

Dr. Taher Saleh Maatallah

Associate Professor

Personal Data

Nationality | Tunisian
 Date of Birth | 05-02-1985
 Department | Mechanical and Energy Engineering
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- ✦ University Profile: https://www.iau.edu.sa/en/colleges/college-of-engineering/faculty/dr-Taher-maatallah?search_api_views_fulltext=&page=4
- ✦ LinkedIn: <https://www.linkedin.com/in/taher-maatallah-13539854>
- ✦ Google Scholar: <https://scholar.google.com/citations?user=QOJrOnsAAAAJ&hl=en>
- ✦ Scopus ID: <https://www.scopus.com/authid/detail.uri?authorId=57678706400>
- ✦ ORCID ID: <https://orcid.org/0000-0002-8822-0475>
- ✦ Research Gate: https://www.researchgate.net/profile/Taher_Maatallah/publications
- ✦ Editorial Role (Guest Editor): https://www.techscience.com/fhmt/special_detail/advanced-thermal-management

Language Proficiency

Language	Read	Write	Speak
Arabic	x	x	x
English	x	x	x
French	x	x	x
German	x	x	x

Academic Qualifications (Beginning with the most recent)

Date	Academic Degree	Place of Issue	Address
2015	Ph.D. Energy engineering	Tunisia	National School of Engineering of Monastir (ENIM), University of Monastir (UM)
2009	M Sc. Energy engineering	Tunisia	National School of Engineering of Monastir (ENIM), University of Monastir (UM)

2008	B.E. Energy Engineering	Tunisia	Univer National Schoolf of Engineering of Monastir (ENIM), University of Monastir (UM)
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PhD, Master or Fellowship Research Title: (Academic Honors or Distinctions)

Ph.D Eng. With High and honours distinction	Modeling and optimization of hybrid energy systems
MSc. With High and honours distinction	Optimization of Solar-Wind-Based hybrid Energy systems for electrical power production.
B.E. With High and honours distinction	Investigation of hybrid energy systems for water and power production

Professional Record: (Beginning with the most recent)

Job Rank	Place and Address of Work	Date
Associate Professor	Department of Mechanical and Energy Engineering, College of Engineering, Imam Abdulrahman Bin Faisal University (IAU), Dammam, Saudi Arabia	From 17-04-2021 to present
Assistant Professor	Department of Mechanical and Energy Engineering, College of Engineering, Imam Abdulrahman Bin Faisal University (IAU), Dammam, Saudi Arabia	From 08-02-2018 to 16-04-2021
Assistant Professor	Department of Energy Engineering, National Engineering School of Monastir (ENIM), University of Monastir (UM)	From 28-09-2015 to 12-12-2017
Assistant	Department of Energy, Higher Institute of Sciences and Technologies of Energy (ISSTEG), University of Gafsa (UG)	From 15-09-2012 to 27-09-2015
Teacher Assistant	Department of Energy, Higher Institute of Sciences and Technologies of Energy (ISSTEG), University of Gafsa (UG)	From 22-09-2009 to 14-09-2012

Administrative Positions Held: (Beginning with the most recent)

#	Administrative Position	Office	Date
1	Member and International expert of external universities evaluation accredited by European Union's programme (Qualycert)	Tempus-Qualycert Office	2010-2013
2	Coordinator of Maghrenov Project (Mediterranean innovative markets in the field of Renewable Energies and Energy Efficiency) in collaboration between Monastir University and Catalonia University	Coordinator of Maghrenov Project (Mediterranean innovative markets in the field of Renewable Energies and Energy Efficiency) in collaboration between Monastir University and Catalonia University, Polytechnic of Catalonia in Spain in the years 2010-2013)	2011-2013
3	Coordinator of international Master Science Program (Renewable Energy and Energy Efficiency in Meadle East and North Africa)	Coordinator of international Master Science Program (Renewable Energy and Energy	2015-2017

		Efficiency in Middle East and North Africa, REMENA), REMENA Office in the Energy Engineering department in Monastir University (Tunisia), and in Electrical and computer Science in the Department of Electrical and Computer Science at Kassel University, Germany, 2015-2017)	
4	Member in the university of Monastir Scientific Council	Scientific Council office, University of Monastir (Tunisia)	2016-2017

Scientific Achievements

Some of Relevant Published/Refereed Scientific Researches

#	Name of Investigator(s)	Research Title	Journal	Acceptance Date
1	Taher S. Maatallah, Mussad Al-Zahrani, Salman Hilal, Abdullah Alsubaie, Mohammad Aljohani, Murad Alghamdi, Faisal Almansour, Loay Awad, Yassine Slimani, Sajid Ali	Solar-Thermal Process Intensification for Blue Hydrogen Production: Integrated Steam Methane Reforming with a Waste-Derived Red Mud Catalyst	Designs	November, 2025
2	Taher S. Maatallah, Mussad Al-Zahrani, Salman Hilal, Abdullah Alsubaie, Mohammad Aljohani, Murad Alghamdi, Faisal Almansour, Loay Awad, Sajid Ali	Design and Optimization of a Solar Parabolic Dish for Steam Generation in a Blue Hydrogen Production Plant	Hydrogen	October, 2025
3	Taher S. Maatallah	Advancing Clean Solar Energy: System-Level Optimization of a Fresnel Lens Interface for UHCPV Systems	Designs	September, 2025
4	Taher S. Maatallah, Mussad Al-Zahrani, Souheil El Alimi, Sajid Ali	Optothermal Modeling for Sustainable Design of Ultrahigh-Concentration Photovoltaic Systems	Sustainability	June, 2025
5	Taher S. Maatallah, Mussad Al-Zahrani, Willaims James, Katies Shanks,	Structural Analysis of a Modular High-Concentration PV System Operating at ~1200 Suns	Machines	May, 2025

	Souheil El Alimi, Tapas Malick			
6	Taher S. Maatallah, Faisal Wahab, Sajid Ali Mussad Al- Zahrani, Arshad Jamal	Fiber Optic Daylighting with Concentrating Solar Collectors: A State-of-the- Art Review	Energies	April, 2025
7	Taher S. Maatallah, Sajid Ali	Numerical Investigation of the Opto-Electric and Thermal Performance of a Newly Enhanced Double V-Trough Low Concentration Photovoltaic System for Sustainable Solar Energy Utilization	Sustainability	March, 2025
8	Taher S. Maatallah, Faisal Wahab, Sajid Ali Mussad Al- Zahrani, Arshad Jamal	Numerical Investigation of Natural Light Transmission Through Fiber Optics	Energies	February, 2025
9	Mussad M. Alzahrani, Katie Shanks, Yusuf Chanchangi, William J. Cameron, Taher S. Maatallah, Tapas K. Mallick	Record high solar concentration ratio for photovoltaics: Experimental validation for achieving effective concentration of >1200 suns	Solar Energy	March, 2024
10	Maatallah TS, Ahlem H. Farooq S, and Sajid K	Simulated Performance Analysis of a Hybrid Water-Cooled Photovoltaic/Parabolic Dish Concentrator Coupled with Conical Cavity Receiver	Sustainability	January, 2024
11	Farooq S, Maatallah TS, Ahlem H., and Sajid K	Novel Cooling Strategy for a Hybrid Photovoltaic/Parabolic Dish Concentrator	Applied Sciences	December, 2023
12	Sofian I, Khaleel I, Hariri N and Maatallah TS	Experimental Investigation and Comparison of the Net Energy Yield Using Control-Based Solar Tracking Systems	International Journal of Photoenergy	June, 2022
13	Okasha A, Ghallab F and Maatallah TS	Numerical Study of Single- Layer and Stacked Minichannel-Based Heat Sinks Using Different Truncating Ratios for Cooling High Concentration Photovoltaic Systems	Sustainability	April, 2022

14	Houcine A, Maatallah TS and Saeed F	Steam and electrical power generation by a hybrid photovoltaic/parabolic dish concentrator using beam splitter technology	International Journal of Energy Research	April, 2022
15	Ghallab F, Maatallah TS and Richu ZachariahA	Novel trimmed heat extraction system for high-concentration photovoltaic in hot climate zones	International Journal of Energy Research	April, 2022
16	Maatallah TS , Richu Zachariah, Ghallab F and Okasha A	Enhanced Net Channel Based-Heat Sink Designs for Cooling of High Concentration Photovoltaic (HCPV) Systems in Dammam City	Sustainability	March, 2022
17	AlFalah G, Maatallah TS , Al-Amri FG	Performance analysis of a single cell-ultra-high concentration photovoltaic thermal module based on pin-fins cooling microchannel	International Journal of Energy Research	October, 2021
18	AlFalah G, Maatallah TS , Okasha A, Al-Amri FG	Design and optimization study of a densely packed ultrahigh concentration photovoltaic thermal array for desalination usability	International Journal of Energy Research	September, 2021
19	Maatallah T.S .	A comprehensive study of Pin Fins cooling channel for a single cell Concentration Photovoltaic system under Ultra-High concentration ratios.	International Journal of Energy Research	October, 2020
20	Richu Z., Maatallah TS and Anish M.	Environmental and economic analysis of a PV assisted mixed mode greenhouse solar dryer with thermal energy storage and exhaust air recirculation.	International Journal of Energy Reserach	July, 2020
21	AlFalah G, Maatallah TS , Alzahrani M, Al-Amri FG	Optimization and feasibility analysis of a microscale pin-fins heat sink of an ultrahigh concentrating photovoltaic system.	International Journal of Energy Reserach	July, 2020
22	Maatallah TS , Rihab Ammar	Design, modeling, and optimization of a dual reflector parabolic trough concentration system	International Journal of Energy Reserach	October, 2019

23	Maatallah TS , Richu Zachariah, and Ghallab F	Exergo-economic analysis of a serpentine flow type water based photovoltaic thermal system with phase change material (PVT-PCM/water)	Solar Energy	September, 2019
24	Maatallah TS , Ben Youssef W	Simulation and performance analysis of concentrating photovoltaic/thermal collector (CPV/T) with three-sided thermal insulation based on coupled optothermal model	Solar Energy	February, 2019
25	Wafa Ben Youssef, Maatallah TS , Christophe Menezo, Sassi Ben Nasrallah	Modeling and optimization of a solar system based on concentrating photovoltaic/thermal collector	Solar Energy	May, 2019
26	Ben Youssef W, Maatallah TS , Menizo C, Ben Nasrallah S	Assessment viability of a concentrating photovoltaic/thermal energy cogeneration system (CPV/T) with storage for a textile industry application	Solar Energy	November, 2017
27	Maatallah TS , Houcine Ahlem, Souheil El Alimi, Sassi Ben Nasrallah	A novel solar concentrating system based on a fixed cylindrical reflector and tracking receiver	Renewable Energy	October, 2017
28	Houcine A, Maatallah TS , El Alimi S and Ben Nasrallah S	The Performance Study of Parabolic Trough Concentrator Using a New RT3D-4R Method	International Journal of Control Theory and Applications	October, 2017
29	Houcine A, Maatallah TS , El Alimi S and Ben Nasrallah S	Optical modeling and investigation of sun tracking parabolic trough solar collector basing on Ray Tracing 3Dimensions-4Rays	Sustainable Cities and Society	September, 2017
30	Maatallah TS , Nahed Ghodhbane, Sassi Ben Nasrallah	Assessment of economic viability for hybrid energy system (PV/wind/diesel) with storage in the northernmost city in Africa, Bizerte, Tunisia	Renewable and Sustainable Energy Reviews	June, 2016
31	El Alimi S, Maatallah TS , Ben Nassrallah S	Break-even analysis and optimization of a stand-alone hybrid system with battery storage for	Renewable and Sustainable Energy Reviews	September, 2014

		residential load consumption-A case study		
32	El Ouderni AR, Maatallah TS , El Alimi S, Ben Nassrallah S	Experimental assessment of the solar energy potential in the gulf of Tunis, Tunisia.	Renewable and Sustainable Energy Reviews	December, 2013
33	Maatallah TS , El Alimi S, Dahmouni AW, Ben Nassrallah S	Wind power assessment and evaluation of electricity generation in the Gulf of Tunis, Tunisia	Sustainable Cities and Society	February, 2013
34	El Alimi S, Maatallah TS , Dahmouni AW, Ben Nassrallah S	Modeling and investigation of the wind resource in the gulf of Tunis, Tunisia	Renewable and Sustainable Energy Reviews	11, October 2012
35	Maatallah TS , El Ouderni AR, El Alimi S, Ben Nassrallah S	Experimental assessment of the solar energy potential in the gulf of Tunis, Tunisia	Sustainable Cities and Society	April, 2012
36	Renewable and Sustainable Energy Reviews	Performance modeling and investigation of fixed, single and dual axis tracking photovoltaic panel in Monastir city, Tunisia	Renewable and Sustainable Energy Reviews	October, 2011

Scientific Research Papers Presented to Refereed Specialized Scientific Conferences

#	Name of Investigator(s)	Research Title	Conference and Publication Date
1	Maatallah TS , Ali Al-Matar	Development of a Hybrid Sun/LED Lighting System-Based Multimode Fiber Optics	8th International Conference on Advances in Mechanical Engineering and Mechanics, ICAMEM 2024, June 28–30, 2024, Sousse, Tunisia
2	Wafa Ben Youssef, Maatallah TS , Sassi Ben Nasrallah	Numerical and economic investigation of a parabolic trough linear CPVT system	International Congress on Energetic and Environment Systems (IEES-2017), October 2017
3	Houcine Ahlem, Maatallah TS , Souheil El Alimi, Sassi Ben Nasrallah	The Performance Study of Parabolic Trough Concentrator Using a New RT3D-4R Method	18èmes Journées Internationales de Thermique JITH 2017 Stockage et conversion, July 2017
4	Wafa Ben Youssef, Maatallah TS , Sassi Ben Nasrallah	Numerical study of a Parabolic Trough Photovoltaic/Thermal Collectors (CPV/T)	18èmes Journées Internationales de Thermique JITH 2017 Stockage et conversion, July 2017
5	Houcine Ahlem, Maatallah TS , Souheil El Alimi, Sassi Ben Nasrallah	The performance study of parabolic trough concentrator using a new RT3D-4R method	3 rd International Conference on Green Energy and Environmental Engineering GEEE-2016, April 2016
6	Ahmed Ridha El Ouderni, Taher	Modeling and Investigation of the wind resources in the gulf of Tunis, Tunisia	9th International Conference on Heat Transfer, Fluid Mechanics

Maatallah , Sassi Ben Nasrallah	and Thermodynamics, HEFAT2012, Malta 16 – 18 July
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Project Researches

#	Research Title	Name of Investigator(s)
1	Dual Function Solar Panels Racking and Mounting System (Status: ongoing)	P.I.: Fahad Ghallab Al-Amri SPI: Dr. Ben White, Oxford University-UK SPI: Faisal Al-Mutairi, Al zamil Company Co-PI: Maatallah TS Co-PI: Ruy Sebastian Bonilla, Oxford University-UK Co-PI: Dr. Andrew Watt , Oxford University-UK
2	Concentrating Perovskite Solar Module: A Pathways towards 40% efficiency solar panel (Started on May 2024)	P.I.: Fahad Ghallab Al-Amri Co-PI: Maatallah TS Co-PI: <i>Tapas K Mallick</i> , Exeter university-UK Co-PI: <i>Nazeeruddin</i> , switzerland university-Swiss
3	Proposal for Design and Development of Air Compression Solar Energy Storage Systems for Saudi Water Authority (SWA), (Status: ongoing)	P.I.: Fahad Ghallab Al-Amri Co-PI: Maatallah TS Co-PI: Farooq Saeed, IAU Co-PI: Amro Owes, IAU Co: Mohammed Saleem, IAU
4	Hydrogen generator from enhanced performance HCPV. Granted by King Abdullah City for Atomic and Renewable Energy. In progress-Start date: June 2022.	P.I.: Fahad Ghallab Al-Amri Co-PI: Maatallah TS Co-PI: Nasir Hariri, IAU Co-PI: Saleem Mahmood, IAU Co-PI: Farooq Saeed, IAU Co-PI: Nagmeldeen Hassanian, IAU Co: Tapas Malik, Exeeter-UK <u>Industrian Partner</u> : Arzon Solar company, USA
5	Innovative Technique for Achieving Uniform Temperatures across Solar Panels Using Heat Pipes and Liquid Immersion Cooling in the Harsh Climate in the Kingdom of Saudi Arabia,” funded by the Dean of Scientific research, DSR, (Project Number: 2020-055-Eng, Approved and competed on April 2022).	P.I.: Fahad Ghallab Al-Amri Co-PI: Maatallah TS Co-PI: Sajid Khan, IAU

6	Development and implementation of a novel active cooled-PV system driving Air Gap membrane Desalination (AGMD) funded by DSR (Project is completed on June 2022)	P.I.: Fahad Ghallab Al-Amri Co-PI: Maatallah TS Co-PI: Sajid Khan, IAU Co-PI: Umar Seddiki, IAU Co-PI: Tapas Malik, Exeeter-UK
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List of Patents

#	Title	List of inventors	Status
1	Taher Maatallah, Mussad Al-zahrani, and	Development of a Hybrid Sun/LED lighting system-Based multimode Fiber optics (HSLM-FO)	US 19/200,857
2	Mussad Al-zahrani, and Taher Maatallah,	Multi-Focal Pyramidal Array (MFPA) for energy harvesting and decoupling high efficiency from high cost of Concentrating Photovoltaic (CPV) Systems	Submitted to USPTO
3	Mussad Al-zahrani, and Taher Maatallah, Louay Awad	Development of an Integrated Microwave Catalytic Reactor with Hydrogen-Selective Membrane for High-Efficiency Naphtha-to-Aromatics Conversion	Filed by USPTO
4	Taher Maatallah, Mussad Al-zahrani, and Louay Awad	Hybrid Turf System with a Recycled Polymer Shock-Absorbing Layer and a Reinforcing Framework	Submitted to USPTO
5	Mussad Al-zahrani, and Taher Maatallah, Louay Awad	Integrated System and Method for Sustainable Hydrogen Production and Critical Metal Recovery from Red Mud	Submitted to USPTO
6	Taher Maatallah, and Ahmed Al-Ouderni	Low cost 160 Watts Solar dryer -160 for aramoatic and medical plants	INNPRI TN-25831
7	Ahmed Al-Ouderni, Taher Maatallah, and Sassi Ben Nasrallah	Test rig for overall performance of parabolic dish collecors	INNPRI TN-22796

Contribution to Scientific Conferences and Symposia

#	Conference Title	Place and Date of the Conference	Extent of Contribution
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1	Energy Management Conference	College of Engineering Building A13, 14-15, January 2019	Participation
2-3	First and Second exhibitions and forums for solar and wind energy	College of Engineering Building A13, 8-9, April 2018	Organization
4	Second exhibition and forum for solar and wind energy	College of Engineering Building A13, 12-13, March 2019	Organization
5	KSA Jubail 2nd Energy Management Conference 2019	Jubail, December 2019	Participation

Teaching Activities

Undergraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs)
1	Fluid Mechanics	ENG-321, ENRG 314	Lectures and Labs
2	Numerical Computational Methods	MN-ENR2	Lectures and Labs
3	Renewable Energy	ENRG-406	Lectures and Labs
4	Solar Power design systems	ENRG-557	Lectures and Labs
5	Desalination	ENRG-413	Lectures and Labs
6	Air Conditioning	CA-ENRG1	Lectures and Labs
7	Computational Fluid Dynamics applied to heat transfer	MNAHT-MEC_N3	Lectures and software Labs
8	Computational Fluid Dynamics applied to Fluid Mechanics	MNAMF-MEC_N3	Lectures and software Labs
9	Energy Storage	ENRG 502	Lectures

Postgraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1	Safety Industrial Engineering	SAFEN-601	14 Lectures/3Labs
2	Bioenergy	BE-MA1	10 Lectures
3	Energy certification and management	ECM-MA1	11 Lectures
4	Energy Audits	EA-MA1	12 Lectures/2Labs

Student Academic Supervision and Mentoring

#	Level	Number of Students	From	To
1	Bachelor students	2	Sep.2015	May 2015
2	Bachelor students	4	Sep.2016	May 2016
3	Bachelor students	5	Sep.2017	May 2017
4	Bachelor students	3	Sep.2018	May 2018
5	Bachelor students	3	Sep.2019	May 2019
6	Bachelor students	3	Sep.2020	May 2020
7	Bachelor students	4	Sep.2021	May 2021
8	Bachelor students	4	Sep.2022	May 2022
9	Bachelor students	5	Sep.2023	May 2023
10	Bachelor students	5	Sep.2024	May 2025
11	Bachelor students	8	Sep.2025	Present

Supervision of Master and/or PhD Thesis

#	Degree Type	Title	Institution	Date
1	Ph.D.	Study and optimization of concentrating photovoltaic thermal systems»	National Engineering School of Monastir (ENIM), University of Monastir (UM)	Date of defense: 23, July 2020.
2	Ph.D.	Contribution to the solar thermal concentrators	National Engineering School of Monastir (ENIM), University of Monastir (UM)	Date of defense: 2, December 2017.
3	MSc	Thermal modeling of a symmetric Greenhouse sun dryer derived by a parabolic trough concentrator	Faculty of Sciences of Monastir (FSM), University of Monastir (UM)	Date of defense: 22, December 2017.
4	MSc	Study and exergetic optimization of an asymmetrical Greenhouse sun dryer	Faculty of Sciences of Monastir (FSM), University of Monastir (UM)	Date of defense: 24, December 2017
5	MSc	Energy audits and energy efficiency of White rooms in clinics	Institute of Higher Sciences and Technologies of Energy (ISSTEG), University of Gafsa (UM)	Date of defense: 20, June 2014.

Committee Membership

#	Committee	From-to	Position	Organization
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1	College of Engineering Senior Design Project committee	Standing committee; 2019-present	Chair	College of Engineering, IAU
2	College of Engineering Professional Exams for Engineering training committee	Standing committee; 2023-present	Chair	College of Engineering, IAU
3	Departmental Engineering Students activities committee	Standing committee; 2019-present	Chair	College of Engineering, IAU
4	University Professional Exams for Engineering training committee	2019-2022	Chair	College of Engineering, IAU
5	University Senior Design Project committee	Standing committee; 2019-present	Member	College of Engineering, IAU
6	University Higher research studies committee	Standing committee, 2019-2021	Member	College of Engineering, IAU

Personal Key Competencies and Skills: (Computer, Information technology, technical, etc.)

1	Programming: Fortran, Matlab, Python, EES...
2	Simulation applied to Renewable technologies: Ansys, COMSOL, Hybrid 2, HOMER, Retscreen, Pvsyst, Soltrace, ASPE, HELIOSCOPE, ASPEN HYSYS
3	Simulation applied to building audits: HAP, Carrier, REVIT
4	Drawing: Solid works, AUTOCAD

Last Update 29/10/2025