



FACULTY FULL NAME: Dr. AMANI RACHED

POSITION: Assistant Professor

Personal Data

Nationality | Tunisian

Date of Birth | 23/08/1983

Department | Physics

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Office Phone No. | 37482

Language Proficiency

Language	Read	Write	Speak
Arabic	√	√	√
English	√	√	√
French	√	√	√

Academic Qualifications (Beginning with the most recent)

Date	Academic Degree	Place of Issue	Address
2017	PHD	University of Monastir	University of Monastir-5000-Monastir-Tunisia
2010	Master	University of Monastir	University of Monastir-5000-Monastir-Tunisia
2008	Bachelor in Fundamental Physics	University of Monastir	University of Monastir-5000-Monastir-Tunisia
2006	Diploma in Mathematics and Computer Science	University of Monastir	University of Monastir-5000-Monastir-Tunisia

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

PhD	Study of electronic transport in resonant tunneling diodes based on nitride Semiconductors.
Master	Energy band structures and optical proprieties of InGaN/GaN single quantum and multi-quantum wells.



Professional Record: (Beginning with the most recent)

Job Rank	Place and Address of Work			Date
Researcher and Assistant Professor	College of Science	Imam Abdulrahman Bin Faisal University	KSA	From 15/09/2018
Researcher	College of Science	University of Monastir	Tunisia	2017-2018
Assistant Professor	College of Science	University of Gafsa	Tunisia	2016-2017

Administrative Positions Held: (Beginning with the most recent)

Administrative Position	Office	Date
Head of Unit	Statistical and Analysis Measurement Unit, College of Science, IAU	From 11/2020

Scientific Achievements

Published Refereed Scientific Researches

(In Chronological Order Beginning with the Most Recent)

#	Name of Investigator(s)	Research Title	Publisher and Date of Publication
1	Imen Massoudi, Ridha Hamdi, Amani Rached , Zainah A AlDhawi, Fatimah M Alobaidan, Hawra M Alhamdan, Ghadeer A Almohammed Ali, Fatimah E Almuslim, Amor Ben Ali	Vanadium Pentoxide Nanoparticles Doped ZnO: Physicochemical, Optical, Dielectric, and Photocatalytic Properties	International Journal of Biomaterials, Volume2023, (11/2023)
2	Rabeb Belghouthi, Amani Rached , Michel Aillerie, Ramdani Mohammed, Rajat Gujrati, Jean-Paul Salvestrini	N-Face Semi-Bulk Absorber Boosts Conversion Efficiency of InGaN Solar Cell	Journal of Electronic Materials, 0361-5235 (09/2023)
3	Ridha Hamdi, Amani Rached , Amal L Al-Otaibi, Imen Massoudi, Shouq Alkorbi, Amor Saidi Ben Ali	Physical, Static, and Kinetic Analysis of the Electrochemical Deposition Process for the Recovery of Heavy Metal from Industrial Wastewater.	Scientifica, Volume2023, (01/2023)
4	R. Hamdi, A. Rached , I. Massoudi, R. Al-Zuraie, K. Al-Hamadah, A. Al-Otaibi, T. Flemban, N. Alonizan and T. Ghrib	Electrodeposition Study of Silver: Nucleation Process and Theoretical Analysis.	Journal of Electronic Materials 50 (10), 5507-5513 (2021)



5	Q Mahmood, T Ghrib, A Rached , A Laref, MA Kamran	Probing of mechanical, optical and thermoelectric characteristics of double perovskites Cs ₂ GeCl/Br ₆ by DFT method.	Materials Science in Semiconductor Processing 112, 105009(2020)
6	T Ghrib, A Rached , Eman Algrafy, Ibtessam A Al-nauim, Hind Albalawi, MGB Ashiq, Bakhtiar Ul Haq, Q Mahmood	A new lead-free double perovskites K ₂ Ti (Cl/Br) ₆ ; a promising material for optoelectronic and transport properties probed by DFT.	Materials Chemistry and Physics 264, 124435(2021)
7	R Belghouthi, M Aillerie, A Rached , H Mejri	Effect of temperature on electronic and electrical behavior of InGaN double hetero-junction pin solar cells	Journal of Materials Science: Materials in Electronics 30 (4), 4231-4237 (2019)
8	A Rached , A Bhourri, S Sakr, JL Lazzari, H Belmabrouk	Self-consistent vertical transport calculations in Al _x Ga _{1-x} N/GaN based resonant tunneling diode	Superlattices and Microstructures 91, 37-50 (2016)
9	A Bhourri, A Rached , JL Lazzari	Resonant tunneling transport in Al _z Ga _{1-z} N/In _x Ga _{1-x} N/Al _z Ga _{1-z} N/In _y Ga _{1-y} N quantumstructures	Journal of Physics D: Applied Physics 48 (38), 385102 (2015)

Scientific Research Papers Presented to Refereed Specialized Scientific Conferences

#	Name of Investigator(s)	Research Title	Conference and Publication Date
1	A. Rached , A. Bhourri, H. Belmabrouk and J.-L. Lazzari	Resonant Tunneling Transport in Al _{0.5} Ga _{0.5} N/ In _x Ga _{1-x} N/Al _{0.5} Ga _{0.5} N/In _{0.1} Ga _{0.9} N quantum structures	Nanotech MEET Tunisia 2014 International Conference Proceeding, 2014



Contribution to Scientific Conferences and Symposia

#	Conference Title	Place and Date of the Conference	Extent of Contribution
1	SETCOR Nanotech MEET Tunisia 2014, Hammamat, TUNISIA	Tunisia, Avril 24-26, 2014	Resonant Tunnelling Transport in $\text{Al}_{0.5}\text{Ga}_{0.5}\text{N}/\text{In}_x\text{Ga}_{1-x}\text{N}/\text{Al}_{0.5}\text{Ga}_{0.5}\text{N}/\text{In}_{0.1}\text{Ga}_{0.9}\text{N}$ quantum structures
2	International Conference on Multifunctional Materials and their Applications (MAP-2016),	TUNISIA, May 6-8, 2016	Self-consistent vertical transport calculations in $\text{Al}_x\text{Ga}_{1-x}\text{N}/\text{GaN}$ based resonant tunneling diode, Oral
3	1st Regional Virtual - Symposium on Physics Advances 2020	Bahrain, Mai 2020	Computational modelling and optimization of transmission coefficient in GaN and GaAs based resonant tunneling diodes using the TMM, Oral
4	1st Regional Virtual - Symposium on Physics Advances 2020	Bahrain, Mai 2020	Electrodeposition study of silver electrodeposits: Nucleation process & theoretical analysis, Poster
5	The International Webinar on Science, Sustainable Development and Ecosystems in Saudi Arabia (SSDE'21)	KSA, March 2021	Modelling and Performance optimization of InGaN based PIN Solar cells, Oral
6	The International Webinar on Science, Sustainable Development and Ecosystems in Saudi Arabia (SSDE'21)	KSA, February 2021	Design of an application interface to model quantum wells based optoelectronic devices



Current Researches

#	Research Title	Name of Investigator(s)
1	New Transparent Semiconducting Oxides for Solar Cell Applications	Imen Massoudi; Alotiaibi Amal, Rached Amani Fouzri AfifHamdi, Ridha

Teaching Activities

Undergraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1	Electricity and Magnetism	PHYS301	Lectures, Coordinator and Course Instructor
2	Practical Physics	PHYS407N	Labs, Course Instructor
3	Quantum Physics	PHYS411N	Lectures, Coordinator and Course Instructor
4	Computational Methods in Physics I	PHYS405	Lectures and Labs, Coordinator and Course Instructor
5	Summer Training	PHYS408	Labs and Lectures
6	Computational Methods in Physics II	PHYS506	Lectures and Labs, Coordinator and Course Instructor
7	Physics Project Seminar	PHYS509	Lectures and Labs, Course Instructor
8	Experimental Physics	PHYS303	Labs, Course Instructor
9	Modern Physics and Introduction to Quantum Mechanics	PHYS401	Lectures, Course Instructor



Computational Methods in Physics I	√		√		2018	Up to date
Computational Methods in Physics II	√		√		2019	Up to date
Electricity and Magnetism	√		√		2020/ 2021	2020 /2021
Computational Physics	√			√	2018/ 2019	2019 /2020
Quantum Mechanics	√		√		2018/ 2019	2019 /2020

Student Academic Supervision and Mentoring

#	Level	Number of Students	From	To
	Master	1	2017	2018
	Bachelor	13	2020	2023

Supervision of Master and/or PhD Thesis

#	Degree Type	Title	Institution	Date
1	Master	Influence of intrinsic defects on electronic transport in resonant tunneling diodes	College of Science – University of Monastir Tunisia	2017
2	PhD	Physical and Dielectric properties of modified metal oxide nanostructures and evaluation of their antimicrobial activity against human pathogens	College of Science – Imam Abdulrahman Bin Faisal University, KSA	Since 2023

Administrative Responsibilities, Committee and Community Service (Beginning with the most recent)

Administrative Responsibilities

#	From	To	Position	Organization
	10/2020	Up to Date	Head	Statistical Analysis and measurement Unit



Committee Membership

#	From	To	Position	Organization
1	Sep 2018	June 2019	President	Security and Safety Committee, Department of Physics
2	Sep 2018	Up to date	Member	The Undergraduate Academic Development Committee
3	Sep2019	June2020	President	Examining Committee, Department of Physics
4	Sep2019	June2020	Member	The Postgraduate Academic Development Committee
5	Sep 2020	June 2022	President	Learning Outcomes Measurement Committee
6	From Sep 2022	Up to date	Member	Quality and Academic Accreditation, Department of Physics

Volunteer Work

#	From	To	Type of Volunteer	Organization
	1 Jan 2021	31 March 2021	Mentorship	Research Apprenticeship
	31 Jan 2020	31 March 2020	Mentorship	Science Talent Development Program
	2020	2021	Mentorship of talented students from Al-Khobar Education	Office Al-Khobar Education Office

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

1	Programmer of MATLAB and have a high level of information technology skills.
2	Prepare Statistical reports: SPSS
3	User of Microsoft Office (Word, Excel, Access, Power Point), Internet, Origin, Winelli, etc.

Last Update

12/12/2023