

## Prof. Dr. HASAN KARABAY

### Kişisel Bilgiler

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### Uluslararası Araştırmacı ID'leri

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Publons / Web Of Science ResearcherID: F-7672-2018

Yoksis Araştırmacı ID: 25462

### Eğitim Bilgileri

Doktora, University of Bath, Birleşik Krallık 1994 - 1998

Yüksek Lisans, Karadeniz Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Türkiye 1988 - 1991

Lisans, Karadeniz Teknik Üniversitesi, Mühendislik Fakültesi, Makine Mühendisliği Bölümü, Türkiye 1983 - 1987

### Yaptığı Tezler

Doktora, Flow and heat transfer in cover-plate pre-swirl rotor-stator system, University of Bath, 1998

Yüksek Lisans, Fındık kurutma, Karadeniz Teknik Üniversitesi, Fen Bilimleri Enstitüsü, 1991

### Araştırma Alanları

Makina Mühendisliği, Enerji, Termodinamik

### Akademik Unvanlar / Görevler

Prof. Dr., Kocaeli Üniversitesi, Mühendislik Fakültesi, Makina Mühendisliği, 2017 - Devam Ediyor

Doç. Dr., Kocaeli Üniversitesi, Mühendislik Fakültesi, Makina Mühendisliği, 2011 - 2017

Yrd. Doç. Dr., Kocaeli Üniversitesi, Mühendislik Fakültesi, Makina Mühendisliği, 2000 - 2011

### SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

- Cooling operation strategies in a typical neighborhood mosque: A Case study on electricity consumption, CO2 emissions, and thermal comfort**  
Yüksel A., ARICI M., Krajčík M., CİVAN M., KARABAY H.  
Energy and Buildings, cilt.310, 2024 (SCI-Expanded)
- Thermal interaction between water and liquid paraffin wax inside an intertwined enclosure: The role of natural convection in design of latent heat storage units**  
YILDIZ Ç., Seçilmiş M., ARICI M., Krajčík M., Shamsavar A., Ye W., KARABAY H.  
Thermal Science and Engineering Progress, cilt.47, 2024 (SCI-Expanded)

- III. **An experimental study on a solar-assisted heat pump incorporated with PCM based thermal energy storage unit**  
YILDIZ Ç., Seçilmiş M., ARICI M., Mert M. S., Nižetić S., KARABAY H.  
ENERGY, cilt.278, 2023 (SCI-Expanded)
- IV. **Developing a strategy to reduce energy consumption and CO<sub>2</sub> emissions from underfloor heating systems in mosques: A case study of a typical neighbourhood mosque**  
Yuksel A., Arıcı M., Krajcik M., Civan M., Karabay H.  
ENERGY AND BUILDINGS, cilt.287, 2023 (SCI-Expanded)
- V. **Taguchi optimization of automotive radiator cooling with nanofluids**  
YILDIZ Ç., Kaptan C., ARICI M., BAYNAL K., KARABAY H.  
EUROPEAN PHYSICAL JOURNAL-SPECIAL TOPICS, cilt.231, sa.13-14, ss.2801-2819, 2022 (SCI-Expanded)
- VI. **Energy saving and CO<sub>2</sub> reduction potential of external building walls containing two layers of phase change material**  
ARICI M., Bilgin F., Krajcik M., Nizetic S., KARABAY H.  
ENERGY, cilt.252, 2022 (SCI-Expanded)
- VII. **Energy consumption, thermal comfort, and indoor air quality in mosques: Impact of Covid-19 measures**  
Yuksel A., Arıcı M., Krajcik M., Civan M., Karabay H.  
JOURNAL OF CLEANER PRODUCTION, cilt.354, 2022 (SCI-Expanded)
- VIII. **Natural convection of nanofluid in a U-shaped enclosure emphasizing on the effect of cold rib dimensions**  
Yıldız Ç., Arıcı M., Karabay H., Bennacer R.  
Journal of Thermal Analysis and Calorimetry, cilt.146, sa.2, ss.801-811, 2021 (SCI-Expanded)
- IX. **A review on thermal comfort, indoor air quality and energy consumption in temples**  
Yüksel A., Arıcı M., Krajčík M., Civan M., Karabay H.  
JOURNAL OF BUILDING ENGINEERING, cilt.35, 2021 (SCI-Expanded)
- X. **EXCHANGE CHARACTERISTICS OF AN ANTHROPOGENICALLY MODIFIED LAGOON: AN EULERIAN-LAGRANGIAN MODELING CASE STUDY WITH AN EMPHASIS ON THE NUMBER OF PARTICLES**  
Tansel Büyükçelebi B., KARABAY H., Bilgili A.  
JOURNAL OF ENVIRONMENTAL ENGINEERING AND LANDSCAPE MANAGEMENT, cilt.29, sa.3, ss.251-262, 2021 (SCI-Expanded)
- XI. **Is the thermal transmittance of air-filled inclined multi-glazing windows similar to that of vertical ones?**  
Arıcı M., Tükel M., Yıldız Ç., Li D., Karabay H.  
ENERGY AND BUILDINGS, cilt.229, 2020 (SCI-Expanded)
- XII. **Thermal performance based optimization of an office wall containing PCM under intermittent cooling operation**  
Tuncbilek E., ARICI M., Krajcik M., Nizetic S., KARABAY H.  
Applied Thermal Engineering, cilt.179, 2020 (SCI-Expanded)
- XIII. **PCM integrated to external building walls: An optimization study on maximum activation of latent heat**  
Arıcı M., Bilgin F., Nizetic S., Karabay H.  
APPLIED THERMAL ENGINEERING, cilt.165, 2020 (SCI-Expanded)
- XIV. **Experimental investigation of thermal comfort and CO<sub>2</sub> concentration in mosques: A case study in warm temperate climate of Yalova, Turkey**  
Yuksel A., Arıcı M., Krajcik M., Karabay H.  
SUSTAINABLE CITIES AND SOCIETY, cilt.52, 2020 (SCI-Expanded)
- XV. **Comparison of a theoretical and experimental thermal conductivity model on the heat transfer performance of Al<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub>/water hybrid-nanofluid**  
Yıldız Ç., Arıcı M., Karabay H.  
INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, cilt.140, ss.598-605, 2019 (SCI-Expanded)

- XVI. **Effect of inclination angle on natural convection of nanofluids in a U-shaped cavity**  
Yıldız Ç., Arıcı M., Karabay H.  
International Journal of Environmental Science and Technology, cilt.16, sa.9, ss.5289-5294, 2019 (SCI-Expanded)
- XVII. **Analysis of fluid flow and heat transfer characteristics in multiple glazing roofs with a special emphasis on the thermal performance**  
TÜKEL M., MUMCUOĞLU K., ARICI M., KARABAY H.  
APPLIED THERMAL ENGINEERING, cilt.148, ss.694-703, 2019 (SCI-Expanded)
- XVIII. **Investigation on the melting process of phase change material in a square cavity with a single fin attached at the center of the heated wall?**  
Arıcı M., Tutuncu E., Karabay H., Campo A.  
EPJ Applied Physics, cilt.83, 2018 (SCI-Expanded)
- XIX. **MIXED CONVECTION FLOW OF Al<sub>2</sub>O<sub>3</sub>-WATER NANOFLUID IN A TWO-SIDED LID-DRIVEN CAVITY WITH WAVY WALLS**  
KARABAY H.  
HEAT TRANSFER RESEARCH, cilt.49, sa.2, ss.91-102, 2018 (SCI-Expanded)
- XX. **Melting of nanoparticle-enhanced paraffin wax in a rectangular enclosure with partially active walls**  
Arici M., Tutuncu E., Kan M., Karabay H.  
INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, cilt.104, ss.7-17, 2017 (SCI-Expanded)
- XXI. **Investigation of heat insulation performance of hollow clay bricks filled with perlite**  
Arıcı M., Yılmaz B., Karabay H.  
Acta Physica Polonica A, cilt.130, ss.266-268, 2016 (SCI-Expanded)
- XXII. **Thermal analysis of bipolar microelectronic devices**  
AYDEMİR M., ARICI M., KARABAY H.  
HIGH TEMPERATURES-HIGH PRESSURES, cilt.45, sa.2, ss.155-161, 2016 (SCI-Expanded)
- XXIII. **Flow and heat transfer in double, triple and quadruple pane windows**  
ARICI M., KARABAY H., KAN M.  
ENERGY AND BUILDINGS, cilt.86, ss.394-402, 2015 (SCI-Expanded)
- XXIV. **Effect of aspect ratio on natural convection in a cavity with wavy walls**  
Arıcı M., Kan M., Karabay H.  
Acta Physica Polonica A, cilt.128, ss.197-200, 2015 (SCI-Expanded)
- XXV. **A numerical investigation of fluid flow and heat transfer inside a room for floor heating and wall heating systems**  
KARABAY H., ARICI M., SANDIK M.  
ENERGY AND BUILDINGS, cilt.67, ss.471-478, 2013 (SCI-Expanded)
- XXVI. **Multiple pane window applications in various climatic regions of Turkey**  
KARABAY H., ARICI M.  
ENERGY AND BUILDINGS, cilt.45, ss.67-71, 2012 (SCI-Expanded)
- XXVII. **Experimental investigation of inclined liquid water jet flow onto vertically located superhydrophobic surfaces**  
Kibar A., Karabay H., Yiğit K. S., Ucar I. O., Erbil H. Y.  
EXPERIMENTS IN FLUIDS, cilt.49, sa.5, ss.1135-1145, 2010 (SCI-Expanded)
- XXVIII. **Determination of optimum thickness of double-glazed windows for the climatic regions of Turkey**  
Arici M., Karabay H.  
ENERGY AND BUILDINGS, cilt.42, ss.1773-1778, 2010 (SCI-Expanded)
- XXIX. **The thermo-economic optimization of hot-water piping systems: A parametric study of the effect of the system conditions**  
Karabay H.  
STROJNISKI VESTNIK-JOURNAL OF MECHANICAL ENGINEERING, cilt.53, sa.9, ss.548-555, 2007 (SCI-Expanded)
- XXX. **Thermo-economic optimization of hot water piping systems: A comparison study**  
Ozturk İ. T., Karabay H., Bilgen E.  
ENERGY, cilt.31, sa.12, ss.2094-2107, 2006 (SCI-Expanded)

- XXXI. **Predictions of effect of swirl on flow and heat transfer in a rotating cavity**  
Karabay H., Wilson M., Owen J.  
INTERNATIONAL JOURNAL OF HEAT AND FLUID FLOW, cilt.22, sa.2, ss.143-155, 2001 (SCI-Expanded)
- XXXII. **Performance of pre-swirl rotating-disc systems**  
Karabay H., Pilbrow R., Wilson M., Owen J.  
JOURNAL OF ENGINEERING FOR GAS TURBINES AND POWER-TRANSACTIONS OF THE ASME, cilt.122, sa.3, ss.442-450, 2000 (SCI-Expanded)
- XXXIII. **Heat transfer in a "cover-plate" preswirl rotating-disk system**  
Pilbrow R., Karabay H., Wilson M., Owen J.  
JOURNAL OF TURBOMACHINERY-TRANSACTIONS OF THE ASME, cilt.121, sa.2, ss.249-256, 1999 (SCI-Expanded)
- XXXIV. **Flow in a "cover-plate" preswirl rotor-stator system - Authors' closure**  
Karabay H., Chen J., Pilbrow R., Wilson M., Owen J.  
JOURNAL OF TURBOMACHINERY-TRANSACTIONS OF THE ASME, cilt.121, sa.1, ss.166, 1999 (SCI-Expanded)
- XXXV. **Flow in a "cover-plate" preswirl rotor-stator system**  
Karabay H., Chen J., Pilbrow R., Wilson M., Owen J.  
JOURNAL OF TURBOMACHINERY-TRANSACTIONS OF THE ASME, cilt.121, sa.1, ss.160-166, 1999 (SCI-Expanded)

## **Diğer Dergilerde Yayınlanan Makaleler**

- I. **Termoplastik Film Mühürleme Aparatının Deneysel Yöntemle İncelenmesi**  
Bayram M., Sarı C., Kesmen B., Ulusoy Ç., Karabay H.  
Kocaeli Journal of Science and Engineering, cilt.6, sa.1, ss.1-5, 2023 (Hakemli Dergi)
- II. **Comparison of thermal response times of historical and modern building wall materials**  
Yüksel A., ARICI M., KARABAY H.  
Journal of Thermal Engineering, cilt.7, sa.6, ss.1506-1518, 2021 (ESCI)
- III. **Mixed convection heat transfer of nanofluids in a trapezoidal cavity having an adiabatic square body at its center**  
Arıcı M., Kaptan Ç., Karabay H.  
Research on Engineering Structures and Materials, cilt.28, sa.5, ss.359-366, 2017 (Hakemli Dergi)

## **Hakemli Kongre / Sempozyum Bildiri Kitaplarında Yer Alan Yayınlar**

- I. **Investigation of Electricity Consumption and CO<sub>2</sub>Emissions from Cooling System Operation Strategies in Mosques**  
Yüksel A., ARICI M., Krajčik M., CİVAN M., KARABAY H.  
8th International Conference on Smart and Sustainable Technologies, SpliTech 2023, Hybrid, Split/Bol, Hırvatistan, 20 - 23 Haziran 2023
- II. **Natural convective heat transfer interrelation between water and melted paraffin-wax in an intertwined enclosure**  
YILDIZ Ç., SEÇİLMİŞ M., ARICI M., Krajčik M., KARABAY H.  
7th International Conference on Smart and Sustainable Technologies (SpliTech) 2022, Split, Hırvatistan, 5 - 08 Temmuz 2022
- III. **DÜŞÜK REYNOLDS SAYILI AKIŞLARDA SÜPERHİDROFOBİK KAPLAMA İLE SÜRÜKLEME KUVVETİNDEKİ DEĞİŞİM**  
karaaslan r., vonal m., KARABAY H.  
Uluslararası Marmara Fen bilimleri kongresi, Kocaeli, Türkiye, 13 Mayıs 2022, ss.530-537
- IV. **Reduction of Natural Gas Consumption by Establishing Operation Strategies of Heating Systems in Mosques**  
Yüksel A., ARICI M., Krajcik M., CİVAN M., KARABAY H.

7th International Conference on Smart and Sustainable Technologies, SpliTech 2022, Split, Hırvatistan, 5 - 08 Temmuz 2022

- V. **Tarihi ve Modern Binalarda Duvar Yapılarının Isıl Performansa Etkileri**  
YÜKSEL A., ARICI M., KARABAY H.  
22. ISI BİLİMİ VE TEKNİĞİ KONGRESİ, Kocaeli, Türkiye, 11 - 14 Eylül 2019
- VI. **Constructal Theory and Its Recent Applications**  
ÇETKİN E., KARABAY H.  
22nd Congress on Thermal Science and Technology (CTST 2019), Kocaeli, Türkiye, 11 - 13 Eylül 2019
- VII. **Investigation of Effect of Window-to-Wall Ratio on the Indoor Air Temperature by Lumped Capacitance Approach**  
Yuksel A., ARICI M., KARABAY H.  
4th International Conference on Smart and Sustainable Technologies (SpliTech), Hırvatistan, 18 - 21 Haziran 2019, ss.414-419
- VIII. **A discussion on estimating overall heat transfer coefficient for composite walls**  
KANDIRA U. E., ARICI M., KARABAY H.  
5th International Conference on Computational and Experimental Science and Engineering, 12-16 October 2018, Antalya, Turkey, 12 - 16 Ekim 2018
- IX. **Numerical Investigation of natural convection in a U-shaped cavity filled with nanofluids**  
YILDIZ Ç., ARICI M., KARABAY H.  
5th International Conference on Computational and Experimental Science and Engineering, 12-16 October 2018, Antalya, Turkey, 12 - 16 Ekim 2018
- X. **Effect of inclination angle on natural convection of nanofluids in a U-shaped cavity**  
YILDIZ Ç., ARICI M., KARABAY H.  
5th International Conference on Computational and Experimental Science and Engineering, 12-16 October 2018, Antalya, Turkey, 12 - 16 Ekim 2018
- XI. **SÜPERİSLANMAZ YÜZEY ÜZERİNE GÖNDERİLEN DAMLANIN ZIPLAMA DAVRANIŞI**  
Vonal M., Kibar A., Karabay H.  
4. Uluslararası Katılımlı Anadolu Enerji Sempozyumu (AES 2018), Edirne, Türkiye, 18 - 20 Nisan 2018, ss.2082-2089
- XII. **CFD Analysis of Melting Process in an Enclosure: Effect of Fin and Nanoparticle on the Melting Rate**  
ARICI M., Tütüncü E., KARABAY H.  
3rd International Conference on Smart and Sustainable Technologies, 26-29 June 2018, Split, Croatia, 26 - 29 Haziran 2018
- XIII. **Prediction of Optimum Cooling Performance Improvement for Car Radiator Applications**  
KAPTAN Ç., ARICI M., BAYNAL K., KARABAY H.  
International Conference on Progresses in Automotive Technologies, 10-12 May 2018, Istanbul, Turkey, 10 - 12 Mayıs 2018
- XIV. **Numerical Investigation of the Integration of Phase Change Material on Solar Domestic Hot Water System**  
ŞİŞMAN S., ARICI M., SEÇİLMİŞ M., KARABAY H.  
8th International 100 Renewable Energy Conference, 7-9 May 2018, Istanbul, Turkey, 07 Mayıs 2018 - 09 Mayıs 2019
- XV. **Determination of Economically Advantageous Locations for Optimum Insulation Thickness in Turkey Considering Heating and Cooling Loads Together**  
TÜKEL M., ARICI M., KARABAY H.  
4th Anatolian Energy Symposium with International Participation, 4th Anatolian Energy Symposium, Edirne, Türkiye, 18 - 20 Nisan 2018
- XVI. **SOĞUK AKIŞKANLI SÜPERSONİK EJEKTÖRLERİN PERFORMANSININ İYİLEŞTİRİLMESİ**  
GÜLYÜZ V., SARMAN M. C., KARABAY H.  
4. Uluslararası Katılımlı Anadolu Enerji Sempozyumu, Edirne, Türkiye, 18 - 20 Nisan 2018, cilt.2, ss.819-829
- XVII. **DROPLET IMPACT ON SLIPPERY AND STICKY SUPERHYDROPHOBIC SURFACE**

- Karabay H., Kibar A., Vonal M.  
International Conference on Engineering Technologies (ICENTE'17), Konya, Türkiye, 7 - 09 Aralık 2017, ss.102
- XVIII. **Investigation on the melting process of PCM in a square cavity with a fin attached at the heated wall**  
ARICI M., TÛTÛNCÛ E., KARABAY H., CAMPO A.  
International Conference on Materials Energy, 6 - 09 Temmuz 2017
- XIX. **CFD Analysis of Flow and Heat Transfer in an Inclined Double Glazing Window**  
mumcuođlu k, ARICI M., KARABAY H., kan m.  
ENTECH '16 / IV. International Energy Technologies Conference, 15 Aralık 2016
- XX. **Numerical Investigation on Mixed Convection of Nanofluids in a Trapezoidal Cavity with Adiabatic Square Block at Center**  
kaptan ., ARICI M., KARABAY H.  
8th International Ege Energy Symposium, 11 - 13 Mayıs 2016
- XXI. **THERMAL PERFORMANCE OF A MULTI HOLED BRICK CONSIDERING DIFFERENT HOLE SHAPES AND HOLE ARRANGEMENTS**  
Uludaş M. ., Arıcı M., Karabay H.  
3rd International Conference on Thermophysical and Mechanical Properties of Advanced Materials, İzmir, Türkiye, 1 - 03 Eylül 2016
- XXII. **Investigation of Heat Insulation Performance of Hollow Clay Bricks Filled With Perlite**  
ARICI M., Batuhan Y., KARABAY H.  
2nd International Conference on Computational and Experimental Science and Engineering, 14 - 19 Ekim 2015
- XXIII. **Investigation of melting of nanoparticle enhanced phase change materials**  
ARICI M., mirac k., KARABAY H., Ensar T.  
ANOTECHNOLOGY and NANOMATERIALS NANO, 26 - 29 Ağustos 2015
- XXIV. **PERFORMANCE AND EMISSIONS OF A MICRO-TURBINE FUELED WITH JP8-CANOLA BIODIESEL MIXTURES**  
DÛLGER Z., ASLAN S., ARICI M., CATORI C., KARABAY H., POLAT N., AKSİT İ. M., SARA H. İ., GOKALP B.  
ASME Turbo Expo: Turbine Technical Conference and Exposition, DÛsseldorf, Almanya, 16 - 20 Haziran 2014
- XXV. **İ CİDARI İSLANMAZ MALZEME İLE KAPLI DAİRESEL BİR BORU İİNDEN GEEN SUYUN LİMANER BÖLGEDEKİ BASIN DÛŞÛMÛNÛN TEORİK ve DENEYSEL İNCELENMESİ**  
Kibar A., Karabay H., Yiđit K. S., Orkan Uar İ., Erbil H. Y.  
IV Ege Enerji Sempozyumu, İzmir, Türkiye, 23 - 25 Nisan 2008

## Desteklenen Projeler

- KARABAY H., TÛBİTAK Projesi, KAđIT HAVLU MAKİNELERİNİN MODERNİZASYONU İİN VAKUM SİSTEMİNİN SAYISAL VE DENEYSEL OLARAK İNCELENEREK YENİDEN TASARLANMASI, 2022 - 2023
- KARABAY H., Yükseköđretim Kurumları Destekli Proje, Süperhidrofobik-Hidrofilik Yivli Hibrit Yüzeylerin Viskoz Direnci Azaltabilme Kabiliyetinin Belirlenmesi, 2019 - 2020
- ARICI M., KARABAY H., Sanayi Tezleri Projesi, Ev tipi buzdolabı dondurucu bölmesinde homojen sıcaklık dağılımı sağlayacak hava yönlendirici tasarımı, 2014 - 2015

## Metrikler

- Yayın: 63  
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H-İndeks (Scopus): 19

## **Akademi Dışı Deneyim**

kocaeli üniversitesi

karadeniz teknik üniversitesi