

Prof. HASAN KARABAY

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Education Information

Doctorate, University of Bath, England 1994 - 1998

Postgraduate, Karadeniz Technical University, Fen Bilimleri Enstitüsü, Turkey 1988 - 1991

Undergraduate, Karadeniz Technical University, Mühendislik Fakültesi, Makine Mühendisliği Bölümü, Turkey 1983 - 1987

Dissertations

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

Postgraduate, Fındık kurutma, Karadeniz Technical University, Fen Bilimleri Enstitüsü, 1991

Research Areas

Mechanical Engineering, Energy, Thermodynamics

Academic Titles / Tasks

Professor, Kocaeli University, Mühendislik Fakültesi, Makina Mühendisliği, 2017 - Continues

Associate Professor, Kocaeli University, Mühendislik Fakültesi, Makina Mühendisliği, 2011 - 2017

Assistant Professor, Kocaeli University, Mühendislik Fakültesi, Makina Mühendisliği, 2000 - 2011

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

- I. **<p>Energy saving and CO2 reduction potential of external building walls containing two layers of phase change material</p>**
ARICI M., Bilgin F., Krajcik M., Nizetic S., KARABAY H.
ENERGY, vol.252, 2022 (Journal Indexed in SCI)
- II. **Energy consumption, thermal comfort, and indoor air quality in mosques: Impact of Covid-19 measures**
Yuksel A., ARICI M., Krajcik M., CİVAN M., KARABAY H.
JOURNAL OF CLEANER PRODUCTION, vol.354, 2022 (Journal Indexed in SCI)
- III. **Taguchi optimization of automotive radiator cooling with nanofluids**
YILDIZ Ç., Kaptan C., ARICI M., BAYNAL K., KARABAY H.
EUROPEAN PHYSICAL JOURNAL-SPECIAL TOPICS, 2022 (Journal Indexed in SCI)
- IV. **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, vol.35, 2021 (Journal Indexed in SCI)

- V. **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, vol.29, no.3, pp.251-262, 2021
(Journal Indexed in SCI)
- VI. **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, vol.229, 2020 (Journal Indexed in SCI)
- VII. **Thermal performance based optimization of an office wall containing PCM under intermittent cooling operation**
Tunchilek E., ARICI M., Krajcik M., Nizetic S., KARABAY H.
Applied Thermal Engineering, vol.179, 2020 (Journal Indexed in SCI Expanded)
- VIII. **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, vol.165, 2020 (Journal Indexed in SCI)
- IX. **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, 2020 (Journal Indexed in SCI)
- X. **Experimental investigation of thermal comfort and CO(2) 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, vol.52, 2020 (Journal Indexed in SCI)
- XI. **Comparison of a theoretical and experimental thermal conductivity model on the heat transfer performance of Al₂O₃-SiO₂/water hybrid-nanofluid**
Yıldız Ç., Arıcı M., Karabay H.
INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, vol.140, pp.598-605, 2019 (Journal Indexed in SCI)
- XII. **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, vol.16, no.9, pp.5289-5294, 2019 (Journal Indexed in SCI)
- XIII. **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, vol.148, pp.694-703, 2019 (Journal Indexed in SCI)
- XIV. **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, vol.83, 2018 (Journal Indexed in SCI)
- XV. **MIXED CONVECTION FLOW OF Al₂O₃-WATER NANOFLUID IN A TWO-SIDED LID-DRIVEN CAVITY WITH WAVY WALLS**
KARABAY H.
HEAT TRANSFER RESEARCH, vol.49, no.2, pp.91-102, 2018 (Journal Indexed in SCI)
- XVI. **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, vol.104, pp.7-17, 2017 (Journal Indexed in SCI)
- XVII. **Investigation of heat insulation performance of hollow clay bricks filled with perlite**
Arıcı M., Yilmaz B., Karabay H.
Acta Physica Polonica A, vol.130, pp.266-268, 2016 (Journal Indexed in SCI)

- XVIII. **Thermal analysis of bipolar microelectronic devices**
AYDEMIR M., ARICI M., KARABAY H.
HIGH TEMPERATURES-HIGH PRESSURES, vol.45, no.2, pp.155-161, 2016 (Journal Indexed in SCI)
- XIX. **Flow and heat transfer in double, triple and quadruple pane windows**
ARICI M., KARABAY H., KAN M.
ENERGY AND BUILDINGS, vol.86, pp.394-402, 2015 (Journal Indexed in SCI)
- XX. **Effect of aspect ratio on natural convection in a cavity with wavy walls**
Arıcı M., Kan M., Karabay H.
Acta Physica Polonica A, vol.128, pp.197-200, 2015 (Journal Indexed in SCI)
- XXI. **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, vol.67, pp.471-478, 2013 (Journal Indexed in SCI)
- XXII. **Multiple pane window applications in various climatic regions of Turkey**
KARABAY H., ARICI M.
ENERGY AND BUILDINGS, vol.45, pp.67-71, 2012 (Journal Indexed in SCI)
- XXIII. **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, vol.49, no.5, pp.1135-1145, 2010 (Journal Indexed in SCI)
- XXIV. **Determination of optimum thickness of double-glazed windows for the climatic regions of Turkey**
Arici M., Karabay H.
ENERGY AND BUILDINGS, vol.42, pp.1773-1778, 2010 (Journal Indexed in SCI)
- XXV. **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, vol.53, no.9, pp.548-555, 2007 (Journal Indexed in SCI)
- XXVI. **Thermo-economic optimization of hot water piping systems: A comparison study**
Ozturk İ. T. , Karabay H., Bilgen E.
ENERGY, vol.31, no.12, pp.2094-2107, 2006 (Journal Indexed in SCI)
- XXVII. **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, vol.22, no.2, pp.143-155, 2001 (Journal Indexed in SCI)
- XXVIII. **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, vol.122, no.3, pp.442-450, 2000 (Journal Indexed in SCI)
- XXIX. **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, vol.121, no.2, pp.249-256, 1999 (Journal Indexed in SCI)
- XXX. **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, vol.121, no.1, pp.166, 1999 (Journal Indexed in SCI)
- XXXI. **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, vol.121, no.1, pp.160-166, 1999 (Journal Indexed in SCI)

Articles Published in Other Journals

- I. **Comparison of thermal response times of historical and modern building wall materials**
Yüksel A., ARICI M., KARABAY H.
Journal of Thermal Engineering, vol.7, no.6, pp.1506-1518, 2021 (Journal Indexed in ESCI)
- II. **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, vol.28, no.5, pp.359-366, 2017 (Refereed Journals of Other Institutions)

Refereed Congress / Symposium Publications in Proceedings

- I. **Tarihi ve Modern Binalarda Duvar Yapılarının Isıl Performansa Etkileri**
YÜKSEL A., ARICI M., KARABAY H.
22. ISI BİLİMİ VE TEKNİĞİ KONGRESİ, Kocaeli, Turkey, 11 - 14 September 2019
- II. **Constructal Theory and Its Recent Applications**
ÇETKİN E., KARABAY H.
22nd Congress on Thermal Science and Technology (CTST 2019), Kocaeli, Turkey, 11 - 13 September 2019
- III. **Investigation of Effect of Window-to-Wall Ratio on the Indoor Air Temperature by Lumped Capacitance Approach**
Yüksel A., ARICI M., KARABAY H.
4th International Conference on Smart and Sustainable Technologies (SpliTech), Croatia, 18 - 21 June 2019, pp.414-419
- IV. **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 October 2018
- V. **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 October 2018
- VI. **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 October 2018
- VII. **SÜPERİSLANMAZ YÜZEY ÜZERİNE GÖNDERİLEN DAMLANIN ZIPLAMA DAVRANIŞI**
Vonal M., Kibar A., Karabay H.
4. Uluslararası Katılımlı Anadolu Enerji Sempozyumu (AES 2018), Edirne, Turkey, 18 - 20 April 2018, pp.2082-2089
- VIII. **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 June 2018
- IX. **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 May 2018 - 09 May 2019
- X. **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 May 2018

- XI. **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, Turkey, 18 - 20 April 2018
- XII. **SOĞUK AKIŞKANLI SÜPERSONİK EJEKTÖRLERİN PERFORMANSININ İYİLEŞTİRİLMESİ**
GÜLYÜZ V., SARMAN M. C. , KARABAY H.
4. Uluslararası Katılımlı Anadolu Enerji Sempozyumu, Edirne, Turkey, 18 - 20 April 2018, vol.2, pp.819-829
- XIII. **DROPLET IMPACT ON SLIPPERY AND STICKY SUPERHYDROPHOBIC SURFACE**
Karabay H., Kibar A., Vonal M.
International Conference on Engineering Technologies (ICENTE'17), Konya, Turkey, 7 - 09 December 2017, pp.102
- XIV. **Investigation on the melting process of PCM in a square cavity with a fin attached at the heated wall**
ARICI M., TÜTÜNCÜ E., KARABAY H., CAMPO A.
International Conference on Materials Energy, 6 - 09 July 2017
- XV. **CFD Analysis of Flow and Heat Transfer in an Inclined Double Glazing Window**
mumcuoğlu k., ARICI M., KARABAY H., kan m.
ENTECH '16 / IV. International Energy Technologies Conference, 15 December 2016
- XVI. **Numerical Investigation on Mixed Convection of Nanofluids in a Trapezoidal Cavity with Adiabatic Square Block at Center**
kaptan ç., ARICI M., KARABAY H.
8th International Ege Energy Symposium, 11 - 13 May 2016
- XVII. **THERMAL PERFORMANCE OF A MULTI HOLED BRICK CONSIDERING DIFFERENT HOLE SHAPES AND HOLE ARRANGEMENTS**
Uludaş M. Ç. , Arıcı M., Karabay H.
3rd International Conference on Thermophysical and Mechanical Properties of Advanced Materials, İzmir, Turkey, 1 - 03 September 2016
- XVIII. **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 October 2015
- XIX. **Investigation of melting of nanoparticle enhanced phase change materials**
ARICI M., mirac k., KARABAY H., Ensar T.
ANOTECHNOLOGY and NANOMATERIALS NANO, 26 - 29 August 2015
- XX. **PERFORMANCE AND EMISSIONS OF A MICRO-TURBINE FUELED WITH JP8-CANOLA BIODIESEL MIXTURES**
DÜLGER Z., ASLAN S., ARICI M., CATORI C., KARABAY H., POLAT N., AKSİT İ. M. , SARAÇ H. İ. , GOKALP B.
ASME Turbo Expo: Turbine Technical Conference and Exposition, Düsseldorf, Germany, 16 - 20 June 2014
- XXI. **İÇ CİDARI ISLANMAZ MALZEME İLE KAPLI DAİRESEL BİR BORU İÇİNDEN GEÇEN SUYUN LİMANER BÖLGEDEKİ BASINÇ DÜŞÜMÜNÜN TEORİK ve DENEYSEL İNCELENMESİ**
Kibar A., Karabay H., Yiğit K. S. , Orkan Uçar İ., Erbil H. Y.
IV Ege Enerji Sempozyumu, İzmir, Turkey, 23 - 25 April 2008

Supported Projects

KARABAY H., Project Supported by Higher Education Institutions, Süperhidrofobik-Hidrofilik Yivli Hibrit Yüzeylerin Viskoz Direnci Azaltılabilirliği ve Kabiliyetinin Belirlenmesi, 2019 - 2020

ARICI M., KARABAY H., Industrial Thesis Project, Ev tipi buzdolabı dondurucu bölmesinde homojen sıcaklık dağılımı sağlayacak hava yönlendirici tasarımı, 2014 - 2015

Citations

Total Citations (WOS):761

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