

Onur Taylan, Ph.D.

Assistant Professor
Mechanical Engineering Program, S-222
Middle East Technical University Northern Cyprus Campus
99738, Kalkanli, Guzelyurt, Mersin 10, Turkey

T: +90-392-661-2993
F: +90-392-661-2999
ontaylan@metu.edu.tr
onurtaylan.com

PROFESSIONAL APPOINTMENTS	<ul style="list-style-type: none">Associate Dean / Vice ChairAssistant ProfessorOnline AdministratorResearch AssistantTeaching AssistantTeaching AssistantAdmin. Assistant	<p>Academic Board of Engineering and Natural Sciences, Middle East Technical University Northern Cyprus Campus</p> <p>Middle East Technical University Northern Cyprus Campus</p> <p>International Journal of Thermodynamics (IJOT)</p> <p>The University of Texas at Austin</p> <p>The University of Texas at Austin</p> <p>Middle East Technical University</p> <p>International Journal of Thermodynamics (IJOT)</p>	<p>Sep. 2017 – Present</p> <p>Sep. 2014 – Present</p> <p>May. 2010 – Sep. 2014</p> <p>Jan. 2014 – Aug. 2014</p> <p>Sep. 2010 – Dec. 2013</p> <p>Sep. 2007 – Aug. 2010</p> <p>Sep. 2008 – May. 2010</p>
---------------------------	--	---	--

EDUCATION	<p>The University of Texas at Austin, TX, USA</p> <p>Ph.D., Mechanical Engineering <i>Adviser:</i> Dr. Halil Berberoglu <i>Thesis Title:</i> Synthesis Gas Production using Non-Thermal Plasma Reactors</p> <p>Middle East Technical University, Ankara, Turkey</p> <p>M.S., Mechanical Engineering <i>Advisers:</i> Dr. Derek Baker and Dr. Bilgin Kaftanoglu <i>Thesis Title:</i> Numerical Modeling and Performance Analysis of Solar-Powered Ideal Adsorption Cooling Systems</p> <p>B.S., Mechanical Engineering Field of Study: Thermo-Fluid Sciences and Energy</p>	<p><i>August 2014</i></p> <p><i>May 2010</i></p> <p><i>June 2007</i></p>
-----------	---	--

BOOK CHAPTER	[1] Taylan O., Berberoglu H. (2013), "Fuel Production Using Concentrated Solar Energy", in The Applications of Solar Energy, Editor: Rugescu R. InTech: ISBN 980-953-307-937-5.
--------------	---

JOURNAL PAPERS	[2] Al-Ghussain L., Taylan O., Baker D.K. (2018), "An Investigation of Optimum PV and Wind Energy System Capacities for Alternate Short and Long-Term Energy Storage Sizing Methodologies", International Journal of Energy Research, accepted for publication, DOI:10.1002/er.4251.
	[3] Taylan O., Pintero D., Berberoglu H. (2018), "Effects of Reactor Geometry on Dissociating CO ₂ and Electrode Degradation in a MHCD Plasma Reactor", Greenhouse Gases: Science and Technology, 8(4), pp. 701-712.
	[4] Al-Ghussain L., Taylan O. (2018), "Sizing Methodology of a PV/wind Hybrid System: Case Study in Cyprus", Environmental Progress & Sustainable Energy, accepted for publication, DOI:10.1002/ep.13052.
	[5] Sadati S.M.S., Jahani E., Taylan O, Baker D.K. (2018), "Sizing of PV-Wind-Battery Hybrid System for a Mediterranean Island Community Based on Estimated and Measured Meteorological Data", Journal of Solar Energy Engineering, 140, p. 011006.
	[6] Al-Ghussain L., Taylan O., Fahrioglu M. (2018), "Sizing of a Photovoltaic-Wind-Oil Shale Hybrid System: Case Analysis in Jordan", Journal of Solar Energy Engineering, 140, p. 011002.
	[7] Okoye C.O., Taylan O. (2017), "Performance Analysis of a Solar Chimney Power Plant for Rural Areas in Nigeria", Renewable Energy, 104, pp. 96-108.
	[8] Okoye C.O., Solyali O., Taylan O. (2016), "A New Economic Feasibility Approach for Solar Chimney Power Plant Design", Energy Conversion and Management, 126, pp. 1013-1027.
	[9] Okoye C.O., Taylan O., Baker D.K. (2016), "Solar Energy Potentials in Strategically Located Cities in Nigeria: Review, Resource Assessment and PV System Design", Renewable and Sustainable Energy Reviews, 55(1), pp. 550-566.
	[10] Taylan O., Berberoglu H. (2015), "Dissociation of carbon dioxide using a microhollow cathode discharge plasma reactor: effects of applied voltage, flow rate and concentration", Plasma Sources Science and Technology, 24(1), p. 015006.
	[11] Taylan O., Berberoglu H. (2014), "Electrical Characterization and an Equivalent Circuit Model of a Microhollow Cathode Discharge Reactor", Journal of Applied Physics, 116(4), p. 043302.

Onur Taylan

Associate Dean – Engineering and Natural Sciences
Assistant Professor – Mechanical Engineering
Middle East Technical University Northern Cyprus Campus

ontaylan@metu.edu.tr
+90-392-661-2993
onurtaylan.com

CONFERENCE
PROCEEDINGS

- [12] Taylan O., Berberoglu H. (2013), “Thermal Radiation Transport in a Fluidized Dry Water System”, Journal of Quantitative Spectroscopy and Radiative Transfer, 120(1), pp. 104-113.
- [13] Taylan O., Baker D. K., Kaftanoglu B. (2012), “COP Trends for Ideal Thermal Wave Adsorption Cooling Cycles with Enhancements”, International Journal of Refrigeration, 35(3), pp. 562-570.
- [14] Taylan O., Baker D. K., Kaftanoglu B. (2011), “Normalized Thermodynamic Model for Intermittent Energy Systems and Application to Solar-Powered Adsorption Cooling Systems”, International Journal of Thermodynamics, 14(3), pp.107-115.
- [15] Taylan O., Ahmed H., Guven P., “Dissociation of CO₂ Using Salt Gradient Solar Pond,” 2nd International Mediterranean Science and Engineering Congress (IMSEC 2017), Adana, Turkey, October 25-27, 2017, (384) 750-758.
- [16] Samu R., Fahrioglu M., Taylan O., “Feasibility Study of a Grid Connected Hybrid PV-Wind Power Plant in Gwanda, Zimbabwe.” HONET-ICT International Symposium 2016, Haspolat, Nicosia, Northern Cyprus, October 13-14, 2016, (33).
- [17] Sadati S.M.S., Jahani E., Taylan O., “Technical and Economic Analyses for Sizing PV Power Plant With Storage System for METU NCC,” ASME IMECE 2015 (International Mechanical Engineering Congress & Exposition), Houston, TX, USA, November 13-19, 2015, IMECE2015-50959.
- [18] Taylan O., Berberoglu H., “Dissociation of Carbon Dioxide Using a Microhollow Cathode Discharge Reactor”, full paper accepted to ASME IMECE 2013 (International Mechanical Engineering Congress & Exposition), San Diego, CA, USA, November 15-21, 2013, IMECE2013-64632.
- [19] Taylan O., Berberoglu H., “Modeling of a Microhollow Cathode Discharge Reactor for Carbon Dioxide Dissociation”, full paper accepted to ASME IMECE 2013 (International Mechanical Engineering Congress & Exposition), San Diego, CA, USA, November 15-21, 2013, IMECE2013-64637.
- [20] Taylan O., Berberoglu H., “Dissociation of Carbon Dioxide Using a Non-Thermal Plasma Reactor”, ASME Summer Heat Transfer Conference 2013, Minneapolis, MN, USA, July 14-19, 2013, HT2013-17559.
- [21] Taylan O., Murphy T.E., Berberoglu H., “Light Transport Analysis of Smart Windows for Solar Energy Harvesting,” 7th International Symposium on Radiative Transfer, Kusadasi, Turkey, June 2-8, 2013.
- [22] Taylan O., Berberoglu H., “Thermal Radiation Transport in a Cloud of Dry Water Particles”, the ASME Summer Heat Transfer Conference 2012, Puerto Rico, USA, July 8-12, 2012, HT2012-58416.
- [23] Taylan O., Berberoglu H., “Rheological Properties of Dry Water”, the ASME IMECE 2011 (International Mechanical Engineering Congress & Exposition), Denver, CO, USA, November 11-17, 2011, IMECE2011-64114.
- [24] Taylan O., Baker D. K., Kaftanoglu B., “Adsorbent – Refrigerant Comparison for a Solar Powered Adsorption Cooling System using Seasonal Simulations”, the 10th REHVA (the Federation of European Heating and Air Conditioning Associations) World Congress (Clima 2010), Antalya, Turkey, May 9-12, 2010.
- [25] Taylan O., Baker D. K., Kaftanoglu B., “Parametric Study and Seasonal Simulations of a Solar Powered Adsorption Cooling System”, the 22nd International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems (ECOS 2009), pp. 833-842, Foz do Iguacu, Brazil, August 30-September 3, 2009.

SKILLS

- 8 years of experience in teaching for various courses in thermal-fluid sciences
- 3 years of experimental experience in spectrophotometry and potentiometry
- 3 years of experience in numerical analysis using MATLAB for modeling adsorption beds for cooling systems
- 2 years of experience in numerical methods using FORTRAN for solving the Radiative Transport Equation
- 2 year of experience in finite element analysis using COMSOL
- 1.5 years of experience in numerical methods using FORTRAN for solving the Radiative Transport Equation
- 6 months of experience in managing electric fields in dielectric barrier discharge plasma reactors
- 6 months of experience in radiation heat transfer through Monte Carlo method
- 6 months of experience in numerical modeling for thermo- and exergo-economic analysis of engineering systems
- 6 months of experience in performance analysis of polymer exchange membrane fuel cell

Onur Taylan

Associate Dean – Engineering and Natural Sciences
Assistant Professor – Mechanical Engineering
Middle East Technical University Northern Cyprus Campus

ontaylan@metu.edu.tr

+90-392-661-2993

onurtaylan.com

AWARDS & HONORS	<ul style="list-style-type: none">• Graduate Engineering Council Conference Grant (Fall 2013)• Professional Development Award – Office of Graduate Studies (Fall 2013 & Summer 2013)• National Science Foundation Award for ASME Heat Transfer Division Workshop (Summer 2013)• Dean’s High Honor Certificate (Spring 2007 & Fall 2006)• Dean’s Honor Certificate (Fall 2003, Spring 2004, Fall 2005, Spring 2006)• 1804th rank, top 0.75%, in mathematics-science branch in university entrance examination among approximately 1.5 million candidates (June 2003)
AREAS OF INTEREST	<ul style="list-style-type: none">• Absorption / Adsorption Cooling Systems• Building Energy Systems• Energy Analyses / Simulations of Engineering Systems• Engineering Economy• Heating and Air-Conditioning Systems• Plasma Reforming and Plasma Technologies• Radiation Heat Transfer• Renewable and Sustainable Energy Conversion Systems• Solar Energy Utilization• Sustainable Technologies• Thermodynamics
TEACHING EXPERIENCE	<ul style="list-style-type: none">• MECH 203 – Thermodynamics• MECH 220 – Mechanical Engineering Laboratory I• MECH 311 – Heat Transfer• MECH 320 – Mechanical Engineering Laboratory II• MECH 405 – Energy Conversion Systems• MECH 420 – Mechanical Engineering Laboratory III• MECH 458 – Graduation Design Project• MECH 495 – Design of Renewable Energy Systems• CHME 325 – Heat Transfer
PROFESSIONAL SERVICE	<p><i>Member of the Professional Organizations and Committees</i></p> <ul style="list-style-type: none">▪ American Society of Thermal and Fluids Engineers (ASTFE), Member (2014 – Present)▪ American Society of Mechanical Engineers (ASME), Member (2014 – Present)▪ ASME K-6 Heat Transfer in Energy Systems, Committee Member (2013 – Present)▪ American Society of Mechanical Engineers (ASME), Student Member (2010 – 2014) <p><i>Technical Session Chair in Conferences</i></p> <ul style="list-style-type: none">▪ Chair of a technical session, “Solar Thermal and Cooling Systems,” in ASME International Mechanical Engineering Congress & Exposition, San Diego, CA, USA, November 15-21, 2013.▪ Chair of a technical session, “Heat Transfer in Solar Energy Systems,” in ASME Summer Heat Transfer Conference, Minneapolis, MN, July 14-19, 2013.▪ Co-chaired a session in a technical session, “Radiation in Energy Systems,” in ASME International Mechanical Congress and Exposition, Houston, TX, November 9-15, 2012. <p><i>Thesis Committee Member</i></p> <ul style="list-style-type: none">▪ Nafi Cabacaba, “Experimental Analysis of Soiling Effect on String Type PV systems,” Ph.D. Student, Supervisors: Dr. Serkan Abbasoğlu, Cyprus International University, 2015-Current.▪ Kathy M. Kiema, “Technical and Economic Feasibility of Large Scale Concentrating Solar Power Deployment in Kenya,” M.Sc. Thesis, Supervisor: Dr. Murat Fahrioglu, Middle East Technical University Northern Cyprus Campus, August 2017.▪ Syed Muhammad Hassan Ali, “Optimal Photovoltaic Size Estimation for a Campus Area Considering Uncertainties in Load, Power Generation and Electricity Rates,” M.Sc. Thesis, Supervisors: Dr. Yasemin Merzifonluoglu Uzgoren, Dr. Eray Uzgoren, Middle East Technical University Northern Cyprus Campus, June 2015.▪ Daniel Pinero, “Electrode Degradation in Micro-Hollow Cathode Discharge Reactors,” M.Sc. Thesis, Supervisor: Dr. Halil Berberoglu, The University of Texas at Austin, May 2015.

Onur Taylan

Associate Dean – Engineering and Natural Sciences
Assistant Professor – Mechanical Engineering
Middle East Technical University Northern Cyprus Campus

ontaylan@metu.edu.tr
+90-392-661-2993
onurtaylan.com

Scientific Committee Member and University Service

- 2017-2021 Strategic Planning Physical Resources Committee Coordinator, Middle East Technical University Northern Cyprus Campus (2016 – Present)
- 2017-2021 Strategic Planning International Relations Committee Member, Middle East Technical University Northern Cyprus Campus (2016 – Present)
- SEES Graduate Program Committee Member, Middle East Technical University Northern Cyprus Campus (2016 – Present)
- Laboratory Commission Member, Middle East Technical University Northern Cyprus Campus (2016 – Present)
- Green Campus Initiative, Middle East Technical University Northern Cyprus Campus (2015 – Present)
- Turkish Solar Electricity Conference and Exhibition 2015 (SolarTR-3), Ankara, Turkey, April 27-29, 2015.

Reviewer for Journals and Conferences

- Applied Energy
- ASME Heat Transfer Journal
- Energies
- Energy Conversion and Management
- Environmental Progress & Sustainable Energy
- Journal of Energy Engineering
- Journal of Heat Transfer, ASME
- Journal of Solar Energy Engineering
- Renewable & Sustainable Energy Reviews
- The Open Fuels & Energy Science Journal
- ASME International Mechanical Congress and Exposition
- ASME Summer Heat Transfer Conference
- Turkish Solar Electricity Conference and Exhibition (SolarTR)

LANGUAGES	• Turkish	Native
	• English	Good command in reading and writing, fluent in speaking
	• Spanish	Beginner
	• German	Beginner

SUPERVISING	<i>Alumni from Sustainable Environment and Energy Systems Program</i>		
	• Pelin Guven	MSc, September 2018	<i>Adviser, co-supervised by Dr. Mehdi Torkmahalleh</i>
	• Caglan Sevinc	MSc, January 2018	<i>Adviser (transferred from Dr. Eray Uzgoren)</i>
	• Loiy Al-Ghussain	MSc, July 2017	<i>Adviser, co-supervised by Dr. Derek K. Baker</i>
	• Fahad Haneef	MSc, July 2017	<i>Adviser</i>
	• Humayun Ahmed	MSc, January 2017	<i>Adviser</i>
	• Sajed Sadati	MSc, July 2016	<i>Adviser</i>
	• Kemal Masera	MSc, June 2016	<i>Adviser</i>
	• Okoye Chiemeka Onyeka	MSc, January 2016	<i>Adviser</i>
	<i>Graduate Students in Sustainable Environment and Energy Systems Program</i>		
	• Genco Kavas	Fall 2017 – Present	<i>Adviser</i>
	• Erim Gurer	Fall 2017 – Present	<i>Adviser, co-supervised by Dr. Tugce Yuksel Bediz</i>