

## Asst. Prof. MEHMET SEYHAN

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: AAR-9268-2020

ScopusID: 960911

Yoksis Researcher ID: 229980

### Education Information

Doctorate, Karadeniz Technical University, Fen Bilimleri Enstitüsü, Makine Mühendisliği, Turkey 2016 - 2022

Postgraduate, Niğde Üniversitesi, Fen Bilimleri Enstitüsü, Makine Mühendisliği, Turkey 2013 - 2015

Undergraduate, Niğde Üniversitesi, Turkey 2008 - 2013

### Dissertations

Doctorate, GENLİK MODÜLASYONLU DALGALI GEOMETRİYE SAHİP UÇAK KANADININ AERODİNAMİK PERFORMANSININ DENEYSEL İNCELENMESİ, Karadeniz Technical University, Fen Bilimleri Enstitüsü, 2022

Postgraduate, BUJİ PLAZMA SENTETİK JET AKTÜATÖRÜNÜN PEM YAKIT PİLİ PERFORMANSI ÜZERİNE ETKİSİNİN İNCELENMESİ, Niğde Üniversitesi, Fen Bilimleri Enstitüsü, Makine Mühendisliği, 2015

### Research Areas

Mechanical Engineering, Energy, Fluid Mechanics, Hydrogen Technologies and Fuel Cells , Wind power, Aeronautical and Space Engineering, Aeronautical Engineering , Flight Sciences, Aerodynamics, Engineering and Technology

### Academic Titles / Tasks

Assistant Professor, Karadeniz Technical University, Mühendislik Fakültesi, Makine Mühendisliği, 2023 - Continues

Research Assistant PhD, Karadeniz Technical University, Fen Bilimleri Enstitüsü, 2015 - 2023

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

- Optimization of aerodynamic drag reduction for truck trailer model via machine learning**  
SEYHAN M., ES H. A., SARIOĞLU M.  
MEASUREMENT, vol.240, 2025 (SCI-Expanded)
- Overall aerodynamic performance of the airfoils with different amplitudes via a fuzzy decision making based Taguchi methodology**  
SEYHAN M., ES H. A., SARIOĞLU M.

Applied Soft Computing, vol.165, 2024 (SCI-Expanded)

- III. **An experimental investigation on the flow control of the partially stepped NACA0012 airfoil at low Reynolds numbers**  
SEYHAN M., Akbiyik H.  
Ocean Engineering, vol.306, 2024 (SCI-Expanded)
- IV. **Aerodynamic drag improvements on a circular cylinder using passive Venturi actuators**  
Firat E., SEYHAN M., ÖZKAN G. M.  
Physics of Fluids, vol.36, no.2, 2024 (SCI-Expanded)
- V. **Effect of aero-shaped vortex generators on NACA 4415 airfoil**  
Algan M., Seyhan M., Sarioğlu M.  
OCEAN ENGINEERING, vol.291, no.1, pp.1-20, 2024 (SCI-Expanded)
- VI. **Investigation of aerodynamic performance of Clark-Y airfoil with more realistic tubercle model and internal slots**  
Demirci V., Seyhan M., Sarioglu M.  
PHYSICS OF FLUIDS, vol.35, no.8, 2023 (SCI-Expanded)
- VII. **Leading-edge tubercle modifications to the biomimetic wings**  
Çolak A., Seyhan M., Sarioğlu M.  
PHYSICS OF FLUIDS, vol.35, no.1, 2023 (SCI-Expanded)
- VIII. **The effect of leading-edge tubercle on a tapered swept-back SD7032 airfoil at a low Reynolds number**  
Seyhan M., Akbiyik H., Sarioğlu M., Kececioglu S. C.  
OCEAN ENGINEERING, vol.266, 2022 (SCI-Expanded)
- IX. **Influence of Leading-Edge Tubercle with Amplitude Modulation on NACA 0015 Airfoil**  
Seyhan M., Sarioğlu M., Akansu Y. E.  
AIAA JOURNAL, vol.59, no.10, pp.3965-3978, 2021 (SCI-Expanded)
- X. **Investigation of drag reduction performance of half NACA 0009 and 0012 airfoils placed over a trailer on the flow around truck-trailer**  
SEYHAN M., SARIOĞLU M.  
JOURNAL OF MECHANICAL SCIENCE AND TECHNOLOGY, vol.35, no.7, pp.2971-2979, 2021 (SCI-Expanded)
- XI. **The effect of a novel spark-plug plasma synthetic jet actuator on the performance of a PEM fuel cell**  
Seyhan M., Akansu Y. E.  
INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, vol.140, pp.147-151, 2019 (SCI-Expanded)
- XII. **EFFECT OF SIGNAL MODULATION OF DBD PLASMA ACTUATOR ON FLOW CONTROL AROUND NACA 0015**  
Guler A. A., Seyhan M., Akansu Y. E.  
ISI BILIMI VE TEKNIGI DERGISI-JOURNAL OF THERMAL SCIENCE AND TECHNOLOGY, vol.38, no.1, pp.95-105, 2018 (SCI-Expanded)
- XIII. **Performance prediction of PEM fuel cell with wavy serpentine flow channel by using artificial neural network**  
SEYHAN M., AKANSU Y. E., Murat M., KORKMAZ Y., AKANSU S. O.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.42, no.40, pp.25619-25629, 2017 (SCI-Expanded)
- XIV. **THE IMPROVEMENT OF DRAG FORCE ON A TRUCK TRAILER VEHICLE BY PASSIVE FLOW CONTROL METHODS**  
AKANSU Y. E., BAYINDIRLI C., SEYHAN M.  
ISI BILIMI VE TEKNIGI DERGISI-JOURNAL OF THERMAL SCIENCE AND TECHNOLOGY, vol.36, no.1, pp.133-141, 2016 (SCI-Expanded)

## Articles Published in Other Journals

- I. **The effect of Clark-Y airfoil vortex generators on tapered NACA 0020 wing**

SEYHAN M., ÇOLAK A., Sarioglu M.

Niğde Ömer Halisdemir Üniversitesi Mühendislik Bilimleri Dergisi, vol.13, no.3, pp.776-784, 2024 (Peer-Reviewed Journal)

**II. Evaluating the factors influencing the sustainable refrigerant selection by fuzzy decision making approach**

SEYHAN M., AYYILDIZ E., Erdoğan M.

Journal of Sustainable Construction Materials and Technologies, vol.9, no.1, pp.45-59, 2024 (Scopus)

**III. Effect of attack angle on the flow around adjacent circular and rectangular prisms**

SEYHAN M., SARIOĞLU M., AKANSU Y. E.

Niğde Ömer Halisdemir Üniversitesi Mühendislik Bilimleri Dergisi, vol.10, no.2, pp.833-839, 2021 (Peer-Reviewed Journal)

**IV. Control of flow around Side by Side Square Prisms Using Control Rods**

Seyhan M., Sarioğlu M.

Afyon Kocatepe University Journal of Science and Engineering, vol.20, no.3, pp.543-550, 2020 (Peer-Reviewed Journal)

**V. Effect of Attack Angle on Flow around A Square Prism with A Splitter Plate**

Seyhan M., Sarioğlu M., Akansu Y. A.

Uludağ Üniversitesi Mühendislik Fakültesi Dergisi, vol.23, pp.233-240, 2018 (Peer-Reviewed Journal)

**VI. Aerodynamic Drag Force Estimation of a Truck Trailer Model Using Artificial Neural Network**

Sarioğlu M., Seyhan M., Akansu Y. E.

International Journal of Automotive Engineering and Technologies, vol.5, no.4, pp.168-175, 2016 (Peer-Reviewed Journal)

**VII. Aerodynamic forces acting on a circular cylinder with splitter plate at incidence**

SARIOĞLU M., SEYHAN M., AKANSU Y. E.

KSU Journal of Engineering Sciences, vol.19, no.3, pp.1-6, 2016 (Peer-Reviewed Journal)

**VIII. The passive flow control around a truck-trailer model**

OZEL M., AYGUN E., AKANSU Y. E., BAYINDIRLI C., SEYHAN M.

INTERNATIONAL JOURNAL OF AUTOMOTIVE ENGINEERING AND TECHNOLOGIES, vol.4, no.4, pp.185-192, 2015 (Peer-Reviewed Journal)

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

**I. The Effect of Backward Counter-Rotating Triangular Type Vortex Generators on NACA 4415 Airfoil**

Algan M., Seyhan M., Sarioğlu M.

2nd International Conference on Engineering and Applied Natural Sciences, Konya, Turkey, 15 - 18 October 2022, pp.1-5

**II. THE EFFECTS OF A SYNTHETIC JET WITH VARIOUS JET TO PLATE DISTANCES ON IMPINGING JET HEAT TRANSFER**

Akbıyık H., Seyhan M., Kocabıyık O., Sarioğlu M., Akansu Y. E.

2nd International Conference on Engineering and Applied Natural Sciences, Kayseri, Turkey, 1 - 03 September 2022, pp.1-5

**III. AERODYNAMIC PERFORMANCE OF LEADING-EDGE TUBERCLE OF TAPERED SWEEPED-BACK NACA 0020 AIRFOIL**

Seyhan M., Sarioğlu M., Çolak A.

17th international conference of young scientists on energy and natural sciences issues, Kaunas, Lithuania, 24 - 28 May 2021, pp.1-8

**IV. AN EXPERIMENTAL STUDY ON FLOW AROUND NACA 0020 AIRFOIL WITH DIFFERENT SWEEPED BACK ANGLE**

Seyhan M., Sarioğlu M., Akansu Y. E.

17th international conference of young scientists on energy and natural sciences issues, Kaunas, Lithuania, 24 - 28

May 2021, pp.1-6

- V. **AERODYNAMIC CHARACTERISTICS OF NACA 0015 AIRFOIL HAVING DIFFERENT ASPECT RATIO WITH END PLATES**  
Seyhan M., Sarioğlu M.  
17th international conference of young scientists on energy and natural sciences issues , Kaunas, Lithuania, 24 - 28 May 2021, pp.1-7
- VI. **INVESTIGATION OF LEADING-EDGE TUBERCLE FOR TAPERED SWEPT-BACK AIRFOIL AT LOW REYNOLDS NUMBER**  
Seyhan M., Çolak A., Sarioğlu M.  
17th international conference of young scientists on energy and natural sciences issues, Kaunas, Lithuania, 24 - 28 May 2021, pp.1-6
- VII. **THE EFFECTS OF LEADING EDGE TUBERCLES ON FLOW AROUND A SEMI SPAN NACA 0020 AIRFOIL**  
Çolak A., Seyhan M., Sarioğlu M.  
International Conference on Engineering Technologies, Konya, Turkey, 19 - 21 November 2020, pp.132
- VIII. **INVESTIGATION OF EFFECTS OF WAVY LEADING EDGE ON FLOW AROUND A NACA 0020 AIRFOIL**  
Seyhan M., Sarioğlu M., Akansu Y. E.  
International Conference on Engineering Technologies, Konya, Turkey, 19 - 21 November 2020, pp.99
- IX. **Effect of Leading-Edge Tubercles on Flow around NACA 0015 Airfoil at  $Re = 1 \times 10^5$**   
Seyhan M., Sarioğlu M., Akansu Y. E.  
5th International Mediterranean Science and Engineering Congress, Antalya, Turkey, 21 - 23 October 2020, pp.237-239
- X. **The Investigation of Leading-Edge Tubercles on Flow Around A Semi-Span NACA 634-021 Airfoil**  
Seyhan M., Çolak A., Sarioğlu M., Akansu Y. E.  
5th International Mediterranean Science and Engineering Congress, Antalya, Turkey, 21 - 23 October 2020, pp.335-338
- XI. **DESIGN AND EXPERIMENTAL INVESTIGATION OF BIO-INSPIRED SPOILER FOR TRUCK-TRAILER**  
KESAT T. M., SARIOĞLU M., SEYHAN M.  
The Internatinonal Conference on Materials Science, Mechanical and Automotive Engineerings and Technology in Cappadocia/TURKEY (IMSMATEC'19), Nevşehir, Turkey, 21 - 23 June 2019, pp.531-534
- XII. **Investigation of The Jet Flow Characteristics of a Synthetic Jet Actuator in terms of Signal Type**  
AKANSU Y. E., SEYHAN M., AKBIYIK H., KOCABIYIK O.  
International Conference on Advances in Mechanical and Mechatronics Engineering ICAMMEN 2018, Ankara, Turkey, 8 - 09 December 2018, pp.480-485
- XIII. **Heat Transfer Characteristic of a Synthetic Jet Actuator with Varied Driven Signal Type**  
KOCABIYIK O., AKBIYIK H., SEYHAN M., AKANSU Y. E., SARIOĞLU M.  
1st International Conference on Advances in Mechanical and Mechatronics Engineering, Ankara, Turkey, 8 - 09 November 2018
- XIV. **INVESTIGATION OF LEADING EDGE TUBERCLES ON NACA 0015 AIRFOIL**  
SEYHAN M., SARIOĞLU M., AKANSU Y. A.  
1 st International Conference on Advances in Mechanical and Mechatronics Engineering, Ankara, Turkey, 8 - 09 November 2018, pp.413-416
- XV. **HEAT TRANSFER CHARACTEHERISTICS OF A SYNTHETIC JET ACTUATOR WITH VARIED DRIVEN SIGNAL TYPE**  
KOCABIYIK O., AKBIYIK H., SEYHAN M., SARIOĞLU M., AKANSU Y. A.  
1 st International Conference on Advances in Mechanical and Mechatronics Engineering, Ankara, Turkey, 8 - 09 November 2018, pp.476-479
- XVI. **INVESTIGATION OF HALF NACA 0018 AIRFOIL ON TRUCK-TRAILER**  
SARIOĞLU M., SEYHAN M., AKANSU Y. A.  
1 st International Conference on Advances in Mechanical and Mechatronics Engineering, Ankara, Turkey, 8 - 09 November 2018, vol.1, no.1, pp.499-503
- XVII. **DRAG REDUCTION OF TRUCK-TRAILER USING HALF OF NACA 0006 AIRFOIL**

SARIOĞLU M., SEYHAN M., AKANSU Y. A.

OTEKON 2018 ULUSLARARASI 9. OTOMOTİV TEKNOLOJİLERİ KONGRESİ, Bursa, Turkey, 7 - 08 May 2018, pp.714-719

**XVIII. Effect of Synthetic Jet with Duty Cycle over Heat Transfer Enhancement**

SEYHAN M., AKBIYIK H., SARIOĞLU M., ERDURCAN E. F., AKANSU Y. E.

Proceedings of the 3rd World Congress on Momentum, Heat and Mass Transfer (MHMT'18), Budapest, Hungary, 12 - 14 April 2018

**XIX. FLOW AROUND A SQUARE CYLINDER WITH WAVY SPLITTER PLATE PLACED UPSTREAM**

SEYHAN M., SARIOĞLU M., AKANSU Y. E.

9th ANKARA INTERNATIONAL AEROSPACE CONFERENCE, Ankara, Turkey, 20 - 22 September 2017, pp.1-8

**XX. Flow Control around a NACA 0015 Airfoil with DBD Plasma Actuator Placed at an Angle to Chord Direction as a Vortex Generator**

GÜNAYDIN R., AKANSU Y. E., AKBIYIK H., SEYHAN M.

9th ANKARA INTERNATIONAL AEROSPACE CONFERENCE, Ankara, Turkey, 20 - 22 September 2017, pp.1-7

**XXI. Investigation of Flow Characteristics of Synthetic Jet Driven by Duty Cycle Signal**

AKANSU Y. E., SARIOĞLU M., SEYHAN M., AKBIYIK H.

10th International Conference on Sustainable Energy & Environmental Protection, Bled, Slovenia, 27 June - 30 July 2017, vol.1, no.1, pp.345-354

**XXII. Vortex Shedding Frequency Estimation of a Circular Cylinder with Splitter Plate at Incidence Using Artificial Neural Network**

SEYHAN M., SARIOĞLU M., AKANSU Y. E., AKBIYIK H.

3 rd INTERNATIONAL RESEARCHERS, STATISTICIANS AND YOUNG STATISTICIANS CONGRESS, Konya, Turkey, 24 - 26 May 2017, pp.1

**XXIII. Aerodynamic Force Estimation of A NACA 0015 Airfoil with DBD Plasma Actuator Using Artificial Neural Network**

AKBIYIK H., SEYHAN M., AKANSU Y. E., YAVUZ H., SARIOĞLU M.

3 rd INTERNATIONAL RESEARCHERS, STATISTICIANS AND YOUNG STATISTICIANS CONGRESS, Konya, Turkey, 24 - 26 May 2017, pp.1

**XXIV. Effect of Length of the Wavy Shaped Splitter Plate on Flow around a Circular Cylinder**

SARIOĞLU M., SEYHAN M., AKANSU Y. E.

8th International Exergy, Energy and Environment Symposium (IEEES-8), Antalya, Turkey, 1 - 04 May 2016, pp.589-592

**XXV. Effect of the duty cycle on the spark-plug plasma synthetic jet actuator**

SEYHAN M., Akansu Y. E., Karakaya F., Yesildag C., AKBIYIK H.

10th Anniversary International Conference on Experimental Fluid Mechanics, Prague, Czech Republic, 17 - 20 November 2015, vol.114

**XXVI. Development of Novel Plasma Synthetic Jet Actuator Based on Spark-Plug**

SEYHAN M., AKANSU Y. E., Karakaya F., Ay F.

13th International Conference on Fluid Control, Measurements and Visualization, Doha, Qatar, 15 - 18 November 2015

**XXVII. Effect of the wavy shaped splitter plate on flow around a circular cylinder**

SARIOĞLU M., SEYHAN M., AKANSU Y. E.

13th International Conference on Fluid Control, Measurements and Visualization, Doha, Qatar, 15 - 18 November 2015

## Supported Projects

AYYILDIZ E., SEYHAN M., MURAT M., ERDOĞAN ALTUNBEY M., Project Supported by Higher Education Institutions, Karayollarında petrol taşımacılığında kullanılan tankerlerin seçim problemine yönelik yeni bir hibrit Fermatean bulanık çok kriterli karar verme tekniği Fermatean DEMATELCRITICWASPAS, 2023 - 2024

Seyhan M., Fırat E., TUBITAK Project, Düşük Reynolds sayılarında biyo-ilhamlı boylamasına şeritli bir kanat profilinin deneysel bir çalışması, 2022 - 2024

SARIOĞLU M., ÇOLAK A., SEYHAN M., DEMİRCİ V., Project Supported by Higher Education Institutions, Doğadan Esinlenen hücum kenarı dalgalı kanat profiline sahip yatay eksenli rüzgar türbininin tasarımı imalatı ve performansının deneysel olarak incelenmesi, 2022 - 2024

Sarioğlu M., Kahveci H., Es H. A., Fırat E., Akansu Y. E., Seyhan M., TUBITAK Project, Doğadan Esinlenilmiş Hücum Kenarı Dalgalı Kanata Sahip Dikey Eksenli Rüzgâr Türbininin Deneysel Ve Sayısal İncelenmesi, 2022 - 2024

Sarioğlu M., Akansu Y. E., TUBITAK Project, Hücum ve Fırar Kenarı Dalgalı Geometriye Sahip Uçak Kanadı Performansına Artan Azalan Genlik Modülasyonunun Etkisinin İncelenmesi, 2018 - 2021

Sarioğlu M., Akansu Y. E., TUBITAK Project, Farklı Genlik Ve Frekansa Sahip Ardisık Olarak Üretilen Sentetik Jetlerin Etkilesiminin İncelenmesi, 2016 - 2018

Akansu Y. E., TUBITAK Project, PEM Yakıt Pillerinde Plazma Sentetik Jet Kullanılarak Yakıt Pili Performansının İyileştirilmesi, 2014 - 2016

## Scientific Refereeing

ENERGY, SCI Journal, June 2022

Frontiers in Forests and Global Change, Journal Indexed in ESCI, January 2022

ENERGY, SCI Journal, May 2021

ERCİYES ÜNİVERSİTESİ FEN BİLİMLERİ ENSTİTÜSÜ DERGİSİ, National Scientific Refreed Journal, April 2021

ENERGY, SCI Journal, March 2021

ENERGY, SCI Journal, February 2021

ENERGY, SCI Journal, October 2019

APPLIED ENERGY, SCI Journal, February 2019

MECHATRONICS, SCI Journal, October 2018

ENERGY, SCI Journal, September 2018

## Metrics

Publication: 50

Citation (WoS): 156

Citation (Scopus): 165

H-Index (WoS): 6

H-Index (Scopus): 6

## Scholarships

2218 - Yurt İçi Doktora Sonrası Araştırma Burs Programı - 2021/2, TUBITAK, 2022 - Continues