

## Asst. Prof. OĞUZ KÖSE

### Personal Information

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**Address:** Erzincan Binali Yıldırım Üniversitesi Meslek Yüksekokulu

### International Researcher IDs

ScholarID: 5m7FJrYAAAAJ

ORCID: 0000-0002-8069-8749

Publons / Web Of Science ResearcherID: ABN-8054-2022

ScopusID: 57211985357

Yoksis Researcher ID: 119841

### Education Information

Doctorate, Erciyes University, Fen Bilimleri Enstitüsü, Turkey 2017 - 2021

Postgraduate, Karabuk University, Fen Bilimleri Enstitüsü, Bilgisayar Mühendisliği, Turkey 2012 - 2013

Undergraduate, Karabuk University, Teknik Eğitim Fakültesi, Elektronik ve Bilgisayar Öğretmenliği, Turkey 2006 - 2010

### Foreign Languages

English, B2 Upper Intermediate

### Dissertations

Doctorate, İnovatif Yöntemlerle Kuadkopter Modellenmesi, Kontrolü ve Gerçek Zamanlı Uygulamaları, Erciyes University, Fen Bilimleri Enstitüsü, 2021

### Research Areas

Nonlinear Systems, Checker, Optimal Control, System Diagnostics, Computer Vision, Artificial Intelligence, Computer Learning and Pattern Recognition, Pattern Recognition and Image Processing, Neural Networks, Programming Languages, Software Engineering, Aeronautical and Space Engineering, Aerodynamics, Flight Dynamics and Stability, Performance, Flight Control Systems, Real-time software, Numerical modeling, Simulation

### Academic Titles / Tasks

Assistant Professor, Erzincan Binali Yıldırım University, Meslek Yüksekokulu, Motorlu Araçlar Ve Ulaştırma Teknolojileri, 2022 - Continues

Assistant Professor, Gumushane University, Academy Of Applied Sciences, Aviation Management, 2021 - 2022

Lecturer, Gumushane University, Kelkit Aydın Doğan Vocational School, Department Of Electronics And Automation,

2020 - 2021

Lecturer, Gumushane University, Kelkit Aydın Doğan Vocational School, Department Of Computer Technologies, 2013 - 2020

## Academic and Administrative Experience

Head of Department, Erzincan Binali Yildirim University, Meslek Yüksekokulu, Motorlu Araçlar Ve Ulaştırma Teknolojileri, 2023 - 2026

Deputy Director of Junior College, Gumushane University, Academy Of Applied Sciences, Aviation Management, 2020 - 2022

## Courses

TEMEL HAVACILIK BİLGİSİ VE TERMİNOLOJİSİ, Associate Degree, 2023 - 2024

ELEKTRİKSEL ESASLAR, Associate Degree, 2023 - 2024

ELEKTRONİK ESASLAR, Associate Degree, 2022 - 2023

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

- I. **Stochastic optimal tuning for flight control system of morphing arm octorotor**  
Köse O.  
Aircraft Engineering and Aerospace Technology, vol.96, no.5, pp.669-678, 2024 (SCI-Expanded)
- II. **Octorotor flight control system design with stochastic optimal tuning, deep learning and differential morphing**  
KÖSE O.  
Journal of the Brazilian Society of Mechanical Sciences and Engineering, vol.46, no.6, 2024 (SCI-Expanded)
- III. **Simultaneous arm morphing quadcopter and autonomous flight system design**  
KÖSE O., OKTAY T., Özen E.  
Aircraft Engineering and Aerospace Technology, vol.95, no.10, pp.1624-1632, 2023 (SCI-Expanded)
- IV. **Simultaneous design of morphing hexarotor and autopilot system by using deep neural network and SPSA**  
KÖSE O., OKTAY T.  
Aircraft Engineering and Aerospace Technology, vol.95, no.6, pp.939-949, 2023 (SCI-Expanded)
- V. **Simultaneous autonomous system and powerplant design for morphing quadrotors**  
ŞAHİN H., Kose O., OKTAY T.  
Aircraft Engineering and Aerospace Technology, vol.94, no.8, pp.1228-1241, 2022 (SCI-Expanded)
- VI. **Simultaneous quadrotor autopilot system and collective morphing system design**  
Köse O., Oktay T.  
Aircraft Engineering and Aerospace Technology, vol.92, no.7, pp.1093-1100, 2020 (SCI-Expanded)
- VII. **Combined active flow and flight control systems design for morphing unmanned aerial vehicles**  
Kanat Ö. Ö., Karatay E., Köse O., OKTAY T.  
Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering, vol.233, no.14, pp.5393-5402, 2019 (SCI-Expanded)

## Articles Published in Other Journals

- I. **DECACOPTER BAŞKALAŞIM ETKİSİ ALTINDA BOYLAMASINA UÇUŞUNUN SPSA, SGD VE YSA İLE OPTİMİZASYONUN KARŞILAŞTIRILMASI**

KÖSE O., ŞAL F., OKTAY T.

Gazi Üniversitesi Fen Bilimleri Dergisi Part C: Tasarım ve Teknoloji, vol.12, no.3, pp.539-549, 2024 (Peer-Reviewed Journal)

- II. **Başkalaşımın Octorotor Boylamasına Uçuşuna Etkisi**  
KÖSE O.  
Black Sea Journal of Engineering and Science, vol.6, no.3, pp.185-192, 2023 (Peer-Reviewed Journal)
- III. **Hexarotor Yaw Flight Control with SPSA, PID Algorithm and Morphing**  
KÖSE O., OKTAY T.  
International Journal of Intelligent Systems and Applications in Engineering, vol.10, no.2, pp.216-221, 2022 (Scopus)
- IV. **Combined Quadrotor Autopilot System and Differential Morphing System Design**  
KÖSE O., OKTAY T.  
Journal of aviation (Online), vol.5, no.2, pp.64-71, 2021 (Peer-Reviewed Journal)
- V. **Quadrotor Flight System Design using Collective and Differential Morphing with SPSA and ANN**  
KÖSE O., OKTAY T.  
International Journal of Intelligent Systems and Applications in Engineering, vol.9, no.4, pp.159-164, 2021 (Scopus)
- VI. **Hexarotor Longitudinal Flight Control with Deep Neural Network, PID Algorithm and Morphing**  
KÖSE O., OKTAY T.  
Avrupa Bilim ve Teknoloji Dergisi, no.27, pp.115-124, 2021 (Peer-Reviewed Journal)
- VII. **Lateral Control with Differential and Collective Morphing in Quadrotors**  
KÖSE O., OKTAY T.  
Journal of aviation (Online), vol.4, no.2, pp.48-54, 2020 (Peer-Reviewed Journal)
- VIII. **Investigation of the Effect of Differential Morphing on Lateral Flightby Using PID Algorithm in Quadrotors**  
KÖSE O., OKTAY T.  
Avrupa Bilim ve Teknoloji Dergisi, vol.0, no.18, pp.636-644, 2020 (Peer-Reviewed Journal)
- IX. **Investigation of the Effect of Differential Morphing on Forward Flight by Using PID Algorithm in Quadrotors**  
KÖSE O., OKTAY T.  
Journal of aviation (Online), vol.4, no.1, pp.15-21, 2020 (Peer-Reviewed Journal)
- X. **Quadrotorlarda Yaw Hareketi için Eşzamanlı Olmayan Başkalaşım Tasarımı**  
KÖSE O., OKTAY T.  
Journal of aviation (Online), vol.3, pp.81-88, 2019 (Peer-Reviewed Journal)
- XI. **Non Simultaneous Morphing System Desing for Quadrotors /**  
KÖSE O., OKTAY T.  
Avrupa Bilim ve Teknoloji Dergisi, vol.16, pp.577-588, 2019 (Peer-Reviewed Journal)
- XII. **Farkli Uçuş Durumlari İçin Quadcopter Dinamik Modeli ve Simulasyonu**  
OKTAY T., KÖSE O.  
Avrupa Bilim ve Teknoloji Dergisi, vol.0, pp.132-142, 2019 (Peer-Reviewed Journal)

## Books & Book Chapters

- I. **Farklı Batarya Ağırlıklarının ve Başkalaşımın Hexarotor Sapma Uçuşuna Etkisi**  
KÖSE O., OKTAY T.  
in: Endüstride Dijitalleşme Örnekleri, Dr. Öğr. Üyesi Serkan GÜLDAL, Editor, İKSAD Publishing House, Ankara, pp.111-126, 2022
- II. **PID VE SPSA İLE HEXAROTOR İHA'NIN DİNAMİK MODELLENMESİ VE ASKIDA UÇUŞ KONTROLÜ**  
KÖSE O.  
in: HAVACILIK TEKNOLOJİSİ VE UYGULAMALARI KİTABI, HARMANŞAH Coşkun, HAVA Hüseyin Tamer, Editor, Ege Üniversitesi Yayınları Havacılık Meslek Yüksekokulu Yayın No: 1, İzmir, pp.211-219, 2022

- III. **Hexarotor Lateral Flight Control using Deep Neural Network and Morphing**  
KÖSE O., OKTAY T.  
in: Research & Reviews in Engineering - II, Assoc. Prof. Dr. Selahattin BAYRAK, Assist. Prof. Dr. Nesli AYDIN, Assist. Prof. Dr. Yalçın BOZTOPRAK, Editor, Gece Publishing, Ankara, pp.33-48, 2021
- IV. **Eş Zamanlı Pertürbasyon Rassal Yaklaşım ve Birleştirilmiş Başkalaşım ile Quadrotor Sapma Uçuş Kontrolü**  
KÖSE O., OKTAY T.  
in: Yapay Zeka ve Dijital Teknoloji, Dr. Öğr. Üyesi Gökalep ÇINARER, Editor, İKSAD Publishing House, Ankara, pp.35-59, 2021
- V. **THE EFFECT OF DIFFERENTIAL MORPHING ON THE HOVER FLIGHT IN QUADCOPTER**  
KÖSE O., OKTAY T.  
in: BİLGİSAYAR MÜHENDİSLİĞİ ÇALIŞMALARI-1, , Editor, İksad, pp.59-72, 2020

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

- I. **Controller Selection and Design Approaches for Multirotor UAVs**  
KÖSE O.  
EFES INTERNATIONAL SCIENTIFIC RESEARCH AND INNOVATION CONGRESS, İzmir, Turkey, 15 - 16 September 2024, pp.360-361
- II. **Control of Octorotor Yaw Flight with PID**  
KÖSE O.  
8. Uluslararası AYASOFYA MULTİDİSİPLİNER BİLİMSEL ARAŞTIRMALAR KONGRESİ, İstanbul, Turkey, 11 - 12 September 2024, pp.380
- III. **DESIGN AND IMPLEMENTATION OF CONTROLLER INTERFACE FOR ROTARY WING UAVS**  
OKTAY T., ŞAL F., KÖSE O., ÖZEN E.  
BALKAN 11th INTERNATIONAL CONFERENCE ON APPLIED SCIENECES, Skopje, Macedonia, 4 - 07 April 2024, pp.142-151
- IV. **Yapay Sinir Ağları, PID ve Başkalaşım ile Octorotor Yanal Uçuş Kontrolü**  
KÖSE O.  
4th International Black Sea Modern Scientific Research Congress, Rize, Turkey, 06 June 2023, pp.79-90
- V. **Gradyan İnişi Algoritması, PID ve Başkalaşım ile Octorotor Sapma Uçuşu Kontrolü**  
KÖSE O.  
4th International Black Sea Modern Scientific Research Congress, Rize, Turkey, 06 June 2023, pp.541-542
- VI. **Stochastic Longitudinal Autopilot Tuning for Best Autonomous Flight Performance of a Morphing VTOL Drone**  
OKTAY T., KÖSE O., Sal F., Kocamer A.  
International Conference on Research in Engineering, Technology and Science, ICRETS 2023, Budapest, Hungary, 6 - 09 July 2023, vol.23, pp.413-419
- VII. **Stochastic Longitudinal Autopilot Tuning for Best Autonomous Flight Performance of a Morphing Decacopter**  
OKTAY T., KÖSE O., Sal F., Ozen E.  
International Conference on Research in Engineering, Technology and Science, ICRETS 2023, Budapest, Hungary, 6 - 09 July 2023, vol.23, pp.50-58
- VIII. **Başkalaşım ve PID Algoritması ile Hexarotor İHA'nın Sapma Hareketi Kontrolü**  
KÖSE O.  
9. ULUSAL HAVACILIK VE UZAY KONFERANSI, İzmir, Turkey, 14 - 16 September 2022, pp.1-5
- IX. **EFFECT OF MORPHING AND BATTERY WEIGHT ON HEXAROTOR LONGITUDINAL FLIGHT**  
KÖSE O., OKTAY T.  
INTERNATIONAL ANKARA CONGRESS ON SCIENTIFIC RESEARCH VI, Ankara, Turkey, 01 April 2022, pp.773-784
- X. **Effect of Morphing and Battery Weight on Hexarotor Lateral Flight**

KÖSE O., OKTAY T.

INTERNATIONAL ANKARA CONGRESS ON SCIENTIFIC RESEARCH VI, Ankara, Turkey, 01 April 2022, pp.762-772

- XI. **PID ve SPSA ile Hexarotor İHA'nın Dinamik Modellemesi ve Askıda Uçuş Kontrolü**  
KÖSE O.  
5' inci Ulusal Havacılık Teknolojisi ve Uygulamaları Kongresi, UHAT-2021, İzmir, Turkey, 30 September 2021
- XII. **EFFECT OF BATTERY WEIGHT ON LATERAL FLIGHT OF MORPHING QUADROTOR UAV**  
KÖSE O., OKTAY T.  
INTERNATIONAL EUROPEAN CONFERENCE ON INTERDISCIPLINARY SCIENTIFIC RESEARCHES-III, Comrat, Moldova, 15 - 16 January 2021, pp.480-495
- XIII. **EFFECT ON LONGITUDINAL FLIGHT OF BATTERY WEIGHT IN COLLECTIVE MORPHING IN QUADROTOR**  
KÖSE O., OKTAY T.  
INTERNATIONAL EUROPEAN CONFERENCE ON INTERDISCIPLINARY SCIENTIFIC RESEARCHES-III, Comrat, Moldova, 15 - 16 January 2021, pp.467-480
- XIV. **Effect Of Differential Morphing On Yaw Movement In Quadrotors**  
KÖSE O., OKTAY T.  
1. International Conference on Energy, Environment and Storage of Energy (ICEESEN 2020), Kayseri, Turkey, 19 - 21 November 2020
- XV. **The Effect of Collective and Differential Morphing on Longitudinal Flight in Quadrotors**  
KÖSE O., OKTAY T.  
EJONS10th INTERNATIONAL CONGRESS ON MATHEMATIC,ENGINEERING AND NATURAL SCIENCES, Batumi, Georgia, 15 - 17 May 2020, pp.133-142
- XVI. **Hover Control with Differential and Collective Morphing in Quadrotors**  
KÖSE O., OKTAY T.  
EJONS10th INTERNATIONAL CONGRESS ON MATHEMATIC,ENGINEERING AND NATURAL SCIENCES, Batumi, Georgia, 15 - 17 May 2020, pp.124-132
- XVII. **The Effect of Differential Morphing on the Forward Flight in Quadcopter**  
KÖSE O., OKTAY T.  
ULUSLARARASI 5 OCAK UYGULAMALI BİLİMLER KONGRESİ, Adana, Turkey, 03 January 2020, pp.23
- XVIII. **The Effect of Collective Morphing on the Lateral Flight In Quadcopter**  
OKTAY T., KÖSE O.  
6. Uluslararası Mesleki ve Teknik Bilimler Kongresi, Iğdır, Turkey, 11 - 12 April 2019
- XIX. **Survey on Morphing Methods For Quadcopter**  
OKTAY T., KÖSE O., ÇOBAN S.  
6. Uluslararası Mesleki ve Teknik Bilimler Kongresi, Iğdır, Turkey, 11 - 12 April 2019
- XX. **The Effect of Collective Morphing on the Longitudinal Flight In Quadcopter**  
OKTAY T., KÖSE O.  
MAS International Conference of Mathematics, Engineering, Natural Medical Sceinces, Şanlıurfa, Turkey, 2 - 03 February 2019
- XXI. **The Effect of Collective Morphing on the Vertical Flight In Quadcopter**  
OKTAY T., KÖSE O.  
MAS International Conference of Mathematics, Engineering, Natural Medical Sceinces, 2 - 03 February 2019
- XXII. **Optimal Tuning of PID Controller For Lateral Flight of Research Based Quadcopter**  
OKTAY T., KÖSE O.  
4. Uluslararası Mesleki ve Teknik Bilimler Kongresi (UMTEB), Erzurum, Turkey, 4 - 05 December 2018
- XXIII. **Survey on Flight Control Methods For Quadcopter**  
OKTAY T., KÖSE O.  
4. Uluslararası Mesleki ve Teknik Bilimler Kongresi (UMTEB), Erzurum, Turkey, 4 - 05 December 2018
- XXIV. **Dynamic Modeling and Control of Research Based Quadcopter**  
OKTAY T., KÖSE O.  
2. Uluslararası Multidisipliner Çalışmaları Kongresi, Adana, Turkey, 4 - 05 May 2018

**XXV. Optimal Tunning of PID Controller For Forward Flight of Research Based Quadroter**

KÖSE O., OKTAY T.

2. Uluslararası Multidisipliner Çalışmaları Kongresi, Adana, Turkey, 4 - 05 May 2018

### **Supported Projects**

Köse O., Oktay T., Project Supported by Higher Education Institutions, Quadroter Kontrolünde İnovatif Yöntemler, 2020 - 2022