Engineering and Technology

### **Academic Titles / Tasks**

Associate Professor, Middle East Technical University, Faculty of Engineering, Department of Mechanical Engineering, 2014 - 2020

Lecturer, Middle East Technical University, Faculty of Engineering, Department of Mechanical Engineering, 2001 - 2002  
Research Assistant, Istanbul Technical University, Makine Fakültesi, Makine Mühendisliği Bölümü, 1991 - 1993

### **Advising Theses**

DÖLEN M., AN ADVANCED EVOLUTIONARY PROGRAMMING METHOD FOR MECHANICAL SYSTEM DESIGN: FEASIBILITY ENHANCED PARTICLE SWARM OPTIMIZATION, Doctorate, M.SİNAN(Student), 2019

DÖLEN M., Visual servoing for target tracking using a non-linear 2 degree of freedom system, Postgraduate, B.Bilgin(Student), 2019

DÖLEN M., MODULAR FIXTURE DESIGN FOR CNC MACHINING CENTERS, Postgraduate, Y.KILIÇARSLAN(Student), 2019

DÖLEN M., YAMAN U., A novel design and fabrication paradigm for 3D printers: Lipro, Postgraduate, V.HASELTALAB(Student), 2018

DÖLEN M., Camera trajectory estimation for indoor robot odometry using stereo images and inertial measurements, Postgraduate, A.HORASAN(Student), 2016

DÖLEN M., Advanced command generation paradigms for CNC systems, Doctorate, U.YAMAN(Student), 2014

DÖLEN M., Advanced motion command generation paradigms for CNC systems/, Doctorate, U.Yaman(Student), 2014

DÖLEN M., A STUDY ON MATCHED-PIECE LAPPING PROCESS FOR PRODUCTION OF PRECISION MACHINE ELEMENTS, Postgraduate, S.VAYGHANNEZHAD(Student), 2014

DÖLEN M., An automated calibration setup for laser beam positioning systems in visual inspection applications, Postgraduate, E.KIRAZ(Student), 2013

DÖLEN M., Structured neural networks for modeling and identification of nonlinear mechanical systems, Doctorate, E.KILIÇ(Student), 2012

DÖLEN M., An advanced machining process simulator for industrial applications, Postgraduate, E.YEĞİN(Student), 2010

KOKU A. B., DÖLEN M., Design of an integrated hardware-in-the-loop simulation system, Postgraduate, S.ÜŞENMEZ(Student), 2010

DÖLEN M., Design of advanced motion command generators utilizing FPGA, Postgraduate, U.YAMAN(Student), 2010

DÖLEN M., Real-time motion control using field programmable gate arrays, Postgraduate, B.RAGIP(Student), 2010

DÖLEN M., Universal command generator for robotics and CNC machinery, Postgraduate, A.AKINCI(Student), 2009

DÖLEN M., An electronic control unit design for a miniature jet engine, Postgraduate, C.POLAT(Student), 2009

KOKU A. B., DÖLEN M., Global urban localization of an outdoor mobilier robot using satellite images, Doctorate, C.ULAŞ(Student), 2009

DÖLEN M., Distributed control system for CNC machine tools, Postgraduate, F.A.(Student), 2009

DÖLEN M., Design of a touch trigger probe for a coordinate measuring machine, Postgraduate, E.KARUÇ(Student), 2007

DÖLEN M., Novel position measurement and estimation methods for CNC machine systems, Postgraduate, E.KILIÇ(Student), 2007

DÖLEN M., Uncertainty analysis of coordinate measuring machine (CMM) measurements, Postgraduate, A.SÖZAK(Student), 2007

KOKU A. B., DÖLEN M., Modular embedded system design/implementation for mechatronics education and research, Postgraduate, A.ÖZGÜ(Student), 2007

DÖLEN M., Design of smart controllers for hybrid electric vehicles, Postgraduate, E.ÖZEN(Student), 2005

DÖLEN M., Development of a Micro-fabrication process simulator for Micro-Electro-Mechanical Systems (MEMS), Postgraduate, A.YILDIRIM(Student), 2005

DÖLEN M., "High precision CNC motion control", Postgraduate, G.Mehmet(Student), 2004

DÖLEN M., High precesion CNC motion control, Postgraduate, G.MEHMET(Student), 2004

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

- I. **Adaptive Toolpath Generation for Material Extrusion Additive Manufacturing Using a Nozzle with Rectangular Orifice**  
Gharehpapagh B., Dilberoglu U. M., Yaman U., Dölen M.  
Additive Manufacturing, vol.78, 2023 (SCI-Expanded)
- II. **Current trends and research opportunities in hybrid additive manufacturing**  
Dilberoğlu M. U., Gharehpapagh B., Yaman U., Dölen M.  
INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY, vol.113, pp.623-648, 2021 (SCI-Expanded)

- III. **Toward a Simple Design and Manufacturing Pipeline for Additive Manufacturing**  
Haseltalab V., DÖLEN M., YAMAN U., Hoffmann C.  
IEEE ACCESS, vol.9, pp.107224-107234, 2021 (SCI-Expanded)
- IV. **Comparison of multi-objective and single-objective approaches in feasibility enhanced particle swarm optimization**  
Hasanoglu M. S., Dolen M.  
JOURNAL OF THE FACULTY OF ENGINEERING AND ARCHITECTURE OF GAZI UNIVERSITY, vol.35, no.2, pp.887-900, 2020 (SCI-Expanded)
- V. **Generation of patterned indentations for additive manufacturing technologies**  
Yaman U., Dölen M., Hoffmann C.  
IIE Transactions, vol.51, pp.209-217, 2019 (SCI-Expanded)
- VI. **Multi-objective feasibility enhanced particle swarm optimization**  
Hasanoglu M. S., DÖLEN M.  
ENGINEERING OPTIMIZATION, vol.50, no.12, pp.2013-2037, 2018 (SCI-Expanded)
- VII. **A novel command generation paradigm for production machine systems**  
Yaman U., Dölen M.  
ROBOTICS AND COMPUTER-INTEGRATED MANUFACTURING, vol.51, pp.25-36, 2018 (SCI-Expanded)
- VIII. **Feasibility enhanced particle swarm optimization for constrained mechanical design problems**  
Hasanoglu M. S., DÖLEN M.  
PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART C-JOURNAL OF MECHANICAL ENGINEERING SCIENCE, vol.232, no.2, pp.381-400, 2018 (SCI-Expanded)
- IX. **A gradient-based morphological method to produce planar curve offsets**  
Yaman U., Dölen M.  
INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY, vol.80, pp.255-274, 2015 (SCI-Expanded)
- X. **Pressure prediction on a variable-speed pump controlled hydraulic system using structured recurrent neural networks**  
KILIÇ E., DÖLEN M., ÇALIŞKAN H., KOKU A. B., Balkan T.  
CONTROL ENGINEERING PRACTICE, vol.26, pp.51-71, 2014 (SCI-Expanded)
- XI. **New morphological methods to generate two-dimensional curve offsets**  
DÖLEN M., YAMAN U.  
INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY, vol.71, pp.1687-1700, 2014 (SCI-Expanded)
- XII. **Prediction of slip in cable-drum systems using structured neural networks**  
KILIÇ E., DÖLEN M.  
PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART C-JOURNAL OF MECHANICAL ENGINEERING SCIENCE, vol.228, no.3, pp.441-456, 2014 (SCI-Expanded)
- XIII. **Direct command generation for CNC machinery based on data compression techniques**  
YAMAN U., DÖLEN M.  
ROBOTICS AND COMPUTER-INTEGRATED MANUFACTURING, vol.29, no.2, pp.344-356, 2013 (SCI-Expanded)
- XIV. **Accurate pressure prediction of a servo-valve controlled hydraulic system**  
KILIÇ E., DÖLEN M., KOKU A. B., ÇALIŞKAN H., Balkan T.  
MECHATRONICS, vol.22, no.7, pp.997-1014, 2012 (SCI-Expanded)
- XV. **Position estimation for timing belt drives of precision machinery using structured neural networks**  
KILIÇ E., DOĞRUER C. U., DÖLEN M., KOKU A. B.  
MECHANICAL SYSTEMS AND SIGNAL PROCESSING, vol.29, pp.343-361, 2012 (SCI-Expanded)
- XVI. **Novel solutions for Global Urban Localization**  
DOĞRUER C. U., KOKU A. B., DÖLEN M.  
ROBOTICS AND AUTONOMOUS SYSTEMS, vol.58, no.5, pp.634-647, 2010 (SCI-Expanded)
- XVII. **Analysis and estimation of motion transmission errors of a timing belt drive**  
KILIÇ E., DÖLEN M., KOKU A. B.

TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.18, no.5, pp.883-897, 2010  
(SCI-Expanded)

- XVIII. **A cutting force estimator for CNC machining centers**  
Dolen M., Kaftanoglu B., Lorenz R.  
CIRP ANNALS-MANUFACTURING TECHNOLOGY, vol.53, no.1, pp.313-316, 2004 (SCI-Expanded)
- XIX. **Cross reference models for estimating unknown principal force components in end-milling process**  
Dolen M., Kaftanoglu B., Lorenz R.  
CIRP ANNALS-MANUFACTURING TECHNOLOGY, vol.52, no.1, pp.81-84, 2003 (SCI-Expanded)
- XX. **Optimum design and operation of 'a pump-piping-storage system'**  
Kaplan H., Seireg A., Dolen M.  
INTERNATIONAL JOURNAL OF COMPUTER APPLICATIONS IN TECHNOLOGY, vol.14, pp.180-189, 2001 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Simulator of an additive and subtractive type of hybrid manufacturing system**  
Dilberoğlu M. U., Yaman U., Dölen M.  
Procedia Manufacturing, vol.2019, no.38, pp.792-799, 2020 (Scopus)
- II. **A New Method for Generating Image Projections in DLP-type 3D Printer Systems**  
YAMAN U., DÖLEN M., Dilberoglu U. M., GHAREHPAPAGH B.  
Procedia Manufacturing, vol.11, pp.490-500, 2017 (Scopus)
- III. **The Role of Additive Manufacturing in the Era of Industry 4.0**  
Dilberoglu U. M., GHAREHPAPAGH B., YAMAN U., DÖLEN M.  
Procedia Manufacturing, vol.11, pp.545-554, 2017 (Scopus)
- IV. **Yapay Sinir Ağ Modellerinin Valf Denetimli Hidrolik Bir Sistemin Uzun Süreli Basınç Tahmininde Kullanılması**  
KILIÇ E., ÇALIŞKAN H., DÖLEN M., KOKU A. B., BALKAN R. T.  
Mühendis ve Makina, vol.53, pp.50-61, 2012 (Peer-Reviewed Journal)
- V. **Global urban localization of an outdoor mobile robot with genetic algorithms**  
DOĞRUER C. U., Koku A. B., DÖLEN M.  
Springer Tracts in Advanced Robotics, vol.44, pp.103-112, 2008 (Scopus)
- VI. **A New Micro fabrication Process Simulator for MEMS Designs**  
YILDIRIM A., DÖLEN M.  
International Journal of Design Engineering, vol.1, no.4, pp.360-379, 2008 (Peer-Reviewed Journal)
- VII. **Nonlinear Position Estimators based on Artificial Neural Networks for Low Cost Manufacturing Systems**  
KILIÇ E., DÖLEN M., KOKU A. B.  
Journal of Automation, Mobile Robotics, and Intelligent Systems, vol.1, pp.40-44, 2007 (Scopus)
- VIII. **A Test Setup for Evaluating Long-term Measurement Characteristics of Optical Mouse Sensors**  
KANBUROGLU F. A., DÖLEN M., KOKU A. B.  
Journal of Automation Mobile Robotics and Intelligent Systems, vol.1, pp.71-75, 2007 (Scopus)
- IX. **Novel Position Estimators for Timing Belt Drives**  
KILIÇ E., DÖLEN M., KOKU A. B., DOĞRUER C. U.  
Journal of Automation, Mobile Robotics, and Intelligent Systems, vol.1, no.2, pp.55-61, 2007 (Scopus)
- X. **Novel position estimators for timing belt drivers**  
KILIÇ E., DÖLEN M., KOKU A. B., DOĞRUER C. U.  
Journal of Automation Mobile Robotics and Intelligent Systems, vol.1, pp.55-61, 2007 (Scopus)
- XI. **Mikro Elekro Mekanik Sistemlerin Tasarım ve Ölçeklendirme İlkeleri**  
DÖLEN M., KAPLAN H.  
Makina İmalat ve Tasarım Dergisi, vol.7, no.1, pp.1-10, 2005 (Peer-Reviewed Journal)

- XII. **Discrete parameter Nonlinear Constrained Optimization of a Gear Train by Genetic Algorithms**  
DÖLEN M., KAPLAN H., SEIREG A.  
INTERNATIONAL JOURNAL OF COMPUTER APPLICATIONS IN TECHNOLOGY, vol.24, no.2, pp.110-121, 2005  
(Scopus)
- XIII. **Mikro Elektro Mekanik Sistemler Üretim Teknikleri II**  
KAPLAN H., DÖLEN M., DUR O.  
Endüstri Otomasyon Dergisi, vol.93, pp.46-54, 2004 (Peer-Reviewed Journal)
- XIV. **Mikro Elektro Mekanik Sistemler Üretim Teknikleri I**  
KAPLAN H., DÖLEN M., DUR O.  
Endüstri Otomasyon Dergisi, vol.92, pp.18-19, 2004 (Peer-Reviewed Journal)
- XV. **Yay Yürek Mekanizmalı Etkin Bir Temel Yalıtım Sisteminin Deprem Şokları Karşısındaki Dinamik Davranışının Deneysel Olarak İncelenmesi**  
ALSAIF K., KAPLAN H., DÖLEN M.  
Makina İmalat ve Tasarım Dergisi, vol.4, no.4, pp.220-235, 2002 (Peer-Reviewed Journal)
- XVI. **General Methodologies for Neural Network Programming**  
DÖLEN M., Lorenz R. D.  
International Journal of Smart Engineering System Design, vol.4, no.1, pp.63-73, 2002 (Peer-Reviewed Journal)
- XVII. **MikroElektroMekanik Sistemler MEMS Genel bir Tanıtım**  
DÖLEN M., KAPLAN H.  
Makina İmalat ve Tasarım Dergisi, vol.4, no.3, pp.173-185, 2002 (Peer-Reviewed Journal)
- XVIII. **Recurrent Neural Network Topologies for Spectral State Estimation and Differentiation**  
DÖLEN M., KAYIKÇI E., Lorenz R. D.  
International Journal of Smart Engineering System Design, vol.4, no.2, pp.75-89, 2002 (Peer-Reviewed Journal)

## Books & Book Chapters

- I. **Global Urban Localization of Outdoor Mobile Robots using Genetic Algorithms**  
DOĞRUER C. U., KOKU A. B., DÖLEN M.  
in: Springer Tracts in Advanced Robotics, Bruno Siciliano, Oussama Khatib, Frans Groen, Editor, Springer, pp.103-112, 2008

## Refereed Congress / Symposium Publications in Proceedings

- I. **Simulator of an additive and subtractive type of hybrid manufacturing system**  
Dilberoğlu M. U., Haseltalab V., Yaman U., Dölen M.  
29th International Conference on Flexible Automation and Intelligent Manufacturing, FAIM 2019, Limerick, Ireland, 24 - 28 June 2019, vol.38, pp.792-799
- II. **Investigation of variable bead widths in FFF process**  
Gharehpapagh B., Dölen M., Yaman U.  
29th International Conference on Flexible Automation and Intelligent Manufacturing, FAIM 2019, Limerick, Ireland, 24 - 28 June 2019, vol.38, pp.52-59
- III. **Current Trends and Research Opportunities in Hybrid Manufacturing**  
Gharehpapagh B., Dilberoğlu U. M., YAMAN U., DÖLEN M.  
EUSIPCO 2017 - W4 Creative Design and Advanced Manufacturing: An emerging application area for Signals and Systems, Kos, Greece, 02 September 2017
- IV. **Formation of Patterned Indentations for Additive Manufacturing Applications**  
YAMAN U., DÖLEN M., Hoffmann C.  
EUSIPCO 2017 - W4 Creative Design and Advanced Manufacturing: An emerging application area for Signals and Systems, Kos, Greece, 02 September 2017

- V. **Kapalı Alanlarda Robot Konumlaması için Stereo Görüntüler ve Eylemsizlik Duyucusu Kullanılarak Kamera Yörüngesinin Kestirilmesi**  
HORASAN A., İSMAİL E., DÖLEN M., KOKU A. B.  
Türkiye Robotbilim Konferansı (ToRK-2016), İstanbul, Turkey, 2 - 03 November 2016, vol.1
- VI. **A Command Generation Approach for Desktop Fused Filament Fabrication 3D Printers**  
YAMAN U., DÖLEN M.  
42nd Annual Conference of the IEEE-Industrial-Electronics-Society (IECON), Florence, Italy, 24 - 27 October 2016, pp.4582-4587
- VII. **A New Hardware-in-the-Loop Simulator for Control Engineering Education**  
USENMEZ S., YAMAN U., DOLEN M., KOKU A. B.  
IEEE Global Engineering Education Conference, İstanbul, Turkey, 3 - 05 April 2014, pp.1-8
- VIII. **Servo Motor Sürücü Sistemleri için Geliştirilen Hareket Komut Üretecinin FPGA ile Gerçekleştirilmesi**  
YAMAN U., DÖLEN M.  
Otomatik Kontrol Ulusal Toplantısı (TOK), Malatya, Turkey, 26 - 28 September 2013, vol.1, pp.420-425
- IX. **Hareket Denetimi Uygulamalarında Kullanılan Sayısal Filtrelerin FPGA ile Gerçekleştirilmesi**  
YAMAN U., MUTLU B. R., DÖLEN M., KOKU A. B.  
Türk Otomatik Kontrol Ulusal Toplantısı (TOK13), Malatya, Turkey, 26 - 28 September 2013, pp.388-393
- X. **Servo Motor Sürücü Sistemleri İçin Geliştirilen Hareket Komut Üretecinin FPGA ile Gerçekleştirilmesi**  
YAMAN U., DÖLEN M.  
Otomatik Kontrol Ulusal Toplantısı, TOK2013, Malatya, Turkey, 26 - 28 September 2013, pp.420-425
- XI. **A New Hardware-in-the-Loop Simulator for CNC Machine Applications**  
USENMEZ S., MUTLU B. R., Yaman U., KILIÇ E., Dolen M., Koku A. B.  
IEEE International Conference on Mechatronics (ICM), Vicenza, Italy, 27 February - 01 March 2013
- XII. **A Measurement Probe for Coordinate Measuring Machines Based on GMR Technology**  
Karuc E., Kiliç E., DÖLEN M.  
IEEE International Conference on Mechatronics (ICM), Vicenza, Italy, 27 February - 01 March 2013
- XIII. **Yapay Sinir Ağ Modellerinin Valf Denetimli Hidrolik Bir Sistemin Uzun Süreli Basınç Tahmininde Kullanılması**  
KILIÇ E., ÇALIŞKAN H., DÖLEN M., KOKU A. B., BALKAN R. T.  
VI. Ulusal Hidrolik Pnömatik Kongresi, İzmir, Turkey, 12 - 15 October 2011
- XIV. **Long-term prediction of hydraulic system dynamics via structured recurrent neural networks**  
KILIÇ E., DÖLEN M., KOKU A. B.  
2011 IEEE International Conference on Mechatronics, ICM 2011, İstanbul, Turkey, 13 - 15 April 2011, pp.330-335
- XV. **Evaluation of compression algorithms for motion command generation**  
YAMAN U., DÖLEN M.  
2011 IEEE International Conference on Mechatronics, ICM 2011, İstanbul, Turkey, 13 - 15 April 2011, pp.45-50
- XVI. **Experimental evaluation of cable drum systems as linear motion sensors**  
KILIÇ E., DÖLEN M., KOKU A. B.  
IEEE International Conference on Mechatronics (ICM 2011), 13 - 15 April 2011, pp.666-671
- XVII. **Implementations of state-space controllers using field Programmable Gate Arrays**  
Mutlu R., DÖLEN M.  
2010 International Symposium on Power Electronics, Electrical Drives, Automation and Motion, SPEEDAM 2010, Pisa, Italy, 14 - 16 June 2010, pp.1436-1441
- XVIII. **A Hybrid Method to Estimate Velocity and Acceleration using Low-Resolution Optical Incremental Encoders**  
Baser O., Kiliç E., KONUKSEVEN E. İ., DÖLEN M.  
International Conference on Signals and Electronic Systems (ICSES), Gliwice, Poland, 7 - 10 September 2010, pp.57-60
- XIX. **An Enhanced Adaptive Windowing Technique for Velocity and Acceleration Estimation using Incremental Position Encoders**  
Kiliç E., Baser O., DÖLEN M., KONUKSEVEN E. İ.

- International Conference on Signals and Electronic Systems (ICSES), Gliwice, Poland, 7 - 10 September 2010,  
pp.61-64
- XX. **Novel Touch-Trigger Probe for Coordinate Measuring Machines**  
Karuc E., DÖLEN M.  
3rd International Conference on Advanced Design and Manufacture, Nottingham, United Kingdom, 8 - 10 September 2010, vol.450, pp.19-20
- XXI. **A novel command generation method with variable feedrate utilizing FPGA for motor drives**  
Yarnan U., DÖLEN M., KOKU A. B.  
2010 8th IEEE Workshop on Intelligent Solutions in Embedded Systems, WISES 2010, Heraklion, Greece, 8 - 09 July 2010, pp.67-72
- XXII. **A Novel Command Generation Method with Variable Feedrate utilizing FGPA for Motor Drives**  
YAMAN U., DÖLEN M., KOKU A. B.  
IEEE Workshop on Intelligent Solutions in Embedded Systems (WISES), Heraklion, Greece, 8 - 09 July 2010, vol.1, pp.67-72
- XXIII. **Uncertainty Analysis Methods for the Measurements of Coordinate Measuring Machines**  
SÖZAK A., KONUKSEVEN E. İ., DÖLEN M.  
ULUSLARARASI MAKİNA TASARIMI VE İMALATI KONGRESİ (UMTİK), Güzelyurt, Cyprus (Kktc), 29 June - 02 July 2010, vol.1, pp.505-524
- XXIV. **Novel Implementation of State Space Controllers using Field Programmable Gate Arrays**  
MUTLU B., DÖLEN M.  
IEEE Int'l Symposium on Power Electronics, Electrical Drives, Automation, and Motion (SPEEDAM), Pisa, Italy, 14 - 16 June 2010, vol.1, pp.1436-1441
- XXV. **Direct Command Generation Methods for Servo-Motor Drives**  
YAMAN U., MUTLU B. R., DÖLEN M., KOKU A. B.  
12th International Conference on Electrical Machines and Systems, Tokyo, Japan, 15 - 18 November 2009, pp.1354-1359
- XXVI. **Real-time hardware-in-the-loop simulation of electrical machine systems using FPGAs**  
ÜŞENMEZ S., Dilan R., DÖLEN M., KOKU A. B.  
12th International Conference on Electrical Machines and Systems, ICEMS 2009, Tokyo, Japan, 15 - 18 November 2009
- XXVII. **Performance Evaluation of Different Real-Time Motion Controller Topologies Implemented on a FPGA**  
MUTLU B. R., YAMAN U., DÖLEN M., KOKU A. B.  
12th International Conference on Electrical Machines and Systems, Tokyo, Japan, 15 - 18 November 2009, pp.902-907
- XXVIII. **Kayan Kipli DC Motor Konum Denetiminin FPGA ile Gerçekleştirilmesi**  
MUTLU B. R., YAMAN U., DÖLEN M., KOKU A. B.  
Türk Otomatik Kontrol Ulusal Toplantısı (TOK09), İstanbul, Turkey, 13 - 16 October 2009
- XXIX. **Bilgisayar Denetimli Takım Tezgahları için Dağıtık bir Hareket Denetim Sistemi**  
KANBUROGLU F. A., KILIÇ E., DÖLEN M., KOKU A. B.  
Türk Otomatik Kontrol Ulusal Toplantısı (TOK09), İstanbul, Turkey, 13 - 16 October 2009
- XXX. **Endüstriyel Kontrol Uygulamaları için Komut Üretim Yöntemleri**  
YAMAN U., DÖLEN M., KOKU A. B.  
Türk Otomatik Kontrol Ulusal Toplantısı (TOK09), Turkey, 13 - 16 October 2009
- XXXI. **Bir Doğru Akım Motorunun FPGA Üzerinde Gerçek Zamanlı Benzetiminin Gerçekleştirilmesi**  
ÜŞENMEZ s., DİLАН R. A., DÖLEN M., KOKU A. B.  
Türk Otomatik Kontrol Ulusal Toplantısı (TOK09), İstanbul, Turkey, 13 - 16 October 2009
- XXXII. **Endüstriyel Kontrol Uygulamaları İçin Komut Üretim Yöntemleri**  
YAMAN U., DÖLEN M., KOKU A. B.  
Otomatik Kontrol Ulusal Toplantısı, TOK2009, İstanbul, Turkey, 13 - 16 October 2009
- XXXIII. **Uncertainty Analysis Methods for CMM Measurements**

- SÖZAK A., KONUKSEVEN E. İ., DÖLEN M.  
International Conference on Advanced Design and Manufacture (ADM), Harbin, China, 24 - 26 September 2009,  
vol.1, pp.63-66
- XXXIV. **An Uncertainty Analysis Software for CMM Measurements**  
SÖZAK A., KONUKSEVEN E. İ., DÖLEN M.  
International Conference on Advanced Design and Manufacture (ADM), Harbin, China, 24 - 26 September 2009,  
vol.1, pp.67-70
- XXXV. **Çevrimiçi Donanım Benzetimi için Yeni bir Yazılım Paketi: Cadmus**  
ÜŞENMEZ s., DİLАН R. A., YAMAN U., MUTLU B. R., DÖLEN M., KOKU A. B.  
Türk Otomatik Kontrol Ulusal Toplantısı (TOK08), İstanbul, Turkey, 13 - 15 November 2008
- XXXVI. **Dişli Kayış Mekanizmalarında İletim Hatalarının İncelenmesi**  
KILIÇ E., DÖLEN M., KOKU A. B.  
Türk Otomatik Kontrol Ulusal Toplantısı (TOK08), İstanbul, Turkey, 13 - 15 November 2008
- XXXVII. **Sayısal Kontrol Mühendisliği Eğitiminde Yeni Araçlar ve Yaklaşımlar**  
MUTLU B. R., YAMAN U., ÜŞENMEZ s., DİLАН R. A., DÖLEN M., KOKU A. B.  
Türk Otomatik Kontrol Ulusal Toplantısı (TOK08), İstanbul, Turkey, 13 - 15 November 2008
- XXXVIII. **Melez Elektrikli Araçlar için Uzman Denetleyici Sistemi**  
ÖZEN E., DÖLEN M., YILDIRIM M.  
Otomatik Kontrol Ulusal Toplantısı (TOK), İstanbul, Turkey, 13 - 15 November 2008, vol.2, pp.651-656
- XXXIX. **Çevrimiçi Donanım Benzetimi İçin Yeni bir Yazılım Paketi Cadmus**  
ÜŞENMEZ S., DİLАН R. A., YAMAN U., MUTLU B. R., DÖLEN M., KOKU A. B.  
Otomatik Kontrol Ulusal Toplantısı, TOK2008, İstanbul, Turkey, 13 - 15 November 2008, vol.1, pp.685-691
- XL. **Küçük Bir Gaz Türbin Motorunun Matematik Modelinin Oluşturulması**  
POLAT C., ATALAYER Ç., ÇEVİK M., ALEMDAROĞLU H. N., DÖLEN M.  
II. Ulusal Havacılık ve Uzay Konferansı, İstanbul, Turkey, 15 - 17 October 2008
- XLI. **Global Urban Localization of Outdoor Mobile Robots Using Satellite Images**  
DOĞRUER C. U., Koku B., DÖLEN M.  
IEEE/RSJ International Conference on Intelligent Robots and Systems, Nice, France, 22 - 26 September 2008,  
pp.3927-3928
- XLII. **A New Micro fabrication Process Simulator for Micro Electro Mechanical Systems**  
YILDIRIM A., DÖLEN M.  
ULUSLARARASI MAKİNA TASARIMI VE İMALATI KONGRESİ (UMTİK), İstanbul, Turkey, 3 - 05 September 2008,  
vol.2, pp.1043-1062
- XLIII. **Graduate Student Education in Discrete-time Control**  
YAMAN U., ÜŞENMEZ s., MUTLU B. R., DÖLEN M., KOKU A. B.  
Proc. of the 13th International Conference on Machine Design and Production (UMTIK 2008), İstanbul, Turkey, 3 -  
05 September 2008
- XLIV. **A novel soft-computing technique to segment satellite images for mobile robot localization and  
navigation**  
DOĞRUER C. U., Koku B., DÖLEN M.  
2007 IEEE/RSJ International Conference on Intelligent Robots and Systems, IROS 2007, San Diego, CA, United  
States Of America, 29 October - 02 November 2007, pp.2077-2082
- XLV. **Optimal Design of High Speed Cam Mechanisms for Internal Combustion Engines to Reduce Residual  
Vibrations**  
KAPLAN H., DÖLEN M.  
ULUSLARARASI MAKİNA TASARIMI VE İMALATI KONGRESİ (UMTİK), Antalya, Turkey, 13 - 15 October 2004, vol.1,  
pp.605-619
- XLVI. **Numerical Simulation of three Base Isolation Systems for Earthquake Protection of Structures**  
DÖLEN M., KAPLAN H.  
Technical Congress of Küçükçekmece and its Periphery, İstanbul, Turkey, 8 - 10 October 2003
- XLVII. **Seismic Response Analysis and Optimum Design Of A Concave Ball Support Isolated System for A**

**Three Story Concrete Structure**

KAPLAN H., DÖLEN M.

Technical Congress of Küçükçekmece and its Periphery, İstanbul, Turkey, 8 - 10 October 2003

**XLVIII. Mikro Elekro Mekanik Sistemler MEMS Mikro Akışkan Uygulamaları**

KAPLAN H., DÖLEN M.

11. ULUSAL MAKİNA TEORİSİ SEMPOZYUMU, Ankara, Turkey, 4 - 06 September 2003, vol.2, pp.689-698

**XLIX. Mikro Elekro Mekanik Sistemler MEMS Üretim Teknikleri**

KAPLAN H., DÖLEN M.

11. ULUSAL MAKİNA TEORİSİ SEMPOZYUMU, Ankara, Turkey, 4 - 06 September 2003, vol.2, pp.677-688

**L. A Force Estimator Topology for CNC Vertical Machining Centers to Construct Unknown Principal Cutting Force Component**

DÖLEN M., KAPLAN H., LORENZ R.

Fourth Workshop on European Scientific and Industrial Collaboration (WESIC), Miskolc, Hungary, 28 - 30 May 2003, vol.1, pp.131-138

**LI. Load Torque Estimation for Spindle Drives Using Structured Neural Network Topologies**

DÖLEN M., KAYIKÇI E., LORENZ R.

Artificial Neural Networks in Engineering Conference (ANNIE), St. Louis, United States Of America, 4 - 07 November 2001, vol.11, pp.1001-1016

**LII. A Comparative Performance Analysis of Structured Neural Networks and Observers for CNC Feed Drive Disturbance Force Estimation**

DÖLEN M., KAYIKÇI E., LORENZ R.

Artificial Neural Networks in Engineering Conference (ANNIE), St. Louis, United States Of America, 4 - 07 November 2001, vol.11, pp.1007-1012

**LIII. A Continuous time Observer to Estimate the Electrical Parameters of Induction Machines**

CHUNG P. Y., DÖLEN M., KIM H., ROBERT L.

IEEE IAS Conference, Chicago, United States Of America, 30 September - 04 October 2001, vol.1, pp.259-265

**LIV. Recurrent Neural Network Topologies for Spectral State Estimation and Differentiation**

DÖLEN M., KAYIKÇI E., LORENZ R.

Artificial Neural Networks in Engineering Conference (ANNIE), St. Louis, United States Of America, 5 - 08 November 2000, vol.10, pp.159-164

**LV. Parameter Identification for Induction Machine Drives by Continuous Genetic Algorithms**

CHUNG P. Y., DÖLEN M., LORENZ R.

Artificial Neural Networks in Engineering Conference (ANNIE), St. Louis, United States Of America, 5 - 08 November 2000, vol.10, pp.341-346

**LVI. Disturbance Force Estimation for CNC Machine Tool Feed Drives by Structured Neural Network Topologies**

DÖLEN M., KAYIKÇI E., CHUNG P. Y., LORENZ R.

Artificial Neural Networks in Engineering Conference (ANNIE), St. Louis, United States Of America, 5 - 08 November 2000, vol.10, pp.851-856

**LVII. An Industrially Useful Means for Decomposing and Differentiation of Harmonics Components of Periodic Waveforms**

DÖLEN M., LORENZ R.

IEEE Industry Applications Society (IAS) Conference, Roma, 8 - 12 October 2000, vol.2, pp.1016-1023

**LVIII. General Methodologies for Neural Network Programming**

DÖLEN M., LORENZ R.

Artificial Neural Networks in Engineering Conference (ANNIE), St. Louis, United States Of America, 7 - 10 November 1999, vol.9, pp.155-160

**LIX. Genetic Algorithms for Continuous Design Domain**

DÖLEN M., LORENZ R., KAYIKÇI E.

Artificial Neural Networks in Engineering Conference (ANNIE), St. Louis, United States Of America, 7 - 10 November 1999, vol.9, pp.337-342

## **Supported Projects**

DÖLEN M., Engiz İ. M., HORASAN A., KOKU A. B., Project Supported by Higher Education Institutions, Görüntü işleme ve duyucu verileri ile kapalı alanlarda konumlama sistemi geliştirilmesi, 2016 - 2016

## **Patent**

Kılıçarslan Y., Dölen M., A MAGNETIC MODULAR FIXTURE SYSTEM AND METHOD, Patent, CHAPTER B Implementation of Operations; Transport, The Invention Recourse Number: TR2019051222W , Standard Registration, 2019

Dölen M., Yaman U., Gharehpapagh B., Dilberoğlu M. U., BİR TOZ YATAĞI ÜZERİNDE ERİYİK FİLAMENT İLE ÜRETİM YÖNTEMİ, Patent, CHAPTER B Implementation of Operations; Transport, The Invention Registration Number: TR 2018 14270 B , Standard Registration, 2019, 2022

DÖLEN M., Wireless enabled fatigue sensor for structural health monitoring, Patent, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, Standard Registration, 2014

## **Metrics**

Publication: 103

Citation (WoS): 632

Citation (Scopus): 873

H-Index (WoS): 8

H-Index (Scopus): 10

## **Scholarships**

MEB Yüksek Lisans ve Doktora Bursu, Ministry of Education, 1993 - 1998

## **Awards**

Yaman U., Dölen M., Hoffmann C. M., IISE Transactions Tasarım ve Üretim Alanında En İyi Uygulama Makalesi, Institute Of Industrial And Systems Engineers (Iise), November 2020