

# BAHRI ŞAHİN

## PROF.

Email : sahinb@yildiz.edu.tr

Address : Yıldız Teknik Üniversitesi Gemi İnşaatı ve Denizcilik  
Fakültesi, Beşiktaş-İSTANBUL

### International Researcher IDs

ScholarID: 87Fu5D8AAAAJ

ORCID: 0000-0002-3885-9588

Publons / Web Of Science ResearcherID: V-6422-2019

ScopusID: 7103169993

Yoksis Researcher ID: 5335



## Biography

Prof. Dr. Bahri Sahin received his undergraduate degree in Gazi University, Department of Mechanical Engineering in 1977, his graduate education in 1979 as a Tübitak scholarship, Yıldız Technical University (ITU) Institute of Science and Technology, Department of Mechanical Engineering, and He completed Ph.D. degree in 1985 as Tübitak Honorary Scholarship Istanbul Technical University (ITU) Nuclear Energy Institute Nuclear Technology Program.

He worked as a research assistant between 1979 and 1983 and as a lecturer between 1983 and 1986 in the Department of Energy Engineering at ITU Mechanical Engineering Department. Bahri Sahin served as Assistant Professor in the Naval Architecture and Marine Engineering between 1986 and 1989, and as an Associate Professor between 1989 and 1995, he has been a Professor since 1995.

Prof. Dr. Bahri Sahin served as Deputy Head of the Department between 1988-1999 at Yıldız Technical University, as Division Head between 1992-2007, as Head of Department between 1999-2009 and as Founder Dean of Faculty of YTU Naval Architecture and Maritime since 2009. He was also elected to the Board of Directors of the United Nations Industrial Development Organization (UNIDO), International Center for Hydrogen Technology (ICHET) in 2010,

Prof. Dr. Bahri Sahin has a lot of international studies in the fields of Thermodynamics, Energy Production Systems, Energy Technologies, Design and Optimization of Thermal Systems and Energy Economy. He was elected to the Turkish Science Academy (TUBA) as a principal member by decision of the Scientific Board of TÜBİTAK numbered 212 on 06.10.2012. Prof. Dr. Bahri Sahin has been the rector of YTU since 2016.

## Learning Knowledge

Doctorate  
1979 - 1985

Istanbul Technical University, Makine Mühendisliği, Turkey

Postgraduate  
1977 - 1979

Yıldız Technical University, Graduate School Of Natural And Applied Sciences,  
Makina Mühendisliği, Turkey

Undergraduate  
1973 - 1977

Gazi University, Mühendislik Fakültesi, Makina Mühendisliği, Turkey

## Foreign Languages

## Dissertations

Doctorate, Nükleer ve fosil yakıtlı birleşik ısı-güç santralali ile Ankara şehrinin bir merkezden ısıtılmasının teknik ve ekonomik etüdü, Istanbul Technical University, 1985

Postgraduate, Buhar Türbinli Güç Tesislerinde Optimum Ön Isıtıcı Sayısının Tesbiti İçin Teorik Bir Yöntem, Yıldız Technical University, 1979

## Academic Titles / Tasks

Professor 1995 - Continues	Yıldız Technical University, Naval Architecture And Maritime Faculty, Department Of Naval Architecture And Marine Engineering
Associate Professor 1989 - 1995	Yıldız Technical University, Faculty Of Mechanical Engineering, Department Of Naval Architecture And Marine Engineering
Assistant Professor 1986 - 1989	Yıldız Technical University, Faculty Of Mechanical Engineering, Department Of Naval Architecture And Marine Engineering
Lecturer 1983 - 1986	Yıldız Technical University, Faculty Of Mechanical Engineering, Department Of Mechanical Engineering
Research Assistant 1979 - 1983	Yıldız Technical University, Faculty Of Mechanical Engineering, Department Of Mechanical Engineering

## Supported Projects

1. GONCA G., ŞAHİN B., Project Supported by Higher Education Institutions, Dizel Motorlar İçin Termoekolojiye Dayalı Çok Parametrelili Yeni Bir Performans Analiz Kriteri Geliştirilmesi, 2020 - 2020
2. GONCA G., ŞAHİN B., ARSLAN F., SAFA A., Project Supported by Higher Education Institutions, İçten Yanmalı Motorlar İçin Teorik ve Deneysel Çalışmalara Dayalı Yeni Bir Termo-Ekolojik Performans Analiz Kriterinin Geliştirilmesi, 2017 - 2019
3. Şahin B., Çakır M., TUBITAK Project, Enjeksiyonlu Bir CNG Motorunda Yeni Bir Kademeli Dolgu Oluşum Modeli ve Yanma Odası Tasarımı, 2015 - 2018
4. Çetin B., Erdem H. H., Şahin B., Teke İ., Project Supported by Other Private Institutions, EÜAŞ TERMİK SANTRALLERİ İÇİN EĞİTİM VE DANIŞMANLIK, 2015 - 2016
5. Erdem H. H., Çetin B., Şahin B., Teke İ., Project Supported by Other Private Institutions, EÜAŞ TERMİK SANTRALLERİ İÇİN EĞİTİM VE DANIŞMANLIK, 2014 - 2015
6. Şahin B., Üst Y., Gonca G., Elçiçek H., Kökkülünk G., TUBITAK Project, Miller Çevrimiyle Çalışan Bir Dizel motoruna Su Buharı Enjeksiyonu EGR uygulamasının NOx Emisyonlarına ve Performansa Etkilerinin Teorik ve Deneysel Olarak İncelenmesi, 2011 - 2014
7. Erdem H. H., Çetin B., Şahin B., Teke İ., Project Supported by Other Private Institutions, EÜAŞ TERMİK SANTRALLERİ İÇİN EĞİTİM VE DANIŞMANLIK, 2012 - 2013
8. Erdem H. H., Çetin B., Akkaya A. V., Üst Y., Şahin B., Teke İ., TUBITAK Project, Termik santral performans izleme ve değerlendirme sistem tasarımı ve uygulaması (PERİDSİS), 2011 - 2013

9. Erdem H. H., Sevilgen S. H., Dağdaş A., Akkaya A. V., Çetin B., Şahin B., Teke İ., Project Supported by Other Private Institutions, EÜAŞ TERMİK SANTRALLARI İÇİN TEKNİK KONULARDA DANIŞMANLIK, 2011 - 2012
10. Erdem H. H., Sevilgen S. H., Dağdaş A., Çetin B., Akkaya A. V., Şahin B., Teke İ., TUBITAK Project, Enerji Verimliliğini Artırmak Üzere Termik Santral Atık Isılarını Faydaya Dönüştürme Yöntemlerinin Araştırılması, Geliştirilmesi ve Binalarda Isıtma Uygulaması, 2006 - 2010

## Awards

1. ŞAHİN B., ICCI Enerji Ödülü, ICCI, January 2014
2. ŞAHİN B., 1980-2007 Yılları Arasında SCI Kapsamındaki Uluslararası Yayın Sıralamasında YTÜ İkincilik Ödülü, YTÜ, January 2008
3. ŞAHİN B., 1980-2007 Yılları Arasında SCI Kapsamındaki Uluslararası Atf Sıralamasında YTÜ Birincilik Ödülü, YTÜ, January 2008

## Scholarships

Doktora Şeref Bursiyerliği, TUBITAK, 1979 - 1984

Yüksek Lisans Bursiyerliği, TUBITAK, 1977 - 1979

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

1. **The Effects of Equivalence Ratio and Temperature of Different Fuel Mixtures on the Performance and NO Emission Characteristics of a Spark Ignition Engine**  
GONCA G., ŞAHİN B., Hocaoglu M. F.  
Arabian Journal for Science and Engineering, vol.49, no.8, pp.10431-10452, 2024 (SCI-Expanded)
2. **Performance investigation and simulation of a diesel engine operating on seven-process cycle based on energy and exergy criteria**  
GONCA G., GENÇ İ., ŞAHİN B.  
International Journal of Exergy, vol.41, no.4, pp.391-402, 2023 (SCI-Expanded)
3. **Performance investigation and evaluation of an engine operating on a modified dual cycle**  
GONCA G., ŞAHİN B.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.46, no.3, pp.2454-2466, 2022 (SCI-Expanded)
4. **Influences of hydrogen and various gas fuel addition to different liquid fuels on the performance characteristics of a spark ignition engine**  
Gonca G., Şahin B., Hocaoglu M. F.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.47, no.24, pp.12421-12431, 2022 (SCI-Expanded)
5. **Investigation of maximum performance characteristics of seven-process cycle engine**  
GONCA G., ŞAHİN B., GENÇ İ.  
INTERNATIONAL JOURNAL OF EXERGY, vol.37, no.3, pp.302-312, 2022 (SCI-Expanded)
6. **University Rankings: Quality, Size and Permanence**  
Bejan A., Gunes Ü., ŞAHİN B.  
European Review, vol.28, no.4, pp.537-558, 2020 (SSCI)
7. **Performance assessment of a modified power generating cycle based on effective ecological power density and performance coefficient**  
GONCA G., ŞAHİN B., ÇAKIR M.  
INTERNATIONAL JOURNAL OF EXERGY, vol.33, no.2, pp.153-164, 2020 (SCI-Expanded)
8. **Performance analysis of a novel eco-friendly internal combustion engine cycle**  
GONCA G., ŞAHİN B.

- INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.43, no.11, pp.5897-5911, 2019 (SCI-Expanded)
9. **The evolution of air and maritime transport**  
Bejan A., Güneş Ü., Şahin B.  
APPLIED PHYSICS REVIEWS, vol.6, no.2, 2019 (SCI-Expanded)
  10. **Performance evaluation of a mercury-steam combined-energy-generation system (MES)**  
GONCA G., ŞAHİN B.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.43, no.6, pp.2281-2295, 2019 (SCI-Expanded)
  11. **Social organization: The thermodynamic basis**  
Bejan A., Gunes U., ERRERA M. R., ŞAHİN B.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.42, no.12, pp.3770-3779, 2018 (SCI-Expanded)
  12. **Performance Characteristics and Emission Formations of a Spark Ignition (SI) Engine Fueled with Different Gaseous Fuels**  
Gonca G., Çakır M., Şahin B.  
ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, vol.43, pp.4487-4499, 2018 (SCI-Expanded)
  13. **The fastest animals and vehicles are neither the biggest nor the fastest over lifetime**  
Bejan A., Gunes U., Charles J. D., Şahin B.  
SCIENTIFIC REPORTS, vol.8, 2018 (SCI-Expanded)
  14. **Performance analyses and optimisation of the Joule-Brayton cycle via the mean cycle pressure criterion**  
KARAKURT A. S., ŞAHİN B.  
INTERNATIONAL JOURNAL OF EXERGY, vol.25, no.4, pp.339-349, 2018 (SCI-Expanded)
  15. **Thermo-ecological performance analysis of a Joule-Brayton cycle (JBC) turbine with considerations of heat transfer losses and temperature dependent specific heats**  
GONCA G., ŞAHİN B.  
ENERGY CONVERSION AND MANAGEMENT, vol.138, pp.97-105, 2017 (SCI-Expanded)
  16. **Investigation of the effects of the steam injection method (SIM) on the performance and emission formation of a turbocharged and Miller cycle diesel engine (MCDE)**  
GONCA G., ŞAHİN B., Parlak A., Ayhan V., Cesur I., Koksal S.  
ENERGY, vol.119, pp.926-937, 2017 (SCI-Expanded)
  17. **Effect of turbo charging and steam injection methods on the performance of a Miller cycle diesel engine (MCDE)**  
GONCA G., ŞAHİN B.  
Applied Thermal Engineering, vol.118, pp.138-146, 2017 (SCI-Expanded)
  18. **Thermo-ecological performance analyses and optimizations of irreversible gas cycle engines**  
GONCA G., ŞAHİN B.  
APPLIED THERMAL ENGINEERING, vol.105, pp.566-576, 2016 (SCI-Expanded)
  19. **The influences of the engine design and operating parameters on the performance of a turbocharged and steam injected diesel engine running with the Miller cycle**  
GONCA G., ŞAHİN B.  
APPLIED MATHEMATICAL MODELLING, vol.40, pp.3764-3782, 2016 (SCI-Expanded)
  20. **Ecological coefficient of performance analysis and optimisation of gas turbines by using exergy analysis approach**  
Üst Y., Şahin B., Çakır M.  
INTERNATIONAL JOURNAL OF EXERGY, vol.21, pp.39-69, 2016 (SCI-Expanded)
  21. **Application of the Miller cycle and turbo charging into a diesel engine to improve performance and decrease NO emissions**  
GONCA G., ŞAHİN B., Parlak A., Ayhan V., Cesur I., Koksal S.  
ENERGY, vol.93, pp.795-800, 2015 (SCI-Expanded)
  22. **Investigation of Heat Transfer Influences on Performance of Air-Standard Irreversible Dual-Miller Cycle**  
GONCA G., ŞAHİN B., Ust Y.

- JOURNAL OF THERMOPHYSICS AND HEAT TRANSFER, vol.29, no.4, pp.678-683, 2015 (SCI-Expanded)
23. **Renovating thermal power plant to trigeneration system for district heating/cooling: Evaluation of performance variation**  
Erdem H. H., Akkaya A. V., Dagdas A., Sevilgen S. H., Çetin B., Şahin B., Teke I., Gungor C., Atas S., Basak M. Z.  
APPLIED THERMAL ENGINEERING, vol.86, pp.35-42, 2015 (SCI-Expanded)
  24. **Comprehensive performance analyses and optimization of the irreversible thermodynamic cycle engines (TCE) under maximum power (MP) and maximum power density (MPD) conditions**  
GONCA G., ŞAHİN B., ÜST Y., Parlak A.  
APPLIED THERMAL ENGINEERING, vol.85, pp.9-20, 2015 (SCI-Expanded)
  25. **Comparison of steam injected diesel engine and Miller cycled diesel engine by using two zone combustion model**  
GONCA G., ŞAHİN B., ÜST Y., Parlak A., SAFA A.  
JOURNAL OF THE ENERGY INSTITUTE, vol.88, no.1, pp.43-52, 2015 (SCI-Expanded)
  26. **Theoretical and experimental investigation of the Miller cycle diesel engine in terms of performance and emission parameters**  
GONCA G., ŞAHİN B., Parlak A., ÜST Y., Ayhan V., Cesur I., Boru B.  
APPLIED ENERGY, vol.138, pp.11-20, 2015 (SCI-Expanded)
  27. **SIMULATION OF PERFORMANCE AND NITROGEN OXIDE FORMATION OF A HYDROGEN-ENRICHED DIESEL ENGINE WITH THE STEAM INJECTION METHOD**  
GONCA G., ŞAHİN B.  
THERMAL SCIENCE, vol.19, no.6, pp.1985-1994, 2015 (SCI-Expanded)
  28. **The effects of steam injection on the performance and emission parameters of a Miller cycle diesel engine**  
Gonca G., ŞAHİN B., Parlak A., ÜST Y., Ayhan V., Cesur I., Boru B.  
ENERGY, vol.78, pp.266-275, 2014 (SCI-Expanded)
  29. **An Approach for Economic Analysis of Intermodal Transportation**  
ŞAHİN B., YILMAZ H., ÜST Y., GÜNERİ A. F., GÜLSÜN B., TURAN E.  
The Scientific World Journal, 2014 (SCI-Expanded)
  30. **An Approach for Economic Analysis of Intermodal Transportation**  
SAHIN B., YILMAZ H., UST Y., GUNERI A. F., Gulsun B., TURAN E.  
SCIENTIFIC WORLD JOURNAL, 2014 (SCI-Expanded)
  31. **Performance Optimization of an Air-Standard Irreversible Dual-Atkinson Cycle Engine Based on the Ecological Coefficient of Performance Criterion**  
GONCA G., ŞAHİN B.  
SCIENTIFIC WORLD JOURNAL, 2014 (SCI-Expanded)
  32. **Performance maps for an air-standard irreversible Dual-Miller cycle (DMC) with late inlet valve closing (LIVC) version**  
GONCA G., ŞAHİN B., ÜST Y.  
ENERGY, vol.54, pp.285-290, 2013 (SCI-Expanded)
  33. **Determination of the optimum temperatures and mass ratios of steam injected into turbocharged internal combustion engines**  
GONCA G., ŞAHİN B., ÜST Y., Parlak A.  
JOURNAL OF RENEWABLE AND SUSTAINABLE ENERGY, vol.5, no.2, 2013 (SCI-Expanded)
  34. **A Study on Late Intake Valve Closing Miller Cycled Diesel Engine**  
Gonca G., Şahin B., Üst Y., Parlak A.  
ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, vol.38, pp.383-393, 2013 (SCI-Expanded)
  35. **Heat transfer effects on the performance of an air-standard irreversible dual cycle**  
ÜST Y., ŞAHİN B., KAYADELEN H. K., GONCA G.  
INTERNATIONAL JOURNAL OF VEHICLE DESIGN, vol.63, no.1, pp.102-116, 2013 (SCI-Expanded)
  36. **New method to reduce NOx emissions of diesel engines: electronically controlled steam injection system**

Parlak A., Ayhan V., ÜST Y., ŞAHİN B., Cesur I., Boru B., KÖKKÜLÜNK G.

JOURNAL OF THE ENERGY INSTITUTE, vol.85, no.3, pp.135-139, 2012 (SCI-Expanded)

37. **The Effects of Cycle Temperature and Cycle Pressure Ratios on the Performance of an Irreversible Otto Cycle**  
ÜST Y., ŞAHİN B., Safa A.  
ACTA PHYSICA POLONICA A, vol.120, no.3, pp.412-416, 2011 (SCI-Expanded)
38. **Performance analysis and optimization of heat exchangers: a new thermoeconomic approach**  
ŞAHİN B., ÜST Y., Teke I., ERDEM H. H.  
APPLIED THERMAL ENGINEERING, vol.30, pp.104-109, 2010 (SCI-Expanded)
39. **Thermodynamic model for exergetic performance of a tubular SOFC module**  
AKKAYA A. V., ŞAHİN B., ERDEM H. H.  
RENEWABLE ENERGY, vol.34, no.7, pp.1863-1870, 2009 (SCI-Expanded)
40. **A study on performance of solid oxide fuel cell-organic Rankine cycle combined system**  
AKKAYA A. V., ŞAHİN B.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.33, no.6, pp.553-564, 2009 (SCI-Expanded)
41. **Performance optimisation of irreversible cogeneration systems based on a new exergetic performance criterion: exergy density**  
ÜST Y., ŞAHİN B., Kodal A.  
JOURNAL OF THE ENERGY INSTITUTE, vol.82, no.1, pp.48-52, 2009 (SCI-Expanded)
42. **An approach for analysing transportation costs and a case study**  
ŞAHİN B., YILMAZ H., ÜST Y., GÜNERİ A. F., GÜLSÜN B.  
EUROPEAN JOURNAL OF OPERATIONAL RESEARCH, vol.193, no.1, pp.1-11, 2009 (SCI-Expanded)
43. **An approach for analyzing transportation costs and a case study**  
ŞAHİN B., YILMAZ H., ÜST Y., GÜNERİ A. F., GÜLSÜN B.  
European Journal of Operational Research, 2009 (SCI-Expanded)
44. **An analysis of SOFC/GT CHP system based on exergetic performance criteria**  
AKKAYA A. V., ŞAHİN B., ERDEM H. H.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.33, no.10, pp.2566-2577, 2008 (SCI-Expanded)
45. **Exergetic performance coefficient analysis of a simple fuel cell system**  
AKKAYA A. V., ŞAHİN B., ERDEM H. H.  
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.32, no.17, pp.4600-4609, 2007 (SCI-Expanded)
46. **Optimization of a dual cycle cogeneration system based on a new exergetic performance criterion**  
Ust Y., Sahin B., Kodal A.  
APPLIED ENERGY, vol.84, no.11, pp.1079-1091, 2007 (SCI-Expanded)
47. **Optimization of a regenerative gas-turbine cogeneration system based on a new exergetic performance criterion: exergetic performance coefficient**  
Ust Y., Sahin B., Yilmaz T.  
PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART A-JOURNAL OF POWER AND ENERGY, vol.221, pp.447-457, 2007 (SCI-Expanded)
48. **Performance optimization of irreversible refrigerators based on a new thermo-ecological criterion**  
Ust Y., Sahin B.  
INTERNATIONAL JOURNAL OF REFRIGERATION-REVUE INTERNATIONALE DU FROID, vol.30, pp.527-534, 2007 (SCI-Expanded)
49. **Performance optimisation of reciprocating heat engine cycles with internal irreversibility**  
PARLAK A., Sahin B.  
JOURNAL OF THE ENERGY INSTITUTE, vol.79, no.4, pp.241-245, 2006 (SCI-Expanded)
50. **The effects of intercooling and regeneration on the thermo-ecological performance analysis of an irreversible-closed Brayton heat engine with variable-temperature thermal reservoirs**  
Sogut O. S., Ust Y., Sahin B.  
JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.39, pp.4713-4721, 2006 (SCI-Expanded)
51. **Ecological coefficient of performance analysis and optimization of an irreversible regenerative-**

## **Brayton heat engine**

Ust Y., Şahin B., Kodal A., Akçay İ. H.

APPLIED ENERGY, vol.83, pp.558-572, 2006 (SCI-Expanded)

52. **Thermoeconomic analysis of a solar driven heat engine**  
Sahin B., Üst Y., Yılmaz T., Akçay İ. H.  
RENEWABLE ENERGY, vol.31, no.7, pp.1033-1042, 2006 (SCI-Expanded)
53. **Ecological coefficient of performance (ECOP) optimization for an irreversible Brayton heat engine with variable-temperature thermal reservoirs**  
Ust Y., Söğüt O. S., Şahin B., Durmayaz A.  
JOURNAL OF THE ENERGY INSTITUTE, vol.79, pp.47-52, 2006 (SCI-Expanded)
54. **Performance analysis of an irreversible Brayton heat engine based on ecological coefficient of performance criterion**  
Ust Y., Sahin B., Kodal A.  
INTERNATIONAL JOURNAL OF THERMAL SCIENCES, vol.45, pp.94-101, 2006 (SCI-Expanded)
55. **Ecological coefficient of performance (ECOP) optimization for generalized irreversible Carnot heat engines**  
Ust Y., Sahin B., Kodal A.  
JOURNAL OF THE ENERGY INSTITUTE, vol.78, pp.145-151, 2005 (SCI-Expanded)
56. **Performance analysis and optimization of an irreversible dual-cycle based on an ecological coefficient of performance criterion**  
Ust Y., Sahin B., Sogut O.  
APPLIED ENERGY, vol.82, no.1, pp.23-39, 2005 (SCI-Expanded)
57. **Ecological performance analysis of an endoreversible regenerative Brayton heat-engine**  
Ust Y., Safa A., Sahin B.  
APPLIED ENERGY, vol.80, pp.247-260, 2005 (SCI-Expanded)
58. **Analysis of an unconventional cycle as a new comparison standard for practical heat engines: the circular/elliptical cycle in T-S diagram**  
Sahin B., Üst Y., Kodal A., Yılmaz T.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.28, no.13, pp.1159-1175, 2004 (SCI-Expanded)
59. **Performance optimisation of an irreversible dual cycle with respect to pressure ratio and temperature ratio-experimental results of a ceramic coated IDI Diesel engine**  
Parlak A., ŞAHİN B., Yaşar H.  
ENERGY CONVERSION AND MANAGEMENT, vol.45, pp.1219-1232, 2004 (SCI-Expanded)
60. **Optimization of thermal systems based on finite-time thermodynamics and thermoeconomics**  
Durmayaz A., Sogut O., Sahin B., Yavuz H.  
PROGRESS IN ENERGY AND COMBUSTION SCIENCE, vol.30, no.2, pp.175-217, 2004 (SCI-Expanded)
61. **Finite size thermoeconomic optimization for irreversible heat engines**  
Kodal A., ŞAHİN B.  
International Journal of Thermal Sciences, vol.42, no.8, pp.777-782, 2003 (SCI-Expanded)
62. **Thermoeconomic optimization for irreversible absorption refrigerators and heat pumps**  
Kodal A., ŞAHİN B., Ekmekci I., YILMAZ T.  
Energy Conversion and Management, vol.44, no.1, pp.109-123, 2003 (SCI-Expanded)
63. **Performance and exhaust emission characteristics of a lower compression ratio LHR Diesel engine**  
Parlak A., Yasar H., ŞAHİN B.  
Energy Conversion and Management, vol.44, no.1, pp.163-175, 2003 (SCI-Expanded)
64. **Thermoeconomic optimization of a two stage combined refrigeration system: A finite-time approach**  
ŞAHİN B., Kodal A.  
International Journal of Refrigeration, vol.25, no.7, pp.872-877, 2002 (SCI-Expanded)
65. **Performance optimization of a new combined power cycle based on power density analysis of the dual cycle**  
ŞAHİN B., Kesgin U., Kodal A., Vardar N.

- Energy Conversion and Management, vol.43, no.15, pp.2019-2031, 2002 (SCI-Expanded)
66. **Performance analysis of an endoreversible heat engine based on a new thermoeconomic optimization criterion**  
ŞAHİN B., Kodal A.  
Energy Conversion and Management, vol.42, no.9, pp.1085-1093, 2001 (SCI-Expanded)
67. **Optimal performance characteristics of a two-stage irreversible combined refrigeration system under maximum cooling load per unit total cost conditions**  
ŞAHİN B., Kodal A., Koyun A.  
Energy Conversion and Management, vol.42, no.4, pp.451-465, 2001 (SCI-Expanded)
68. **Performance analysis of two stage combined heat pump system based on thermoeconomic optimization criterion**  
Kodal A., ŞAHİN B., Oktem A. S.  
Energy Conversion and Management, vol.41, no.18, pp.1989-1998, 2000 (SCI-Expanded)
69. **Effects of internal irreversibility and heat leakage on the finite time thermoeconomic performance of refrigerators and heat pumps**  
Kodal A., ŞAHİN B., YILMAZ T.  
Energy Conversion and Management, vol.41, no.6, pp.607-619, 2000 (SCI-Expanded)
70. **Comparative performance analysis of irreversible carnot heat engines under maximum power density and maximum power conditions**  
Kodal A., ŞAHİN B., YILMAZ T.  
Energy Conversion and Management, vol.41, no.3, pp.235-248, 2000 (SCI-Expanded)
71. **Optimal performance analysis of irreversible regenerative MHD power cycles**  
Sahin B., Kodal A., Öktem A. S.  
JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.32, no.15, pp.1832-1841, 1999 (SCI-Expanded)
72. **Finite time thermoeconomic optimization for endoreversible refrigerators and heat pumps**  
ŞAHİN B., Kodal A.  
Energy Conversion and Management, vol.40, no.9, pp.951-960, 1999 (SCI-Expanded)
73. **A comparative performance analysis of irreversible regenerative reheating Joule-Brayton engines under maximum power density and maximum power conditions**  
Sahin B., Kodal A., Kaya S. S.  
JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.31, no.17, pp.2125-2131, 1998 (SCI-Expanded)
74. **Exergy optimization for an endoreversible cogeneration cycle**  
ŞAHİN B., Kodal A., Ekmekçi I., Yılmaz T.  
Energy, vol.22, no.5, pp.551-557, 1997 (SCI-Expanded)
75. **A performance analysis for MHD power cycles operating at maximum power density**  
Sahin B., Kodal A., Yavuz H.  
JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.29, no.6, pp.1473-1475, 1996 (SCI-Expanded)
76. **Maximum power density analysis of an irreversible Joule-Brayton engine**  
Sahin B., Kodal A., Yılmaz T., Yavuz H.  
JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.29, no.5, pp.1162-1167, 1996 (SCI-Expanded)
77. **Maximum power density for an endoreversible carnot heat engine**  
ŞAHİN B., Kodal A., Yavuz H.  
Energy, vol.21, no.12, pp.1219-1225, 1996 (SCI-Expanded)
78. **EFFICIENCY OF A JOULE-BRAYTON ENGINE AT MAXIMUM POWER-DENSITY**  
SAHIN B., Kodal A., Yavuz H.  
JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.28, no.7, pp.1309-1313, 1995 (SCI-Expanded)
79. **Steady-state thermodynamic analysis of a combined Carnot cycle with internal irreversibility**  
ŞAHİN B., Kodal A.  
Energy, vol.20, no.12, pp.1285-1289, 1995 (SCI-Expanded)
80. **NUCLEAR-POWER COSTS IN THE BUILD, OPERATE, TRANSFER APPROACH**  
AYBERS M., SAHIN B.



## Articles Published in Other Journals

- 1. Professor somchai wongwises on his 60th birthday**  
Awad M. M., Mondal P. K., Mahian O., Ahn H. S., DALKILIÇ A. S., Pop I., Mewes D., Bejan A., ŞAHİN B.  
Journal of Thermal Engineering, vol.6, no.4, pp.438-439, 2020 (ESCI)
- 2. A NEW METHOD FOR THE SIZE AND PERFORMANCE ANALYSES AND OPTIMIZATION OF THERMAL SYSTEMS: THE EXERGY DENSITY**  
Karakurt A. S., Şahin B.  
SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES-SIGMA MUHENDISLIK VE FEN BILIMLERI DERGISI, vol.37, no.2, pp.573-583, 2019 (ESCI)
- 3. Hayvanlar ve araçlarda hız ve boyut ilişkisinin analizi için bir mühendislik yaklaşımı**  
Şahin B., Güneş Ü.  
Mimar ve Mühendis Dergisi, pp.66-68, 2018 (Non Peer-Reviewed Journal)
- 4. An Investigation for the Fuel Price Escalations on Optimum Speed in Maritime Transportation**  
TURAN E., ŞAHİN B.  
Journal of Earth Sciences and Geotechnical Engineering, vol.7, no.1, pp.305-318, 2017 (Peer-Reviewed Journal)
- 5. A comparative performance analysis of endoreversible dual cycle under maximum ecological function and maximum power conditions**  
ŞAHİN B., Özsoysal O. A., Söğüt O. S.  
EXERGY, AN INTERNATIONAL JOURNAL, vol.2, no.3, pp.173-185, 2002 (Peer-Reviewed Journal)
- 6. Performance analysis of a two-stage irreversible heat pump under maximum heating load per unit total cost conditions**  
ŞAHİN B., Erdil A.  
EXERGY, AN INTERNATIONAL JOURNAL, vol.2, no.3, pp.159-166, 2002 (Peer-Reviewed Journal)
- 7. Gaz Türbinlerinde Su Buharı Enjeksiyonunun Termal Verime Etkisi**  
ŞAHİN B., TEKİN N.  
Yıldız Teknik Üniversitesi Dergisi, no.3, pp.83-96, 1993 (Peer-Reviewed Journal)
- 8. Nükleer Gemi Tahrik Sisteminin Ekonomik Görünümü**  
ŞAHİN B., BAYÜLKEN A.  
Yıldız Teknik Üniversitesi Dergisi, no.2, pp.87-96, 1993 (Peer-Reviewed Journal)
- 9. Kombine Isı Pompası-Buhar Türbini Tesisinin Termodinamik ve Ekonomik Etüdü**  
ŞAHİN B., TEKE İ.  
Yıldız Üniversitesi Dergisi, pp.45-55, 1992 (Peer-Reviewed Journal)
- 10. Buhar Türbinli Güç Tesislerinde Optimum Ön Isıtıcı Sayısının Tesbiti İçin Teorik Bir Yöntem**  
ŞAHİN B.  
Yıldız Üniversitesi Dergisi, no.2, pp.43-55, 1983 (Peer-Reviewed Journal)

## Books & Book Chapters

- 1. Enerji Maliyeti**  
Aybers N., Şahin B.  
Yıldız Teknik Üniversitesi Yayını, İstanbul, 1995
- 2. Uygulamalı Matematik Modelleme**  
Urayel A. Y., ŞAHİN B.  
İ.T.Ü. Uçak Ve Uzay Bilimleri Fakültesi, Yayın Birimi, 1993

## Refereed Congress / Symposium Publications in Proceedings

1. **The effect of size on entropy generation for waste heat recovery boiler**  
Güneş Ü., Karakurt A. S., Şahin B.  
The 32nd International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems (ECOS 2019), Wrocław, Poland, 23 - 28 June 2019, pp.809-818
2. **Constructal Timeline**  
GÜNEŞ Ü., ŞAHİN B.  
Constructal Law Second Law Conference 2019, Porto-Alegre, Brazil, 11 - 13 March 2019, pp.151-154
3. **Performance Analysis and Optimization of Power Cycles via the Mean Cycle Pressure Criterion (MCP) and Entropy Generation (EG)**  
KARAKURT A. S., ŞAHİN B.  
ECOS 2018 - THE 31TH INTERNATIONAL CONFERENCE ON EFFICIENCY, COST, OPTIMIZATION, SIMULATION AND ENVIRONMENTAL IMPACT OF ENERGY SYSTEMS, Guimarães, Portugal, 17 June 2018, pp.1-10
4. **Exergetic and Ecological Performance Analysis and Optimization of Brayton Cycle Via Mean Cycle Pressure Criterion (MCP)**  
Karakurt A. S., Şahin B.  
3rd CONFERENCE ON ADVANCES IN MECHANICAL ENGINEERING ISTANBUL 2017- ICAME2017, İstanbul, Turkey, 19 December 2017, pp.692-698
5. **On The Economics of Unimodal Transportation Costs For Various Modes**  
TURAN E., ŞAHİN B.  
II.GLOBAL CONFERENCE ON INNOVATION IN MARINE TECHNOLOGY AND THE FUTURE OF MARITIME TRANSPORTATION (GMC2016), Muğla, Turkey, 24 October 2016, pp.114-122
6. **An Investigation for the Fuel Price Escalations on Optimum Speed in Maritime Transportation**  
TURAN E., ŞAHİN B.  
TAP2016, Lyon, France, 24 - 26 May 2016
7. **Investigation of The Effects of Steam Injection Into the Supercharged Diesel Engine with Running Miller Cycle on Performance and Emissions**  
GONCA G., PARLAK A., ŞAHİN B., AYHAN V., CESUR İ.  
7th International Advanced Technologies Symposium (IATS'13), 1 - 04 September 2013
8. **COMPARISON OF STEAM INJECTED DIESEL ENGINE AND MILLER CYCLED DIESEL ENGINE BY USING TWO ZONE COMBUSTION MODEL**  
GONCA G., ŞAHİN B., ÜST Y., PARLAK A., SAFA A.  
12. International Combustion Symposium, 24 - 26 May 2012
9. **İKİ BÖLGELİ YANMA MODELİYLE BUHAR ENJEKSİYONLU DİZEL VE MILLER ÇEVİRİMLİ DİZEL MOTORLARININ KAPSAMLI OLARAK KARŞILAŞTIRILMASI**  
KAYADELEN H. K., GONCA G., ŞAHİN B., ÜST Y., SAFA A., PARLAK A.  
12th International Combustion Symposium, 24 - 26 May 2012
10. **Comparison of Diesel Engine and Miller Cycled Diesel Engine by Using Two Zone Combustion Model**  
GONCA G., KAYADELEN H. K., SAFA A., ŞAHİN B., PARLAK A., ÜST Y.  
INT-NAM 2011, İstanbul, Turkey, 24 - 25 October 2011
11. **The Effects of the New Developed Electronic Controlled Steam Injection System on NOx Emissions of a Single Cylinder Diesel Engine**  
PARLAK A., AYHAN V., ŞAHİN B., CESUR İ., BORU B., KÖKKÜLÜNK G.  
13th International Conference Maritime Transport and Infrastructure, Riga, Latvia, 28 - 29 April 2011
12. **NOx Emisyonlarının Azaltılmasında Yeni Bir Yöntem: Elektronik Kontrollü Su Buharı Enjeksiyonu**  
AYHAN V., ÜST Y., ŞAHİN B., CESUR İ., BORU B.  
01 November 2010
13. **Tersinmez Kojenerasyon Sistemlerinin Ekserji Yoğunluğu Analizi**  
ŞAHİN B., AYDOĞAN A.  
01 September 2003

14. **Kojenerasyon Sistemlerinin Ekserji Yoğunluğu Kriterine Göre Optimizasyonu**  
ŞAHİN B., AYDOĞAN A.  
01 May 2003
15. **Gaz Türbinli tahrik sistemlerinde optimal rejeneratör boyutlarının alternatif performans kriterlerine göre belirlenmesi**  
SAFA A., ŞAHİN B.  
7. Uluslararası Yanma Sempozyumu, Ankara, Turkey, 17 - 18 July 2002
16. **Toplu Taşımacılık İçinde Deniz Otobüslerinin Ekonomik Etüdü**  
YILMAZ H., ŞAHİN B., ÇELİK A.  
01 May 1996
17. **Comparative Economic Analysis of Combined Gas-Steam Power Plant**  
ŞAHİN B., BEKDEMİR Ş.  
01 December 1995
18. **The Maximum Power Density and the Corresponding Efficiency of an Irreversible Joule-Brayton Engine**  
ŞAHİN B., YAVUZ H., KODAL A.  
01 August 1995
19. **The overall efficiency of a combined endo-reversible engine at maximum power output conditions**  
Sahin B., YAVUZ H., KODAL A.  
International Conference on Efficiency, Costs, Optimization, Simulation and Environmental Impact of Energy Systems (ECOS 95), İstanbul, Turkey, 11 - 14 July 1995, pp.116-120
20. **Kombine Çevrim Güç Tesislerinin Mukayeseli Ekonomik Etüdü ve Ekonomik Çalışma Bölgelerinin Belirlenmesi**  
ŞAHİN B., Bekdemir S.  
Türkiye 6. Enerji Kongresi, 01 October 1994, vol.2, pp.95-116
21. **Kombine Çevrim Tesislerinde Kullanılan Atık Isı Kazanının Optimum Isı Transfer Alanının Belirlenmesi**  
ŞAHİN B.  
Türkiye 6. Enerji Kongresi, 01 October 1994, vol.5, pp.152-168
22. **Alternatif Gemi Tahrik Sistemlerinin Ekonomik Etüdü ve Optimum Güç Sınırlarının Belirlenmesi**  
ŞAHİN B.  
pp.293-306
23. **Uzaktan Isıtma Santrallerinin Maximum Isı Yükünün Belirlenmesinde Pratik Bir Yöntem**  
ŞAHİN B., Ekmekçi İ.  
pp.209-221
24. **Performance Analysis of An Endoreversible Diesel Cycle Based On A New Thermo-Ecological Optimization Criterion: Ecological Performance Density (Epd)**  
ŞAHİN B., CANBAK O.
25. **Deniz Otobüslerinde İşletme Parametrelerinin Yolcu Taşıma Maliyetine Etkisinin İncelenmesi**  
ŞAHİN B., Kesgin U.  
Türk Loydu Vakfı, pp.137-150
26. **Diesel Motorlu Gemi Tahrik Sisteminde Egzost Isısının Ekonomik Olarak Ger Kazanımı**  
ŞAHİN B., Vardar N.  
Türk Loydu Vakfı, pp.90-103

## Academic and Administrative Experience

---

2016 - 2020	<b>Rector</b>	Yildiz Technical University
2009 - 2020	<b>Member of the Senate</b>	Yildiz Technical University, Rectorate

---

2008 - 2020	<b>University Executive</b>	Yıldız Technical University, Rectorate
2009 - 2016	<b>Board Member</b> <b>Dean</b>	Yıldız Teknik Üniversitesi, Naval Architecture and Maritime Faculty
1999 - 2009	<b>Fakülte Yönetim Kurulu</b> <b>Üyesi</b>	Yıldız Teknik Üniversitesi, Faculty of Mechanical Engineering
1999 - 2009	<b>Head of Department</b>	Yıldız Teknik Üniversitesi, Faculty of Mechanical Engineering
1992 - 2007	<b>Head of Department</b>	Yıldız Teknik Üniversitesi, Faculty of Mechanical Engineering
1988 - 1999	<b>Deputy Head of</b> <b>Department</b>	Yıldız Teknik Üniversitesi, Faculty of Mechanical Engineering

## Advising Theses

- Şahin B., Bejan A., Gemilerde Enerji Sistemlerinin Performans ve Boyut Optimizasyonu, Doctorate, Ü.Güneş(Student), 2019
- Şahin B., TERMİK SİSTEMLERİN BOYUT VE PERFORMANS OPTİMİZASYONU İÇİN YENİ BİR YÖNTEM: EKSERJİ YOĞUNLUĞU, Doctorate, A.Sinan(Student), 2019
- ŞAHİN B., Deniz Taşımacılığının Çok Modlu Taşımacılıktaki Optimal Yerinin Türkiye Koşulları için Araştırılması, Doctorate, E.Turan(Student), 2014
- ŞAHİN B., Miller Çevrimine Göre Çalışan Aşırı Doldurmalı Bir Dizel Motoruna Buhar Enjeksiyonunun Performans Ve Emisyonlar Üzerindeki Etkisinin İncelenmesi, Doctorate, G.GONCA(Student), 2013
- ŞAHİN B., Buhar Türbinlerinin Kısmi Yüklerdeki Performans Davranışlarının İncelenmesi, Postgraduate, A.Sinan(Student), 2012
- ŞAHİN B., Katı Oksitli Yakıt Hücreli enerji Üretim Sistemlerinin Alternatif Kriterlere Göre Performans Analizi, Doctorate, A.Volkan(Student), 2007
- ŞAHİN B., Enerji Üretim Sistemlerinin Ekolojik Performans Analizi ve Optimizasyonu, Doctorate, Y.ÜST(Student), 2005
- ŞAHİN B., Çok Amaçlı Enerji Üretim Sistemlerinin Termoekonomik Optimizasyonu, Doctorate, B.ÇETİN(Student), 2005
- ŞAHİN B., Türkiye Enerji Potansiyelinin Bölgelere Göre Dağılımı ve Analizi, Postgraduate, U.BOR(Student), 2002
- ŞAHİN B., Türkiye'de alternatif santral kapasitelerinin ve bölgelere göre dağıtımlarının optimizasyonu, Doctorate, H.Hüseyin(Student), 2002
- ŞAHİN B., Kombine Isı ve Güç Sistemlerinin Performans ve Ekolojik Yönden Etüdü, Postgraduate, Y.ÜST(Student), 2001
- ŞAHİN B., Alternatif Performans Kriterlerine Dayalı Olarak Soğutma Makineleri ve Isı Pompalarının Dizayn Parametrelerinin Belirlenmesi, Postgraduate, Ö.KAS(Student), 2001
- ŞAHİN B., Gaz Türbinli Tahrik Sistemlerinde Optimal Rejeneratör Boyutlarının Alternatif Performans Kriterlerine Göre Belirlenmesi, Postgraduate, A.SAFA(Student), 2000
- ŞAHİN B., Isı Makinalarının Güç Yoğunluğu Kriterine Göre Performans Analizi, Postgraduate, S.Saim(Student), 1997
- ŞAHİN B., Sonlu Zaman Termodinamiği Çerçevesinde Isı Pompaları ve Soğutma Makinelerinin Performans Analizi, Postgraduate, A.TURAN(Student), 1997
- ŞAHİN B., MHD Jeneratörlerinin Sonlu Zaman Termodinamiği Çerçevesinde Performans Analizi, Postgraduate, A.Sinan(Student), 1996
- ŞAHİN B., Gemi Endüstrisinde Enerji ve Ekserji Verimliliği Analizi, Postgraduate, Ş.SUBAŞI(Student), 1994
- ŞAHİN B., Kombine Gaz-Buhar Türbinli Tahrik Sistemlerinin Teknik ve Ekonomik Etüdü, Postgraduate, B.TURAN(Student), 1990
- ŞAHİN B., Buhar, Gaz ve Dizel Motorlu Tahrik Sistemlerinin Teknik ve Ekonomik Etüdü-Optimum Güç Sınırlarının Tespiti, Postgraduate, A.EKREKLİ(Student), 1987

## Tasks In Event Organizations

Şahin B., WESCE'19 – World Energy Strategies Congress and Exhibition 2019, Scientific Congress, Turkey, Ağustos 2019  
Şahin B., 3rd International Symposium of Naval Architecture and Maritime, Scientific Congress, Turkey, Nisan 2018  
Şahin B., 2nd International Symposium of Naval Architecture and Maritime, Scientific Congress, Turkey, Ekim 2014  
Şahin B., 7th International Advanced Technology Symposium, Scientific Congress, Turkey, Kasım 2013  
Şahin B., 1st International Symposium of Naval Architecture and Maritime, Scientific Congress, Turkey, Ekim 2011

## Metrics

Publication: 119

Citation (WoS): 2876

Citation (Scopus): 3613

H-Index (WoS): 37

H-Index (Scopus): 39

## Research Areas

Mechanical Engineering, Energy, Thermodynamics, Thermal Systems, Engineering and Technology

## Non Academic Experience

TÜRKİYE BİLİMLER AKADEMİSİ (TÜBA)

Birleşmiş Milletler Sınai Kalkınma Örgütü(UNIDO) - Uluslararası Hidrojen Teknolojileri Merkezi(ICHET)