



Volume | Issue | Year

**28 | 1 | 2025**

# **AL-NAHRIN JOURNAL OF SCIENCE**

<https://anjs.edu.iq>

ISSN: 2663-5453


E-ISSN: 2663-5461

Published by College of Science, Al-Nahrain University, Baghdad, Iraq

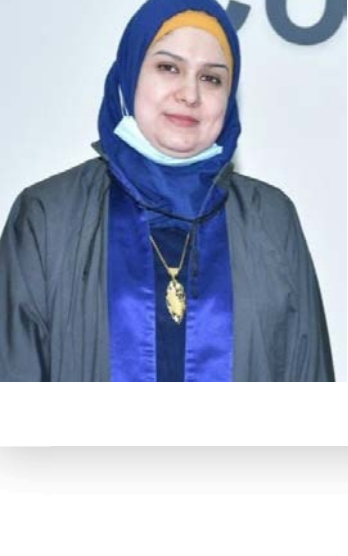


[Home](#) / [Editorial Team](#)

## Editorial Team




**Chief Editor**  
**Dr. Ahmed A. Al-Tabbakh**  
 Department of Physics, College of Science, Al-Nahrain University, Baghdad, Iraq  
 Specialty: Solid State Physics  
 Email: [ahmad.altabbak@nahrainuniv.edu.iq](mailto:ahmad.altabbak@nahrainuniv.edu.iq), [tabbakh2013@gmail.com](mailto:tabbakh2013@gmail.com)  
 Phone Number: 00964 7807820314  
 Google Scholar Webpage: [Click the Link](#)  
[View CV](#)




**Managing Editor**  
**Dr. Farah Aqeel Rashid**  
 Department of Chemistry, College of Science, Al-Nahrain University, Baghdad, Iraq  
 Specialty: Biochemistry  
 Email: [farah.rashid@nahrainuniv.edu.iq](mailto:farah.rashid@nahrainuniv.edu.iq)  
 Phone Number: 009647807489007  
 Google Scholar: [Click the Link](#)  
[View CV](#)


## Topical Editors




**Dr. Muthanna H. Al-Dahhan**  
 Missouri University of Science and Technology, chemical and biological engineering department, USA  
 Specialty: Nuclear Engineering  
 Email: [aldahhanm@mst.edu](mailto:aldahhanm@mst.edu)  
 Google Scholar: [Click the Link](#)  
[View CV](#)




**Dr. Rostam Moradian**  
 Razi University, School of Science, Department of Physics, Kermanshah, Iran  
 Specialty: Physics  
 Email: [rmoradian@razi.ac.ir](mailto:rmoradian@razi.ac.ir)  
 Google Scholar: [Click the Link](#)  
[View CV](#)




**Dr. Waleed Moslem Moslem**  
 Department of Physics, Faculty of Science, Port Said University and The British University in Egypt  
 Specialty: Physics  
 Email: [wmmoslem@hotmail.com](mailto:wmmoslem@hotmail.com)  
 Google Scholar: [Click the Link](#)  
[View CV](#)




**Dr. Hajer Guermazi**  
 University of Sfax, Faculty of Sciences, Department of Physics, Sfax, Tunisia  
 Specialty: Physics  
 Email: [hajer.guermazi@gmail.com](mailto:hajer.guermazi@gmail.com)  
 Phone: 00964 7903312288  
 Google Scholar: [Click the Link](#)  
[View CV](#)




**Dr. Aida Benchaabane**  
 Aviation School of Borj El Amri; and Science and Technology for Defense Laboratory, Military Research Center, Military Academy, Tunis, Tunisia.  
 Specialty: Physics, Thin films  
 Phone Number: +216 96227738  
 Google Scholar: <https://scholar.google.com/citations?user=wxIB9Q0AAAAJ&hl=en>




**Dr. Emad Abdul-Hussain Yousif**  
 Chemistry Department, College of Science, Al-Nahrain University, Baghdad, Iraq  
 Specialty: Chemistry  
 Email: [emad.yousif@hotmail.com](mailto:emad.yousif@hotmail.com)  
 Phone: 009647705839300  
 Google Scholar: [Click the Link](#)  
[View CV](#)




**Dr. Taghried Ali Salman**  
 Chemistry Department, College of Science, Al-Nahrain University, Baghdad, Iraq  
 Specialty: Chemistry/ Physical Chemistry  
 Email: [taghried.salman@nahrainuniv.edu.iq](mailto:taghried.salman@nahrainuniv.edu.iq)  
 Google Scholar: [Click the Link](#)  
[View CV](#)




**Dr. Noor Mustafa Ali**  
 Chemistry Department, College of Science, Al-Nahrain University, Baghdad, Iraq  
 Specialty: Analytical Chemistry  
 Email: [noormustafaali@nahrainuniv.edu.iq](mailto:noormustafaali@nahrainuniv.edu.iq)  
 Google Scholar: [Click the Link](#)  
[View CV](#)




**Dr. Suha Muosa khorsheed**  
 Department of Physics, College of Science, Al-Nahrain University, Baghdad, Iraq  
 Specialty: Optics  
 Email: [suha.Korsheed@nahrainuniv.edu.iq](mailto:suha.Korsheed@nahrainuniv.edu.iq)  
 Google Scholar: [Click the Link](#)  
[View CV](#)




**Dr. Murad Abbas Abdallah AlDamen**  
 Department of Chemistry, School of Science, The university of Jordan, Amman 11942, Jordan.  
 Specialty: Chemistry (Inorganic Chemistry)  
 Email: [maldamen@ju.edu.jo](mailto:maldamen@ju.edu.jo)  
 Mob. Phone No.: 00962775680341  
 Google Scholar: [Click the Link](#)




**Dr. Aaron Golden**  
 College of Science and Engineering, University of Galway, Ireland  
 Specialty: Astrophysics  
 Email: [aaron.golden@universityofgalway.ie](mailto:aaron.golden@universityofgalway.ie)  
 Google Scholar: [Click the Link](#)




**Dr. Fadhel S. Fadhel**  
 Mathematics and Computer Applications Department, College of Science, Al-Nahrain University, Baghdad, Iraq  
 Specialty: Mathematics/Fuzzy set theory and its applications  
 Email: [fadhel.subhi@nahrainuniv.edu.iq](mailto:fadhel.subhi@nahrainuniv.edu.iq)  
 Google Scholar: [Click the Link](#)  
[View CV](#)



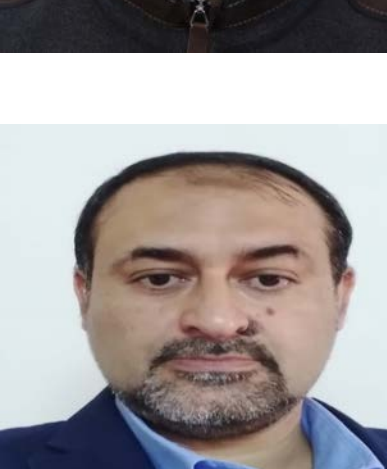
**Dr. Nissan Soud Oribi**  
 Physics Department, College of Science, Al-Nahrain University, Baghdad, Iraq  
 Specialty: Plasma Physics  
 Email: [nissan.oribi@ced.nahrainuniv.edu.iq](mailto:nissan.oribi@ced.nahrainuniv.edu.iq)  
 Google Scholar: [Click the Link](#)  
[View CV](#)




**Dr. Zainab N. Sultani**  
 Computer Science Department, College of Science, Al-Nahrain University, Baghdad, Iraq  
 Specialty: Computer Science / Multimedia  
 Email: [zainab.namhabdula@nahrainuniv.edu.iq](mailto:zainab.namhabdula@nahrainuniv.edu.iq)  
 Google Scholar: [Click the Link](#)  
[View CV](#)




**Dr. Manaf Adnan Saleh**  
 Department of Mathematics and Computer Applications, College of Science, Al-Nahrain University, Baghdad, Iraq  
 Specialty: Mathematics/ Functional Analysis  
 Email: [manaf.adnan@nahrainuniv.edu.iq](mailto:manaf.adnan@nahrainuniv.edu.iq)  
 Phone Number: 009647733806751  
 Google Scholar: [Click the Link](#)  
[View CV](#)




**Dr. Sadeem Abbas Fadhil**  
 Physics Department, College of Science, Al-Nahrain University, Baghdad, Iraq  
 Specialty: Physics (Materials Physics)  
 Email: [sadeem.fadhil@nahrainuniv.edu.iq](mailto:sadeem.fadhil@nahrainuniv.edu.iq)  
 Google Scholar: [Click the Link](#)  
[View CV](#)



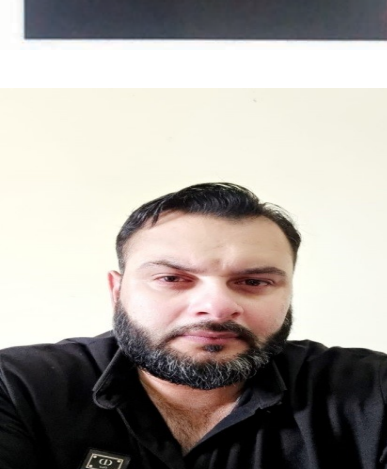
**Dr. Youssra K. Al-Hilaly**  
 Chemistry Department, College of Sciences, Mustansiriyah University, Baghdad, Iraq  
 Specialty: Biochemistry and Molecular Biology  
 Email: [youssra.alhilaly@uomustansiriyah.edu.iq](mailto:youssra.alhilaly@uomustansiriyah.edu.iq)  
 Google Scholar: [Click the Link](#)  
[View CV](#)




**Dr. Rasool Hisham Al-Saadi**  
 Computer Science Department, College of Science, Al-Nahrain University, Baghdad, Iraq  
 Specialty: Computer Networks and Security  
 Email: [rasool.hisham@nahrainuniv.edu.iq](mailto:rasool.hisham@nahrainuniv.edu.iq)  
 Google Scholar: [Click the Link](#)  
[View CV](#)



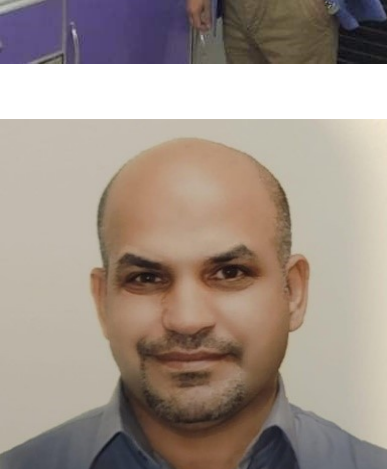
**Dr. Fatimah Sahib Kadhim Al-Taie**  
 Department of Mathematics and Computer Applications, College of Science, Al-Nahrain University, Baghdad, Iraq  
 Specialty: Control Systems  
 Email: [fatimah.altaie@nahrainuniv.edu.iq](mailto:fatimah.altaie@nahrainuniv.edu.iq)  
 Google Scholar: [Click the Link](#)  
[View CV](#)



**Dr. Salam E. Hammeed Dulaimi**  
 Department of Physics, College of Science, Al-Nahrain University, Baghdad, Iraq  
 Specialty: Astrophysics  
 Email: [Salam.dulaimi@nahrainuniv.edu.iq](mailto:Salam.dulaimi@nahrainuniv.edu.iq)  
 Phone: 009647838785577  
 Google Scholar: [Click the Link](#)  
[View CV](#)



**Dr. Harith Jabbar Fahad Al-Mathkhury**  
 Department of Biology, College of Science, University of Baghdad, Baghdad, Iraq  
 Specialty: Microbiology – Pathogenic bacteria  
 Email: [harith.fahad@sc.uobaghdad.edu.iq](mailto:harith.fahad@sc.uobaghdad.edu.iq)  
 Google Scholar: [Click the Link](#)  
[View Scopus Profile](#)



**Dr. Fadhel Mohammed Lafta**  
 Department of Biology, College of Science, University of Baghdad, Baghdad, Iraq  
 Specialty: Biology- Molecular Genetics  
 Email: [fadhellaftha@sc.uobaghdad.edu.iq](mailto:fadhellaftha@sc.uobaghdad.edu.iq)  
 Google Scholar: [Click the Link](#)  
[View Scopus Profile](#)

All the Editorial Board members have identified their affiliations and the affiliating organizations and institutions where they work. They also identified their geographic region and country. Al-Nahrain University remains neutral regarding any jurisdictional claims.

[Make a Submission](#)

About the Journal
Aim and Scope
Digital Archiving
Peer Review Process
Review Guideline
Copyright Policies
Open Access Policy
Instruction for Authors
Article Fees
Advertising Policy
Contact

### ANJS Journal Information

ISSN: 2663-5453
E-ISSN: 2663-5461
Google Scholar: <a href="#">Click Here</a>
Issue Per Year: 4
No. of Volumes: 25

### Information

[For Readers](#)
[For Authors](#)
[For Librarians](#)

Al-Nahrain University remains neutral with regard to jurisdictional claims in published maps and institutional affiliations. The Publisher shall not be legally responsible for any type of loss, actions, claims, proceedings, demand, costs, or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

Al-Nahrain Journal of Science (Published by College of Science, Al-Nahrain University, Baghdad, Iraq)

MEMBER OF



This work is licensed under a [Creative Commons Attribution 4.0 International \(CC BY 4.0\)](#)

Platform &  
workflow by  
OJS / PKP





[Home](#) / [Archives](#) / Vol. 28 No. 1 (2025): March 2025

## Vol. 28 No. 1 (2025): March 2025

**Published:** 2025-03-15

### Articles

<b>Evaluation of Serum Leptin and Ferritin Levels in Females with Beta Thalassemia Major</b>	1-7
Fatima A. Abdulhaleem, Alaa Hussein J. Al-Qaisi, Dalia M. Jamil, Amamer M. Redwan, Nur Wahida Zulkifli	
<a href="#">PDF</a>	
<b>Evaluating the Effect of the Ketogenic Diet on the Reproductive and Metabolic Parameters in Iraqi Females with Polycystic Ovary Syndrome</b>	8-13
Nazar Sattar Harbi, Alaa Hussein J. AL-Qaisi, Nany Hairunisa	
<a href="#">PDF</a>	
<b>Level of Sex Hormone Binding Globulin (SHBG) in Sera of Iraqi Women with Polycystic Ovary Syndrome Correlating Infertility</b>	14-19
Zahraa A.Sharhan, Suhad A. Ibrahim, Zahraa S. Al_Taie, Waled Abdo Ahmed, Rahimi M. Yusop	
<a href="#">PDF</a>	
<b>Effect of Bimetal Oxide ZnO/ZnS Nanocomposite Doped TiO2 on the Performance of Dye-Sensitized Solar Cell</b>	20-28
Hind Jameel Owaied, Taghreed Baqer Alwan, Saifaldeen Muwafaq Abdalhadi	
<a href="#">PDF</a>	
<b>An in Silico Molecular Docking and in Vitro Investigation of the Bioactivity of Amoxicillin Derivatives Against Staphylococcus Aureus and Escherichia Coli</b>	29-39
Marwa Mohssen Khudair	
<a href="#">PDF</a>	
<b>Eco-Friendly Synthesis of Zinc Oxide: Green Chemistry Approaches and Innovations</b>	40-55
Ayaa Kamal, Atheel H. Alwash, Emad Al-Sarraj, Fatemeh Gholami, Noor Thiab	
<a href="#">PDF</a>	
<b>Chemistry of Triazene-Liquid Crystals: A Review</b>	56-71
Zahraa M. Abdulhameed, Dr. Nasreen R. Jber	
<a href="#">PDF</a>	
<b>Effects of some plants Extracts on Growth of some Candida Species Isolated from Oral Thrush, Thalassemia and Orthodontics Patients</b>	72-81
Najwan Abbas Mohammed, Noor Muneam Fadhil	
<a href="#">PDF</a>	
<b>Assessment of Hematological Parameters and Immune Cell CD Markers in Iraqi patients with Acute Myeloid Leukemia</b>	82-90
Karar M. Jaleel, Risala H. Allami, Yasir W. Issa	
<a href="#">PDF</a>	
<b>Molecular Analysis of Klebsiella Pneumoniae Isolates Collected from Sputum Samples in Duhok Iraq</b>	91-95
Alaa' Turki Monawer	
<a href="#">PDF</a>	
<b>The Relevance of Mitochondrial DNA Mutation in Human Diseases and Forensic Sciences: Review Article</b>	96-106
Ruaa Hussein Ali, Farhan Khaleel Hussein, Dmoaa Majid Nasar, Asmaa Abd Al salam Salem	
<a href="#">PDF</a>	
<b>Implementations of Plant Tissue Culture Technique in Producing Hybrid Plants: (Article Review)</b>	107-117
Rasha K. Mohammed, Emad Hamdi Jassim, Maha I. Salih	
<a href="#">PDF</a>	
<b>Study of Octupole States in <sup>150</sup>Sm and <sup>158</sup>Gd Nuclei Within Sdf-Interacting Boson Model (Sdf-IBM-1) Framework</b>	118-126
Tuqa A. Hashim, Saad N. Abood	
<a href="#">PDF</a>	
<b>Study of the Effect of UV Radiation on the Impact Test of Epoxy-Polyurethane Blend Reinforced with Micro and Nano Silicon Carbide</b>	127-131
Ghasaq T. Suhail, Faik H. Anter, Ziyad Sh. Al- Sarraj	
<a href="#">PDF</a>	
<b>The relationship between exposure to Radon in Majnoon field and lung cancer risk</b>	132-142
suhaib qusay	
<a href="#">PDF</a>	
<b>Probabilistic Image Analysis for Chest X-Ray Classification: Integrating Density Functions as Descriptive Features</b>	143-150
Manhal Elias Polus	
<a href="#">PDF</a>	
<b>Solution of Oxygen Diffusion Moving Boundary Value Problem Based on Variational Iteration Least Square Methods</b>	151-158
Asmahan I. Abdulhussein, Fadhel S. Fadhel	
<a href="#">PDF</a>	

[Make a Submission](#)

About the Journal

Aim and Scope

Digital Archiving

Peer Review Process

Review Guideline

Copyright Policies

Open Access Policy

Instruction for Authors

Article Fees

Advertising Policy

Contact

### ANJS Journal Information

ISSN: 2663-5453

E-ISSN: 2663-5461

Google Scholar: [Click Here](#)

Issue Per Year: 4

No. of Volumes: 25

### Information

[For Readers](#)

[For Authors](#)

[For Librarians](#)

Al-Nahrain University remains neutral with regard to jurisdictional claims in published maps and institutional affiliations. The Publisher shall not be legally responsible for any type of loss, actions, claims, proceedings, demand, costs, or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

Al-Nahrain Journal of Science (Published by College of Science, Al-Nahrain University, Baghdad, Iraq)

MEMBER OF



This work is licensed under a [Creative Commons Attribution 4.0 International \(CC BY 4.0\)](#)

Platform &  
workflow by  
**OJS / PKP**