

# Prof. OSMAN ERGÜVEN VATANDAŞ

## Personal Information

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## International Researcher IDs

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Yoksis Researcher ID: 221307

## Education Information

Doctorate, Istanbul Technical University, Uçak Ve Uzay Bilimleri Fakültesi, Uçak Mühendisliği Bölümü, Turkey 1999 - 2006

Postgraduate, Middle East Technical University, Mühendislik Fakültesi, Havacılık Ve Uzay Mühendisliği Bölümü, Turkey 1996 - 1998

Undergraduate, Istanbul Technical University, Uçak Ve Uzay Bilimleri Fakültesi, Uçak Mühendisliği Bölümü, Turkey 1985 - 1990

## Foreign Languages

English, C1 Advanced

## Dissertations

Doctorate, Three dimensional shape optimization of bodies subjected to air flow by heuristic algorithms, Istanbul Technical University, Uçak Ve Uzay Bilimleri Fakültesi, Uçak Mühendisliği Bölümü, 2006

Postgraduate, Aerodynamic performance predictions of two and three dimensional configurations by using a finite element package, Middle East Technical University, Mühendislik Fakültesi, Havacılık Ve Uzay Mühendisliği Bölümü, 1998

## Research Areas

Aeronautical and Space Engineering, Aeronautical Engineering, Flight Sciences, Aircraft System Technologies, Aerodynamics, Flight Dynamics and Stability, Performance, Vehicle Dynamics and Modeling

## Academic Titles / Tasks

Professor, Istanbul Gelisim University, FACULTY OF ENGINEERING AND ARCHITECTURE, AERONAUTICAL ENGINEERING, 2019 - Continues

Professor, Istanbul Gelisim University, Mühendislik-Mimarlık Fakültesi, Mekatronik Mühendisliği Bölümü, 2017 - 2019

Associate Professor, Air War Academy Command, Hava Harp Okulu (Dekanlık), Havacılık Ve Uzay Mühendisliği Bölümü, 2012 - 2017

Assistant Professor, Air War Academy Command, Hava Harp Okulu (Dekanlık), Havacılık Ve Uzay Mühendisliği Bölümü,

2007 - 2012

Lecturer PhD, Air War Academy Command, Hava Harp Okulu (Dekanlık), Havacılık Ve Uzay Mühendisliği Bölümü, 2006 - 2007

Lecturer, Air War Academy Command, Hava Harp Okulu (Dekanlık), Havacılık Ve Uzay Mühendisliği Bölümü, 2001 - 2006

Lecturer, Air War Academy Command, Hava Harp Okulu (Dekanlık), Havacılık Ve Uzay Mühendisliği Bölümü, 1999 - 2000

## Academic and Administrative Experience

Head of Department, Istanbul Gelisim University, FACULTY OF ENGINEERING AND ARCHITECTURE, AERONAUTICAL ENGINEERING, 2020 - 2022

Head of Department, Istanbul Gelisim University, SCHOOL OF APPLIED SCIENCES, AIRCRAFT MECHANIC-ENGINE MAINTENANCE, 2018 - 2020

Head of Department, Istanbul Gelisim University, SCHOOL OF APPLIED SCIENCES, AVIATION MANAGEMENT, 2017 - 2020

Director of The Institution, National Defense University, Hezarfen Institute Of Aeronautics And Astronautics, 2016 - 2017

## Courses

UÇAK MÜHENDİSLİĞİNE GİRİŞ VE ETİK, Undergraduate, 2021 - 2022, 2019 - 2020

Mühendislikte Sayısal Yöntemler, Postgraduate, 2021 - 2022

Uçuş Mekaniği, Undergraduate, 2021 - 2022

Computational Methods in Engineering, Postgraduate, 2020 - 2021, 2019 - 2020

SİVİL HAVACILIĞA GİRİŞ, Undergraduate, 2019 - 2020

AERODİNAMİK-1, Undergraduate, 2019 - 2020

UÇAK MÜHENDİSLİĞİ VE TASARIM, Undergraduate, 2019 - 2020

HAVACILIK EMNİYETİ, Undergraduate, 2019 - 2020

AERODİNAMİK-2, Undergraduate, 2019 - 2020

AERODİNAMİK-1, Undergraduate, 2018 - 2019, 2017 - 2018

AERODİNAMİK-2, Undergraduate, 2018 - 2019, 2017 - 2018

SİVİL HAVACILIĞA GİRİŞ, Undergraduate, 2018 - 2019, 2017 - 2018

BİLGİSAYAR DESTEKLİ MATEMATİKSEL HESAPLAMA, Undergraduate, 2017 - 2018

AKIŞKANLAR MEKANİĞİ, Undergraduate, 2017 - 2018

HAVA ARACI TEMEL BİLGİSİ, Undergraduate, 2017 - 2018

HAVACILIK EMNİYETİ, Undergraduate, 2017 - 2018

Makine Mühendisliğinde Sayısal Yöntemler, Postgraduate, 2016 - 2017, 2015 - 2016, 2014 - 2015

İleri Akışkanlar Mekaniği, Postgraduate, 2016 - 2017, 2015 - 2016

Aerodinamik-I, Undergraduate, 2016 - 2017, 2015 - 2016, 2014 - 2015, 2013 - 2014, 2012 - 2013, 2011 - 2012, 2010 - 2011, 2009 - 2010, 2008 - 2009, 2007 - 2008, 2006 - 2007

AERODİNAMİK-1, Undergraduate, 2016 - 2017

İnsansız Hava Aracı Tasarımı, Postgraduate, 2015 - 2016, 2014 - 2015, 2013 - 2014, 2011 - 2012, 2009 - 2010, 2008 - 2009

Aerodinamik-II, Undergraduate, 2015 - 2016, 2014 - 2015, 2013 - 2014, 2012 - 2013, 2011 - 2012, 2010 - 2011, 2009 - 2010, 2008 - 2009, 2007 - 2008, 2006 - 2007

Sıkıştırılabilir Akış, Postgraduate, 2015 - 2016, 2014 - 2015

Statik, Undergraduate, 2008 - 2009, 2007 - 2008, 2006 - 2007, 2005 - 2006, 2004 - 2005, 2003 - 2004, 2002 - 2003, 2001 - 2002

## Advising Theses

Vatandaş O. E., HİBRİT BİR İNSANSIZ HAVA ARACININ MODELLENMESİ VE KONTROLÜ, Postgraduate, A.CAN(Student), 2023

Vatandaş O. E., Yeni nesil elektrikli kuyruk rotoru performans incelenmesi, Postgraduate, O.AÇAR(Student), 2023

OSMAN ERGÜVEN V., Hibrit yakıtlı roket motoru ateşleme ve test düzeneği tasarımı ve üretimi, Postgraduate, M.BURAK(Student), 2019

İBRAHİM K., OSMAN ERGÜVEN V., CN-235 Casa uçağı kıvrık kanat tasarımının hesaplamalı akışkanlar dinamiği ile incelenmesi, Postgraduate, İ.KARAOĞLU(Student), 2015

İBRAHİM K., OSMAN ERGÜVEN V., Çeşitli kanat ucu modelleri için sürüklenme kuvvetinin azaltılmasının hesaplamalı akışkanlar dinamiği yöntemleri ile incelenmesi, Postgraduate, E.YILDIZ(Student), 2015

OSMAN ERGÜVEN V., ABDURRAHMAN H., Stewart platform mekanizması çalışma uzay analizi, Doctorate, S.AY(Student), 2013

OSMAN ERGÜVEN V., Mini insansız hava aracı tasarımı ve üretimi, Postgraduate, Ö.KARAGÖZ(Student), 2011

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

### I. Coupling dynamic mesh technique and heuristic algorithms in 3-D-tapered wing design

Vatandaş E., Özkol İ.

International Journal for Numerical Methods in Engineering, vol.74, no.12, pp.1771-1794, 2008 (SCI-Expanded)

### II. Vibrational genetic algorithm (VGA) and dynamic mesh in the optimization of 3D wing geometries

Vatandaş E., Hacıoğlu A., Özkol İ.

Inverse Problems in Science and Engineering, vol.15, no.6, pp.643-657, 2007 (SCI-Expanded)

## Articles Published in Other Journals

### I. On Novel Usage of a Hybrid Method (ANN and GA) for Faster 3-D Aerodynamic Optimization

VATANDAŞ O. E.

Journal of Aeronautics and Space Technologies, vol.10, no.2, pp.1-6, 2017 (Peer-Reviewed Journal)

### II. Geometrical and positional optimization of the forward swept lift producing surfaces in 3D flow domains

Vatandaş E.

Aircraft Engineering and Aerospace Technology, vol.79, no.6, pp.635-645, 2007 (Scopus)

### III. Kanat dizaynında genetik algoritma ve dinamik ağ yöntemlerinin birleştirilmesi

VATANDAŞ O. E., ÖZKOL İ.

İTÜ DERGİSİ D : Mühendislik, vol.5, no.6, pp.39-48, 2006 (Peer-Reviewed Journal)

### IV. Dynamic mesh and heuristic algorithms for the design of a transonic wing

Vatandaş E., Özkol İ.

Aircraft Engineering and Aerospace Technology, vol.78, no.1, pp.39-44, 2006 (Scopus)

### V. Using the dynamic mesh method for genetically obtained wing structures

Vatandaş E., Özkol İ., Kaya M. O.

Aircraft Engineering and Aerospace Technology, vol.76, no.3, pp.314-319, 2004 (Scopus)

## Books & Book Chapters

### I. 1-7

Yükselen M. A., Vatandaş O. E.

in: AERODİNAMİĞİN ESASLARI (Fundamentals of Aerodynamics çevirisi), Yükselen, M. Adil, Editor, Nobel Yayın

Dağıtım, İstanbul, pp.1-560, 2024

**II. Uluslararası Havacılığın Temelleri**

DÜZGÜN M., KUL R. H., TEZER G., UYANIK H., VATANDAŞ O. E., AYDOĞAN S., ÇOTUKSÖKEN B.  
Nobel Akademik Yayıncılık, Ankara, 2019

**Refereed Congress / Symposium Publications in Proceedings**

- I. The Proposal to establish the infrastructure of space tourism in Turkey in terms of social sciences and the 'Shel-Uz' model**  
GÜNAL Z., VATANDAŞ O. E.  
3rd International Congress of New Generations and New Trends in Tourism, Sapanca, Sakarya, 26-28 Ekim 2023., Sakarya, Turkey, 26 October 2023
- II. New Generation Electric Tail Rotor Performance Analyses**  
ACAR O., ÖZDEMİR Ö., VATANDAŞ O. E.  
10th International Conference on Recent Advances in Space Technologies RAST 2023, İstanbul, 07-09 Haziran 2023., 7 - 09 June 2023
- III. Improvement of forward swept wing optimization in the compressible flow by using a hybrid method**  
Vatandas O. E., Altuntas Y., Celebi M.  
7th International Conference on Recent Advances in Space Technologies, RAST 2015, İstanbul, Turkey, 16 - 19 June 2015, pp.21-25
- IV. Aerodynamic performance comparison of V-tail and conventional tail for an unmanned vehicle**  
Vatandas O. E., Antepioglu A.  
7th International Conference on Recent Advances in Space Technologies, RAST 2015, İstanbul, Turkey, 16 - 19 June 2015, pp.655-658
- V. A Novel Geometrical Method for the Determination of Reachable Workspace of a Planar Stewart platform**  
AY S., HACIOĞLU A., VATANDAŞ O. E.  
2ND INTERNATIONAL CONFERENCE AND EXHIBITION ON MECHANICAL AND AEROSPACE ENGINEERING 2014, PHILADELPHIA, United States Of America, 8 September - 10 August 2014, vol.3, pp.76
- VI. Genetik Algoritma İle Elde Edilen 3 Boyutlu Kanat Modelleri İçin Yeni Ağ Yapılarının Dinamik Ağ Yöntemiyle Bulunması**  
VATANDAŞ O. E., ÖZKOL İ.  
Kayseri V Havacılık Sempozyumu, Turkey, 14 - 16 May 2014
- VII. Determination of the Reachable Workspace of 6-3 Stewart Platform Mechanism**  
AY S., VATANDAŞ O. E., HACIOĞLU A.  
The World Congress on Engineering 2012, Londrina, Brazil, 4 - 06 July 2012
- VIII. A novel geometrical approach to determining the workspace of 6-3 Stewart Platform Mechanism**  
Ay S., Hacıoglu A., Vatandas E.  
5th International Conference on Recent Advances in Space Technologies, RAST 2011, İstanbul, Turkey, 9 - 11 June 2011, pp.95-100
- IX. Yeni Bir Geometrik Yaklaşımla Stewart Platform Mekanizmasının Kinematik İncelemesi**  
VATANDAŞ O. E., HACIOĞLU A., AY S.  
15. Ulusal Makina Teorisi Sempozyumu, Niğde Üniversitesi, Niğde, 16-18 Haziran 2011, Turkey, 16 - 18 June 2011
- X. Hybridizing genetic algorithm with artificial neural network in the aerodynamic optimization of the forward swept wing**  
Vatandas E.  
51st AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference, Orlando, FL, United States Of America, 12 - 15 April 2010
- XI. The effect of radius of joint location on workspace analysis of the 6-6 stewart platform mechanism**

Ay S., Vatandaş O. E., Hacıoğlu A.

4th International Conference on Recent Advances in Space Technologies 2009, RAST '09, İstanbul, Turkey, 11 - 13 June 2009, pp.728-731

- XII. **Forward Swept Wing Optimization by Using Recent Favorable Numerical Techniques**  
VATANDAŞ O. E.  
49th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference & 16th AIAA/ASME/AHS Adaptive Structures Conference & 10th Schaumburg, IL, 7 - 10 April 2008
- XIII. **Combined parallel computing, dynamic mesh and heuristic algorithms in tapered wings**  
Vatandaş E., Özkol İ.  
47th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference, Newport, RI, United States Of America, 1 - 04 May 2006, vol.4, pp.2832-2842
- XIV. **Aerodynamic Optimization of a Transonic Wing by Merging the Dynamic Mesh and Non Gradient Techniques**  
VATANDAŞ O. E., ÖZKOL İ.  
14th CFD Conference, Queen's University, Kingston, Ontario, Canada, 16-18 July 2006, 16 - 18 July 2006
- XV. **Wing shape optimization by using the dynamic mesh and genetic algorithm**  
VATANDAŞ O. E., ÖZKOL İ.  
Abstract for Third M.I.T. Conference on Computational Fluid and Solid Mechanics, Massachusetts Institute of Technology Cambridge, MA 02139 U.S.A., June 14-17, 2005, 14 - 17 June 2005
- XVI. **Combining Vibrational Genetic Algorithm VGA and Dynamic Mesh in the Optimization of 3 D Wing Geometries**  
VATANDAŞ O. E., HACIOĞLU A., ÖZKOL İ.  
Finite Element for Flow Problems FEF05 IACM Special Interest Conference supported by ECCOMAS, April 4-6, 2005, Swansea, Wales, UK, 4 - 06 April 2005
- XVII. **Implementation of Genetic Algorithm on the Design of a Transonic Wing by Using Parallel Processing**  
VATANDAŞ O. E., NAS S., ÖZKOL İ.  
International Conference of Signal Processing, December 15-17, 2004, İstanbul, Turkey, 15 - 17 December 2004
- XVIII. **Genetik Algoritma ve Dinamik Ağ Yöntemleriyle Kanat Optimizasyonu**  
VATANDAŞ O. E., ÖZKOL İ.  
Havacılıkta İleri Teknolojiler ve Uygulamaları Sempozyumu (HİTEK) 9-10 Aralık 2004, Hava Harp Okulu, İstanbul, Turkey, 9 - 10 December 2004
- XIX. **On effective combination of heuristic algorithms and dynamic meshes in CFD applications**  
Vatandaş E., Özkol İ.  
2004 ASME/JSME Pressure Vessels and Piping Conference, San Diego, CA, United States Of America, 25 - 29 July 2004, vol.491, pp.17-22
- XX. **Implementation of the Dynamic Mesh Methods on Genetically Obtained Mesh Structures for 3 D Geometries**  
VATANDAŞ O. E., KAYA M. O., İBRAHİM Ö.  
Geometries" Proceedings of International Congress on Evolutionary Methods for Design, Optimization and Control with Applications to Industrial Problems, EUROGEN'03, Barcelona, Spain 2003, 19 - 22 May 2003