



Dr. Abbad Fahad Al Baroot

Associate Professor

Personal Data

Nationality: Saudi

College: College of Engineering

Major: Materials Science

Official email: afaalbaroo@iau.edu.sa

Office Phone No. 0133331733

Carrier Objective

My primary goal is to contribute to the academic community by providing high-quality education to students, publish research findings in reputable journals, secure research funding, and engage in service to the university and the academic community.

Language Proficiency

Language	Read	Write	Speak
Arabic	Native	Native	Native
English	Fluent	Fluent	Fluent

Academic Qualifications (Beginning with the most recent)

Date	Academic Degree	Place of Issue	Address
Aug 2019	PhD in Materials Science	University of Sheffield	Sheffield, UK
May 2014	Master's degree in physics	Kent State University	Kent, USA
May 2008	Bachelor's degree in physics	University of Dammam	Dammam, KSA

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

PhD	Water gated thin film- transistors: Ion sensing and modes of operation.
-----	--

Professional Record: (Beginning with the most recent)

Job Rank	Place and Address of Work	From	To
Associate Professor	IAU, College of Engineering	July 2024	Present
Assistant Professor	IAU, College of Engineering	Nov 2019	June 2024
Lecturer	University of Dammam	June 2014	Nov 2019
Teaching Assistant	University of Dammam	May 2011	May 2014



Teacher	Royal Commission in Jubail	March 2009	Apr 2011
---------	----------------------------	------------	----------

Completed Program

Academic Fellowship Program for Heads of Scientific Departments	Leadership Centre	2022	60 Hours
---	-------------------	------	----------

Scientific Achievements

Published Refereed Scientific Research

(In Chronological Order Beginning with the Most Recent)

#	Name of Investigator(s)	Research Title	Publisher and Date of Publication
1	T. Althagafi, A. Al Baroot , et.al	A membrane- free cation selective water- gated transistor.	Analyst , 2016,141, 5571-5576.
2	T. Althagafi, A. Al Baroot and M. Grell	A new precursor route to semiconducting Zinc Oxide.	IEEE Electron Device Letters , 2016, 0741-3106
3	A. Al Baroot and M. Grell	. "Comparing electron-and hole transporting semiconductors in ion sensitive water-gated transistors."	Materials Science in Semiconductor Processing 89 (2019): 216-222.
4	A. Al Baroot , A. Alshammari, and M. Grell.	Electrochemical gating of a hydrophobic organic semiconductor with aqueous media.	Thin Solid Films , 2019, 665-669.
5	M. Alheshibri, Abbad Al Baroot , Lingling Shui and Minmin Zhang	Nanobubbles and nanoparticles	Current Opinion in Colloid & Interface Science Volume 55, October 2021, 101470
6	K.A. Elsayed M. Alomari, Q.A. Drmosh, M. Alheshibri . Abbad Al Baroot , et.al	Fabrication of ZnO-Ag bimetallic nanoparticles by laser ablation for anticancer activity	Alexandria Engineering Journal , 2021
7	M. Alheshibri, Sultan Akhtar, Abbad Al Baroot , et.al	Template-free single-step preparation of hollow CoO nanospheres using pulsed laser ablation in liquid environment	Arabian Journal of Chemistry , (2021), 14,103317
8	S. A.Haladu, K.A.Elsayed, I.	Laser-assisted Fabrication of	Optics & Laser



	Alade, M. Alheshibri, Abbad Al Baroot , et.al	Silver Quantum Dots/ Polyaspartate Polymer Composite for Antimicrobial Applications	Technology Volume 152, August 2022, 108122
9	Abbad Al Baroot , Muidh Alheshibri, Q.A. Drmash, Sultan Akhtar, Essam Kotb, Khaled Elsayed	A novel approach for Fabrication ZnO/CuO Nanocomposite Via Laser Ablation in Liquid and its Antibacterial Activity	Arabian Journal of Chemistry Volume 15, Issue 2, February 2022 , 103606
10	Abdullah A. Manda, Khaled Elsayed, Abbad Al Baroot , et.al	Enhanced photocatalytic degradation of methylene blue by nanocomposites prepared by laser ablation of Bi on CNT- α -Fe ₂ O ₃ nanoparticles	Optics & Laser Technology Volume 155, November 2022 , 108430
11	Muidh Alheshibri , N. M. Shalan ,Q. A. Drmash , Abbad Al Baroot , et.al.	Tailoring the Surface Morphology of Nanostructured Cobalt Oxide for High Sensitivity CO Sensor	Journal of Materials Science Volume 57, pages12865–12874 (2022)
12	Abbad Al Baroot	Doping Organic Thin Film Transistor by Valinomycin for Detecting Ion of Potassium	Material Science Forum , Vol 1067, Aug 2022
13	M. Alheshibri, Shamsuddeen, Sultan Akhtar, Abbad Al Baroot , et.al	Synthesis of Ag nanoparticles-decorated on CNTs/TiO ₂ nanocomposite as efficient photocatalysts via nanosecond pulsed laser ablation	Optics & Laser Technology Volume 155, November 2022 , 108443
14	Abbad Al Baroot *, Q. A. Drmash , Khaled Elsayed, et.al	Investigating the antibacterial activity of nanostructured tungsten oxide prepared by pulsed laser ablation at different hydrogen peroxide concentrations	Optical Materials Volume 133, November 2022 , 112886
15	Abbad Al Baroot *, Muidh Alheshibri, Q.A. Drmash, Sultan Akhtar, Essam Kotb, Khaled Elsayed	One-pot synthesis of SnO ₂ nanoparticles decorated multi-walled carbon nanotubes using pulsed laser ablation for photocatalytic applications	Optical and laser technology Volume 157, January 2023 , 108734
16	S. Haladu, Muidh Alheshibri,	Fast one-pot laser-based	Optical and laser



	A Manda, Abbad Al Baroot , K. Elsayed , İsmail Ercane, Filiz Ercan	fabrication of ZnO/TiO ₂ -reduced graphene oxide nanocomposite for photocatalytic applications	technology Volume 160, May 2023 , 109105
17	Hassan S Al Qahtani, Sultan Akhtar, Mir Waqas Alam, M. K. Hossain, Abbad Al Baroot , M. Alheshibri	Fabrication and Characterization of Au-Decorated MCM-41 Mesoporous Spheres Using Laser-Ablation Technique	Materials 2022 , 15(21), 7470
18	K Elsayed, , AbbadAl Baroot , et.al	Thermal, dielectric and optical studies on cellulose acetate butyrate-gold nanocomposite films prepared by laser ablation	Journal of Materials Research and Technology Volume 23 , March–April 2023 , P419-437
19	M Alheshibri, E Kotb, S A Haladu, Abbad Al Baroot , QA Drmosh, F Ercan, E Çevik, K Elsayed	Synthesis of highly stable Ag/Ta ₂ O ₅ nanocomposite by pulsed laser ablation as an effectual antibacterial agent	Optical and laser technology , Volume 162, Feb 2023 , 109295
20	Abbad Al Baroot , K Elsayed, A A Manda, S Haladu, S Musa Magami, E Çevik, QA Drmosh	Efficient catalytic reduction of 2-nitrophenol using cellulose acetate butyrate/CuO nanocomposite prepared by laser ablation technique	Journal of Polymers and the Environment , 31, pages2956–2967 (2023)
21	Abbad Al Baroot , S A Haladu, et.al	Photocatalytic performance of Ag/TiO ₂ /SiO ₂ nanocomposite synthesized by eco-friendly pulsed laser ablation technique	Journal of Physics and Chemistry of Solids , Volume 180, June 2023 , 111489
22	Abbad Al Baroot * , K. A. Elsayed , et.al	Anticancer Activity of Au/CNT Nanocomposite Fabricated by Nanosecond Pulsed Laser Ablation Method on Colon and Cervical Cancer	Micromachines 2023 , 14 (7), 1455
23	Abbad Al Baroot , S.A. Haladu, K.A. Elsayed, et.al	Enhancement of catalytic reduction of 4-nitrophenol using MoO ₃ nanobelts incorporated SiO ₂ nanocomposite fabricated by nanosecond pulsed laser ablation technique	Physica Scripta , 7-2023



Current Research funded by DSR

#	Research Title	Name of Investigator(s)	
1	Organic chemiresistors and water gated field effect transistors for the detection of low levels of benzene pollution in water	A. Albaroot, M. Alheshibri, K. Alsayed,	80000 SAR Completed 2020
2	Fabrication of Hollow Metal Oxide Nanoparticles via Laser Ablation Technique	M. Alheshibri, A. Albaroot, K. Alsayed.	80000 SAR Completed 2020

Contribution to Scientific Conferences and Symposia

#	Conference Title	Place and Date of the Conference	Extent of Contribution
1	Electrical and Related Properties of Organic Solids (ERPOS)	Crown ethers in ion- sensitive water- gated transistors with organic and inorganic semiconductors". Conference held in University of St Andrews, Scotland (9-13 July 2017).	Poster presentation
2	UK semiconductors 16	Sensing waterborne analytes with water- gated thin film transistors. UK Semiconductors '16, Sheffield, United Kingdom, July, 2016.	Poster presentation
3	ICNMS 22	Doping Organic Thin Film Transistor by Valinomycin for Detecting Ion of Potassium Singapore, Feb 2022	Oral presentation, proceeding paper



Committees

#	Committee	Role	Year
1	Study plan and programs developing	member	2023-now
2	Academic Advisors	Advisor	2019 -now
3	Learning resources and E-learning	member	2023-now
4	Interviews committee BESD	member	2023- now

Research websites.

1. <https://scholar.google.com/citations?user=yTv28isAAAAJ>

2. <https://www.researchgate.net/profile/Abbad-Al-Baroot>

3. <https://sa.linkedin.com/in/abbad-albaroot-798630111>

Teaching Activities

Undergraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
	Physics I (COE)	Phys 271	4 credits; Lecture and Lab
	Physics II (COE)	Phys 272	4 Credit; Lectures and Lab
	Electronic Devices & Circuits	Eng 322	3 credits; Lecture and Lab
	Senior Design Project II	ENRG 509	3 credits
	Directed Research	ENRG 565	3 credits

Student Academic Supervision and Mentoring

#	Level	Number of Students	From	To
	3 and 4	30	2019	2021
	3 and 4	30	2021	2022
	3 and 4	30	2022	2023
	3 and 4	30	2023	2024

Activities

1. Reviewer in The Journal of Colloid and Interface Science.
2. Reviewer in Journal of Materials Science.
3. Reviewer in Results in Engineering.
4. Reviewer in Nanoscales Advances.
5. Reviewer in Materials Today Chemistry.
6. Reviewer in Hackathon of Engineering 2022 in the College of Engineering at IAU.
7. Technical committee member in ICNMS, Singapore 2022 and 2023.



Training Program Attendance in IAU

1	Flipped Classrooms
2	Learning based on projects
3	Leadership Competencies
4	Electronic Leadership
5	Integrating the skills of twenty-first century into the classroom
6	Lead discussions and ask questions to develop higher-order thinking skills
7	Using and Creating Effective Rubrics
8	University teaching considering the requirements of development - the labor market and the skills of the twenty-first century
9	University professor in the twenty-first century from the perspective of the TIPAC model
10	Leadership styles

Research skills Seminars (Attendance in University of Sheffield)

1	Tools for literature searching
2	Introduction to End note
3	Copyright for eTheses
4	Beyond the Impact Factor: using metrics to help identify influential research
5	Fast Track: literature searching & reference management
6	Standing out from the crowd: boosting your digital presence
7	Looking after your research data
8	Sharing your research: open access and open data
9	Promoting yourself well at Academic interviews
10	Getting experience during your PhD

Professional skills

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

1	Using some scientific programs (Origin software, Mathematica)
2	Laboratory safety
3	Working as a team and supporting my colleagues.
4	Collaborations with some research groups.
5	Proficient in using Microsoft office (word, excel and power point)

20/7/2024