

## Prof. MEHMET ÖNDER EFE

### Personal Information

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### International Researcher IDs

ORCID: 0000-0002-5992-895X

Publons / Web Of Science ResearcherID: M-3931-2018

ScopusID: 7004595398

Yoksis Researcher ID: 7123

### Education Information

Doctorate, Bogazici University, Institute Of Science, Elektrik-Elektronik Mühendisliği, Turkey 1996 - 2000

Postgraduate, Bogazici University, Institute Of Science, Sistem Ve Kontrol Mühendisliği, Turkey 1993 - 1996

Undergraduate, Istanbul Technical University, Elektrik Elektronik Fakültesi, Elektronik Ve Haberleşme Mühendisliği, Turkey 1989 - 1993

### Research Areas

Mechanical Engineering, Machine Theory and Dynamics, System Dynamics and Control, Robotics, Mechatronics, Aeronautical and Space Engineering, Aeronautical Engineering , Aircraft System Technologies, Flight Control Systems, Engineering and Technology

### Academic Titles / Tasks

Professor, Hacettepe University, Mühendislik Fakültesi, Bilgisayar Mühendisliği Bölümü, 2013 - Continues

Professor, University Of Turkish Aeronautical Association, Faculty Of Air Transport, Department Of Pilotage, 2011 - 2013

Professor, Tobb University Of Economics And Technology, Faculty Of Engineering, Department Of Electrical And Electronics Engineering, 2009 - 2010

Associate Professor, Tobb University Of Economics And Technology, Faculty Of Engineering, Department Of Electrical And Electronics Engineering, 2004 - 2009

Assistant Professor, Atilim University, Faculty Of Engineering, Department Of Mechatronics Engineering, 2003 - 2004

Research Assistant, The Ohio State University, Department Of Electrical Engineering, 2002 - 2003

Research Assistant, Carnegie Mellon University, Department Of Electrical And Computer Engineering, 2001 - 2001

Research Assistant, Bogazici University, Faculty Of Engineering, Department Of Electrical And Electronics Engineering, 1996 - 2000

### Academic and Administrative Experience

Hacettepe Üniversitesi, Mühendislik Fakültesi, Bilgisayar Mühendisliği Bölümü, 2015 - Continues

Hacettepe Üniversitesi, Bilişim Enstitüsü, Sayısal İletişim Sistemleri Ve Bilgisayar Ağları Anabilim Dalı, 2014 - Continues

Hacettepe Üniversitesi, Mühendislik Fakültesi, Bilgisayar Mühendisliği Bölümü, 2013 - Continues

Türk Hava Kurumu Üniversitesi, Hava Ulaştırma Fakültesi, Pilotaj Bölümü, 2011 - 2013

Türk Hava Kurumu Üniversitesi, Hava Ulaştırma Fakültesi, 2011 - 2013

Tobb Ekonomi Ve Teknoloji Üniversitesi, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2008 - 2010

Tobb Ekonomi Ve Teknoloji Üniversitesi, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2007 - 2008

Tobb Ekonomi Ve Teknoloji Üniversitesi, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2004 - 2007

## Advising Theses

EFE M. Ö., Dönerkanat tipinde bir insansız hava aracıyla video tabanlı üst düzey işlevlerin tasarlanması, Postgraduate, N.İMAMOĞLU(Student), 2010

EFE M. Ö., Dönerkanat tipinde bir insansız hava aracının tasarımı, modellenmesi ve kontrolü, Postgraduate, M.ÖNKOL(Student), 2010

EFE M. Ö., Dönerkanat tipinde bir insansız hava aracının görüntü tabanlı kontrolü, Postgraduate, A.ERESEN(Student), 2010

EFE M. Ö., İki eksenli bir helikopterin kontrolü, Postgraduate, Y.BUĞDAY(Student), 2010

EFE M. Ö., İşlemcilerde düşük güç tüketimine yönelik yöntemler, Postgraduate, Y.SİNAN(Student), 2007

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

- I. **Enhancing Agile Story Point Estimation: Integrating Deep Learning, Machine Learning, and Natural Language Processing with SBERT and Gradient Boosted Trees**  
YALÇINER B., Dincer K., Karacor A. G., EFE M. Ö.  
APPLIED SCIENCES-BASEL, no.16, 2024 (SCI-Expanded)
- II. **Masked Multiple State Space Model Identification Using FRD and Evolutionary Optimization**  
EFE M. Ö., KÜRKCÜ B., KASNAKOĞLU C., Mohamed Z., Liu Z.  
IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS, no.7, pp.9861-9869, 2024 (SCI-Expanded)
- III. **A Modified Levenberg Marquardt Algorithm for Simultaneous Learning of Multiple Datasets**  
EFE M. Ö., Kurkcu B., Kasnakoglu C., Mohamed Z., Liu Z.  
IEEE Transactions on Circuits and Systems II: Express Briefs, vol.71, no.4, pp.2379-2383, 2024 (SCI-Expanded)
- IV. **Switched Neural Networks for Simultaneous Learning of Multiple Functions**  
EFE M. Ö., Kurkcu B., Kasnakoglu C., Mohamed Z., Liu Z.  
IEEE Transactions on Emerging Topics in Computational Intelligence, 2024 (SCI-Expanded)
- V. **Adaptive Inverse Compensation Fault-Tolerant Control for a Flexible Manipulator with Unknown Dead-zone and Actuator Faults**  
Zhao Z., Tan Z., Liu Z., EFE M. Ö., Ahn C. K.  
IEEE Transactions on Industrial Electronics, vol.70, no.12, pp.12698-12707, 2023 (SCI-Expanded)
- VI. **Switched step integral backstepping control for nonlinear motion systems with application to a laboratory helicopter**  
Haruna A., Mohamed Z., EFE M. Ö., Abdullahi A.  
ISA Transactions, vol.141, pp.470-481, 2023 (SCI-Expanded)
- VII. **Single parameter adaptive neural network control for multi-agent deployment with prescribed tracking performance**  
Liu Z., Lu Z., Zhao Z., EFE M. Ö., Hong K.  
Automatica, vol.156, 2023 (SCI-Expanded)
- VIII. **Adaptive second order sliding mode guidance law for missile-target interception with fuzzy logic system**  
Gürsoy-Demir H., EFE M. Ö.  
Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering, vol.237, no.11,

pp.2665-2676, 2023 (SCI-Expanded)

- IX. **A comparative study of blind source separation methods**  
Baysal B., EFE M. Ö.  
Turkish Journal of Electrical Engineering and Computer Sciences, vol.31, no.7, pp.1275-1293, 2023 (SCI-Expanded)
- X. **Cardiovascular Anomaly Detection with Heterogeneous Wave Segment Harmonization for Lightweight Systems**  
Çakal K., EFE M. Ö.  
Cybernetics and Systems, 2023 (SCI-Expanded)
- XI. **Plaintext recovery and tag guessing attacks on authenticated encryption algorithm COLM**  
Ulusoy S. E., Kara O., EFE M. Ö.  
JOURNAL OF INFORMATION SECURITY AND APPLICATIONS, vol.70, 2022 (SCI-Expanded)
- XII. **Adaptive Fault-Tolerant Control of a Probe-and-Drogue Refueling Hose under Varying Length and Constrained Output**  
Liu Z., Liang J., Zhao Z., EFE M. Ö., Hong K.  
IEEE Transactions on Control Systems Technology, vol.30, no.2, pp.869-876, 2022 (SCI-Expanded)
- XIII. **A non-fragile robust observer design for uncertain time-delay fractional Ito stochastic systems with input nonlinearity: An SMC approach**  
Khandani K., Parvizian M., EFE M. Ö.  
PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART I-JOURNAL OF SYSTEMS AND CONTROL ENGINEERING, vol.236, no.3, pp.607-619, 2022 (SCI-Expanded)
- XIV. **A frequency domain comparison of disturbance observer based control schemes**  
BAYRAK A., EFE M. Ö.  
PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART I-JOURNAL OF SYSTEMS AND CONTROL ENGINEERING, vol.236, no.2, pp.244-256, 2022 (SCI-Expanded)
- XV. **A New Adaptive Disturbance/Uncertainty Estimator Based Control Scheme For LTI Systems**  
BAYRAK A., KÜRKÇÜ B., EFE M. Ö.  
IEEE ACCESS, vol.10, pp.106849-106858, 2022 (SCI-Expanded)
- XVI. **Disturbance observer-based control schemes for quadrotors - a tutorial**  
BAYRAK A., EFE M. Ö.  
INTERNATIONAL JOURNAL OF GENERAL SYSTEMS, vol.51, no.3, pp.215-238, 2022 (SCI-Expanded)
- XVII. **A nonlinear disturbance observer-based adaptive integral sliding mode control for missile guidance system**  
Gursoy-Demir H., EFE M. Ö.  
INTERNATIONAL JOURNAL OF GENERAL SYSTEMS, vol.51, no.5, pp.474-493, 2022 (SCI-Expanded)
- XVIII. **Online path planning of mobile robot using grasshopper algorithm in a dynamic and unknown environment**  
Elmi Z., EFE M. Ö.  
JOURNAL OF EXPERIMENTAL & THEORETICAL ARTIFICIAL INTELLIGENCE, vol.33, no.3, pp.467-485, 2021 (SCI-Expanded)
- XIX. **A nonlinear disturbance observer scheme for discrete time control systems**  
EFE M. Ö., KASNAKOĞLU C.  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.29, no.2, pp.1044-1060, 2021 (SCI-Expanded)
- XX. **An enhanced bandwidth disturbance observer based control- S-filter approach**  
EFE M. Ö., KASNAKOĞLU C.  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.29, no.4, pp.2170-2185, 2021 (SCI-Expanded)
- XXI. **Online Time Delay and Disturbance Compensation for Linear Non-Minimum Phase Systems**  
Demirtas O., EFE M. Ö.  
ACTA POLYTECHNICA HUNGARICA, vol.18, no.8, pp.163-182, 2021 (SCI-Expanded)
- XXII. **H-2/H-infinity-Neural-Based FOPID Controller Applied for Radar-Guided Missile**

- Yaghi M., EFE M. Ö.  
IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS, vol.67, no.6, pp.4806-4814, 2020 (SCI-Expanded)
- XXIII. **Disturbance/Uncertainty Estimator Based Integral Sliding-Mode Control**  
Kurkcü B., Kasnakoğlu C., Efe M. Ö.  
IEEE TRANSACTIONS ON AUTOMATIC CONTROL, vol.63, no.11, pp.3940-3947, 2018 (SCI-Expanded)
- XXIV. **Disturbance/Uncertainty Estimator Based Robust Control of Nonminimum Phase Systems**  
Kurkcü B., Kasnakoğlu C., Efe M. Ö.  
IEEE-ASME TRANSACTIONS ON MECHATRONICS, vol.23, no.4, pp.1941-1951, 2018 (SCI-Expanded)
- XXV. **Measurement and Control**  
EFE M. Ö.  
MEASUREMENT & CONTROL, vol.51, pp.3, 2018 (SCI-Expanded)
- XXVI. **Dual boundary conditional integral backstepping control of a twin rotor MIMO system**  
Haruna A., Mohamed Z., EFE M. Ö., Basri M. A. M.  
JOURNAL OF THE FRANKLIN INSTITUTE-ENGINEERING AND APPLIED MATHEMATICS, vol.354, no.15, pp.6831-6854, 2017 (SCI-Expanded)
- XXVII. **A novel robust fuzzy control of an uncertain system**  
BAYRAK A., GÜRSOY H., EFE M. Ö.  
TRANSACTIONS OF THE INSTITUTE OF MEASUREMENT AND CONTROL, vol.39, no.3, pp.324-333, 2017 (SCI-Expanded)
- XXVIII. **Feedback control strategies for quadrotor-type aerial robots: a survey**  
Ozbek N. S., Onkol M., EFE M. Ö.  
TRANSACTIONS OF THE INSTITUTE OF MEASUREMENT AND CONTROL, vol.38, no.5, pp.529-554, 2016 (SCI-Expanded)
- XXIX. **Advances in Control Theory and Applications: Selected papers from TOK 2013**  
HAMAMCI S. E., TAN N., EFE M. Ö., Söylemez M. T.  
TRANSACTIONS OF THE INSTITUTE OF MEASUREMENT AND CONTROL, vol.37, no.5, pp.579-581, 2015 (SCI-Expanded)
- XXX. **Sliding Mode Control for Unmanned Aerial Vehicles Research**  
EFE M. Ö.  
RECENT ADVANCES IN SLIDING MODES: FROM CONTROL TO INTELLIGENT MECHATRONICS, vol.24, pp.239-255, 2015 (SCI-Expanded)
- XXXI. **Recent Advances in Sliding Modes: From Control to Intelligent Mechatronics Preface**  
Yu X., EFE M. Ö.  
RECENT ADVANCES IN SLIDING MODES: FROM CONTROL TO INTELLIGENT MECHATRONICS, vol.24, 2015 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Online and Real-Time Trajectory Generation Method for Unforeseen Events Using a Modified Spline Approach**  
Altan Toksoz M., EFE M. Ö., GAZI V.  
IEEE Robotics and Automation Letters, vol.8, no.1, pp.232-239, 2023 (Scopus)

## Refereed Congress / Symposium Publications in Proceedings

- I. **Neural Network Control of a SOTM Antenna**  
Hancioğlu O. K., EFE M. Ö.  
9th International Conference on Control, Decision and Information Technologies, CoDIT 2023, Rome, Italy, 3 - 06 July 2023, pp.220-224

- II. **Heart Arrhythmia Detection with Novel Approach H3-SAD**  
Cakal K., EFE M. Ö.  
8th International Conference on Control, Decision and Information Technologies (CoDIT), İstanbul, Turkey, 17 - 20 May 2022, pp.390-395
- III. **Investigation of the Effect of the Observer on Augmented Proportional Navigation Guidance According to Different Target Models Arttirilmiş Oransal Seyrüsefer Güdümüne Gözleyici Etkisinin Farkli Hedef Modellerine Göre Incelenmesi**  
Gursoy-Demir H., EFE M. Ö.  
30th Signal Processing and Communications Applications Conference, SIU 2022, Safranbolu, Turkey, 15 - 18 May 2022
- IV. **Recognition of Traffic Signs with Artificial Neural Networks: A Novel Dataset and Algorithm**  
Kerim A., EFE M. Ö.  
3rd International Conference on Artificial Intelligence in Information and Communication (IEEE ICAIIC), South Korea, 13 - 16 April 2021, pp.171-176
- V. **Forecasting BIST100 Index with Neural Network Ensembles**  
Beyaz K., EFE M. Ö.  
11th International Conference on Electrical and Electronics Engineering (ELECO), Bursa, Turkey, 28 - 30 November 2019, pp.940-944
- VI. **Modelling of Atmospheric Parameters Using Artificial Neural Networks**  
Demirtas O., EFE M. Ö.  
9th International Conference on Recent Advances in Space Technologies (RAST), İstanbul, Turkey, 11 - 14 June 2019, pp.571-577
- VII. **Multiple Model Kalman and Particle Filters and Applications: A Survey**  
Akca A., EFE M. Ö.  
15th International-Federation-of-Automatic-Control (IFAC) Symposium on Large Scale Complex Systems (IFAC LSS), Delft, Netherlands, 26 - 28 May 2019, vol.52, pp.73-78
- VIII. **Fractional Order PID Control of a Radar Guided Missile Under Disturbances**  
Yaghi M., EFE M. Ö.  
9th International Conference on Information and Communication Systems (ICICS), Irbid, Jordan, 3 - 05 April 2018, pp.238-242
- IX. **Multi-objective Grasshopper Optimization Algorithm for Robot Path Planning in Static Environments**  
Elmi Z., EFE M. Ö.  
19th IEEE International Conference on Industrial Technologies (ICIT), Lyon, France, 19 - 22 February 2018, pp.244-249
- X. **Trajectory Tracking Control Performance Analysis of a Quadrotor in the Presence of External Disturbances**  
Bayrak A., Demirezen M. U., EFE M. Ö.  
2nd European Conference on Electrical Engineering and Computer Science (EECS), Bern, Switzerland, 20 - 22 December 2018, pp.335-341
- XI. **Intelligent mixed H-2/H-infinity FOPID controller optimized for radar guided missile**  
Yaghi M., EFE M. Ö.  
6th International Conference on Control Engineering and Information Technology (CEIT), İstanbul, Turkey, 25 - 27 October 2018
- XII. **Detection of Smart Phone Position on User using Artificial Neural Network Classifier**  
Bayar V., EFE M. Ö.  
26th IEEE Signal Processing and Communications Applications Conference (SIU), İzmir, Turkey, 2 - 05 May 2018
- XIII. **Path Planning using Model Predictive Controller based on Potential Field for Autonomous Vehicles**  
Elmi Z., EFE M. Ö.  
44th Annual Conference of the IEEE Industrial-Electronics-Society (IECON), Washington, Kiribati, 20 - 23 October 2018, pp.2613-2618
- XIV. **Adaptive Neural FOPID Controller Applied for Missile Guidance System**

Yaghi M., EFE M. Ö.

43rd Annual Conference of the IEEE-Industrial-Electronics-Society (IECON), Beijing, China, 29 October - 01 November 2017, pp.2955-2960

**XV. Air Combat Learning from F-16 Flight Information**

Karli M., EFE M. Ö., SEVER H.

IEEE International Conference on Fuzzy Systems (FUZZ-IEEE), Naples, Italy, 9 - 12 July 2017

**XVI. Nominal Model Based Switching Control of a Twin Rotor System**

EFE M. Ö.

42nd Annual Conference of the IEEE-Industrial-Electronics-Society (IECON), Florence, Italy, 24 - 27 October 2016, pp.241-246

**XVII. Technopolises, SMEs, Funding Agencies and IT-Roles in Engineering Education**

EFE M. Ö.

15th International Conference on Information Technology Based Higher Education and Training (ITHET), İstanbul, Turkey, 8 - 10 September 2016

**XVIII. FPGA Based Offline 3D UAV Local Path Planner Using Evolutionary Algorithms for Unknown Environments**

BAYRAK A., EFE M. Ö.

42nd Annual Conference of the IEEE-Industrial-Electronics-Society (IECON), Florence, Italy, 24 - 27 October 2016, pp.4778-4783

**XIX. CONTROL SYSTEM IMPLEMENTATION ON AN FPGA PLATFORM**

GÜRSOY H., EFE M. Ö.

14th IFAC Conference on Programmable Devices and Embedded Systems (PDES), Brno, Czech Republic, 5 - 07 October 2016, vol.49, pp.425-430

**XX. MATLAB/Simulink Based Restructuring of the First Automatic Control Course in Engineering Curricula**

EFE M. Ö.

15th International Conference on Information Technology Based Higher Education and Training (ITHET), İstanbul, Turkey, 8 - 10 September 2016

**XXI. An Augmented PID Control Scheme for Robust Control**

EFE M. Ö.

International Workshop on Recent Advances in Sliding Modes, İstanbul, Turkey, 9 - 11 April 2015

**XXII. A Novel Unmanned Aerial Surveillance Scheme**

Imamoglu N., Eresen A., EFE M. Ö., Kaynak O.

International Conference on Mechatronics and Control (ICMC), Jinzhou, China, 3 - 05 July 2014, pp.26-31

## Supported Projects

EFE M. Ö., TUBITAK Project, Visual Serving of Mobile Systems Mapping and Implementation of FPGA, 2015 - Continues

EFE M. Ö., Project Supported by Other Private Institutions, Büyük Veri NoSQL Ailesinden Olan Çizge (Graph)

Veritabanlarının Davranış, Fonksiyon ve Algoritmalarının İlişkisel Veritabanında Geliştirilmesi, 2016 - 2017

## Metrics

Publication: 54

Citation (WoS): 102

Citation (Scopus): 71

H-Index (WoS): 5

H-Index (Scopus): 3

## **Non Academic Experience**

TÜRK HAVA KURUMU ÜNİVERSİTESİ

TOBB EKONOMİ VE TEKNOLOJİ ÜNİVERSİTESİ

TOBB EKONOMİ VE TEKNOLOJİ ÜNİVERSİTESİ

ATILIM ÜNİVERSİTESİ

THE OHIO STATE UNIVERSITY

CARNEGIE MELLON UNIVERSITY

BOĞAZIÇI ÜNİVERSİTESİ