



Reem Khalid Al-Dakheel

Assistant Professor

Personal Data

Nationality | Saudi

Date of Birth | 17/11/1982

Department | Physics

Official IAU Email | raldakheel@iau.edu.sa

Office Phone No. | 01333-37304

Language Proficiency

Language	Read	Write	Speak
Arabic	✓	✓	✓
English	✓	✓	✓
Others			

Academic Qualifications (Beginning with the most recent)

Date	Academic Degree	Place of Issue	Address
2-7-1444 H 24-1-2023 G	Doctor of Philosophy in Physics (Material Physics)	Physics Department- College of Science- Imam Abdulrahman Bin Faisal University	Dammam- Kingdom of Saudi Arabia
27-10-1434 H 3-9-2013 G	Master	Physics Department- College of Science-King Saud University	Riyadh-Kingdom of Saudi Arabia
5-5-1426 H 12-6-2005 G	Bachelor	Physics Department-Girls College of Science (currently Imam Abdulrahman bin Faisal University)	Dammam- Kingdom of Saudi Arabia

Ph.D., Master, or Fellowship Research Title: (Academic Honors or Distinctions)

PhD	Utilization of Laser Induced Breakdown Spectroscopy Technique for Elemental Analysis of Biological Samples
Master	Spectral discrimination between benign and malignant breast tumors
Fellowship	

Professional Record: (Beginning with the most recent)

Job Rank	Place and Address of Work			Date
Assistant Professor	Physics Department - College of Science	Imam Abdulrahman bin Faisal University	Dammam-Kingdom of Saudi Arabia	13/1/1445
Lecturer	Physics Department - College of Science	Imam Abdulrahman bin Faisal University	Dammam-Kingdom of Saudi Arabia	16/4/1435



Demonstrator	Physics Department - College of Science	Imam Abdulrahman bin Faisal University	Dammam-Kingdom of Saudi Arabia	19/10/1429
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Administrative Positions Held: (Beginning with the most recent)

Administrative Position	Office	Date
Head of the Innovation and Entrepreneurship Unit at the College of Science (as a part of the Vice Deanship for Scientific Research and Innovation).	SF-12 Building 5	From 1-6-1444 H (25-12-2022 G) Until now

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	Aldakheel, R. K., Gondal, M. A., Almessiere, M. A	Laser-Induced Breakdown Spectroscopy for the Analysis of Cultivated Soil. In V. K. Singh, D. K. Tripathi, Y. Deguchi, Z. Wang (Ed). Laser-Induced Breakdown, Concepts, Instrumentation, Data Analysis and Applications (pp. 767-780).	New Jersey: John Wiley & Sons, Ltd.,17/3/2023 G
2	Aldakheel, R. K., Gondal, M. A., Almessiere, M. A.	Capabilities and Limitations of Laser-Induced Breakdown Spectroscopy for Analyzing Food Products. In V. K. Singh, D. K. Tripathi, Y. Deguchi, Z. Wang (Ed). Laser-Induced Breakdown, Concepts, Instrumentation, Data Analysis and Applications (pp. 807-822).	New Jersey: John Wiley & Sons, Ltd., 17/3/2023 G
3	M. A. Gondal, M. A. Almessiere, F. A. Khan, S. Rehman, A. Baykal, R. K. Al-dakheel	Quantification of the micronutrient profile in moringa oleifera tree leaves using calibration-free laser-induced breakdown spectroscopy	U.S. Patent Application No. 17/535,081. Washington, DC: U.S. Patent and Trademark Office. 2022.
4	N. Idris, M. A. Gondal, K. Lahna, M. Ramli, A. M., Sari, R. K. Aldakheel, R. Mitaphonna, M. A. Dastageer, K. Kurihara'k, H. Kurniawan, M. A. Almesserie	Geochemistry study of soil affected catastrophically by tsunami disaster triggered by 2004 Indian Ocean earthquake using a fourth harmonics ($\lambda= 266$ nm) Nd: YAG laser-induced breakdown spectroscopy	Arab. J. Chem. 15(7) (2022) 103847.



5	I. Rehan, M. A. Gondal, R. K. Aldakheel, M. A. Almessiere, K. Rehan, S. Sultana, M. Z. Khan	Determination of nutritional and toxic metals in black tea leaves using calibration-free LIBS and ICP: AES technique	Arab. J. Sci. Eng. 47(6) (2021) 7531-7539.
6	R. K. Aldakheel, M. A. Gondal, H. N. Alsayed, M. A. Almessiere, M. M. Nasr, A. M. Shemsi	Rapid determination and quantification of nutritional and poisonous metals in vastly consumed Ayurvedic herbal medicine (rejuvenator Shilajit) by humans using three advanced analytical techniques	Biol. Trace Elem. Res. 200(9) (2021) 4199-4216
7	R. K. Aldakheel, M. A. Gondal, M. A. Almessiere, S. Rehman, M. M. Nasr, Z. Alsalem, F. A. Khan	Spectrochemical analysis using LIBS and ICP-OES techniques of herbal medicine (Tinnevelly Senna leaves) and its anti-cancerous/antibacterial applications	Arab. J. Chem. 14(12) (2021) 103451.
8	I. Rehan, M. A. Gondal, R. K. Aldakheel, K., Rehan, S. Sultana, M. A. Almessiere, Z. Ali	Development of laser-induced breakdown spectroscopy technique to study irrigation water quality impact on nutrients and toxic elements distribution in cultivated soil	Saudi J. Biol. Sci. 28(12) (2021) 6876-6883.
9	I. Rehan, M. A. Gondal, S. Sultana, M. A. Dastageer, R. K. Aldakheel, M. A. Almessiere, R. Muhammad, K. Rehan, D. Domyati	Elemental compositions of earthquake-stricken soil from the vicinity of the epicenter at Eurasian and Indian tectonic plates using calibration-free laser-induced breakdown spectroscopy	Arab. J. Sci. Eng. 46(6) (2021) 6101-6108.
10	I. Rehan, M. A. Gondal, M. A. Almessiere, R. K. Dakheel, K. Rehan, S. Sultana, M. A. Dastageer	Nutritional and toxic elemental analysis of dry fruits using laser-induced breakdown spectroscopy (LIBS) and inductively coupled plasma atomic emission spectrometry (ICP-AES)	Saudi J. Biol. Sci. 28(1) (2021) 408-416.
11	R. A. Aldakheel, M. A. Gondal, M. M. Nasr, M. A. Dastageer, M. A. Almessiere	Quantitative elemental analysis of nutritional, hazardous and pharmacologically active elements in medicinal <i>Rhatany</i> root using laser-induced breakdown spectroscopy	Arab. J. Chem. 14(2) (2021) 102919.
12	R. K. Aldakheel, S. Rehman, M. A. Almessiere, F. A. Khan, M. A. Gondal, A. Mostafa, A. Baykal	Bactericidal and In Vitro Cytotoxicity of Moringa oleifera Seed Extract and Its Elemental Analysis Using Laser-Induced Breakdown Spectroscopy	Pharmaceuticals 13(8) (2020) 193.
13	R. K. Aldakheel, M. A. Gondal, M. M. Nasr, M. A. Almessiere, N. Idris	Spectral analysis of Miracle Moringa tree leaves using X-ray photoelectron, laser-induced breakdown and inductively coupled plasma-optical emission spectroscopic technique	Talanta 217 (2020) 121062.



14	M. A. Gondal, R. K. Aldakheel, M. A. Almessiere, M. M. Nasr, J. A. Almusairii, B. Gondal	Determination of heavy metals in cancerous and healthy colon tissues using laser-induced breakdown spectroscopy and its cross-validation with ICP-AES method	J. Pharm. Biomed. Anal. 183 (2020) 113153.
15	M. A. Almessiere, R. Altuwiriqi, M. A. Gondal, R. K. Aldakheel, H. F. Alotaibi	Qualitative and quantitative analysis of human nails to find a correlation between nutrients and vitamin D deficiency using LIBS and ICP-AES	Talanta 185 (2018) 61-70.

Refereed Scientific Research Papers Accepted for Publication

#	Name of Investigator(s)	Research Title	Journal	Acceptance Date

Scientific Research Papers Presented to Refereed Specialized Scientific Conferences

#	Name of Investigator(s)	Research Title	Conference and Publication Date

Completed Research Projects

#	Name of Investigator(s) (Supported by)	Research Title	Report Date

Current Researches

#	Research Title	Name of Investigator(s)

Contribution to Scientific Conferences and Symposia

#	Conference Title	Place and Date of the Conference	Extent of Contribution
1	International Conference and Exhibition for Science	King Saud University (KSU)-Riyadh-Kingdom of Saudi Arabia (06-08 Feb. 2023)	Attendance only (virtual)



2	The 4th Saudi International Nanotechnology Conference (SINC 2016)	King Fahd University of Petroleum and Minerals (KFUPM)-Dhahran-Kingdom of Saudi Arabia (25-26 Oct. 2016)	Attendance only
3	Conference on Medical Physics which Emphasized CME/PD activities.	King Fahad Specialist Hospital-Dammam (KFSH-D)-Dammam-Kingdom of Saudi Arabia (12-14 Nov. 2013)	Attendance only
4	Carbon Nanotubes (CNTs): Synthesis, Purification, Characterization, and Applications	King Fahd University of Petroleum and Minerals (KFUPM)-Dhahran-Kingdom of Saudi Arabia (26-27 May 2009)	Attendance only
5	Radiology Refresher Physics course	Department of Radiology, King Faisal Specialist Hospital & Research Center (KFSH & RC) (2-13 Aug. 2008)	Attendance only

Membership in Scientific and Professional Societies and Organizations

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Teaching Activities

Undergraduate

#	Course/Rotation Title	No./Code		Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1	Atomic and molecular Spectrum	PHYS 501	Lectures (theoretical)	Lectures
2	Physics II (Mechanics and Waves)	PHYS 206	Lectures (theoretical)	Lectures
3	Physics I	PHYS 102	Labs+ Lectures (theoretical)	Lectures
4	Research Project in Physics	PHYS 509	Lectures (theoretical)	Lectures
5	Physics I	PHYS 202	Labs	Labs
6	Solid State Physics I (structure of materials and diffraction)	PHYS 511	Labs	Labs
7	General Physics (1)	PHYS 101N	Labs + Lectures (exercises)	Labs + Lectures (exercises)
8	General Physics (2)	PHYS 132N	Labs + Lectures (exercises)	Labs
9	General Physics (3)	PHYS 201N	Labs	Labs
10	Practical Physics (1)	PHYS 306N	Labs	Labs
11	Practical Physics (2)	PHYS 407N	Labs	Labs
12	Electronics 2	PHYS 308N	Labs	Labs
13	Atomic and Molecular Spectroscopy		Labs	Labs
14	Electricity and Magnetism (1)		Labs + Lectures (exercises)	Labs
15	Electricity and Magnetism (2)		Labs	Labs + Lectures (exercises)
15	Properties of the Material and Heat		Labs	Labs
16	Principle of Physics		Labs + Lectures (exercises)	Labs



Brief Description of Undergraduate Courses Taught: (Course Title – Code: Description)

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Postgraduate

#	Course/Rotation Title	No./Code	Extent of Contribution (no. of lectures/Tutorials. Or labs, Clinics)
1			
2			

Brief Description of Postgraduate Courses Taught: (Course Title – Code: Description)

1	
2	

Course Coordination

#	Course Title and Code	Coordination	Co-coordination	Undergrad.	Postgrad.	From	To
1	Atomic and molecular Spectrum (PHYS501)	✓		✓		-2-4 1445H	22-6- 1445H
2	General Physics (PHYS107)	✓		✓		-2-7 1445H	5-12- 1445H

Guest/Invited Lectures for Undergraduate Students

#	Activity/Course Title and Code	Subject	College and University or Program	Date

Student Academic Supervision and Mentoring

#	Level	Number of Students	From	To
1	All undergraduate levels	21	1436 H 2016 G	1439 H- 2018 G
2	All undergraduate levels	20	1444- 1445 H 2022- 2023 G	Now



Supervision of Master and/or .Ph.D Thesis

#	Degree Type	Title	Institution	Date

Ongoing Research Supervision

#	Degree Type	Title	Institution	Date

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

Administrative Responsibilities

#	From	To	Position	Organization
1	1-6-1444 H 25-12-2023 G	Until now	Head	Innovation and Entrepreneurship unit in the College of Science at Imam Abdulrahman Bin Faisal University.
2	19-11-1444 H 8-6-2023 G	Until now	Member	Third standard: students of the steering committee for self-evaluation and self-study for academic accreditation of the Physics program
2	19-11-1444 H 8-6-2023 G	Until now	Member	Sustainability Promotion Committee in the College of Science at Imam Abdulrahman Bin Faisal University.

Committee Membership

#	From	To	Position	Organization
1			Member	Scientific Research and Innovation Committee
2			Head & member	Examinations Committee
3			Member	Strategic Planning and Risk Management Committee
4			Member	Tables Committee
5			Member	Physics Club Committee
6			Member	Academic Supervision Committee
7			Member	Scientific Research Committee
8			Member	Higher Education Committee
9			Member	Library Affairs Committee

Scientific Consultations

#	From	To	Institute	Full-time or Part-time



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Volunteer Work

#	From	To	Type of Volunteer	Organization
1	6-11-1445 H 14-5-2024 G	(One-day event)	Event coordination	The " Success with Heart and Soul " lecture organized by the Vice Deanship for Scientific Research and Innovation represented by the Innovation and Entrepreneurship Unit and presented by Mrs. Roa'a Saber.
2	1,4,5-11-1445 H 9,12,13-5-2024 G	(three-day event)	Head of the referee-judge commission of the best poster competition.	Annual Scientific Forum of Science College (ASFSC2024) (Second Ed.) held on 9-13 May 2024, and administered by the dean of the College of Science, IAU, and the head of 1 st ASFSC2024).
3	28-10-1445 H 7-5-2024 G	(One-day event)	Event coordination	The " Villa Style - from Idea to Reality " lecture organized by the Vice Deanship for Scientific Research and Innovation represented by the Innovation and Entrepreneurship Unit and presented by Mrs. Dalal Al-Afaliq.
4	26-10-1445 H 5-5-2024 G	(One-day event)	Event coordination	The fifth lecture in a series entitled " The Journey of an Innovator " organized by the Vice Deanship for Scientific Research and Innovation represented by the Innovation and Entrepreneurship Unit, which is titled " From the Laboratory to the Market: The Journey of Developing the Idea of using sand to generate electricity with solar energy " and presented by Dr. Hani Al-Ansari.
5	22-10-1445 H 1-5-2024 G	(One-day event)	Event coordination	The " Villa Style - from Idea to Reality " lecture organized by the Vice Deanship for Scientific Research and Innovation represented by the Innovation and Entrepreneurship Unit and presented by Mrs. Dalal Al-Afaliq.
6	21-10-1445 H 30-4-2023 G	(One-day event)	Participation	" Exhibition of course projects for 2nd semester of 1445 AH " organized by the Physics Department-College of Science- Imam Abdulrahman bin Faisal University.
7	9-10-1445 H 18-4-2024 G	(One-day event)	Event coordination	The fourth lecture in a series entitled " The Journey of an Innovator " organized by the Vice Deanship for Scientific Research and Innovation represented by the Innovation and Entrepreneurship Unit, which is titled " An Innovator's Journey in Life Sciences " and presented by Dr. Nawaf Al-Shammari.
8	10-08-1445 H 13-2-2024 G	(One-day event)	Event coordination	The " Procedures for Obtaining a Patent at Imam Abdul Rahman bin Faisal University " lecture organized by the Vice Deanship for Scientific Research and Innovation represented by the Innovation and Entrepreneurship Unit and presented by Dr. Tahani Flemban.
9	3-8-1445 H 20-2-2024 G	(One-day event)	Event coordination	The " Entrepreneurship between study and reality " lecture organized by the Vice Deanship for



				Scientific Research and Innovation represented by 10th the Innovation and Entrepreneurship Unit and presented by Mr. Mohammed Al-Morohen and Mrs. Zainab Al-Khayat.
10	3-11-1444 H 23-5-2023 G	(One-day event)	Head of the Competition	The “ Innovate for the Nation ” competition organized by the Vice Deanship for Scientific Research and Innovation represented by the Innovation and Entrepreneurship Unit.
11	1-6-1445 H 14-12-2023 G	(Two-day event)	Event coordination of the attendance of faculty members and students from the College of Science	Coordination of the attendance of faculty members and students from the College of Science in the “The first annual innovation ceremony”, organized by the Institute of Innovation and Entrepreneurship in IAU.
12	1-6-1445 H 14-12-2023 G	(One-day event)	Event coordination	The third lecture in a series entitled “ The Journey of an Innovator ” organized by the Vice Deanship for Scientific Research and Innovation represented by the Innovation and Entrepreneurship Unit, which is titled “ A Scientific Innovation Journey in the World of Polymers ” and presented by Dr. Abeer Saeed Abd-Nabi.
13	21-5-1445 H 5-12-2023 G	(One-day event)	Event coordination	The “ Billa Sweet Project- Challenges and Success ” lecture organized by the Vice Deanship for Scientific Research and Innovation represented by the Innovation and Entrepreneurship Unit and presented by Mrs. Noura and Rana Abdul-Aziz Al-Muggri.
14	14-5-1445 H 28-11-2023 G	(One-day event)	Participation	“ Exhibition of course projects for 1st semester of 1445 AH ” organized by the Physics Department- College of Science- Imam Abdulrahman bin Faisal University.
15	23-4-1445 H 7-11-2023 G	(One-day event)	Event coordination	The “ From Idea to Design ” lecture organized by the Vice Deanship for Scientific Research and Innovation represented by the Innovation and Entrepreneurship Unit and presented by Dr. Hussain Bassi.
16	9-4-1445 H 24-10-2023 G	(One-day event)	Event coordination	The second lecture in a series entitled “ The Journey of an Innovator ” organized by the Vice Deanship for Scientific Research and Innovation represented by the Innovation and Entrepreneurship Unit titled “ An Innovative Journey into the Physics of Renewable Energy ” and presented by Dr. Hussam Eldin Khokhar.
17	11-3-1445 H 26-9-2023 G	(One-day event)	Event coordination	The “ Intellectual Property ” lecture organized by the Vice Deanship for Scientific Research and Innovation represented by the Innovation and Entrepreneurship Unit and presented by Mr. Ibrahim Al-Fouzan.
18	27-2-1445 H 12-9-2023 G	(One-day event)	Event coordination	The “ Design Thinking ” lecture organized by the Vice Deanship for Scientific Research and Innovation represented by the Innovation and Entrepreneurship Unit and presented by Mr. Mohammed El-Ibrahim.



19	19/11/1444 H 8/6/2023 G	(One-day event)	Event coordination of the attendance of students from the College of Science	Coordination of the attendance of students from the College of Science in the “ Project Management Professional ” program, organized by Project Management Institute (PMI) in cooperation with INJAZ Al-Arab and INJAZ Saudi Arabia.
20	11-11-1444 H 31-5-2023 G	(One-day event)	Event organization	The “ Graduation Day ” event organized by the Graduates Affairs Committee- Physics Department- Alumni and Career Development unit- College of Science-Imam Abdulrahman Bin Faisal University.
21	11,15,16-11-1444 H 31,4,6-5-2023 G	(Tree-day event)	Head of the referee-judge commission of the best poster competition.	Annual Scientific Forum of Science College “(ASFSC2023) held on May 31-June 5, 2023, and administered by the dean of the College of Science, IAU, and the Head of 1 st ASFSC2023).
22	3-11-1444 H 23-5-2023 G	(One-day event)	Head of the Competition	The “ Innovate for the Nation ” competition organized by the Vice Deanship for Scientific Research and Innovation represented by the Innovation and Entrepreneurship Unit.
23	20-10-1444 H 10-5-2023 G	(One-day event)	Event coordination	The first lecture in a series entitled “ The Journey of an Innovator ” organized by the Vice Deanship for Scientific Research and Innovation represented by the Innovation and Entrepreneurship Unit and presented by Dr. Muhammad Abu Muhareb.
24	14-10-1444 H 4-5-2023 G	10 weeks (two hours per week)	Event coordination of the attendance of students from the College of Science	The “ company program ” (as a part of the national non-profit initiative INJAZ Saudi Arabia) organized by the office of the Vice President for Scientific Research and Innovation at IAU represented by the Innovation Unit in cooperation with INJAZ Saudi Arabia.
25	6-9-1444 H 28-3-2023 G	(One-day event)	Event coordination	The “ Creative Orientation ” lecture organized by the Vice Deanship for Scientific Research and Innovation represented by the Innovation and Entrepreneurship Unit and presented by Mr. Adnan Badandi.
26	29-8-1444 H 21-3-2023 G	(One-day event)	Event coordination	The “ Secrets of Innovation ” lecture organized by the Vice Deanship for Scientific Research and Innovation represented by the Innovation and Entrepreneurship Unit and presented by Mr. Muhammad Al-Mansour.
27	9-8-1444 H 1-3-2023 G	(One-day event)	Event organization	“ 2nd Annual Poster Day for Physics Students (2023) ” organized by the Physics Department- College of Science- Imam Abdulrahman bin Faisal University.
28	10-7-1444 H 1-2-2023 G	13-7-1444 H 4-2-2023 G	Project referee	“ Science and Engineering Exhibition ” (the National Olympiad for Scientific Creativity (Ibdaa 2023)) organized by King Abdulaziz & his Companions Foundation for Giftedness & Creativity and the Ministry of Education and hosted by King Fahd University of Petroleum and Minerals.
29	7-8-1435 H 5-6-2014 G	28-8-1435 H 26-6-2014 G	Instruction	Summer Enrichment Program administered by King Abdul-Aziz & his Companions Foundation for Giftedness and Creativity (“ Mawhiba ”) and



				hosted by Imam Abdulrahman bin Faisal University in Dammam.
30	4-5-1439 H 21-1-2018 G	29-8-1439 H 15-5-2018 G	Instruction	Alumni career and professional development unit in the science college in Imam Abdulrahman bin Faisal University (Dammam, Kingdom of Saudi Arabia) at the helm of training graduates and developing their practical skills and capabilities during the second semester of the academic year 1439-1438 H.

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

1	Diploma in IT and computer application form.
2	Analyzing data by using programs such as Origin, Mathematica, and SPSS.
3	Fostering problem-solving, decision-making, and teamwork skills.
4	Rietveld analysis of diffraction data (commercial licensed software Match3! and FullProf program).

Last Update

30/5/2024 G

Orcid: <https://orcid.org/0000-0001-7631-4485>.

Web of Science: <https://www.webofscience.com/wos/author/record/AAH-6935-201>.

Scopus: <https://www.scopus.com/authid/detail.uri?authorId=57201363292>.

Scholar Google: <https://scholar.google.com/citations?user=3ySsNM0AAAAJ&hl=ar&oi=ao>.

Research Gate: https://www.researchgate.net/profile/Reem_Khalid7.

LinkedIn: [linkedin.com/in/reem-aldakheel-8078aa265](https://www.linkedin.com/in/reem-aldakheel-8078aa265)