

# Prof. ALMILA GÜVENÇ YAZICIOĞLU

## Personal Information

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## International Researcher IDs

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Publons / Web Of Science ResearcherID: AAZ-9800-2020

ScopusID: 6701537790

Yoksis Researcher ID: 105432

## Education Information

Doctorate, University of Illinois at Chicago, Makina Mühendisliği (Tezli), United States Of America 1999 - 2004

Postgraduate, Middle East Technical University, Graduate School of Natural and Applied Sciences, Makine Mühendisliği (YI) (Tezli), Turkey 1997 - 1999

Undergraduate, Middle East Technical University, Faculty of Engineering, Makine Mühendisliği Bölümü, Turkey 1993 - 1997

## Research Areas

Mechanical Engineering

## Academic Titles / Tasks

Professor, Middle East Technical University, Faculty of Engineering, Department of Mechanical Engineering, 2018 - Continues

Associate Professor, Middle East Technical University, Faculty of Engineering, Department of Mechanical Engineering, 2011 - 2018

Assistant Professor, Middle East Technical University, Faculty of Engineering, Department of Mechanical Engineering, 2006 - 2011

Lecturer, Middle East Technical University, Faculty of Engineering, Department of Mechanical Engineering, 2005 - 2006

## Academic and Administrative Experience

Middle East Technical University, Faculty of Engineering, Makine Mühendisliği Bölümü, 2014 - 2017

## Advising Theses

GÜVENÇ YAZICIOĞLU A., Optimization of a heat sink with heterogeneous heat flux boundary condition, Postgraduate, E.Turgut(Student), 2019

GÜVENÇ YAZICIOĞLU A., Failure analysis in adhesively bonded composite joints, Postgraduate, R.Deniz(Student), 2019

GÜVENÇ YAZICIOĞLU A., Integration of solar energy and industrial waste heat into an industrial zone with heat distribution network and optimization of energy sources for units, Postgraduate, S.Karımı(Student), 2019

GÜVENÇ YAZICIOĞLU A., Investigating the dominant factors regarding ignition transient in the design procedure of the nozzle of a pyrogen igniter, Postgraduate, Y.Yeşilyurt(Student), 2019

GÜVENÇ YAZICIOĞLU A., Co-cured manufacturing of advanced composite materials using vacuum assisted resin transfer molding, Postgraduate, M.AKIN(Student), 2018

GÜVENÇ YAZICIOĞLU A., Design and manufacturing of electrically conductive composites via microvascular channels, Doctorate, H.TANABI(Student), 2017

GÜVENÇ YAZICIOĞLU A., 3-d numerical simulations of fluid flow and heat transfer in various micro conduits, Doctorate, M.BİLGEHAN(Student), 2017

GÜVENÇ YAZICIOĞLU A., YAVUZ M. M., Effect of wing heating on flow structure of low swept delta wing, Postgraduate, G.ŞENCAN(Student), 2016

GÜVENÇ YAZICIOĞLU A., BAKER D. K., Design and modeling of a novel rectifier with ceramic hollow fiber membrane contactor for miniaturized absorption cooling devices, Postgraduate, O.ÖZKAN(Student), 2015

GÜVENÇ YAZICIOĞLU A., BAKER D. K., Modelling, transient simulation and parametric study of parabolic trough collector with thermal energy storage, Postgraduate, T.Akba(Student), 2014

BAKER D. K., GÜVENÇ YAZICIOĞLU A., Modelling, transient simulations and parametric studies of parabolic trough collectors with thermal energy storage, Postgraduate, T.AKBA(Student), 2014

GÜVENÇ YAZICIOĞLU A., Experimental and theoretical investigations on alumina-water nanofluid viscosity with statistical analysis, Postgraduate, E.BEGÜM(Student), 2013

GÜVENÇ YAZICIOĞLU A., Experimental investigation of single phase liquid flow and heat transfer in multiport minichannels, Postgraduate, M.ALTINÖZ(Student), 2013

GÜVENÇ YAZICIOĞLU A., ERKOÇ Ş., Structural properties of defected graphene nanoribbons under tension: Molecular-dynamics simulations, Postgraduate, B.TÜZÜN(Student), 2012

GÜVENÇ YAZICIOĞLU A., SERT C., Experimental investigation of uninterrupted and interrupted microchannel heat sinks, Postgraduate, A.GÖZDE(Student), 2012

GÜVENÇ YAZICIOĞLU A., A numerical forced convection heat transfer analysis of nanofluids considering performance criteria, Postgraduate, O.KİREZ(Student), 2012

GÜVENÇ YAZICIOĞLU A., Experimental comparison of different minichannel geometries for use in evaporators, Postgraduate, Y.ATA(Student), 2012

GÜVENÇ YAZICIOĞLU A., Experimental investigation of R134A flow in a 1.65 mm copper minitube, Postgraduate, B.TEKİN(Student), 2011

GÜVENÇ YAZICIOĞLU A., Heat transfer enhancement with nanofluids, Postgraduate, S.ÖZERİNÇ(Student), 2010

GÜVENÇ YAZICIOĞLU A., Analysis of single phase convective heat transfer in microchannels with variable thermal conductivity and variable viscosity, Postgraduate, A.CEM(Student), 2010

GÜVENÇ YAZICIOĞLU A., Design and experimental investigation of microchannel heat exchanger, Postgraduate, M.Çetin(Student), 2010

GÜVENÇ YAZICIOĞLU A., Design and experimental investigation of a microchannel heat exchanger, Postgraduate, M.ÇETİN(Student), 2010

GÜVENÇ YAZICIOĞLU A., A Computer Code Based on the Thermal Network Method and the Ray Tracing Technique for the Thermal Analysis of Satellites, Postgraduate, H.GÜRGÜÇ(Student), 2009

GÜVENÇ YAZICIOĞLU A., Analytical solution for single phase microtube heat transfer including axial conduction and viscous dissipation, Postgraduate, M.BARIŞIK(Student), 2008

GÜVENÇ YAZICIOĞLU A., Effect of surface roughness in microchannels on heat transfer, Postgraduate, M.BİLGEHAN(Student), 2008

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

- I. Modeling, transient simulations and parametric studies of parabolic trough collectors with thermal energy storage**

Akba T., Baker D., GÜVENÇ YAZICIOĞLU A.

SOLAR ENERGY, vol.199, pp.497-509, 2020 (SCI-Expanded)

- II. **Experimental study and Taguchi Analysis on alumina-water nanofluid viscosity**  
Elcioglu E. B., GÜVENÇ YAZICIOĞLU A., TURGUT A., Anagan A. S.  
APPLIED THERMAL ENGINEERING, vol.128, pp.973-981, 2018 (SCI-Expanded)
- III. **Numerical simulation of fluid flow and heat transfer in a trapezoidal microchannel with COMSOL multiphysics: A case study**  
Turgay M. B., GÜVENÇ YAZICIOĞLU A.  
NUMERICAL HEAT TRANSFER PART A-APPLICATIONS, vol.73, no.5, pp.332-346, 2018 (SCI-Expanded)
- IV. **Analytical solution of thermally developing microtube heat transfer including axial conduction, viscous dissipation, and rarefaction effects**  
BARIŞIK M., Yazicioglu A., ÇETİN B., KAKAÇ S.  
INTERNATIONAL COMMUNICATIONS IN HEAT AND MASS TRANSFER, vol.67, pp.81-88, 2015 (SCI-Expanded)
- V. **A COMPARATIVE EVALUATION ON NANOFLUID VISCOSITY**  
Elcioglu E. B., Yazicioglu A., Kakac S.  
ISI BILIMI VE TEKNIGI DERGISI-JOURNAL OF THERMAL SCIENCE AND TECHNOLOGY, vol.34, no.1, pp.137-151, 2014 (SCI-Expanded)
- VI. **Numerical analysis of laminar forced convection with temperature-dependent thermal conductivity of nanofluids and thermal dispersion**  
Ozerinc S., YAZICIOGLU A., Kakac S.  
INTERNATIONAL JOURNAL OF THERMAL SCIENCES, vol.62, pp.138-148, 2012 (SCI-Expanded)
- VII. **Effect of variable thermal conductivity and viscosity on single phase convective heat transfer in slip flow**  
KAKAÇ S., GÜVENÇ YAZICIOĞLU A., Gozukara A. C.  
HEAT AND MASS TRANSFER, vol.47, no.8, pp.879-891, 2011 (SCI-Expanded)
- VIII. **Enhanced thermal conductivity of nanofluids: a state-of-the-art review**  
Özerinç S., Kakac S., Yazicioglu A.  
MICROFLUIDICS AND NANOFLUIDICS, vol.8, no.2, pp.145-170, 2010 (SCI-Expanded)
- IX. **Slip-flow heat transfer in microtubes with axial conduction and viscous dissipation - An extended Graetz problem**  
Cetin B., GÜVENÇ YAZICIOĞLU A., KAKAÇ S.  
INTERNATIONAL JOURNAL OF THERMAL SCIENCES, vol.48, no.9, pp.1673-1678, 2009 (SCI-Expanded)
- X. **EFFECT OF SURFACE ROUGHNESS IN PARALLEL-PLATE MICROCHANNELS ON HEAT TRANSFER**  
Turgay M. B., GÜVENÇ YAZICIOĞLU A.  
NUMERICAL HEAT TRANSFER PART A-APPLICATIONS, vol.56, no.6, pp.497-514, 2009 (SCI-Expanded)
- XI. **Fluid flow in microtubes with axial conduction including rarefaction and viscous dissipation**  
Cetin B., GÜVENÇ YAZICIOĞLU A., KAKAÇ S.  
INTERNATIONAL COMMUNICATIONS IN HEAT AND MASS TRANSFER, vol.35, no.5, pp.535-544, 2008 (SCI-Expanded)
- XII. **A numerical study of single-phase convective heat transfer in microtubes for slip flow**  
Sun W., Kakac S., Yazicioglu A.  
INTERNATIONAL JOURNAL OF THERMAL SCIENCES, vol.46, no.11, pp.1084-1094, 2007 (SCI-Expanded)
- XIII. **Theoretical and experimental investigation of aqueous liquids contained in carbon nanotubes**  
Yarin A., Yazicioglu A., Megaridis C., Rossi M., Gogotsi Y.  
JOURNAL OF APPLIED PHYSICS, vol.97, no.12, 2005 (SCI-Expanded)
- XIV. **Electron microscope visualization of multiphase fluids contained in closed carbon nanotubes**  
GÜVENÇ YAZICIOĞLU A., MEGARIDIS C., NICHOLLS A., GOGOTSI Y.  
JOURNAL OF VISUALIZATION, vol.8, no.2, pp.137-144, 2005 (SCI-Expanded)
- XV. **Thermal stimulation of aqueous volumes contained in carbon nanotubes: Experiment and modeling**  
Yarin A., Yazicioglu A., Megaridis C.  
APPLIED PHYSICS LETTERS, vol.86, no.1, 2005 (SCI-Expanded)

- XVI. **Observation of water confined in nanometer channels of closed carbon nanotubes**  
Naguib N., Ye H., Gogotsi Y., Yazicioglu A., Megaridis C., Yoshimura M.  
NANO LETTERS, vol.4, no.11, pp.2237-2243, 2004 (SCI-Expanded)
- XVII. **Wall structure and surface chemistry of hydrothermal carbon nanofibres**  
Ye H., Naguib N., Gogotsi Y., Yazicioglu A., Megaridis C.  
NANOTECHNOLOGY, vol.15, no.1, pp.232-236, 2004 (SCI-Expanded)
- XVIII. **Attoliter fluid experiments in individual closed-end carbon nanotubes: Liquid film and fluid interface dynamics**  
Megaridis C., Yazicioglu A., Libera J., Gogotsi Y.  
PHYSICS OF FLUIDS, vol.14, no.2, 2002 (SCI-Expanded)
- XIX. **In situ multiphase fluid experiments in hydrothermal carbon nanotubes**  
Gogotsi Y., Libera J., Guvenc-Yazicioglu A., Megaridis C.  
APPLIED PHYSICS LETTERS, vol.79, no.7, pp.1021-1023, 2001 (SCI-Expanded)
- XX. **An experimental investigation on performance of fins on a horizontal base in free convection heat transfer**  
Guvenc A., Yuncu H.  
HEAT AND MASS TRANSFER, vol.37, no.4-5, pp.409-416, 2001 (SCI-Expanded)
- XXI. **Measurement of fractal properties of soot agglomerates in laminar coflow diffusion flames using thermophoretic sampling in conjunction with transmission electron microscopy and image processing**  
Yazicioglu A., Megaridis C., Campbell A., Lee K., Choi M.  
COMBUSTION SCIENCE AND TECHNOLOGY, vol.171, pp.71-87, 2001 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Experimental Analysis of Laminar Flow and Heat Transfer in Multi Port Finned Mini Channel**  
Çevrim B., GÜVENÇ YAZICIOĞLU A., KAKAÇ S.  
Hittite Journal of Science & Engineering, vol.3, no.1, 2016 (Peer-Reviewed Journal)

## Books & Book Chapters

- I. **Heat Exchangers**  
GÜVENÇ YAZICIOĞLU A., ARADAĞ ÇELEBİOĞLU S., AYLI İNCE Ü. E., GÜLBEN G., KAKAÇ S.  
in: Comprehensive Energy Systems, DİNÇER İBRAHİM, Editor, ELSEVIER, pp.40-69, 2018
- II. **Thermophysical Properties of Nanofluids**  
ÖZERİNÇ S., GÜVENÇ YAZICIOĞLU A., KAKAÇ S.  
in: Microscale and Nanoscale Heat Transfer Analysis Design and Application, Rebay Mourad, Kakaç Sadık, Cotta Renato M., Editor, CRC Press, New York, pp.125-154, 2016
- III. **Convective Heat Transfer with Gaseous Flow in Microducts**  
GÜVENÇ YAZICIOĞLU A., KAKAÇ S.  
in: Microscale and Nanoscale Heat Transfer Analysis Design and Application, Rebay Mourad, Kakaç Sadık, Cotta Renato M., Editor, CRC Press, New York, pp.251-281, 2016
- IV. **Thermophysical Properties of Nanofluids**  
ÖZERİNÇ S., KAKAÇ S., GÜVENÇ YAZICIOĞLU A.  
in: Microscale and Nanoscale Heat Transfer Analysis Design and Application, Mourad Rebay, Sadık Kakaç, Renato M. Cotta, Editor, CRC Press, Boca Raton, Florida, pp.125-154, 2016

## Refereed Congress / Symposium Publications in Proceedings

- I. **Effect of Wing Heating of Flow Structure of Low Swept Delta Wing**  
ŞENCAN G., GÜVENÇ YAZICIOĞLU A., YAVUZ M. M.  
9th. Ankara International Aerospace Conference, Ankara, Turkey, 20 - 22 September 2017
- II. **Çoklu girişli kanatçıklı bir mikrokanalın ısıl hidrolik analizi**  
ÇEVRİM B., GÜVENÇ YAZICIOĞLU A., KAKAÇ S.  
21. Ulusal Isı Bilimi ve Tekniği Kongresi, Çorum, Turkey, 13 - 16 September 2017, vol.1
- III. **Kanat Isıtmasının Düşük Ok Açılı Delta Kanat Üzerindeki Akış Yapısına Etkisi**  
Şencan G., Güvenç Yazicioğlu A., Yavuz M. M.  
21. Ulusal Isı Bilimi ve Tekniği Kongresi, Çorum, Turkey, 13 - 16 September 2017
- IV. **Modeling of the rectifier of a mini absorption cooling device using ceramic hollow fiber membranes**  
OZKAN O., GÜVENÇ YAZICIOĞLU A., BAKER D. K.  
ASME-ATI-UIT 2015 - Thermal Energy Systems: Production, Storage, Utilization and the Environment, 17 - 20 May 2015
- V. **EXPERIMENTAL INVESTIGATION OF SINGLE-PHASE LIQUID FLOW AND HEAT TRANSFER IN MULTIPORT MINICHANNELS**  
Altinoz M., GÜVENÇ YAZICIOĞLU A., Baker D.  
12th International Conference on Nanochannels, Microchannels and Minichannels (ICNMM), Illinois, United States Of America, 3 - 07 August 2014
- VI. **Silindirik Kanallarda Nanoakışkanlarla Laminer Zorlanmış Taşınım İle Isı Transferinin Sayısal Analizi**  
Sert I. O., Sezer Uzol N., Güvenç Yazicioğlu A., Kakaç S.  
ULIBTK'13, 19. Ulusal Isı Bilimi ve Tekniği Kongresi, Samsun, Turkey, 9 - 12 September 2013
- VII. **Enhancement of Convective Heat Transfer with Nanofluids Single Phase and Two Phase Analysis**  
Sert İ. O., SEZER UZOL N., GÜVENÇ YAZICIOĞLU A., KAKAÇ S.  
5th International Conference on Applications of Porous Media, Cluj-Napoca, Romania, 25 - 28 August 2013
- VIII. **NUMERICAL ANALYSIS OF CONVECTIVE HEAT TRANSFER OF NANOFLUIDS FOR LAMINAR FLOW IN A CIRCULAR TUBE**  
Kirez O., GÜVENÇ YAZICIOĞLU A., KAKAÇ S.  
ASME International Mechanical Engineering Congress and Exposition, Texas, United States Of America, 9 - 15 November 2012, pp.471-478
- IX. **Analysis of single phase convective heat transfer in microchannels with variable thermal conductivity and viscosity**  
Gözükara A. C., GÜVENÇ YAZICIOĞLU A., Kakaç S.  
ASME 2010 10th Biennial Conference on Engineering Systems Design and Analysis, ESDA2010, İstanbul, Turkey, 12 - 14 July 2010, vol.2, pp.733-742
- X. **ROUGHNESS EFFECT ON THE HEAT TRANSFER COEFFICIENT FOR GASEOUS FLOW IN MICROCHANNELS**  
Turgay M. B., GÜVENÇ YAZICIOĞLU A., Kakac S.  
14th International Heat Transfer Conference, Washington, Kiribati, 8 - 13 August 2010, pp.229-238
- XI. **EXPERIMENTAL INVESTIGATION OF HEAT TRANSFER AND PRESSURE DROP FOR TWO-PHASE R134A FLOW IN A 1.65 MM COPPER TUBE**  
Tekin B., GÜVENÇ YAZICIOĞLU A., Kerpıccı H., Kakac S.  
10th ASME Biennial Conference on Engineering Systems Design and Analysis, İstanbul, Turkey, 12 - 24 July 2010, pp.765-773
- XII. **CONVECTIVE HEAT TRANSFER IN MICROSCALE SLIP FLOW**  
GÜVENÇ YAZICIOĞLU A., KAKAÇ S.  
Conference of the NATO-Advanced-Study-Institute on Microfluidics Based Microsystems - Fundamentals and Applications, Cesme Izmir, Turkey, 23 August - 04 September 2009, pp.15-19

## Supported Projects

GÜVENÇ YAZICIOĞLU A., Project Supported by Higher Education Institutions, Mikrokanallardaki Yüzey Pürüzlülüğünün Akışa Ve Isı Transferine Etkisinin Üç Boyutlu Sayısal Analizi, 2011 - 2011

## **Activities in Scientific Journals**

Isi Bilimi Ve Teknigi Dergisi-Journal Of Thermal Science And Technology, Committee Member, 2017 - 2021

## **Metrics**

Publication: 38

Citation (WoS): 1587

Citation (Scopus): 1781

H-Index (WoS): 17

H-Index (Scopus): 17

## **Non Academic Experience**

METU

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University of Illinois at Chicago