



FACULTY FULL NAME: DR. Hana Youssef Faltakh

POSITION: Assistant Professor

### Personal Data

Official IAU Email | hyfaltakh@iau.edu.sa

Office Phone No. | 0581170169

### Language Proficiency

Language	Read	Write	Speak
Arabic	Excellent	Excellent	Excellent
English	Excellent	V. Good	Good
Others/French	Excellent	Excellent	Excellent

### Academic Qualifications

Date	Academic Degree	Place of Issue	Address
2016	Ph.D in Physics	University of Carthage, Tunisia	Tunisia
2011	M.Sc in Physics	University of Carthage, Tunisia	Tunisia
2009	B.Sc in Physics	University of Carthage, Tunisia	Tunisia

### PhD, Master or Fellowship Research Title: (Academic Honors or Distinctions)

PhD	<b>Simulation and optimization of the performance of organic and inorganic Photovoltaic Solar Cells</b>
Master	<b>Simulation of Photovoltaic Solar Cells</b>

### Professional Record:



Job Rank	Place and Address of Work		Date
Assistant	Physics Department, Faculty of Sciences Bizerta	University of Carthage, Tunisia	2011-2014
Assistant Professor	Physics Department, PREP YEAR	University of Imam Abdulrahman Bin Faisal, SA	2016-now

## Scientific Achievements

### Published Refereed Scientific Research

#	Name of Investigator(s)	Research Title	Publisher and Date of Publication
1	<b>Hana Faltakh</b> , Ramzi Bourguiga, Mohamed. Ben Rabha, Brahim. Bessai	Simulation and optimization of the performance of multicrystalline silicon solar cell using porous silicon antireflection coating layer	<b>Superlattices and Microstructures. (2014)</b>
2	<b>Hana Faltakh</b> , Mounira Mahdouani, Issam Hemdana, Sadok Ben Dkhil, Ramzi Bourguiga, Joel Davenas	<b>Hana Faltakh</b> , Mounira Mahdouani, Issam Hemdana, Sadok Ben Dkhil, Ramzi Bourguiga, Joel Davenas	<b>Superlattices and Microstructures. (2014).</b>
3	Sadok Ben Dkhil, Rihab Ebdelli, Walid Dachraoui, <b>Hana Faltakh</b> , Ramzi Bourguiga, Joel Davenas	Improved photovoltaic performance of hybrid solar cells based on silicon nanowire and P3HT	<b>Synthetic Metals (2014)</b>



4	Sadam Rateb Darawsheh, Ahmed Mahmoud Elkilany, Anwar Saud Al-Sha'ar, Sabrin Abdelaty Labib Abdelaty, Yumna Ahmed Atoum, <b>Hana yousef Faltakh</b>	The degree to which faculty members at Imam Abdul Rahman bin Faisal University possess educational and social values from the students' viewpoint and its relationship to some variables.	<b>Ilkogretim Online - Elementary Education Online (2021)</b>
5	<b>Hana yousef Faltakh</b> , Ramzi Bourguiga, Amira Ben Ahmed	Hybrid Solar Cells Based in Silicon Nanowires: Electronic Simulation and Optimization	<b>Silicon (2021)</b>
6	Mohamed S. Abd-El-Aty, Mahmoud I. Abo-Youssef, Mohamed M. Bahgt, Omar M. Ibrahim, <b>Hana Faltakh</b> , Hela Nouri, Shereen Magdy Korany, Emad A. Alsherif, Hamada AbdElgawad and Amira M. El-Tahan	Mode of gene action and heterosis for physiological, biochemical, and agronomic traits in some diverse rice genotypes under normal and drought conditions	<b>Frontiers (2023)</b>
7	Ferjani, I, Mallouli, F., Gmach, I., Chaabane, N., Chammakhi, H., Dakhlaoui, M., <b>faltakh, H.</b>	Stock Price Forecasting: A Comparative Analysis of Time Series and Machine Learning Models	<b>11th International Conference on Computational Science and Computational Intelligence, CSCI 2024</b>
8	Sana Aljishi, Sarah Alyami <sup>1</sup> , Eman Alghorabi, <b>Hana Faltakh</b> , Hamid Zentou, Mahmoud Abdelnaby, Ghada.I. Ameerah, Fawziah Alhajri	Techno-Economic Assessment of Hybrid Renewable Energy Systems for Direct Air Capture in Saudi Arabia	<b>Under review</b>

## Contribution to Scientific Conferences and Symposia



#	Conference Title	Place and Date of the Conference	Extent of Contribution
1	Conférence Internationale des Energies Renouvelables <b>(CIER 13)</b>	15-17 December 2013 - Sousse, Tunisia	<b>Poster</b>
2	9èmes JOURNEES MAGHREB-EUROPE. Matériaux et applications aux dispositifs et capteurs <b>(Madica 2014)</b>	5 – 7 November 2014 Mahdia, Tunisia	<b>Poster</b>
3	Le 11ème colloque National de la recherche en physique <b>(STP 2014)</b>	19 – 23 December 2014 Sousse Tunisia	<b>Poster</b>
4	Third EuroMediterranean Meeting on Functionalized Materials <b>(EMM-FM 2015)</b>	09-13 September, 2015 Hammamet, Tunisia	<b>Speaker</b>
5	Fifth Tunisian Crystallographic Meeting <b>(TCM V)</b>	20-24 March, 2016 Hamamet, Tunisia	<b>Speaker</b>
6	The Green sustainable Future in the Kingdom of Saudi Arabia (GiKS) 2024	30-31 January 2024, KFUPM Dhahran Saudi Arabia	<b>Attendance</b>



7	Mediterranean Sustainable energy investments: National roundtable in Tunisia	29 February 2024, Tunisia	Attendance
8	تحدي الطاقثون	18 April 2024, IAU Saudi Arabia	Project evaluation
9	ملتقى البحث العلمي وابتكار 2024	15-16 May 2024, IAU Saudi Arabia	Project evaluation
10	تحدي الطاقثون	26 November 2025	Project evaluation
11	سحر الفيزياء	30 April 2025	Project evaluation
12	The Green sustainable Future in the Kingdom of Saudi Arabia GIks 2025	29-30 January 2025, KFUPM Dhahran Saudi Arabia	Attendance
13	Expo 2025	26 May 2025	Poster

## Teaching Activities

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1	PHYSICS	PHYS-104 PHYS -106	<p><b>List of Topics (Theory):</b></p> <p>Kinematics Dynamics Statics Elasticity Energy Fluids Waves and Sound Nuclear Radiation Electricity</p> <p><b>List of Topics (Practical)</b></p> <p>-Data and Analysis: Absorption of gamma ray in lead</p>



			<p>Levers and Fulcrum:                      -Hooke's Law                      -Eye Model                      -Specific Heat Capacity: Heat transfer                      -Coefficient of Viscosity: Intravenous System                      -Ohm's Law: Parallel and Series combination of Resistors                      -Oscilloscope: Voltage and -Frequency Measurements                      -Speed of Sound: Half Open Tube                      -Standing Waves on a String                      -Pascal principle</p>
2	Electronics	Cs-222	<p><b>List of Topics (Theory):</b>                      -Ohm's Law, Energy and Power                      - DC Series/Parallel Circuits and analysis                      - Alternating Current and Voltage                      - Capacitor and RC Circuits(in DC and AC modes)                      - Inductor and RL circuits (in DC and AC modes)                      - Parallel And series RLC circuits                      - Diodes characteristics, models and applications                      - BJT Transistor: Characteristics, Biasing circuits and applications                      - Operational Amplifier and application</p>
3	Advanced Green energy laboratory	PHRE- 507	<p><b>List of Topics (Practical):</b>                      -Wind energy system connected to DC , AC load                      -Photovoltaic energy system connected to DC , AC load                      -Hybrid energy system connected to DC, AC load                      -Solar tracker system connected to DC load</p>
4	Training of solar cells	PHYS 309	<p><b>List of Topics (Practical):</b>                      -Seminars (Semiconductor Properties Analysis, Crystal Growth Methods Analysis, Solar Cell Technology)                      -PVsyst simulation Workshops:                      HOMER PRO simulation Workshop</p>



		- Designing Solar Cell Project by Using SCAPS Software

### Course Coordination

#	Course Title and Code	Coordination	From	To
1	PHYSICS 104	✓	2016	2023
2	PHYSICS 106	✓	2023	2025
3	Electronics Cs 222	✓	2024	2025
5	Undergraduate project	✓	2024	2025

### Committee Membership

#	From	To	Position
	09/2023	06/2025	Exam committee Lab exam committee Lectures and Teaching Committee Member in the academic advising Member in the Strategic plan Member in the Supervision and Development Committee PREP Year Member of the correction committee
	09/2022	06/2023	Exam committee Lab exam committee Lectures and Teaching Committee Member in the academic advising Member in the strategic plan Member of the correction committee
	09/2021	06/2022	Exam committee Lab exam committee Lectures and Teaching Committee Member in the academic advising Member in the strategic plan Member of the correction committee
	09/2020	06/2021	Exam committee Lab exam committee Member in the academic advising Member of the correction committee



	<b>09/2019</b>	<b>05/2020</b>	Exam committee Lab exam committee Qasd committee Member in the academic advising Member of the correction committee Committee of behavior control
	<b>09/2018</b>	<b>05/2019</b>	Lectures and Teaching Committee Member in the academic advising Member of the correction committee Committee of behavior control
	<b>09/2017</b>	<b>06/2018</b>	Exam Committee Member in the academic advising Member of the correction committee Committee of behavior control
	<b>09/2016</b>	<b>06/2017</b>	Committee of behavior control Member in the academic advising Member of the correction committee

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

<b>1</b>	<b>Computer hardware / software</b>
<b>2</b>	Microsoft Word/Excel/PowerPoint
<b>3</b>	Adobe Photoshop
<b>4</b>	MATLAB
<b>5</b>	Origin Lab-ORIGIN
<b>6</b>	Homer PRO
<b>7</b>	PVsyst
<b>8</b>	SCAPS 1D

Last Update

28/05/2025