Prof. Dr. İlker TARI

+90 216 528 7708 | ilker.tari@isikun.edu.tr | http://users.metu.edu.tr/itari

EĞİTİM

Northeastern Üniversitesi, Boston, MA, ABD, Makine Mühendisliği Doktorası **1993-1998**

Massachusetts Teknoloji Enstitüsü (MIT), Cambridge, MA, ABD, Mühendislik Masterı & Nükleer Mühendis Derecesi **1991-1994**

Michigan Üniversitesi, Ann Arbor, MI, ABD, Nükleer Mühendislik Masterı **1989-1991**

Hacettepe Üniversitesi, Ankara, Nükleer Enerji Mühendisi **1983-1987**

PROFESYONEL VE AKADEMİK DENEYİM

Işık Universitesi, Şile, Istanbul, Makine Mühendisliği, Öğretim Üyesi **2025-bugüne**

Işık Universitesi Makine Mühendisliği bölümünde Nisan 2025'ten beri çalışıyorum.

International Centre for Heat and Mass Transfer (ICHMT), Genel Sekreter **2019-bugüne**

ICHMT (ichmt.org) is the largest international, professional, non-governmental, non-profit organization in heat and mass transfer areas, established in 1968. ICHMT General Assembly consists of representatives from 42 member institutions of 31 countries including ASME, AIAA, AIChE, and ASHRAE from the US. As the Secretary-General, I am the executive top officer and the legal representative of the center. I coordinate daily activities and organize the Executive Committee, Scientific Council, and General Assembly meetings. At the secretariat, together with the executive secretary and two assistants, I continue to organize scientific events and inform the heat and mass transfer community about developments.

Orta Doğu Teknik Üniversitesi (ODTÜ), Ankara, Makine Mühendisliği, Öğretim Üyesi **1998-2022**

I have worked as a professor of Mechanical Engineering at METU since my return from the US in 1998. I reorganized and taught several courses in heat transfer, fluid mechanics, numerical methods, and energy areas. I conducted research in Computational Heat Transfer (CHT), thermal management, heat exchanger design, fuel cells, hydrogen electrolysis, 3-D printing, radiative transfer, solar energy, and zero-carbon sustainability. I have supervised 45 MSc and PhD theses. Many of my former students are continuing their academic careers.

Every year, in both semesters, I have taught the most widely enrolled senior-year thermal design elective course, and advised 15-20 project groups in their comprehensive heat exchanger design projects, while simulating a real-life work environment. In my courses, I select all of my examples on renewable energy, nuclear energy, energy conservation, and sustainability topics, and inform my students on state-of-the-art research in climate science.

I served as an advisor to the department chair, and a member of graduate, undergraduate, self-assessment, and PhD qualification committees.

I coordinated strategic planning activities, including faculty hiring. I contributed to the Strategic Plans of the university. I worked on preparing the self-assessment reports in all of the ABET evaluations of the department.

ODTÜ-GÜNAM Güneş Enerjisi Araştırma ve Uygulama Merkezi, Ankara, CSP Böl. Koordinatörü **2021-2022**

ODTÜ-GÜNAM is the newly established solar energy excellence center of Turkey. I worked as the Concentrating Solar Power (CSP) division coordinator and Science and Technology Steering Committee (executive board) member of ODTÜ-GÜNAM. I am also the co-founder and was the director of ODAK CSP laboratory, established before the spin-off of GÜNAM from the university. I have contributed to the success of the center in both Concentrating Photovoltaics and CSP areas by coordinating and participating in research projects and establishing connections with national stakeholders and international institutions. As the CSP division coordinator, I coordinated the research efforts of 9 faculty members, 3 researchers, and more than 20 graduate students. At the CSP division, we have conducted research on Solar Heat for Industrial Processes (SHIP), solar receivers, thermal energy storage systems, solar water treatment, solar fuels, and Concentrating-PV-T (CPVT).

GÜNAM Güneş Enerjisi Araştırma ve Uygulama Merkezi, Ankara, Baş Araştırmacı 2014-2021

I worked at GÜNAM Solar Energy Research Center until its spin-off from the university and contributed to several European Union (EU) projects as a researcher and Principal Investigator (PI).

ENDAM Enerji Malzemeleri ve Depolama Araştırma Merkezi, Yönetim Kurulu Üyesi, Araştırmacı 2018-2022

I have been on the management board of ENDAM Energy Materials and Storage Devices Research Center since its establishment, contributing to thermal energy storage projects.

Münih Teknik Üniversitesi (TUM), Munih, Nanoelektronik Enstitüsü, Konuk Öğretim Üyesi 2010-2012

During my sabbatical leave of 19 months at TUM, I worked on nanoscale heat transfer and thermal management of electronics, taught a short course, advised senior-year students, and learned German.

Kaliforniya Üniversitesi, Riverside (UCR), CA, ABD, Makine Mühendisliği Öğretim Görevlisi 1997-1998

I joined the UCR ME department during its establishment. I taught Experimental Techniques, Modelling, and Engineering Drawing courses, advised seniors in their graduation projects, and conducted the Fluid Mechanics Laboratory sessions.

Northeastern Üniversitesi, Boston, MA, ABD, Makine Mühendisliği, Araştırma Görevlisi 1993-1997

I was a TA for several ME undergraduate and graduate courses. During my PhD candidacy, I taught the laboratory sections of Fluid Mechanics and Measurement Techniques. In my PhD studies, I worked on Radiative Transfer, Computational Fluid Mechanics, Spectral Methods, and particle dynamics in fluids.

Massachusetts Teknoloji Enstitüsü (MIT), Cambridge, MA, ABD 1991-1994

I was enrolled in the Nuclear Engineering program at MIT. In my engineering degree thesis, I worked on Monte Carlo Method simulations of the MIT Research Reactor and followed a unique and diverse coursework selection to earn an additional degree of MSc in Engineering without specification.

Michigan Üniversitesi, Ann Arbor, MI, ABD 1989-1991

Earning a competitive scholarship from Turkey, I enrolled in the Nuclear Engineering MSc program at the University of Michigan. During my MSc studies, I worked on Nuclear Reactor thermal-hydraulics.

Hacettepe Universitesi, Ankara, Nükleer Enerji Mühendisliği Araştırma Görevlisi 1987-1989

After my BSc degree from the same department, I stayed as a TA while preparing for the scholarship exam for graduate studies in the US. During that period, I also taught the Numerical Methods in Nuclear Engineering course and advised senior year students in their graduation projects.

DANIŞMANLIK VE PROJE DENEYİMİ

I have been conducting solar energy and fuel cell projects, and doing research and consulting in thermal management. The projects funded by the EU and by national agencies had budgets in the 100-200k EUR range, except for those of the infrastructure projects, which were in the million EUR range. I established lasting connections with colleagues in major EU research institutions, such as Fraunhofer ISE, DLR, CIEMAT, CERTH, CRES, CyI, U of Evora, LNEG, ETH Zürich, ESTELA, CEA, CNRS, ENEA, FBK.

Solar Energy

EU H2020 CSP-ERANET Project (Researcher): "InnoSolPower: INNOvative SOLar micro-TES with high-POWER density".

EU H2020 Solar-ERANET Project (Researcher): "ECOSUN: Economic COgeneration by Efficiently COncentrated SUNlight".

EU H2020 Twinning Project (Researcher): "SolarTwins – Solar Twinning to Create Solar Research Twins".

EU H2020-JA-2 project (Researcher): "HORIZON-STE Implementation of the Initiative for Global Leadership in Solar Thermal Electricity".

EU H2020-INFRAIA-2018-1 project (Researcher): "SFERA-III Solar Facilities for the European Research Area - Third Phase".

TUBITAK Project 217M062 (PI): "Development of Solar Drying Technologies for the Valorization of Sludge".

EU H2020-LCE-2016-EERA project (PI): "INSHIP Solar Heat for Industrial Processes".

TUBITAK Project 118M146 (Researcher): "Development of High-Temperature Sensible Heat Thermal Energy Storage (TES) System for Concentrated Solar Power System and Pilot Plant Application" (funded but not started).

Ministry of Development DPT GÜNAM Expansion Project (co-PI) "ODAK: Concentrated Solar Power Laboratory".

METU Research Fund Project BAP-03-02-2015-007 (PI): "Numerical investigation of solid particle fluidized bed concentrated solar energy systems".

TUBITAK Project 106G130 (PI): "Design and Installation of Solar Powered Uninterrupted Power Unit, Oxygen Production Plant and Development of High-Pressure PEM Electrolyser".

Thermal Management

Consultant in TUBITAK Project 213M023: "Design, manufacturing and membrane, electrode and catalyst development and testing for polymer electrolyte membrane fuel cells operating at ultra-low stoichiometric flows in the anode".

Ministry of Science, Industry and Technology Project 0233.STZ.2013-1 (PI): "Heat dissipation from electronics packages on rotary platforms with the help of heat pipes".

Thermal Design Consultant for Meteksan Defense Industries and Researcher in TUBITAK Project 106A030: "MILDAR: Milimeter Wave Radar Development" for Meteksan.

METU Institute of Natural Applied Sciences Project (PI): "Numerical Investigation of Cooling of Small Form Factor Computers using CFD".

METU Research Fund Project (PI): "Numerical Investigation and Modeling of Particle Motion with a Parallel Algorithm".

YAYINLAR, YÖNETİLEN TEZLER VE DERSLER

The list of my 85 publications (with 1589 Google Scholar citations, h-index 18, i10 index 23; 58 SCI-Core articles with 958+15 Web of Science citations) is provided below, together with the lists of supervised theses and offered courses.

WoS Researcher ID: D-1404-2010

Google Scholar: https://scholar.google.com/citations?user=4ck08zcAAAAJ&hl=en

YAYINLAR

Dergi Yayınları

1. D. Degirmenci, E. Çubuk, I. Tari, O. Selimoglu, "Cooling optimization for concentrating photovoltaic modules: A study of convective and radiative cooling with a focus on plate fin applications," Renewable Energy, Vol. 247, 122953 (2025).
2. S. B. Oskouei, G. F. Frate, R. Christodoulaki, O. Bayer, I. S. Akmandor, U. Desideri, L. Ferrari, V. Drosou, **I. Tari**, "Solar-Powered Hybrid Energy Storage System with Phase Change Materials," Energy Conversion and Management, Vol. 302, 118117 (2024).
3. O. Polat, **I. Tari**, "Solar Hybridization Paths for Cement Production Processes," Heat Transfer Engineering, Vol. 45(2), pp. 165-175 (2023).
4. Z. Uykun, **I. Tari**, D. Baker, "The investigation of mechanical and thermal properties of sintered bauxite and sand particles as heat transfer and storage media," AIP Conference Proceedings, 2815(1), pp. 100015-1-10 (2023).
5. M. Mehrtash, **I. Tari**, "Parametric Sensitivity Analysis and Performance Evaluation of High-Temperature Macro-Encapsulated Packed-Bed Latent Heat Storage System Operating with Transient Inlet Boundary Conditions," Processes, Vol. 10(7), 1382 (2022).
6. M. Mehrtash, E. P. Karadiken, **I. Tari**, "A Combined Experimental and Numerical Thermo-Hydrodynamic Investigation of High-Temperature Fluidized-Bed Thermal Energy Storage," Processes, Vol. 10(6), 1097 (2022).
7. N. Cubukcu, **I. Tari**, "Buildings Sector from a Sustainable Carbon Constrained Energy Generation Perspective," Energy and Buildings, Vol. 259, 111865 (2022).
8. F. Ben Othman, F. Eddhibi, A. Bel Hadj Ali, A. Fadhel, O. Bayer, **I. Tari**, A. Guizani, M. Balghouthi, "Investigation of olive mill sludge treatment using a parabolic trough solar collector," Solar Energy, Vol. 232, pp. 344-361 (2022).
9. E. Johnson, **I. Tari**, D. Baker, "Modeling heat exchangers with an open source DEM-based code for granular flows," Solar Energy, Vol. 228, pp. 374-386 (2021).
10. E. Johnson, **I. Tari**, D. Baker, "Radiative heat transfer in the discrete element method using distance based approximations," Powder Technology, 380, pp. 164-182 (2021).
11. E. Johnson, **I. Tari**, D. Baker, "A Monte Carlo Method to Solve for Radiative Effective Thermal Conductivity for Particle Beds of Various Solid Fractions and Emissivities," Journal of Quantitative Spectroscopy and Radiative Transfer, 250, pp. 107014-1-11 (2020).

12. E. Johnson, **I. Tari**, D. Baker, "Development of view factor correlations for modeling thermal radiation in solid particle solar receivers using CFD-DEM," AIP Conference Proceedings, 2126, pp. 030028-1-8 (2019).

13. S. Hicdurmaz, **I. Tari**, "Numerical investigation of bubbling fluidized bed to be used as thermal energy storage integrated to high temperature CSP," Multiphase Science and Technology, 30, pp 99-120 (2018).

14. E. Ozden, **I. Tari**, "Energy and Exergy Analyses of a Solar-Hydrogen Based Energy System for the Emergency Room of a Hospital in Ankara, Turkey". In: Aloui F., Dincer I. (eds) Exergy for A Better Environment and Improved Sustainability 1. Green Energy and Technology. Springer, Cham, pp 779-794 (2018).

15. M. Mehrtash, **I. Tari**, S. Yesilyurt, "Numerical modeling of visco-elasto-plastic hygro-thermal stresses and the effects of operating conditions on the mechanical degradation of PEFC membranes," Journal of Power Sources, 396, pp 164-174 (2018).

16. N. Bonyadi, S. K. Somek, C. Ozalevli, D. K. Baker, **I. Tari**, "Numerical analysis of phase change material characteristics used in a thermal energy storage device," Heat Transfer Engineering, 39 (3), pp 268-276 (2018).

17. M. Mehrtash, **I. Tari**, S. Yesilyurt, "Impacts of Inhomogeneous Clamping Force on Local Performance and Liquid Water Formation in Polymer Electrolyte Fuel Cells," Int. J. Hydrogen Energy, 42 (30), 19227-19245 (2017).

18. E. Ozden, **I. Tari**, "PEM fuel cell degradation effects on the performance of a stand-alone solar energy system," Int. J. Hydrogen Energy, 42 (18), 13217–13225 (2017).

19. E. Ozden, **I. Tari**, "Energy-exergy and economic analyses of a hybrid solar-hydrogen renewable energy system in Ankara, Turkey," Appl. Therm. Eng., 99, 169-178 (2016).

20. E. Ozden, **I. Tari**, "Proton exchange membrane fuel cell degradation: A parametric analysis using Computational Fluid Dynamics," J. Power Sources, 304, 64-73 (2016).

21. **I. Tari**, M. Mehrtash, "Natural Convection Heat Transfer from Horizontal and Slightly Inclined Plate-fin Heat Sinks," Appl. Therm. Eng., 61, 728-736 (2013).

22. M. Mehrtash, **I. Tari**, "A Correlation for Natural Convection Heat Transfer from Inclined Plate-finned Heat sinks," Appl. Therm. Eng., 51, 1067-1075 (2013).

23. **I. Tari**, M. Mehrtash, "Natural Convection Heat Transfer from Inclined Plate-fin Heat Sinks," Int. Journ. of Heat and Mass Transfer, 56, 574-593 (2013).

24. **I. Tari**, F. S. Yalçın, "CFD Analyses of a Notebook Computer Thermal Management System and a Proposed Passive Cooling Alternative," IEEE Trans. Compon. Packag. Technol., 33, 443-452 (2010).

25. E. Ozden, **I. Tari**, " Shell Side CFD Analysis of a Small Shell-and-tube Heat Exchanger," Energy Convers. Manage., 51, 1004-1014 (2010).

26. **I. Tari**, "Natural Convection Simulations and Numerical Determination of Critical Tilt Angles for a Parallel Plate Channel," Energy Convers. Manage., 51, 685-695 (2010).

27. **I. Tari**, "Passive Cooling Assembly for Flat Panel Displays with Integrated High Power Components," IEEE Trans. Consumer Electron., 55, 1707-1713 (2009).

28. E. Öztürk, **I. Tari**, "Forced Air Cooling of CPUs with Heat Sinks: a Numerical Study," IEEE Trans. Compon. Packag. Technol., 31, 650-660 (2008).

29. O. E. Orhan, **I. Tari**, "Numerical Investigation on Cooling of Small Form Factor Computer Cases," Eng. Appl. Comput. Fluid Mech., 2, 427-435 (2008).

30. E. Öztürk, **I. Tari**, "CFD Modelling of Forced Cooling of Computer Chassis," Eng. Appl. Comput. Fluid Mech., 1, 304-313 (2007).

31. Y. Yener, **I. Tari**, "Galerkin Method in Radiative Transfer," Int. J. Eng. Science, 36, 1535-1550 (1998).

Basılı Konferans Bildirileri

32. S. Dincer, **I. Tari,** H. Erturk, "Machine learning based spectral model for participating medium for monte Carlo Method," CHT-24 9th International Symposium on Advances in Computational Heat Transfer, May 26 - 30, 2024, Istanbul, Turkey.

33. **I. Tari,** I. Z. Pektemir, "Parçacıklı Konsantre Güneş Enerjisi Sistemleri için Olivin Mineralinin Isıl Özelliklerinin Araştırılması (Investigation of Thermal Properties of Olivine for Concentrated Solar Power Systems)," ULIBTK'23, 24th Congress on Thermal Science and Technology with International Participation, September 6-8, 2023, Ankara, Turkey, pp 136-144.

34. P. Garcia, R. Liberatore, W. Gaggioli, J. Weiss, T. Fluri, **I. Tari**, T. Ribeiro Eusébio, D. Canavarro, P. Azevedo, M. Georgiou, E. Rojas, "Towards a fair evaluation of Thermal Energy Storage prototypes – Guidelines for CSP applications," IRES 2022, International Renewable Energy Storage Conference, September 20-22, 2022, Düsseldorf, Germany.

35. Z. Uykun, **I. Tari**, D. Baker, "The Investigation of Mechanical and Thermal Properties of Sintered Bauxite and Sand Particles as Heat Transfer and Storage Media," SolarPACES 2021 Solar Power and Chemical Energy Systems, September 27- October 1, 2021, virtual.

36. **I. Tari**, O. Polat, "Solar Hybridization Paths for Cement Production Processes," CHT-21 8th International Symposium on Advances in Computational Heat Transfer, August 15 - 19, 2021, Rio de Janeiro, Brazil (virtual).

37. **I. Tari**, Y. Cobanoglu, "CHT Modeling of an Electronics Cabinet Using Multi-scale Meshing," CHT-21 8th International Symposium on Advances in Computational Heat Transfer, August 15 - 19, 2021, Rio de Janeiro, Brazil (virtual).

38. S. Erdogan, **I. Tari,** "Novel Solar Dryer for Olive Mill Wastewater," 5-6th Thermal and Fluids Engineering Conference (TFEC), May 26–28, 2021, New Orleans, LA (virtual).

39. **I. Tari**, "Potential of Concentrated Solar Thermal Energy for Industrial Applications," The International Aluminium-Themed Engineering and Natural Sciences Conference, IATENS, October 4-6, 2019, Seydisehir, Turkey.

40. B. Abu Zanouneh, **I. Tari**, "Modeling of Alumina Production for Identification of Solar Hybridization Paths," The International Aluminium-Themed Engineering and Natural Sciences Conference, IATENS, October 4-6, 2019, Seydisehir, Turkey.

41. E. Johnson, D. K. Baker, **I. Tari**, "Development of View Factor Correlations for Modeling Thermal Radiation in Solid Particle Solar Receivers Using CFD-DEM," SolarPACES 2018 Solar Power and Chemical Energy Systems, October 2-5, 2018, Casablanca, Morocco.

42. C. Balikci, **I. Tari**, "Experimental Spray Cooling Studies with FC-72 and FC-84 to Comprehend the Validity of Volumetric Flux Model (VFM)," THERMINIC2017 23rd InternatIonal Workshop on Thermal Investigations of ICs and Systems, September 27-29, 2017, Amsterdam, Nedherlands.

43. S. Hiçdurmaz, **I. Tari**, "Numerical Investigation of Thermal Storage Performance of a Fluidized Sand Bed," CHT-17 7th International Symposium on Advances in Computational Heat Transfer, May 28-June 2, 2017, Naples, Italy.

44. C. Öztoprak, **I. Tari**, "Micro-channel Cold Plate Dimensional Precision Effects on Performance," ASTFE 2nd Thermal and Fluids Engineering Conference, April 2-5, 2017, Las Vegas, NV.

45. **I. Tari**, M. E. Özet, "Numerical Investigation of Various Approaches to Avoid Natural Convection Instabilities Inside the Channels of Horizontal Plate Fin Heat Sinks," ASME International Mechanical Engineering Conference and Exhibition, November 11-17, 2016, Phoenix, AZ.

46. S. Bilyaz, **I. Tari**, "Hydrodynamic and Thermal Modelling of Circulating Fluidized Bed Solar Receivers," ASME International Mechanical Engineering Conference and Exhibition, November 11-17, 2016, Phoenix, AZ.

47. M. Kaya, D. K. Baker, **I. Tari**, "Numerical Comparison And Sizing Of Sensible And Latent Thermal Energy Storage For Compressed Air Energy Storage," ASME International Mechanical Engineering Conference and Exhibition, November 11-17, 2016, Phoenix, AZ.

48. E. Johnson, D. K. Baker, **I. Tari**, "Proposal and modeling of a novel gravity-fed filled-absorber solid particle solar receiver," SolarPACES 2016 Solar Power and Chemical Energy Systems, October 11-14, 2016, Abu Dhabi.

49. E. Özden, **I. Tari**, "Energy and exergy analysis of a solar-hydrogen hybrid renewable energy system in Ankara, Turkey," 7th International Exergy, Energy and Environment Symposium, Valenciennes, France, 2015.

50. N. Bonyadi, S. K. Somek, C. Ozalevli, D. K. Baker, **I. Tari**, "Numerical Analysis of Phase Change Material Characteristics in a Thermal Energy Storage Heat Exchanger," ASME-ATI-UIT 2015 Conference on Thermal Energy Systems: Production, Storage, Utilization and the Environment, Napoli, Italy, 2015.

51. F. Şen, **I. Tari**, "Numerical Investigation of thermal management of Solid Oxide Fuel Cells by flow arrangement," CHT-15 ICHMT International Symposium on Advances in Computational Heat Transfer, New Brunswick, NJ, 2015.

52. S. Bilyaz, **I. Tari**, "Investigation of various options for numerical modeling of fluidized bed for a solar thermal application," CHT-15 ICHMT International Symposium on Advances in Computational Heat Transfer, New Brunswick, NJ, 2015.

53. N. Bonyadi, S. K. Somek, C. Ozalevli, D. K. Baker, **I. Tari**, "Experimental analysis of energy storage device using phase change material integrated with a milk storage system," 1st Thermal and Fluid Engineering Summer Conference, TFESC, New York, 2015.

54. A. Çalışkan, **I. Tari**, "Numerical investigation of forced convection thermal management of high power electronics on a rotary platform," 1st Thermal and Fluid Engineering Summer Conference, TFESC, New York, 2015.

55. E. Özden, **I. Tari**, "Numerical investigation of a stand-alone solar hydrogen energy system: effects of PEFC degradation," 1st Thermal and Fluid Engineering Summer Conference, TFESC, New York, 2015.

56. E. Özden, **I. Tari**, "System modeling of a solar-hydrogen hybrid renewable energy system in Ankara," SOLARTR Conference and Exibition, İzmir, 2014.

57. **I. Tari**, "A passive cooling system proposal for multifunction and high power displays," Advances in Display Technologies III, Proc. of SPIE Vol. 8643, San Francisco, CA, 2013.

58. **I. Tari,** E. Özden, "Multiphysics Simulations of PEM Electrolyzers," Proc. NAFEMS European Conf. Multiphysics Simulation 2012, Frankfurt, Germany, pp 99-104, 2012.

59. C. Ömür, A.B. Uygur, H.G. Işık, **I. Tari**, "Numerical and experimental investigation of the thermal behavior of a newly developed attitude determination control unit in a vacuum environment", RAST2011, Recent Advances in Space Technologies, June 9-11, 2011, Istanbul.

60. M. Mehrtash, **I. Tari**, "Eğimli yüzeylere yerleştirilmiş dikdörtgen kesitli kanatçıklı ısı atıcıların doğal taşınım için sayısal incelenmesi", ULIBTK'11 18th Congress on Thermal Science and Technology, September 7-10, 2011, Zonguldak, Turkey, pp 376-381.

61. S. Tari, B. Burgeth, **I. Tari**, "Components of the Shape Revisited", 2010 AAAI Spring Symposium Series, March 22–24, 2010, Palo Alto, CA.

62. E. Ozden, **I. Tari**, "CFD Modeling and Analysis of a Small Shell-and-tube Heat Exchanger", Proc. ASME Heat Transfer Conference, August 10-14, 2008, Jacksonville, FL.

63. F. S. Yalcin, C. Sert, **I. Tari**, "CFD Analysis of a Notebook Computer Thermal Management Solution", Proc. ASME Heat Transfer Conference, August 10-14, 2008, Jacksonville, FL.

64. O. E. Orhan, **I. Tari**, "Numerical Investigation on Cooling of Small Form Factor Computer Cases", Proc. ASME International Mechanical Engineering Conference and Exhibition, November 11-15, 2007, Seattle, WA.

65. **I. Tari**, S. Tari, "Senior year thermal design course: elective or mandatory restricted elective", Proc. ASME International Mechanical Engineering Conference and Exhibition, November 5-10, 2006, Chicago, IL.

66. S. Kasapoglu, **I. Tari**, "A Pseudospectral Analysis of Laminar Natural Convection Flow and Heat Transfer Between Two Inclined Parallel Plates", Proc. ASME International Mechanical Engineering Conference and Exhibition, November 5-10, 2006, Chicago, IL.

67. E. Öztürk, **I. Tari**, "A Road Map for CFD Modelling of Forced Cooled Packages", Proc. ASME International Mechanical Engineering Conference and Exhibition, November 5-10, 2006, Chicago, IL.

68. C. E. Kükrer, **I. Tari**, "Direct Numerical Simulation of Liquid Flow in a Horizontal Microchannel", Proc. ASME Summer Heat Transfer Conference, July 17-21, 2005, San Francisco, CA.

69. E. Öztürk, **I. Tari**, "CFD Analyses of Heat Sinks for CPU Cooling with Fluent", Proc. ASME Summer Heat Transfer Conference, July 17-21, 2005, San Francisco, CA.

70. **I. Tari**, "Determination of Assembly Averaged Homogeneous Neutron Cross-Sections for MITR-II", The 4th International Conference on Monte Carlo and Quasi-Monte Carlo Methods in scientific Computing, November 27- December 1, 2000, Hong Kong.

71. **I. Tari**, "3-D Simulation of convection in asymmetrically heated turbine blade cooling channels", ICHMT Turbine 2000: International Symposium on Heat Transfer in Gas Turbine Systems, August 13-18, 2000, Çeşme, İzmir.

72. **I. Tari**, A. Tangborn, Y. Yener, "Simulation of bubble motion in Benard cells by spectral methods", Proceedings of International Center for Heat and Mass Transfer, CHT'97 conference, pp. 706-713, 1997, Çeşme, İzmir.

Genişletilmiş Öz Konferans Bildirileri

73. D. Degirmenci, E. Cubuk, **I. Tari**, O. Selimoglu, "Cooling Optimization for Concentrating Photovoltaics Modules: A Study of Convective and Radiative Cooling with a Focus on Plate Fin Applications," PVCon2024, 4th International Conference on Photovoltaic Science and Technologies, July 3-5, 2024, Ankara, Turkey.

74. C. Gabor, **I. Tari**, "Property Changes in Ti-based Intermetallic Thin Films After Thermal Treatment Using Concentrated Solar Radiation," BraMat 2022, 12th International Conference on Materials Science and Engineering, March 9-12, 2022, Braşov, Romania.

75. G. Basara, **I. Tari**, S. Tari, "Stress Distribution Based Partitioning of Helmets for 3-D Printing," ASME International Mechanical Engineering Conference and Exhibition, November 11-17, 2016, Phoenix, AZ.

76. S. Bilyaz, **I. Tari**, "Numerical investigation of circulating fluidized sand bed solar receiver" SolarPACES 2016 Solar Power and Chemical Energy Systems, October 11-14, 2016, Abu Dhabi.

77. **I. Tari**, S. Tari, "Two-Way Coupling of Lagrangian and Eulerian Governing Equations for Particles in Incompressible Fluids", SIAM Annual Meeting CP23, July 8-12, 2013, San Diego, CA.

78. S. Tari, B. Burgeth, **I. Tari**, "Modified Laplacians for shape analysis", International Symposium on Mathematical Morphology, August 24-27, 2009, Groningen, the Netherlands.

79. **I. Tari**, “A Comparison of the Common Semi-Implicit Time Stepping Schemes in a Spectral Method Navier-Stokes Solver: ABCN, ABBDI2, MABCN and Leap Frog”, SIAM Annual Meeting, July 7-11, 2008, San Diego, CA.

80. **I. Tari**, A. Tangborn, Y. Yener, “A Numerical Investigation of Interactions of Particles with Benard Cells in Horizontal Channels”, CHT08: Advances in Computational Heat Transfer, May 11-16, 2008, Marrakech, Morocco.

81. **I. Tari**, “Numerical Determination of Critical Tilt Angle for a Parallel Plate Channel”, ASME International Mechanical Engineering Conference and Exhibition, November 11-15, 2007, Seattle, WA.

82. **I. Tari**, “A Comparison of Common Semi-Implicit Time Stepping Schemes in a Pseudo-spectral Navier-Stokes Solver: ABCN, ABBDI2 and MABCN”, ASME International Mechanical Engineering Conference and Exhibition, November 11-15, 2007, Seattle, WA.

83. **I. Tari**, “Numerical Investigation of Laminar Microchannel Convective Liquid Flow as a Mixing Enhancer in Microfluidic Devices”, ASME International Mechanical Engineering Conference and Exhibition, November 11-15, 2007, Seattle, WA.

84. S. Kasapoglu, **I. Tari**, “A Comparison of AB/BDI2 and AB/CN Time Stepping Schemes in a Chebychev-Tau Spectral Navier-Stokes Solver”, SIAM Conference on Analysis of Partial Differential Equations, July 10-12, 2006, Boston, MA.

85. Y. Yener, **I. Tari**, “Galerkin Method in radiative transfer”, Chandrasekhar Memorial Symposium, October 1996, Tempe, Arizona.

YÖNETİLEN TEZLER

Tamamlanmış

1. Onur Polat, M.S. Thesis, 2023, “Solar Hybridization Paths for Cement Production Processes”
2. Deniz Değirmenci, M.S. Thesis, 2022, “Fresnel lens solar collector development considering local conditions”.
3. Selim Dinçer, M.S. Thesis, 2022, “Radiative heat transfer modelling of cavities with inhomogeneous participating media using Monte Carlo Ray Tracing method”.
4. Nilay Çubukcu, Ph.D. Dissertation, 2021, “Sustainable carbon constrained energy generation perspectives”.
5. Sinan Uygur, M.S. Thesis, 2021, “Detailed simulations of Parabolic Trough Collector for investigating enhancement of heat transfer to absorber tube flow”.
6. Zeynep Uykun, M.S. Thesis, 2021, “Investigation of mechanical and thermal properties of sintered bauxite and sand particles as heat transfer and storage media”, co-supervised by Dr. Baker.
7. Evan Johnson, Ph.D. Dissertation, 2021, “Advances in modeling high temperature particle flows in the field of Concentrating Solar Power”, co-supervised by Dr. Baker.
8. Sıtkı Berat Çelik, Ph.D. Dissertation, 2020, “Performance evaluation of linear tube solar receiver as stratified flow vapor generator/separator for absorption machines using NH3/LiNO3”, co-supervised by Dr. Antonio Lecuona Neumann.
9. Shadi Salehian, M.S. Thesis, 2020, “Simulation of solar thermal application in a cement plant”.
10. Yankı Çobanoğlu, M.S. Thesis, 2019, “Thermal management of electronics cabinet and effects of different front cover patterns”.
11. Esra Polat, M.S. Thesis, 2019, “Experimental investigation of fluidized bed to be used as solar thermal energy storage”.

12. Canberk Öztoprak, M.S. Thesis, 2018, “Effects of Microchannel Manufacturing Inaccuracies on Heat Sink Performance: Experimental and Numerical Investigation”.
13. Mehdi Mehrtash, Ph.D. Dissertation, 2017, “Numerical modeling and analyses of anisotropic diffusion and stresses in Polymer Electrolyte Fuel Cell”.
14. Serdar Hiçdurmaz, M.S. Thesis, 2017, “Numerical investigation of bubbling fluidized bed to be used as high temperature thermal energy storage”.
15. Gözde Başara, M.S. Thesis, 2017, “Mechanical strength of 3D printed objects: Experimental and numerical investigation”.
16. Evan F. Johnson, M.S. Thesis, 2017, “Conceptual design and heat transfer investigation of a dense granular flow solar receiver”, co-supervised by Dr. Baker.
17. Rahul Singh, M.S. Thesis, 2017, “Modelling and performance analysis of Linear Fresnel Collector for process heat generation for ice cream factory in Konya”, co-supervised by Dr. Baker.
18. Serhat Bilyaz, M.S. Thesis, 2015, “Numerical investigation of circulating fluidized bed riser hydrodynamics for concentrating solar thermal power application”.
19. Anil Çalışkan, M.S. Thesis, 2015, “Heat dissipation from electronic packages with the help of heat pipe network and its application to rotary platforms”.
20. Mehmet Erdem Özet, M.S. Thesis, 2015, “Improving flow structure and natural convection within fin spacings of plate fin heat sinks”.
21. Mine Kaya, M.S. Thesis, 2015, “Numerical comparison and sizing of sensible and latent thermal energy storage for compressed air energy storage”, co-supervised by Dr. Baker.
22. Ender Özden, Ph.D. Dissertation, 2015, “PEM fuel cell degradation: Numerical investigation and effects on the performance of solar-hydrogen based renewable energy systems”.
23. Koray Taştankaya, M.S. Thesis, 2014, “Development of a methodology for sizing and assessment of wind integrated Advanced Adiabatic Compressed Air Energy Storage System (AA-CAES)”, co-supervised by Dr. Baker.
24. Fırat Şen, M.S. Thesis, 2012, “Thermal management of Solid Oxide Fuel Cells by flow arrangement”.
25. Mehdi Mehrtash, M.S. Thesis, 2011, “Numerical investigation of natural convection from inclined plate finned heat sınks”.
26. Bekir Onur Çolpa, M.S. Thesis, 2011, “Correlation based thermal design of Air Transport Rack chassis”.
27. Sercan Özbay, M.S. Thesis, 2011, “Thermal analysis of Stirling cycle regenerators”.
28. Zafer Erkal., M.S. Thesis, 2011, “Experimental investigation of PCMs used in military shelters”.
29. Cem Ömür, M.S. Thesis, 2010, “Numerical and experimental investigation of the thermal behavior of a newly developed attitude determination control unit in a vacuum environment”, co-supervised by Dr. Uygur, TAI.
30. Arman Uluoğlu, M.S. Thesis, 2010, “Solar-Hydrogen Stand-Alone Power Systems Design and Simulations”.
31. Kamil Mert Çakar, M.S. Thesis, 2009, “Numerical Investigation of Natural Convection from Vertical Plate Finned Heat Sinks” co-supervised by Dr. Albayrak.
32. Özgür Bayer, Ph.D. Dissertation, 2009, “Simulation of Refrigerated Space with Radiation”, co-supervised by Dr. Oskay.
33. Fidan Seza Yalçın, M.S. Thesis, 2008, “CFD Analysis of a Notebook Computer Thermal Management Solution”, co-supervised by Dr. Sert.

34. Sinan Küçük, M.S. Thesis, 2007, "A Comparative Investigation of Heat Transfer Capacity Limits of Heat Pipes".

35. Ender Özden, M.S. Thesis, 2007, "Detailed Design of Shell-and-tube Heat Exchangers Using CFD".

36. Bora Timurkutluk, M.S. Thesis, 2007, "Performance Analysis of an Intermediate Temperature SOFC".

37. Ömer Emre Orhan, M.S. Thesis, 2007, "Numerical Investigation on Cooling of Small Form Factor Computer Cases".

38. Ethem Ersöz, M.S. Thesis, 2006, "Development of a Racing Strategy for a Solar Car".

39. Tuğrul Maral, M.S. Thesis, 2006, "Spectral (h-p) Element Methods Approach to the Solution of Poisson and Helmholtz Equations using MATLAB", co-supervised by Dr. Sert.

40. Serkan Kasapoğlu, M.S. Thesis, 2005, "A Pseudospectral Analysis of Laminar Natural Convection Flow and Heat Transfer between Two Inclined Parallel Plates".

41. Cenk Evren Kükrer, M.S. Thesis, 2005, "Direct Numerical Simulation of Liquid Flow in a Horizontal Microchannel".

42. Emre Öztürk, M.S. Thesis, 2004, "CFD Analyses of Heat Sinks for CPU Cooling with Fluent".

Devam Eden

43. Ertuğrul Çubuk, M.S. Thesis, "Modeling and Direct Radiative Flux Measurement of 18kWe Solar Simulator"

44. Doğan Akcakaya, M.S. Thesis, "Thermal Energy Storage at High Temperatures"

45. Furkan Enes Yıldırım, M.S. Thesis, "Numerical and Experimental Investigation of Electro-hydraulic Actuator Thermal Management"

DERSLER

Over the last 27 years, I developed/reorganized and offered the following courses:

ME 570 Advanced Topics in Radiative Transfer (METU)
ME 508 Thermal Radiation (METU)
ME 492 Fuel Cell Fundamentals (METU)
ME 478 Introduction to Solar Energy Utilization (METU)
ME 421 Steam Generator & Heat Exchanger Design (METU)
ME 351 Thermodynamics of Heat Power (METU)
ME 312 Thermal Engineering (METU)
ME 311 Heat Transfer (METU)
ME 310 Numerical Methods (METU)
ME 306 Fluid Mechanics II (METU)
ME 305 Fluid Mechanics I (METU)
ME 203 Thermodynamics (METU)
ME 170 Experimental Techniques (UCR)
ME 160 Mechanical Engineering Laboratory (UCR)
ME 131 Computer Aided Design of Mechanical Systems (UCR)
ME 100 Advanced Engineering Thermodynamics (UCR)
ME 014 Properties of Engineering Materials (UCR)

ME 009 Engineering Graphics and Design (UCR)
ENGR 115 Fluid Mechanics Lab (UCR)