

Asst. Prof. ÖZGÜR BAYER

Personal Information

Office Phone: [+90 0312 210 2578](tel:+9003122102578)

Fax Phone: [+90 0312 210 2536](tel:+9003122102536)

Email: bayer@metu.edu.tr

Web: <https://avesis.metu.edu.tr/bayer>

Education Information

Doctorate, Middle East Technical University, Graduate School of Natural and Applied Sciences, Makine Mühendisliği (Dr), Turkey 2002 - 2009

Post Graduate, Middle East Technical University, Graduate School of Natural and Applied Sciences, Makine Mühendisliği (YI) (Tezli), Turkey 2000 - 2002

Under Graduate, Middle East Technical University, Faculty of Engineering, Makine Mühendisliği Bölümü, Turkey 1995 - 2000

Foreign Languages

English, C2 Proficiency

Certificates, Courses and Trainings

Other, Temel Bilirkişilik Eğitimi, Chamber of Mechanical Engineers, 2017

Dissertations

Doctorate, Simulation of refrigerated space with radiation, Middle East Technical University, Graduate School of Natural and Applied Sciences, Makine Mühendisliği (Dr), 2009

Post Graduate, Performance improvement of household refrigerators, Middle East Technical University, Graduate School of Natural and Applied Sciences, Makine Mühendisliği (YI) (Tezli), 2002

Research Areas

Mechanical Engineering, Heat and Mass Transfer, Heating, Refrigerating and Air Conditioning, Computational fluid dynamics, Thermal Systems, Thermal machines, Electromagnetism, Acoustics, Heat Transfer, Classical Mechanics and Fluid Dynamics, Natural Sciences, Engineering and Technology

Academic Titles / Tasks

Assistant Professor, Middle East Technical University, Faculty of Engineering, Makine Mühendisliği Bölümü, 2018 - Continues

Assistant Professor, Middle East Technical University, Faculty of Engineering, Makine Mühendisliği Bölümü, 2014 - 2018

Lecturer, Middle East Technical University, Faculty of Engineering, Makine Mühendisliği Bölümü, 2012 - 2014

Research Assistant, Middle East Technical University, Faculty of Engineering, Makine Mühendisliği Bölümü, 2000 - 2009

Professional Experience

Courses

Thermal Engineering, Under Graduate, 2018 - 2019

Advising Theses

Aradağ Çelebioğlu S., Bayer Ö., Benzer özellikli çift ve tek kompresörlü ev tipi buzdolaplarının enerji indeksine göre deneysel karakterizasyonu, Post Graduate, A.AKDEMİR(Student), 2018

BAYER Ö., Numerical calculation of rough turbulent boundary layer for incompressible fluids, Post Graduate, G.ATAY(Student), 2018

BAYER Ö., Numerical and experimental analysis for comparison of square, cylindrical and plate fin arrays in external flow, Post Graduate, A.BARIŞ(Student), 2018

BAYER Ö., Flow visualization and determination of temperature distribution in inclined channels, Post Graduate, A.MEHMET(Student), 2018

Erdoğan S. T. , Bayer Ö., Production of aerated alkali-activated slag pastes and mortars using hydrogen peroxide, Doctorate, M.ŞAHİN(Student), 2017

Bayer Ö., Yamalı C., Experimental analysis of an auxiliary air conditioning system used in an armored vehicle, Post Graduate, A.KORKMAZ(Student), 2015

Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- **Experimental based numerical approach for determination of volumetric heat transfer coefficients of modified graphite foams**
GÜRÜF G., Solmus I., BİLEN K., BAYER Ö.
APPLIED THERMAL ENGINEERING, vol.174, 2020 (Journal Indexed in SCI)
- **Optimization of Vortex Promoter Parameters to Enhance Heat Transfer Rate in Electronic Equipment**
Ayli E., BAYER Ö.
JOURNAL OF THERMAL SCIENCE AND ENGINEERING APPLICATIONS, vol.12, 2020 (Journal Indexed in SCI)
- **EXPERIMENTAL AND NUMERICAL STUDY ON HEAT TRANSFER PERFORMANCE OF SQUARE, CYLINDRICAL AND PLATE HEAT SINKS IN EXTERNAL TRANSITION FLOW REGIME**
İnci A. B. , Bayer Ö.
İSİ BİLİMİ VE TEKNİK DERGİSİ-JOURNAL OF THERMAL SCIENCE AND TECHNOLOGY, vol.39, pp.151-161, 2019 (Journal Indexed in SCI)
- **Production of lightweight aerated alkali-activated slag pastes using hydrogen peroxide**
Sahin M., Erdoğan S. T. , Bayer Ö.
CONSTRUCTION AND BUILDING MATERIALS, vol.181, pp.106-118, 2018 (Journal Indexed in SCI)
- **Comparison of Dynamic PTC Thermal Models Using Semi-Analytical and Finite Volume Methods**
BAYER Ö., Uzgoren E.
ENVIRONMENTAL PROGRESS & SUSTAINABLE ENERGY, vol.37, pp.1191-1200, 2018 (Journal Indexed in SCI)
- **Effect of freezing rate and storage on the texture and quality parameters of strawberry and green bean frozen in home type freezer**
Bulut M., Bayer Ö., Kirtıl E., Bayındırlı A.
INTERNATIONAL JOURNAL OF REFRIGERATION-REVUE INTERNATIONALE DU FROID, vol.88, pp.360-369, 2018 (Journal Indexed in SCI)
- **Experimental investigation of surface roughness effects on the flow boiling of R134a in microchannels**
Jafari R., Okutucu Özyurt H. T. , Ünver H. Ö. , Bayer Ö.
EXPERIMENTAL THERMAL AND FLUID SCIENCE, vol.79, pp.222-230, 2016 (Journal Indexed in SCI)
- **Experimental investigation and CFD analysis of rectangular profile FINS in a square channel for forced**

convection regimes

Ayli E., Bayer Ö., Aradağ Çelebioğlu S.

INTERNATIONAL JOURNAL OF THERMAL SCIENCES, vol.109, pp.279-290, 2016 (Journal Indexed in SCI)

- **CFD simulations and reduced order modeling of a refrigerator compartment including radiation effects**
Bayer Ö., Oskay R., Paksoy A., Aradağ Çelebioğlu S.
ENERGY CONVERSION AND MANAGEMENT, vol.69, pp.68-76, 2013 (Journal Indexed in SCI)
- **Hybrid Ventilation System Simulation for Several Cities in Turkey**
Aradağ S., BAYER Ö., karataş c., poyraz u., kalkan o., haciahmetoglu f., efe y., kahvecioglu m., goncu a.
INTERNATIONAL JOURNAL OF VENTILATION, vol.9, pp.351-357, 2011 (Journal Indexed in SCI)
- **EVALUATION OF NUSSELT NUMBER FOR A FLOW IN A MICROTUBE USING SECOND-ORDER SLIP MODEL**
Cetin B., Bayer O.
THERMAL SCIENCE, vol.15, 2011 (Journal Indexed in SCI)

Articles Published in Other Journals

- **TAM GELİŞMİŞ TÜRBÜLANSLI İÇ AKIŞTA KANATÇIKLI YAPILAR ÜZERİNDE ZORLANMIŞ TAŞINIM KORELASYONU ELDESİ: PARAMETRİK DENEYSEL ANALİZ**
Bayer Ö.
Uludağ Üniversitesi Mühendislik Fakültesi Dergisi, vol.23, pp.417-430, 2018 (Other Refereed National Journals)

Book & Book Chapters

- **Energy Generation and Efficiency Technologies for Green Residential Buildings**
Bayer Ö.
in: Energy Generation and Efficiency Technologies for Green Residential Buildings, David S-K. Ting, Rupp Carriveau, Editor, The Institution of Engineering and Technology Books, Luton, pp.149-172, 2019

Refereed Congress / Symposium Publications in Proceedings

- **ANALYSES OF HEAT PUMP SYSTEM AS AN ENERGY EFFICIENT ALTERNATIVE OF RESISTANCE HEATER FOR A HOUSEHOLD APPLIANCE: AN APPLICABILITY ASPECT**
KÜTÜK E., BAYER Ö.
XII International Conference on Computational Heat, Mass and Momentum Transfer, 3 - 06 September 2019
- **THERMAL PERFORMANCE OF A NOVEL COLLECTOR INTEGRATED OVAL SOLAR TANK (CIOST)**
Erdoğan S., BAYER Ö.
4th International Conference on Viable Energy Trends, 26 - 28 April 2019
- **TS 825 Standardı: Güncellemeler Üzerine Kritik Bir Değerlendirme**
BAYER Ö., Ünal Ö., Özkalender S.
14. ULUSAL TESİSAT MÜHENDİSLİĞİ KONGRESİ, Turkey, 17 - 20 April 2019
- **Magma Odalarının Termomekanik Modellenmesi: Doğu Anadolu'dan Bir Örnek Çalışma**
KARAOĞLU Ö., BAYER Ö., Turgay M. B.
Uluslararası Katılımlı 72. Türkiye Jeoloji Kurultayı, 28 January - 01 February 2019
- **BENZER ÖZELLİKLİ ÇİFT VE TEK KOMPRESÖRLÜ EV TİPİ BUZDOLAPLARININ ENERJİ İNDEKSİNE GÖRE DENEYSEL KARAKTERİZASYONU**
AKDEMİR A., ARADAĞ ÇELEBİOĞLU S., BAYER Ö.
4. Uluslararası Katılımlı Anadolu Enerji Sempozyumu, 18 - 20 April 2018
- **TAM GELİŞMİŞ TÜRBÜLANSLI İÇ AKIŞTA HİZALI VE KAYDIRILMIŞ AKIŞ YÖNLENDİRİCİLERİN ISI TRANSFERİNE OLAN ETKİSİNİN DENEYSEL VE SAYISAL YÖNTEMLERLE İNCELENMESİ**
Ayli E., MERGEN S., BAYER Ö.
4. Uluslararası Katılımlı Anadolu Enerji Sempozyumu, 18 - 20 April 2018

- **NUMERICAL OPTIMIZATION OF HEAT TRANSFER AUGMENTATION FOR SQUARE, CIRCULAR AND PLATE FINS IN FORCED, FULLY DEVELOPED EXTERNAL FLOW**
 BAYER Ö., İnci B.
 2nd International Conference on Viable Energy Trends (InVenT-2017), 28 - 30 April 2017
- **Investigation of Natural Ventilation in a Public Place in Winter Season with the Comparison of Experimentation and CFD Results**
 BAYER Ö., Kütük E.
 12th REHVA World Congress CLIMA 2016, 22 - 25 May 2016
- **Comparison of Experimentation and CFD Results for Applicability of Natural Ventilation in METU Library Reserve Section**
 BAYER Ö., Kütük e.
 The 8th Mediterranean Congress of Heating, Ventilation and Air-Conditioning (Climamed15), 9 - 11 September 2015
- **Comparison of Different Heating Systems for the Indoor Swimming Pool Located at METU Campus, Ankara**
 BAYER Ö., Yalılı M., EKTAŞ Ş.
 7th International Ege Energy Symposium and Exhibition, 18 - 20 June 2014
- **EXPERIMENTAL INVESTIGATION OF HEAT TRANSFER AND PRESSURE DROP OVER RECTANGULAR PROFILE FINS PLACED IN A SQUARE CHANNEL**
 Aylı E., Kıyıcı F., BAYER Ö., ARADAĞ ÇELEBİOĞLU S.
 Proceeding of Proceedings of CONV-14: International Symposium on Convective Heat and Mass Transfer. June 8 - 13, 2014, Kusadasi, Turkey, Antalya, Turkey, 8 - 13 June 2014
- **COMPARISON OF HOUSEHOLD REFRIGERATION CYCLE DESIGN OUTPUTS USING R134A AND R600A AS WORKING FLUIDS**
 BAYER Ö., CÜYLAN G., OSKAY R.
 XI. International HVACR Technology Symposium, 8 - 10 May 2014
- **PERFORMANCE ASSESSMENT OF A SOLAR ASSISTED HVAC SYSTEM FOR A MEDIUM-SIZED OFFICE BUILDING IN LARNACA, NORTH CYPRUS**
 BAYER Ö., Güldiken D. M.
 Climamed'13, Mediterranean Congress of Climatization, 3 - 04 October 2013
- **SABİT HACME PARALEL YERLEŞTİRİLEN VE ZORLANMIŞ TÜRBÜLANSLI TAŞINIMDA HAVA İLE SOĞUTULAN ELEKTRONİK KARTLARIN OPTİMUM ARALIĞI**
 BAYER Ö., YÜNCÜ H.
 ULIBTK'xx13 19. Ulusal Isı Bilimi ve Tekniği Kongresi, Turkey, 9 - 12 September 2013
- **JEOTERMAL ENERJİLİ VE GÜNEŞ ENERJİLİ SERA ISITMA SİSTEMLERİNİN KARŞILAŞTIRILMASI: EGE BÖLGESİ İÇİN KRİTİK BİR GÖZDEN GEÇİRME**
 BAYER Ö., EKTAŞ Ş.
 ULIBTK'xx13 19. Ulusal Isı Bilimi ve Tekniği Kongresi, Turkey, 9 - 12 September 2013
- **CFD Simulations and Reduced Order Modeling of a Refrigerator Compartment Including Radiation Effects**
 BAYER Ö., OSKAY R., PAKSOY A., ARADAĞ ÇELEBİOĞLU S.
 6TH INTERNATIONAL ADVANCED TECHNOLOGIES SYMPOSIUM (IATS'xx11), 16 - 18 May 2011
- **EVALUATION OF NUSSELT NUMBER FOR A FLOW IN A MICROTUBE WITH CONSTANT HEAT FLUX INCLUDING AXIAL CONDUCTION, VISCOUS DISSIPATION AND SECOND-ORDER SLIP MODEL**
 ÇETİN B., BAYER Ö.
 The 3rd International Symposium on Nonlinear Dynamics, 25 - 28 September 2010
- **Hybrid Ventilation System Simulation for Several Cities in Turkey**
 ARADAĞ ÇELEBİOĞLU S., BAYER Ö., Karatas C., Poyraz U., Kalkan O., Hacıahmetoglu F., Efe Y., Kahvecioglu M., Goncu A.
 Clima 2010 Rehva World Congress, 9 - 12 May 2010
- **Roof-Pond Applications as a Passive Cooling Technology for Buildings: A Critical Review**
 BAYER Ö., MENGÜÇ M. P.
 Clima 2010 Rehva World Congress, 9 - 12 May 2010

Supported Projects

- Tarı İ., Bayer Ö., Baker D. K. , Kazanç Özerinç F., TÜBİTAK International Bilateral Joint Cooperation Program Project, Atık Çamurların Değerlendirilmesi İçin Güneş Enerjili Kurutma Teknolojileri Geliştirilmesi, 2018 - 2020
- Bayer Ö., Tarı I., Baker D. K. , European Comission Supported Project, INSHIP: Integrating National Research Agendas on Solar Heat for Industrial Processes, 2017 - 2020
- Bayer Ö., Project Supported by Higher Education Institutions, Mini/Mikro Kanallı İki Fazlı Soğutma Sistemi Tasarımı ve Deneysel Performans Analizleri, 2017 - 2019
- Bayer Ö., Project Supported by Other Official Institutions, CER Motorlarının Soğutma Performansı Deneysel İyileştirilmesi, 2018 - 2018
- Bayer Ö., Project Supported by Other Private Institutions, Solar Tank Project, 2018 - 2018
- Bayer Ö., Project Supported by Other Private Institutions, Alternative Ice Making Systems in Specific Household Refrigerators, 2016 - 2017
- BAYER Ö., Project Supported by Higher Education Institutions, Soğutma Çevriminde Performans Katsayısı İyileştirilmesine Yönelik Olarak Kondenserde Açığa Çıkan Isı Enerjisinin Termoelektrik Sistem Yardımıyla Kompresöre Aktarımı: Modelleme Ve Deneysel Çalışma, 2016 - 2016
- BAYER Ö., Project Supported by Higher Education Institutions, Doğal veya Zorlanmış Taşınım ile Soğutulan Düz Panel Ekran Uygulamalarında Tasarım Kriterlerinin Deneysel ve Sayısal Modellemesi ve Optimizasyonu, 2015 - 2015
- BAYER Ö., Project Supported by Higher Education Institutions, Kare Kesit Kanallarda Geometrik Kanaçlık Parametrelerinin Zorlanmış Taşınım Isı Transferi Katsayısına Etkisi, 2013 - 2015
- Bayer Ö., Okutucu Özyurt H. T. , Project Supported by Other Private Institutions, Ev Tipi Buzdolaplarında Kullanılan Kondenser Tiplerinin Isı Transferi Açısından Karakterizasyonu, 2013 - 2013

Contractual Researches

- BAYER Ö., INDESIT COMPANY PROJESİ, 2014 - 2015

Scientific Refereeing

- ENVIRONMENTAL PROGRESS & SUSTAINABLE ENERGY, SCI Journal, February 2019
- ISI BİLİMİ VE TEKNİĞİ DERGİSİ-JOURNAL OF THERMAL SCIENCE AND TECHNOLOGY, Journal Indexed in SCIE, December 2018
- ISI BİLİMİ VE TEKNİĞİ DERGİSİ-JOURNAL OF THERMAL SCIENCE AND TECHNOLOGY, Journal Indexed in SCIE, October 2018
- EUROPEAN JOURNAL OF SUSTAINABLE DEVELOPMENT RESEARCH, Other Indexed Journal, October 2018
- ISI BİLİMİ VE TEKNİĞİ DERGİSİ-JOURNAL OF THERMAL SCIENCE AND TECHNOLOGY, Journal Indexed in SCIE, October 2018
- ENVIRONMENTAL PROGRESS & SUSTAINABLE ENERGY, SCI Journal, May 2018
- ISI BİLİMİ VE TEKNİĞİ DERGİSİ-JOURNAL OF THERMAL SCIENCE AND TECHNOLOGY, Journal Indexed in SCIE, February 2018
- TUBITAK Project, 1501 - Industry R & D Projects Support Program, Middle East Technical University, Turkey, February 2018
- ISI BİLİMİ VE TEKNİĞİ DERGİSİ-JOURNAL OF THERMAL SCIENCE AND TECHNOLOGY, Journal Indexed in SCIE, January 2018
- ENVIRONMENTAL PROGRESS & SUSTAINABLE ENERGY, SCI Journal, January 2017
- ENERGY AND BUILDINGS, Journal Indexed in SCIE, October 2016

Citations

Total Citations (WOS):52

h-index (WOS):5