Prof. Dr. Hikmet Ş. AYBAR

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EDUCATION

THE OHIO STATE UNIVERSITY, Columbus, Ohio, USA
Department of Mechanical Engineering
PhD, Nuclear Engineering (minor in Computer Information Science), June 1992

THE OHIO STATE UNIVERSITY, Columbus, Ohio, USA
Department of Mechanical Engineering
MS, Nuclear Engineering, December 1987

ISTANBUL TECHNICAL UNIVERSITY, Istanbul, Turkey
Institute for Nuclear Energy
Advance License Diploma, Nuclear Engineering, March 1982

ISTANBUL UNIVERSITY, Istanbul, Turkey
Faculty of Science
License Diploma, Physics (minor in Mathematics), June 1978

Language Schools attended
Language School at The Ohio State University, Columbus, OH, USA (01/1985 – 04/1985)
Language Institute for English (LIFE), Rutherford, NJ, USA (02/1984 – 12/1984)
Goethe Institute, Lüneburg, Germany (06/1978 – 06/1979)

CURRENT POSITIONS

10/2024-Present **CYPRUS AYDIN UNIVERSITY (CAU), North Cyprus**
Professor of Faculty of Engineering
Dean of Faculty of Engineering
Acting Dean of Faculty of Architecture
My primary responsibility is to prepare the Faculty of Engineering and the Faculty of Architecture for their merger into a single entity called the Faculty of Engineering and Architecture. The Faculty of Engineering offers five BS programs: Computer Engineering, Electrical-Electronics Engineering, Software Engineering, Mechatronics Engineering, and Information Security Engineering. The Faculty of Architecture offers two programs: Architecture

and Interior Architecture & Environmental Design. The curricula for all these programs will be updated, and a strategic plan for the new faculty will be developed. It is expected that the student population will increase, and new faculty members and instructors will be recruited.

12/2021-Present **CHINA MEDICAL UNIVERSITY, Taichung, Taiwan**
Department of Medical Research, China Medical University Hospital
Research Professor (Remote-Contract)

PREVIOUS POSITIONS

09/2023-09/2024 **EASTERN MEDITERRANEAN UNIVERSITY (EMU), North Cyprus**
Department of Mechanical Engineering, Famagusta
Distinguished Professor (Remote-Contract)

12/2020-11/2021 **TON DUC THANG UNIVERSITY, Ho Chi Minh City, Vietnam**
Laser Applications Research Group
Research Professor (Remote-Contract)

09/2014-10/2018 **YOZGAT BOZOK UNIVERSITY, Yozgat, Turkey**
Department of Mechanical Engineering

Professor (09/2014 – 10/2018)
Teaching undergraduate and graduate courses and conducting research. Supervising graduate students (MS, PhD) projects and undergraduate student Capstone Projects.

Administrative Duties

Vice Rector (08/2015 – 08/2018)
As Vice Rector, I was natural member of the University Executives Board (10/2014 – 10/2018), and the University Senate (10/2014 – 10/2018); and also I was responsible for the following Committees:

- Foreign Faculty Member Search and Assessment Committee (Chair) (08/2015 – 10/2018)
- Faculty Member Assessment and Promotion Committee (Chair) (08/2015 – 10/2018)
- Research and Publication Ethics Committee (Chair) (09/2016 – 10/2018)
- Research Seed Grant Assessment Committee (Chair) (08/2015 – 08/2018)
- University Education Assessment Committee (Chair) (08/2015 – 12/2016)
- Bozok University 2017-2021 Strategic Plan Development Committee (Chair) (10/2015-10/2016)

Dean of Faculty of Engineering (12/2016 – 10/2018)
As Dean of the Faculty, I was Chairing Engineering Faculty Board, and many other committees of the Faculty; Interviewing and recruiting new faculty members and new teaching assistant for the departments; encouraging the

faculty members for developing new courses, writing research and infrastructure proposals. Under my leading, Department of Mechanical Engineering has gotten 2.5 Million TL (625,000 USD) from TANAP (Trans Anatolia Natural Gas Pipeline Co.) SEI (Social and Environment Investment) Programs to establish Advanced Material Testing Laboratory in the Engineering Faculty.

Interim Dean of Faculty of Communication (10/2014 – 12/2016)
As Interim Dean of the Faculty, I was interviewing and recruiting faculty members; working on preparing the curriculum of new undergraduate programs.

Advisor to the Rector (09/2014 – 05/2015)
As Advisor, helping the Rector on the educational and technical problems of the University.

09/2015-10/2018 **Bozok Technology Development Region (BOZOK TECHNOPARK)**
Yozgat, Turkey
Head of Company Board, and Director
Bozok TechnoPark was established with a project grant awarded by EU IPA-3 Program in 2013. I have worked on the closing of the IPA-3 project. Worked on establishment of Technology Transfer Office (TTO); Establishment of R&D/Design Center; Establishment of FABLab. Advising the companies in Bozok Technopark for taking grant from some Turkish Government Agencies such as KOSGEB, TEYDEB, TUBİTAK, TTGV; and from European Union Grant programs.

02/2012-08/2014 **G.Magosa Technology Development Region (GMTGB-TEKNOPARK)**
G.Magosa, North Cyprus
Head of Company Board, and Director
I worked on the establishment of the G.Magosa Technopark in 2009. Advising the companies in G.Magosa Technopark for taking grant from Turkish Government Aid Agency in North Cyprus; European Union Grant programs.

02/1995-08/2014 **EASTERN MEDITERRANEAN UNIVERSITY (EMU)**
Department of Mechanical Engineering, G.Magosa, North Cyprus
Professor (12/2004)
Assoc. Professor (01/1996)
Asst. Professor (02/1995)
Teaching undergraduate and graduate courses and conducting research. Supervising graduate students (MS, PhD) and undergraduate student Capstone Design Projects. As a member of the Mechanical Engineering Department ABET Committee, worked on departmental documentation for the application to ABET in 2005.

Administrative Duties

Vice Dean of Engineering Faculty (06/2008 – 06/2014)

As Vice Dean, I was responsible for student affairs, and courses offered by the departments; chairing Engineering Faculty ABET Committee (2008-2010). To prepare the departments for ABET Evaluation, as the Engineering Faculty Dean's Office, we have prepared a proposal to get financial assistance for the labs and other needs from Turkish Government Aid Office in North Cyprus and got 2.8 Million TL (700,000 USD) for the "New Lab Design and Lab Improvement" project in 2009, and I have lead this project.

Graduate Committee Chairman of Mechanical Eng. Dept. (2000 – 2014)
As Committee Chairman, responsible for graduate student affairs, graduate courses offered, encouraging development of new graduate courses.

Vice Chairman of Mechanical Engineering Dept. (02/1995 – 11/1997)
As Vice Chairman of the Department, main responsibility was undergraduate student affairs.

University Level Committee Duties
University Student Disciplinary Committee Chairman (06/2011- 09/2012)
Elected Member of Faculty Board (6 Academic Terms)
Elected Member of University Senate (3 Academic Terms).

Consultant Duties
Consultant to the Turkish Government Aid Office in North Cyprus. The Aid Office gives financial support to the Municipalities in North Cyprus for infrastructure projects such as water system, sewage, road construction, and street lighting. Those projects are investigated and controlled, and the payments are approved. The 10-15 Million TL projects are controlled per year.

08/1992-02/1995 **TURKISH ATOMIC ENERGY AUTHORITY (TAEK)**, Ankara, Turkey
Senior R&D Engineer
Worked on system analysis and accident analyses of nuclear power plants (BWR and PWR) using RELAP5 code for safety analysis; probabilistic reliability/risk analysis. Worked on thermal-hydraulic and neutronic code development for nuclear power plants. Worked on nuclear power plants licensing, compliance, and QA activities.

04/1989-06/1992 **THE OHIO STATE UNIVERSITY**, Columbus, Ohio, USA
Department of Mechanical Engineering
Teaching/Research Assistant
Assisted in teaching ME510 Heat Transfer course. Participated in the research projects that are "heat exchanger analysis for heat pump", and "design and analysis of inherently safe reactor" (DoE DE-FG07-88 ER 12815).

02/1988-04/1989 **THE OHIO STATE UNIVERSITY**, Columbus, Ohio, USA
Chemistry Department
Research Associate
Developed a computer code and run-on CRAY Supercomputer to solve time-dependent mass transfer equation for diffusion coefficient determination of a

lipid-water system. Worked on the calculation of time-dependent heat transfer from human cell membrane.

01/1986-06/1987 **THE OHIO STATE UNIVERSITY**, Columbus, Ohio, USA
Near Eastern Languages and Cultures (NELC) Department
Teaching Assistant
Working with Prof. Cornell Fleischer who is one of the department faculties. Helping him on the courses of Elementary Turkish I and II, Intermediate Turkish I and II.

06/1980-01/1984 **ZONGULDAK BÜLENT ECEVİT UNIVERSITY**, Zonguldak, Turkey
Mechanical Engineering Department
Instructor
Taught heat transfer course, and supervised student HVAC design projects such as fan sizing, building ventilation, duct design and sizing, heating/cooling load calculations.

HONORS AND AWARDS

- Outstanding Student Award, Goethe Language Institute, Lüneburg, Germany (1978).
- Turkish Atomic Energy Authority Fellowship to pursue MS and Ph.D. studies in USA (1984-1990).

SOCIETIES, PROFESSIONAL AND SCIENTIFIC ACTIVITIES

- Program Evaluator, Association for Evaluation and Accreditation for Engineering Programs (MÜDEK) (2016-Present)
- Member of Advisory Board of the Journal of Turkish Society of HVAC & Sanitary Engineers (2004-2006).
- Faculty Advisor for the EMU ASME Student Section (1997-2007).
- Member of the American Society of Mechanical Engineers (1995-2002).
- Member of the Chamber of Turkish Physics Engineers (1993-2000).
- Liaison Officer of OECD-Nuclear Energy Agency Databank at Eastern Mediterranean University (2001-2014).
- Founding Member, Administrative Board of the EMU-Technology Development Center, Eastern Mediterranean University (1999-2003).
- Founding Member, Administrative Board of the European Research and Information Center, Eastern Mediterranean University (1995).
- Member of Subregion Operating Board in Region XIII, American Society of Mechanical Engineers (1998).
- Member of Technical Committee on the Nondestructive Examination Methods, Turkish Standards Institution (1992-1994).
- Member of Task Force on Supercomputing in Nuclear Application, Nuclear Science Committee, Organization for Economic Co-Operation and Development (OECD) (1993-1994).

TEACHING AND RESEARCH ACTIVITIES

Teaching

Undergraduate Courses: Mechanical Engineering

MENG 190	Introduction to Mechanical Engineering
MENG 244	Fundamentals of Thermodynamics (for Industrial Engineering students)
MENG 245	Thermodynamics I
MENG 246	Thermodynamics II
MENG 345	Heat Transfer
MENG 403	Reliability Engineering
MENG 443	Heating, Ventilation & Air Conditioning
MENG 445	Thermal System Design
MENG 446	Thermal Power Engines
MM 471	Energy Conversion Systems

Undergraduate Courses: Computer Engineering

CMPE 101	Introduction to Computing
CMPE 102	Introduction to Programming
CMPE 106	Fundamentals of Computing
CMPE 108	Algorithms and Programming
CMPE 371	Analysis of Algorithms

Graduate Courses:

ME 511	Applied Computational Methods for Engineers
ME 542	Energy Systems
ME 543	Nuclear Heat Transport
ME 544	Advanced Heat Transfer-Convection
ME 545	Transport Phenomena
ME 557	Two-Phase Flow and Heat Transfer
MM 511	Advanced Thermodynamics
MM 551	Renewable Energy Technologies
MM 565	Introduction to Nuclear Energy Engineering

Research

The areas of research interest in general are: Energy Generation Systems (Nuclear and Fossil-fuel power plants); Solar Energy and Applications (solar water heating, solar air heating, solar desalination); Desalination Systems; Thermal System Design and System Simulation; Computational Fluid Flow and Heat Transfer; Engineering Software Development; Magnetic Materials and Application (magnetic cooling and heating).

Graduate Student Supervision

4 PhD and 19 MS degrees completed.

PhD Dissertations Supervised

- Mathematical Modeling of Transpiration Cooling in Cylindrical Domain (Mehdi Moghadasi Faridani, February 2015)

- Performance Enhancement Study for Simple Solar Still (T.V.Arjunan, co-advising, June 2010)
- Mathematical Modeling of Two-phase Flow in a Boiling Channel using Ensemble Averaging Method (Mohsen Sharifpur, June 2009)
- Mathematical Modeling of Steam-Driven Jet Pump (Nabil Beithou, June 1999)

MS Theses Supervised

- The Performance of Combined Solar Chimney System for Power Generation and Seawater Desalination (Mohamed Fateh Yosif, December 2014)
- Simulation of Ocean Waves and Marine Currents by Smoothed Particle Hydrodynamics Method (Hossein Rashidian, June 2014)
- Mathematical Modeling of Laser Ablation (Bahador Vasooghi Chahar Oymaghi, June 2014)
- Blood Flow Simulation in Descending Thoracic Aorta and the Effect of Geometry and Pathology on Flow Behavior (Sina Ghafoorpoor Yazdi, January 2014)
- Unsteady Natural Convection within a Differentially Heated Porous Enclosure (Ali Hooshyar Faghiri, January 2014)
- Experimental and Numerical Investigation of Heat Conduction in Porous Media (Hana Salati, January 2014)
- Design of an Experiment to Calibrate a Peltier Element and Measuring Thermal Conductivity (Maryam Abdollahpour, January 2014)
- Experimental Study on an Inclined Double Solar Water Distillation System (Foad Irani, January 2014)
- Experimental Investigation of Thermal Conductivity through Nanofluids (Muhammad Abid, February 2012)
- An Experimental Study of Natural Convection of Nanofluid in a Rectangular Cavity (Sedighe Tadrisi, February 2010)
- Mathematical Modeling of Magnetic Regenerator Refrigeration Systems (Navid Salarvand, June 2009)
- Simulation of Hydrodynamics using SPH Method (Bahman Bidmeshki, February 2009)
- Evaluation of Thermo-physical Properties of Nanofluids (M. Reza Azizian, February 2009)
- Review and Analysis of Solar Desalination Systems (Hossein Assafi, June 2008)
- Experimental Investigation of Pressure Drop in Particle-liquid Two Phase Flow (Roozbeh Vaziri, June 2008)
- Design and Analysis of Low Pressure Small Desalination System (Mohammed Lawal I. Yahaya, June 2007)
- Experimental Study of Fluid Flow in a Duct Filled with Porous Medium (Hani Sadr Hosseini, June 2005)
- Numerical Study of Natural Convection in a Cavity with Hot Slab (Savas Kayaci, February 2004)
- Design of a Multi Effect Desalination System (Rami El-Zinaty, June 2003)

Samples of Capstone Design Projects Supervised

- Design of Spray-type Solar Still (February 2007)
- Design of a Compound Parabolic Solar Collector (February 2007)
- Design Improvement of Integrated Solar Collector – Water Tank Heating System (February 2007)

- Transpired Solar Heating for Ventilation Preheating (June 2006)
- Designing of an Air Handling Unit System for Space Heating (February 2006)
- Designing and Manufacturing of a Subsonic Wind Tunnel (June 2005)
- Design Improvement of Evaporative Cooling System with Desiccant (June 2005)
- Integrated Solar Collector – Water Tank Heating System (June 2005)
- Designing of Combined Fresh and Hot Water Generation System using Solar Energy (June 2004)
- Designing of an Evaporative Cooling System with Desiccant (June 2004)
- Designing of an Evaporative Cooling System (June 2004)

EXTERNAL RESEARCH SUPPORT

Experimental Investigation of Natural Convection of Nanofluid
MEKB Type-B Project, North Cyprus, 15000 TL ((~3,000 USD) (December 2010)

Simulation of Hydrodynamics using SPH Method
EMU Research Found, North Cyprus, 3714 USD (December 2008)

First-Order Magnetic Phase Transitions and Magnetic Cooling
MEKB Type-B Project, North Cyprus, 28820 TL (~7,000 USD) (November 2008)

Design of Spray-type Solar Still
Adademir Education Foundation, North Cyprus, 750 USD to support this undergraduate Capstone design project (February 2007).

Designing and Manufacturing of a Subsonic Wind Tunnel
EMU Research Found, North Cyprus, 750 USD to support this undergraduate Capstone design project (June 2005).

Design of Combined Fresh Water and Hot Water Generation System using Solar Energy
Adademir Education Foundation, North Cyprus, 350 USD to support this undergraduate Capstone design project (June 2004).

South Africa Tourist Information System: System Analysis
Project and Grant from Shjrawi Bros. Inc. (SBI), 12,000 USD (September 2001).

Development of Nuclear Fuel Performance Analysis Capability
Project and Grant from Shielding Engineering and Analysis (SEA) Inc., Madrid, Spain, 3,600 USD (May 2001).

Process Control System Reliability and Safety Analysis under Uncertainty, NATO (CRG-940274) Grant, 6,000 USD (May 1994).

SCHOLAR IDs and STATISTICS

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ORCID: 0000-0003-4363-8904

Web of Science Researcher ID: AAY-4653-2020

Google Scholar:
https://scholar.google.com.tr/citations?user=q_IDNW4AAAAJ&hl=tr&oi=ao

Total Number of Publications: 118

	All	After 2020
Citations	3065	1802
h-endeksi	28	23
i10-endeksi	55	46

Scopus:
https://www.scopus.com/authid/detail.uri?authorId=6602741347

Scopus ID: 6602741347
Scopus Statistics
2,333 Citations by 1,965 documents
99 Documents
26 h-index

PUBLICATIONS

Recently Published Papers (2024)

S Alqaed, J Mustafa, SM Sajadi, SAH Alajmi, MS Alsnan, HŞ Aybar, "Enhancing thermal performance of cylindrical Li-ion battery packs: A 3D simulation with strategic phase change material integration and airflow control", Arabian Journal of Chemistry, Vol.17 (8), 105835 (2024)

S Alqaed, J Mustafa, SM Sajadi, **HŞ Aybar**, "Impact of number of helical fins mounted around a cylindrical tube inside a rectangular cavity installed under a solar panel", Case Studies in Thermal Engineering, Vol.59, 104587 (2024)

Wajdi Rajhi, SAM Mehryan, Nasrin BM Elbashir, **Hikmet Ş Aybar**, Walid Aich, Aboulbaba Eladeb, Lioua Kolsi, "Employing RSM to model thermal performance and exergy destruction of LS-3 parabolic trough collector by coupling MCRT and CFD techniques", Case Studies in Thermal Engineering, 104396 (2024).

S Alqaed, J Mustafa, SM Sajadi, **HŞ Aybar**, "Enhancing energy efficiency in zero energy buildings: Analyzing the impacts of phase change material-filled enclosures and outlet air distance on solar wall performance", Case Studies in Thermal Engineering, 104342 (2024)

B Heidarshenas, A Abidi, SM Sajadi, Y Yuan, AS El-Shafay, **HŞ Aybar**, "Numerical study and optimization of thermal efficiency for a pin fin heatsink with nanofluid flow by modifying heatsink geometry", Case Studies in Thermal Engineering, 104125 (2024).

J Mustafa, S Alqaed, SM Sajadi, **HŞ Aybar**, "Improving lithium battery cooling: analyzing the impact of air flow, nanofluid flow, and phase change materials", Frontiers in Energy Research, Vol.12, 1329392 (2024).

J Mustafa, S Alqaed, SM Sajadi, HŞ Aybar, "Enhancing solar panel cooling efficiency: a study on the influence of nanofluid inclusion and pin fin shape during melting and freezing of phase change materials", Frontiers in Energy Research 12, 1344061 (2024)

J Mustafa, S Alqaed, SM Sajadi, AM Alsaiari, **HŞ Aybar**, "Impact of the magnetic field and the height and number of triangular blades inside a rectangular cavity on natural convection heat transfer", Results in Physics, 107410 (2024).

Behzad Heidarshenas, MM Abdullah, S Mohammad Sajadi, Yanjie Yuan, Emad Hasani Malekshah, **Hikmet Ş Aybar**, "Exergy and environmental analysis of SOFC-based system including reformers and heat recovery approaches to establish hydrogen-rich streams with least exergy loss", International Journal of Hydrogen Energy, Vol.52, pp. 845-853 (2024).

Yanjie Yuan, MM Abdullah, S Mohammad Sajadi, Behzad Heidarshenas, Emad Hasani Malekshah, **Hikmet Ş Aybar**, "Numerical investigation of the effect of changing the geometry of a U-shaped fuel cell channel with asymmetric gas flow and its effect on hydrogen consumption", International Journal of Hydrogen Energy, Vol.50, pp.1167-1178 (2024).

J Mustafa, S Alqaed, SM Sajadi, **HŞ Aybar**, "Numerical investigation of the length of a polymer fuel cell on energy production in asymmetric flow and hydrogen production process", Case Studies in Thermal Engineering, Vol.53, 103929 (2024).

Recently Published Papers (2023)

Margub Abdullah, Hasan B. Albargi, Emad Hasani Malekshah*, **Hikmet Ş. Aybar***, "Artificial intelligent Modeling and optimization of pin-fin configuration on the thermal performance of two tubes inside phase change material for cooling of a solar panel using Ag-water nanofluid", Engineering Analysis with Boundary Elements, Vol.157, pp. 483–495 (2023) EABE_5459.

Emad Hasani Malekshah*, Tahar Tayebi, S. Mohammad Sajadi, Bahram Jalili, Payam Jalili, **Hikmet Ş. Aybar***, "Optimizing geometrical structure of a residential parabolic solar collector relying on hydrothermal assessment and second law analysis", Engineering Analysis with Boundary Elements, Vol 157, pp. 314-325 (2023) EABE_5460.

Jia Liu, Awatef Abidi, A.S. Abdullah, Emad Hasani Malekshah*, **Hikmet Ş. Aybar***, "Artificial intelligence-based entropy generation investigation of two-phase nanofluid flow in a heatsink with pin fins", Engineering Analysis with Boundary Elements, Vol.155, pp.212-225 (2023). EABE_5327.

Tao Hai, Awatef Abidi, S. Mohammad Sajadi, Jasni Mohamad Zain*, Emad Hasani Maleksha*, **Hikmet Ş. Aybar***, "Simultaneous cooling of plate and cylindrical batteries in an air-cooled lithium battery thermal management system, by changing the distances of the batteries from each other and the pack wall", Journal of the Taiwan Institute of Chemical Engineers, JTICE_104931(2023).

Saeed Alqaed, Jawed Mustafa*, Fahad Awjah Almehmadi, Mathkar A Alharthi, H. F. Elattara, H. A. Refaey, **Hikmet Ş. Aybar***, "Entropy generation of the laminar and mixed flow of alumina/water nanofluid flow in a two-dimensional rectangular enclosure affected by a magnetic field using the lattice Boltzmann method", Engineering Analysis with Boundary Elements, Vol.151, pp. 187-198 (2023) EABE_5177.

Hai Tao*, Dan Wang, Awatef Abidi, AD Alizadehf, Mahmoud Shamsborhan, **Hikmet Ş. Aybar***, "Numerical investigation of parallel microchannels on a battery pack in the buildings with the aim of cooling by applying nanofluid- optimization in channel numbers", Journal of the Taiwan Institute of Chemical Engineers, JTICE_104894 (2023).

A Tahmasebi, AM Abed, A Aghaei, F Izadi, EH Malekshah, **HŞ Aybar**, "Investigation into the effect of twisted tape on the thermo-hydraulic performance and entropy generation of turbulent flow of mono and hybrid magnetic nanofluids inside a parabolic solar collector absorber tube by applying two -phase analysis", Engineering Analysis with Boundary Elements, Vol.150, 318-328 (2023).

Haiji Chen, Awatef Abidi, S. Mohammad Sajadi, Yanjie Yuan, **Hikmet Ş. Aybar**, Behzad Heidarshenas, "Effect of splitter damper on airflow conduction for thermal management of a lithium-ion battery cooling system with plate and cylindrical batteries", Journal of the Taiwan Institute of Chemical Engineers, JTICE_104853 (2023).

Emad Hasani Malekshah*, Chaoping Zhu, Magda Abd El-Rahman, Mohamed Bechir Ben Hamida, Hussein Ali Ameen, **Hikmet Ş. Aybar***, "Numerical simulation and optimization with artificial neural network of two-phase nanofluid flow in a circular heatsink with cylindrical pin-fins", Engineering Analysis with Boundary Elements, V.148, pp.305–316 (2023) EABE_5066.

Emad Hasani Malekshah*, **Hikmet Ş. Aybar***, Mohamed Bechir Ben Hamida, Raad Z. Homod, "Parametric study on a convective flow in a thermal storage using IBM/thermal lattice Boltzmann flux solver", Engineering Analysis with Boundary Elements, V.148, pp.62-72 (2023) EABE-5048.

EH Malekshah, M Abd El-Rahman, SM Sajadi, **HŞ Aybar**, AS El-Shafay, "Optimization of corrugated-receiver solar collector's geometry using LBM analysis based on curved boundary scheme", Journal of the Taiwan Institute of Chemical Engineers, 104728 (2023).

T Hai, M Abd El-Rahman, S Li, EH Malekshah, **HŞ Aybar**, AS El-Shafay, "The entropy generation analysis and optimization of a water/silver nanofluid flow inside a photovoltaic thermal collector considering plain, ribbed, and porous-ribbed absorber tubes", Journal of the Taiwan Institute of Chemical Engineers, 104695 (2023)

Oriza Candra, Abdeljelil Chammam, José Ricardo Nuñez Alvarez, Iskandar Muda*, **Hikmet Ş. Aybar***, "The impact of renewable energy on the sustainable development of the economy algorithm of developing countries", Sustainability (MDPI), 15(3), 2104, (2023).

Humaira Yasmin*, Solomon O. Giwa, Saima Noor, **Hikmet Ş. Aybar***, "Reproduction of Nanofluid Synthesis and Experiments in Mechanical Engineering: A Research Paradigm Shift", Energies (MDPI), 16(3), 1145, (2023).

H Yasmin*, SO Giwa, S Noor, **HŞ Aybar**, "Influence of Preparation Characteristics on Stability, Properties, and Performance of Mono-and Hybrid Nanofluids: Current and Future Perspective", Machines, Vol.11 (1), 112 (2023).

EH Malekshah, AM Abed, **HŞ Aybar**, "Thermal analysis of multi-finned plate employing lattice Boltzmann method based on Taylor-series/least-squares", Engineering Analysis with Boundary Elements, Vol.146, 407-417 (2023).

Book Chapter

T. V. Arjunan, **H.Ş. Aybar**, Jamel Orfi, S. Vijayan, "Performance Analysis of Solar Desalination Systems", Solar Desalination Technology, Green Energy and Technology, Springer ISBN 978-981-13-6886-8 (2019).

International Journals (SCI and SCI-E)

1. Vadim V. Ponkratov, Alexey S. Kuznetsov, Iskandar Muda*, Miftahul Jannah Nasution, Mohammed Al-Bahrani, **Hikmet S. Aybar***, "Investigating the Index of Sustainable Development and Reduction in Greenhouse Gases of Renewable Energies", Sustainability, Vol.14, 14829 (2022).

2. T Hai, A Abidi, AM Abed, J Zhou, EH Malekshah, **HŞ Aybar***, "Three-dimensional numerical study of the effect of an air-cooled system on thermal management of a cylindrical lithium-ion battery pack with two different arrangements of battery cells", Journal of Power Sources, Vol.550, JPS_232117 (2022).

3. Y Zhang, F Tavakoli, A Abidi, Z Li, **HŞ Aybar**, B Heidarshenas, "Investigation of horizontal and vertical distance of lithium-ion batteries on the thermal management of the battery pack filled with phase change material with the air flow", Journal of Power Sources, Vol.550, JPS_232145 (2022).

4. Q Yu, A Abidi, MZ Mahmoud, EH Malekshah, **HŞ Aybar**, "Numerical evaluation of the effect of air inlet and outlet cross-sections of a lithium-ion battery pack in an air-cooled thermal management system", Journal of Power Sources, Vol.549, JPS_232067 (2022).

5. Jawed Mustafa*, Saeed Alqaed, **Hikmet Ş. Aybar***, Shahid Husain," Investigation of the effect of twisted tape turbulators on thermal-hydraulic behavior of parabolic solar collector with polymer hybrid nanofluid and exergy analysis using numerical method and ANN", Engineering Analysis with Boundary Elements, Vol.144, pp.81-93 (2022) EABE_4894.

6. Tao Hai, Awatef Abidi, Lei Wang, M.Ghaderi, Mustafa Z. Mahmoud, Muhyaddin Rawa, **Hikmet Ş. Aybar***, "Thermal analysis of building benefits from PCM and heat recovery-installing PCM to boost energy consumption reduction", Journal of Building Engineering, Vol.58, JOBE_104982 (2022).

7. Shi Fuxi, Nima Sina, Amir Ahmadi, S. Mohammad Sajadi, Mustafa Z. Mahmoud*, **Hikmet Ş. Aybar***, "Effect of different pitches on the 3D helically coiled shell and tube heat exchanger filled with a hybrid nanofluid: Numerical study and artificial neural network modeling", Engineering Analysis with Boundary Elements, Vol.143, pp. 755-768 (2022) EABE_4879.

8. Shi Fuxi, Nima Sina*, S. Mohammad Sajadi, Mustafa Z. Mahmoud, Anas Abdelrahman, **Hikmet Ş. Aybar***, "Artificial neural network modeling to examine spring turbulators influence on parabolic solar collector effectiveness with hybrid nanofluids", Engineering Analysis with Boundary Elements, Vol. 143 (2022), Pages 442-456 EABE_4858.

9. Tao Hai, Nejla Mahjoub Said, Jasni Mohamad Zain*, S. Mohammad Sajadi, Mustafa Z. Mahmoud, **Hikmet Ş. Aybar***, "ANN usefulness in building enhanced with PCM: efficacy of PCM installation location", Journal of Building Engineering, Vol.57 (2022) JOBE_104914.

10. Saeed Alqaed, Jawed Mustafa*, **Hikmet Ş. Aybar***, Basharat Jamil, Mathkar A. Alharthi, "Investigation of thermal entropy generation and nanofluid flow of in a new heatsink with effect of nanoparticles shape", Journal of Case Studies in Thermal Engineering, Vol.36 (2022) CSITE_102198.

11. Khalid Abdulkhaliq M Alharbi, Obaid Aldosari*, Nima Sina, **Hikmet Ş. Aybar***, Shi Fuxi, Samah Elsayed Alkhatib, Abd Allah A Mousa, "Installation of rectangular enclosures filled with phase change nanomaterials on the thrombus walls of a residential building to manage solar radiation in different seasons of the year", Journal of Building Engineering, Vol.57 (2022) JOBE_104732.

12. Yuansheng Cheng, S. Mohammad Sajadi, Mustafa Z. Mahmoud, Z. Li*, Mohamed A. Shamseldin, **Hikmet Ş. Aybar***, "Study of circular, horizontal elliptical, vertical elliptical enclosures filled with phase change material in thermal management of lithium-ion batteries in an air-cooled system", Journal of Energy Storage, Vol.53 (2022), EST_105041

13. Ji a Liu, Farzan Tavakoli, S. Mohammad Sajadi, Mustafa Z. Mahmoud, Behzad Heidarshenas*, **Hikmet Ş. Aybar***, "Numerical evaluation and artificial neural network modeling of the effect of oval PCM compartment dimensions around a triple lithium-ion battery pack despite forced airflow", Engineering Analysis with Boundary Elements, Vol.142, pp.71-92, EABE_4810 (2022)

14. Yu Jiang, Ghassan Fadhil Smaisim, Mustafa Z. Mahmoud, Zhixiong Li*, **Hikmet Ş. Aybar***, Azher M. Abed, "Simultaneous numerical investigation of the passive use of phase-change materials and the active use of a nanofluid inside a rectangular duct in the thermal management of lithium-ion batteries", Journal of Power Sources, Vol.541, JOPS_231610 (2022).

15. Tao Hai, Awatef Abidi, Jasni Mohamad Zain*, S. Mohammad Sajadi, Mustafa Z. Mahmoud, **Hikmet Ş. Aybar***, "Assessment of using solar system enhanced with MWCNT in PCM-enhanced building to decrease thermal energy usage in ejector cooling system", Journal of Building Engineering, Vol.55, JOBE_104697 (2022).

16. M. Bani Khaled, A. Qandil, N. Abdallatif, N. Beithou*, Sameh Alsaqoor, Ali Alahmer, **H. S. Aybar**, Artur Andruszkiewicz, "Heating and cooling device for motorhomes and caravans", International Journal of Thermofluids, Vol.15, (2022), IJTF_100193.

17. Man-Wen Tian, Azher M. Abed, Shu-Rong Yan, S. Mohammad Sajadi, Mustafa Z. Mahmoud*, **Hikmet S. Aybar***, Ghassan Fadhil Smaisim, "Economic cost and numerical evaluation of cooling of a cylindrical lithium-ion battery pack using air and phase change materials", Journal of Energy Storage, Vol.52, 104925 (2022).

18. Wei Wu, Ghassan Fadhil Smaisim, S. Mohammad Sajadi, Moram A. Fagiry, Zhixiong Li*, Mohamed A. Shamseldin, **Hikmet Ş. Aybar***, "Impact of phase change material-based heatsinks on lithium-ion battery thermal management: A comprehensive review", Journal of Energy Storage, Vol.52, 104874 (2022).

19. Man-Wen Tian, Ghassan Fadhil Smaisim, Shu-Rong Yan, S. Mohammad Sajadi, Mustafa Z. Mahmoud*, **Hikmet Ş. Aybar***, Azher M. Abed, "Economic cost and efficiency analysis of a lithium-ion battery pack with the circular and elliptical cavities filled with phase change materials", Journal of Energy Storage, Vol.52, 104794 (2022).

20. Khalid Abdulkhaliq M Alharbi*, Ghassan Fadhil Smaisim, S. Mohammad Sajadi, Moram A. Fagiy, **Hikmet Ş. Aybar***, Samah Elsayed Elkhatib, "Numerical study of lozenge, triangular and rectangular arrangements of lithium-ion batteries in their thermal management in a cooled-air cooling system", Journal of Energy Storage, Vol.52, 104786 (2022)

21. Raj Kumar, Rahul Nadda, Sushil Kumar*, Abdul Razak, Mohsen Sharifpur*, **Hikmet Ş. Aybar**, C.Ahamed Saleel, Asif Afzal*, "Influence of artificial roughness parametric variation on thermal performance of solar thermal collector: An experimental study, response surface analysis and ANN modelling", Sustainable Energy Technologies and Assessment (SETA), Vol.52, 102047 (2022).

22. Sudhir Kumar Pathak, Pravin Omprakash Sharma, Varun Goel, Suvanjan Bhattacharyya*, **Hikmet Ş. Aybar**, Josua P. Meyer, "A Detailed Review on the Performance of Photovoltaic/Thermal System using Various Cooling Methods", Sustainable Energy Technologies and Assessment (SETA), Vol.51, 101844 (2022).

23. Reza Alayi, Farnaz Jahanbin, **Hikmet Ş. Aybar**, Mohsen Sharifpur, Nima Khalilpoor, "Investigation of the Effect of Physical Factors on Exergy Efficiency of a Photovoltaic Thermal (PV/T) with Air Cooling", International Journal of Photoenergy, Article ID 9882195, (2022).

24. M. Bani Khalid, A. Qandil, N. Beithou*, **H. Ş. Aybar**, "Renewable Hydrogen Driven CHCP Device", International Journal of Hydrogen Energy, Volume 47(4), pp. 2208-2219 (2022).

25. Mostafa Mahdavi, Mohsen Sharifpur, **Hikmet Ş. Aybar***, Ali J. Chamkha, Josua P. Meyer, "Impact of Micro-Fins on A Heated Cylinder Submerged in A Nanofluid Saturated Medium", International Journal of Heat and Mass Transfer, Vol.177 (2021).

26. Mostafa Mahdavi, Mohsen Sharifpur*, **Hikmet Ş. Aybar**, Mohammad Hossein Ahmadi*, Ali J. Chamkha, Maged Faihan Alotaibi, Josua P. Meyer, "Thermal Boundary Condition Analysis of Cooling Objects Exposed to Free Impinging Jet by Using Heatline Conception", Engineering Applications of Computational Fluid Mechanics, Vol.15(1), 1919-1931 (2021).

27. T.V. Arjunan, **H.S. Aybar**, N. Nedunchezhian, "Experimental Study on Enhancing the Productivity of Solar Still using Locally Available Material as a Storage Medium", J. Ins. Eng. India Ser.C, Vol.98(2), pp.191-196 (2017).

28. **Hikmet Ş. Aybar**, Foad Irani, Mevlut Arslan, "Performance analysis of single and double basin inclined solar water distillation systems with and without black-fleece wick", Desalination and Water Treatment, Vol.57(37), pp.17167-17181 (2016).

29. **H.Ş. Aybar**, M. Sharifpur, M.R. Azizian, M. Mehrabi, J.P. Meyer, "A Review of Thermal Conductivity Models for Nanofluids", Heat Transfer Engineering, Vol.36(13), pp.1–26 (2015).

30. **H.Ş. Aybar**, M. M Faridani, "Mathematical Modeling of Transpiration Cooling in Cylindrical Domain", Journal of Aerospace Engineering: Part-G, Vol.229(7), pp.1310-1324 (2015).

31. T. V. Arjunan, **H.Ş. Aybar**, P. Sadagopan, B. Sarat Chandran, S. Neelakrishnan, N. Nedunchezhian, "The Effect of Energy Storage Materials on the Performance of a Simple Solar Still", Energy Sources, Part A, Vol.36, pp.131–141 (2014).

32. T. V. Arjunan, **H.Ş. Aybar**, S. Neelakrishnan, K. Sampathkumar, S. Amjad, R. Subramanian, N. Nedunchezhian, "The Effect of Sponge Liner Colors on the Performance of Simple Solar Still", Energy Sources, Part A: Recovery, Utilization and Environmental Effects, Vol.34, pp.1984-1994 (2012).

33. T. Arunkumar, R. Jayaprakash, D. Denkenberger, Amimul Ahsan, M.S. Okundamiya, Sanjay kumar, Hiroshi Tanaka, **H.Ş. Aybar**, "An Experimental Study on Hemispherical Solar Still", Desalination, Vol.286, pp.342-348 (2012).

34. T.V. Arjunan, **H.Ş. Aybar**, N. Nedunchezhian, "Effect of Sponge Liner on the Internal Heat Transfer Coefficients in a Simple Solar Still", Desalination and Water Treatment, Vol.29 (1-3), pp.271-284 (2011).

35. T.V. Arjunan, **H.Ş. Aybar**, N. Nedunchezhian, "Status of Solar Desalination in India", Renewable & Sustainable Energy Reviews, Vol.13, pp.2408-2418 (2009).

36. **H.Ş. Aybar**, H. Assefi, "A Review and Comparison of Solar Distillation: Direct and Indirect Type Systems" Desalination and Water Treatment, 10 (2009) 321-331.

37. **H.Ş. Aybar**, M. Sharifpur, "Modeling of Two-Phase Flow In Boiling Water Reactor Using Phase-Weighted Ensemble Average Method", Iranian Journal of Science & Technology – Transaction B, Engineering, Vol.33(B5), pp.355-370 (2009).

38. **H.Ş. Aybar**, M. Sharifpur, "Simulation of Boiling in a Vertical Channel using Ensemble Average Model", Iranian Journal of Chemistry and Chemical Engineering, V.28(3), pp.61-70 (2009).

39. **H.Ş.Aybar**, H. Assefi, "Simulation of a Solar Still to Investigate Water Depth and Glass Angle", Desalination and Water Treatment, Vol.7, pp.35-40 (2009).

40. V. Morchshakov, M.P. Annaorazov, **H.Ş. Aybar**, C.P. Yang, I.O. Troyanchuk, K. Bärner, "Simulation of Switching Effects in Electrically Dipolar Manganites", Journal of Applied Physics, Vol.105(6), (2009).

41. **H.Ş.Aybar**, "Mathematical Modeling of Inclined Solar Water Distillation System", Desalination, Vol.190, pp.63-70 (2006).

42. U.Atikol, **H.Ş.Aybar**, "Estimation of Water Production Cost in the feasibility Analysis of RO Systems", Desalination, Vol.184, pp.253-258 (2005).

43. **H.Ş.Aybar**, F.Egelioglu, U.Atikol, "An Experimental Study on Inclined Solar Water Distillation System", Desalination, Vol.180, pp. 285-289 (2005).

44. **H.Ş.Aybar**, P.Ortego, "A Review of Nuclear Fuel Performance Codes", Progress in Nuclear Energy, Vol.46(2), pp.127-141 (2005).

45. **H.Ş.Aybar**, "Desalination System using Waste Heat of Power Plant", Desalination, Vol. 166, pp. 167-170 (2004).

46. **H.Ş.Aybar**, "Analysis of Mechanical Vapor Compression Desalination System", Desalination, Vol. 142(2), pp.181-186 (2002).

47. N.Beithou, **H.Ş.Aybar**, "High Pressure Steam Driven Jet Pump, Part I: Mathematical Modeling", Journal of Engineering for Gas Turbines and Power, Vol.123 (3), pp.693-700 (2001).

48. N.Beithou, **H.Ş.Aybar**, "High Pressure Steam Driven Jet Pump, Part II: Parametric Analysis", Journal of Engineering for Gas Turbines and Power, Vol.123 (3), pp.701-706 (2001).

49. N.Beithou, **H.Ş.Aybar**, K.Albayrak, O.Erenay, "Free Convection Flow of Newtonian Fluid along a Vertical Plate Embedded in a Double Layer Porous Medium", JSME International Journal, Series B: Fluids and Thermal Engineering, Vol.44 (2), pp.255-261 (2001).

50. N.Beithou, **H.Ş.Aybar**, "A Mathematical Model for Steam Driven Jet Pump", Int. Journal of Multiphase Flow, Vol.26(10), pp.1609-1619 (2000).

51. **H.Ş.Aybar**, N.Beithou, "Passive Core Injection System with Steam-Driven Jet Pump for Next Generation Nuclear Reactors", Annals of Nuclear Energy, Vol.26 (9), pp.769-781 (1999).

52. **H.Ş.Aybar**, T.Aldemir, R.N.Christensen, "A Parametric Study of the Steady-State Operational Characteristics of the Ohio State University Natural Circulation, Indirect-Cycle, Inherently Safe Boiling Water Reactor", Nuclear Technology, Vol.111, pp.1-22 (1995).

International Journals (other)

1. Ali Hooshyar Faghiri, **Hikmet Şelli Aybar**, Fuat Egelioglu, "Influence of Insulated Rectangular Block on Natural Convection Heat Transfer within Porous Enclosure", Applied Mechanics and Materials Vol.390, pp.660-664 (2013).

2. Ali Hooshyar Faghiri, **Hikmet Şelli Aybar**, Mehrdad Khamooshi, "Unsteady Darcian Natural Convection within Porous Media of Square Enclosure at Various Rayleigh Numbers", Applied Mechanics and Materials Vol.390, pp.18-22 (2013).

3. T.V. Arjunan, **H.Ş.Aybar**, N. Nedunchezhian, "The Effect of Sponge Liner on the Performance of Simple Solar Still", Int. J. of Renewable Energy Technology (IJRET), Vol.2(2), pp.169-192 (2011).

4. **H.Ş.Aybar**, J. S. Akhatov, N. R. Avezova, A. S. Halimov, "Solar Powered RO Desalination: Investigations on Pilot Project of PV Powered RO Desalination System", Applied Solar Energy, Vol. 46(4), pp. 275–284 (2010).

5. T. V. Arjunan, **H.Ş.Aybar**, M. Sakthivel, N. Nedunchezhian, "Effect of black granite (storage medium) on the Performance of a Single Slope Solar Still", International Journal of Power Engineering, Vol.1(2), pp.63-75 (2009).

6. T.V. Arjunan, **H.Ş.Aybar**, N. Nedunchezhian, M.Sakthivel, "Effect of Blue Metal Stones on the Performance of a Conventional Solar Still", Journal of Convergence in Engineering, Technology and Science, Vol.1(1), pp.17-22 (2009).

7. T.V. Arjunan, **H.Ş.Aybar**, N. Nedunchezhian, "A Study on Effects of Water Capacity on the Performance of a Simple Solar Still", International Journal of Applied Engineering Research (IJAER), Vol.4(11), pp.2223-2234 (2009).

8. T.V. Arjunan, **H.Ş.Aybar**, N. Nedunchezhian, "An Experimental Study on Solar Still with Sponge Liner", International Journal of Applied Engineering Research, Vol.4(3), pp.335-361 (2009).

International Conferences (CPCI-S)

1. Mohsen Sharifpur, St Arnaud De Marillac, Josua P Meyer, **HS Aybar**, "Effect of using viscosity and thermal conductivity models on experimental cavity flow natural convection of CuO-water nanofluids", HEFAT-2016 (July), Costa Del Sol, Sapin (2016).

2. **H.Ş.Aybar**, M. Sharifpur, R. Vaziri, "Experimental Investigation of Pressure Drop in one Phase Flow, Particle-Liquid Two-Phase Flow, and Porous Media consisting of the Same Particle Size", Defect and Diffusion Forum Series, Vols. 283-286, pp.599-603 (2009).

3. M. R. Azizian, **H.Ş.Aybar**, Tuba Okutucu, "Effect of Nanoconvection due to Brownian Motion on Thermal Conductivity of Nanofluids", Proceedings of the 7th IASME /WSEAS International Conference on Heat Transfer, Thermal Engineering and Environment (HTE '09), August 20-22, 2009, Moscow, Russia.

4. **H.Ş.Aybar**, M. Sharifpur, R. Vaziri, "Pressure Gradient Prediction in Particle-Liquid Two-Phase Flow", IMECE-2008, Boston, MA, USA, October 31 – November 6, 2008.

5. **H.Ş.Aybar**, M. Sharifpur, "Simplification of Ensemble Averaged Two-Phase Flow with Heat and Mass Transfer for Boiling inside Channels", Defect and Diffusion Forum Series, Vol. 273-276, pp.616-621 (2008).

6. **H.Ş.Aybar**, "A Review of Desalination by Solar Still", Proceedings of NATO-ARW on Solar Desalination for 21st Century, February 22-25, 2006, Hammamet, Tunisia.

7. **H.Ş.Aybar**, S.Kayaci, "Simulation of Natural Convection in a Deferentially Heated Cavity", ASME Fluids Engineering Summer Conference, FEDSM2005-77203, June 19-25, 2005, Houston, TX, USA.

8. **H.Ş.Aybar**, T.Aldemir, "An Advanced Boiling Water Reactor Concept with Natural Convection Core Cooling", The International Conference on Efficiency, Costs, Optimization, Simulation (ECOS-95) and Environmental Impact of Energy Systems, 2, 729-734, Istanbul, Turkey, 1995.

International Conferences (other)

1. Hossein Rashidian, **Hikmet Ş. Aybar**, Numerical Modeling of Breaking Wave on Sloping Beach Using Smoothed Particle Hydrodynamics (SPH) Method, 2nd International Conference on Viable Energy Trends (InVEnT-2017), 28-30 April 2017, Helsinki, Finland.

2. M. Abid, **H.Ş.Aybar**, "Experimental Investigation of Thermal Conductivity through Nanofluids", 8th Nanoscience and Nanotechnology Congress, 25-29.June.2012, Ankara, Turkey

3. T. Arunkumar, R. Jayaprakash, H. A. Mohammed, Sanjaykumar, **H.Ş.Aybar**, "High temperature desalination by compound parabolic concentrator- tubular solar still coupled with single slope solar still", SOLARIS-2012, 7-9 February 2012, Varanasi, India

4. **H.Ş.Aybar**, M. R. Azizian, Evaluation of Models for the Thermal Conductivity of Nanofluids, Int. Symposium on Thermal and Materials Nanoscience and Nanotechnology, May 29-June 3, 2011, Antalya, Turkey

5. M. Abid, **H.Ş.Aybar**, "Design and Testing Of Small Wind Turbine in Magosa", International Conference on Clean Energy (ICCE-2010), Gazimağusa – N. Cyprus, 15-17 September, 2010.

6. **H.Ş.Aybar**, S. Tadrisi, "A Study for Investigation of Natural Convection of Nanofluids", 6. Nanoscience ve Nanotechnology Conference, 15-18 June 2010, İzmir Yüksek Teknoloji Enstitüsü, İzmir, Turkey.

7. T.V. Arjunan, **H.Ş. Aybar**, N. Nedunchezhian, "An Experimental Study on the Effect of the Energy Storage Materials in Solar Still", 9th ISHMT-ASME Heat and Mass Transfer Conference, Jan. 4-6, 2010, Mumbai, India, Paper# 417.

8. **H.Ş. Aybar**, M.R. Azizian, "A Renovated Model for Heat Conduction in Nanofluid", 17th Symposium on Thermophysical Properties, June 21 - 26, 2009, Boulder, CO, USA.

9. T. V. Arjunan, **H. Ş. Aybar**, N. Nedunchezhian, "External and Internal Heat Transfer Analysis of Single Basin Solar Still", International Conference on Recent Trends in Materials and Mechanical Engineering (ICMME 2008), 18-20 December 2008, India.

10. T. V. Arjunan, **H. Ş. Aybar**, N. Nedunchezhian, "Experimental Study of the Enhancement Parameters on Solar Still Productivity", Renewable Energy Asia 2008 – An International Conference, 11-13 December 2008, IIT-Delhi, New Delhi, India.

11. **H. Ş. Aybar**, "Capstone of Engineering Education: Graduation Design Project", The 2nd International Conference on Engineering Education & Training, April 9-11, 2007, Kuwait.

12. N. Çelebi, **H.Ş. Aybar**, M. Taşdelen, B. Ataksor, H. Taşkın, M. Ş. Aybar, "Indoor Radon (^{222}Rn) Concentration Measurement in North Cyprus", 6th International Conference of the Balkan Physical Union, Paper # 12-P-007, August 22-26, 2006, Istanbul, Turkey.

13. **H.Ş.Aybar**, L.B.Y.Aldabagh, H.S.Hosseini, "Experimental Study of Fluid Flow in a Duct Fully Filled by Porous Medium", 16th International Symposium on Transport Phenomena, Aug 29-Sep 1, 2005, Prague, Czech Republic.

14. **H.Ş.Aybar**, A.Campo, "Natural Convection Flow of Non-Newtonian Fluid in a Double Layer Porous Medium: Case of Constant Heat Flux", Xth Latin-American Congress of Heat and Mass Transfer (LATCYM 2005), MPO-059, April 13-15, 2005, Caracas, Venezuela.

15. F.Egelioglu, **H.Ş.Aybar,** "Optimization of Turbine Extraction Pressures", ASME International Joint Power Generation Conference (IJPGC-2003), June 16-19, 2003, Paper # ICPGC-40055, Atlanta, Georgia, USA.

16. **H.Ş.Aybar**, "Mixing of Two Streams, Steam and Water, in Converging Nozzle", The 2000 ASME International Mechanical Engineering Congress and Exposition, Paper # 2-13-3-11, Orlando, FL, Nov.5-10 (2000).

17. I.Aybay, **H.Ş.Aybar**, A.Acan, S.Bayindir, O.Oral, "Establishing a Science and Technology Park in the Turkish Republic of Northern Cyprus", The XVI. IASP World Conference on Science and Technology Parks, pp.308-315, Istanbul, Turkey (1999).

18. N.Beithou, T.S Khan, **H.Ş.Aybar**, "The Effects of Inserting Layers with Different Permeability on the Free Convection From a Vertical Plate", ASME 33rd National Heat Transfer Conference, Paper # HTD-272, Albuquerque, NM (1999).

19. T.P.Yilmaz, **H.Ş.Aybar**, "Evaluation of the Correlations for Predicting Evaporation Loss From Water Body", ASHRAE Transaction: Part 2, 105, 185-190 (1999).

20. N.Beithou, **H.Ş.Aybar**, "The Effects of Layers with Different Permeability on the Free Convection Flow of a Non-Newtonian Fluid in a Porous Medium", The 3rd Jordanian Mechanical & Industrial Engineering Conference, pp.337-347, Amman, Jordan (1999).

21. **H.Ş.Aybar**, T.Aldemir, "Dynamic Probabilistic Reliability and Safety Assessment - An Application to IS-BWR", The 7th International Conference on Nuclear Engineering (ICONE-7), Paper # 7025, Tokyo, Japan (1999).

22. **H.Ş.Aybar**, "Reliability Assessment of Steam Driven Jet Injector for the IS-BWR Design", Trans. Am. Nucl. Soc., Vol.75, pp.268-270 (1996).

23. **H.Ş.Ayba**r, "New Developments in Nuclear Reactors", The First Trabzon International Energy and Environment Symposium (TIEES-96), Vol.2, pp.243-248, Trabzon, Turkey (1996).

24. A.Tanrikut, **H.Ş.Aybar**, "RELAP5/MOD3 Simulation for Steam Condensation under Forced Convection Conditions", Trans. Am. Nucl. Soc., Vol.72, pp.230-232 (1995).

25. **H.Ş.Aybar**, "Simulation of the OSU Inherently Safe Reactor Design Using RELAP5", Trans. Am. Nucl. Soc., Vol.70, pp.236-237 (1994).

26. **H.Ş.Aybar**, T.Aldemir, "Simulator Development For The Ohio State University Inherently Safe Reactor Using DSNP Language", The Joint International Conference on Mathematical Methods and Supercomputing in Nuclear Application, Vol.1, pp.831-841, Kernforschungzentrum Karlsruhe GmbH, Karlsruhe, Germany (1993).

27. **H.Ş.Aybar**, T.Aldemir, R.N.Christensen, "Improving The Conceptual Design of The Ohio State University Inherently Safe Reactor", Trans. Am. Nucl. Soc., Vol.65, pp.275-277 (1992).

28. **H.Ş.Aybar**, T.Aldemir, "An Investigation of the Effect of Partially Inserted Rods on Power Peaking and Rod Worth for the LEU Conversion Upgrade of OSURR", International Reactor Physics Conference II, pp.453-462, American Nuclear Society, LaGrange Park, IL (1988).

29. M.D.Seshadri, **H.Ş.Aybar,** T.Aldemir, "Neutronic Design of an LEU Core for The Ohio State University Research Reactor", The X. International Meeting on RERTR, pp.291-302, Comision National de Energia Atomica, Buenos Aires, Argentina (1988).

National Journals

1. **H.Ş.Aybar**, "Delikli Güneş Kolektörlü Isıtma ve Havalandırma Sistemi", Tesisat Dergisi. Vol.150, pp.114-118 (2008).

2. **H.Ş.Aybar**, "Kollektörü ve Su Tankı Bütünleştirilmiş Güneş Termosifonu", Tesisat Dergisi, Vol.142 (2007).

3. **H.Ş.Aybar**, "A Small Inherently Safe Boiling Water Reactor", Turkish Journal of Nuclear Sciences, Vol.19, pp.1-17 (1992).

National Conferences

1. **H.Ş.Aybar**, M.Ş.Aybar, "Buharlaşımla Soğutma ve Uygulamalar", 2. Ulusal İklimlendirme Kongre ve Sergisi, 15-18 Kasım 2007, Antalya, Turkey.

2. **H.Ş.Aybar**, "Kollektörü ve Su Tankı Bütünleştirilmiş Güneş Su Isıtma Sistemi", 3.Güneş Enerjisi Sistemleri Sempozyumu ve Sergisi, 8-10 Haziran 2007, Mersin, Turkey.

3. **H.Ş.Aybar**, S.Kayacı, "Sıcak Haddelenmiş Metal Ürünlerden Isı Geri Kazanımı", MMO III. Demir-Çelik Kongresi ve Sergisi, 22 -23 Eylül 2005, Ereğli, Zonguldak, Turkey.

4. **H.Ş.Aybar**, N.Beithou, "Analysis of High Pressure Jet Pump", The 12th Turkish National Conference on Thermal Sciences and Technologies (ULIBTK'99), Paper#026, Sakarya University, 1999, Sakarya, Turkey.

Limited Access Reports

H.Ş.Aybar, "Development of Nuclear Fuel Performance Analysis Capability: Computer Code Review and Literature Review", Project Phase I Report, Eastern Mediterranean University (April 2002).

I.Aybay, **H.Ş.Aybar**, E.Basar, A.Sahan, "South Africa Tourist Information System: System Analysis", Project Final Report, Eastern Mediterranean University (November 2001).

H.Ş.Aybar, T.Aldemir, "Process Control System Reliability and Safety under Uncertainty", Final Report, NATO-CRG-940274 (1997).

Thesis

H.Ş.Aybar, "Model Development for the Dynamic Analysis of the OSU Inherently Safe Reactor", Department of Mechanical Engineering, the Ohio State University, Ph.D. Dissertation, June 1992.

H.Ş.Aybar, "Three-Dimensional Neutronic Calculations for the Low Enriched Uranium Conversion/Upgrade of The Ohio State University Research Reactor", Department of Mechanical Engineering, The Ohio State University, Master Thesis, December 1987.

H.Ş.Aybar, "An Investigation of Loss of Coolant Accident Using ECCSA4 Code", Institute for Nuclear Energy, Istanbul Technical University, Diploma Thesis (in Turkish), March 1982.

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