



Volume (5) № (5) December  
2023

# Academy Journal *for* Basic and Applied Sciences (AJBAS)

*Periodical Electronic Scientific Journal issued by Scientific Research Affairs of  
Libya Academy*

---

General Supervisor President of Libyan Academy

## **Editor-in-Chief**

**Prof. Abdalla Idris Fadel**

## **Editorial Board**

**Prof. Ramadan Elhadi Almadini**

## **Technical Board**

**Site and internet management**

**Prof. Fathi H. Assaleh**

---

All copyrights reserved to Dar Alacademia Publisher, Tripoli, Libya. No part of this publication may be reproduced, stored in a retrieval form, or transmitted in any other form without prior permission of the copyright owner.

All correspondences should be addressed to:

Editor in chief of Journal of Academy for Basic and Applied Sciences.

Libyan Academy, P.O. Box 72331, Tripoli, Libya.

Tele: +218 928013352 and +218913750207

Email: [ajbas@academy.edu.ly](mailto:ajbas@academy.edu.ly) , [abdalla.fadel@academy.edu.ly](mailto:abdalla.fadel@academy.edu.ly)

ULR: <http://www.academy.edu.ly>

## **Aims of the Journal**

This journal aims to provide a reliable source of information on current research and development in the fields of basic and applied sciences, on the national and international levels, as well as exchange of ideas and information for experts in these fields. Moreover, it will provide an opportunity for researchers to publish their works.

Editorial Board Looks forewords to develop the journal and to promote it to be at the level of international scientific journals, and expand their reach circle to allow the largest possible number of interested to follow it by publishing all its issues through the internet web site.

## **Call for Papers**

The Editorial Committee invites teaching staff members, postgraduate students, engineers, researchers and all those concerned with basic and applied sciences, and technology fields to submit their research work to be published in the journal. The journal publishes scientific papers (basic and applied research, review papers) technical reports, technical notes and book reviews in the mentioned fields.

## **Terms of Publication in the Journal**

1. The papers and reports should be an original work and not considered for publication elsewhere. Papers published in conferences may be considered for publication in the journal after they go through the evaluation process and if they do not conflict with the copyright of the conference proceedings.
2. All papers and reports are subject to evaluation and may not be published unless all the required corrections are met and the author's guide for publication is followed.
3. The accepted papers could be written in Arabic (with English abstract), or in English (with Arabic abstract).
4. After acceptance of the paper or report for publication in the journal, it should not be considered for publication in another journal and the author should sign a copyright agreement with the editorial board of the journal.
5. Authors should include the full title of the paper, the author's full name, Author's affiliation and address, e-mail address.
6. Papers not written according to the stated instructions will not be considered for refereeing.

## Typing Instruction

In spite that an electronic paper template is available, Authors are kindly requested to abide by the following instructions:

1. Manuscripts should not exceed 15 (A4) pages including figures and tables, produced using Microsoft word, with Times New Roman font 12pt single space typewritten. The page setup left and right margins of 13.5 mm and top margin of 25.4 mm and bottom margin of 21.8 mm.
2. The original and two copies should be submitted, and on a CD disc. The file on the disc should exactly correspond to the hard copies.
3. Authors have to the following format:
  - a. *Title page*, headed by a concise but informative full title font size 14pt bold, name(s) font size 12pt bold, and address of the place where the work was carried out font size of 11pt normal all titles with font size of 12 pt bold.
  - b. *Abstract*, containing brief but informative details of the contents and conclusions of the paper and should not exceed 200words, size 12 pt.
  - c. *Introduction*, stating the reasons for carrying out the work, size of 12 pt.
  - d. *Materials and Methods*, containing sufficient experimental details so that methods can be reproduced by researchers (in experimental papers), size 12 pt.
  - e. *Results* should be described as concise as possible, size of 12 pt.
  - f. *Discussion* should not recapitulate results in detail or contain new information but should emphasize the relevance and significance of the findings reported, size of 12 pt.
  - g. *Conclusion*, size of 12pt.
  - h. *Acknowledgement*, size of 12pt.
  - i. *References* should be cited in the text a number in square brackets [ ]. All references should be included at the end of the manuscript successively with size of 8pt. Correct references are the responsibility of the author.

## Notes

1. the Journal has the right to publish these researches and makes use of them in scientific fields without referring to their owners, provided always referring to the owners of these studies/research according to generally accepted rules.
2. Manuscripts submitted for publication does not respond to their owners, whether published or not, the applicant is not entitled to claim them.
3. Editors of the journal reserve the right to make editorial changes in any manuscript accepted for publication for the sake of style or clarity. Authors will be consulted only if the changes are substantial.
4. Author/s must pay all the expenses incurred in the review process if s/he decides to withdraw his/her research paper whilst it is undergoing review.

## Contents

### English Part

Research Title	Authors
Isolation and Identification of fungi in Aquaculture from Zawiya and Zuwara, Libya	Afaf A. Sawei
A Comprehensive Study of the Zargelin Mathematical Chain (ZMC): A Novel Approach to Arithmetic Operations	Omar A. Zargelin
A Review On Behavior of Concrete Filled Steel Columns Under Cyclic Loads	Zuhair A. Muhamed Hatem E. Younis Eldawi Ibtisam. F. Abou-ajaila
Adsorption Of Pb(II) From Water By Olive Waste Cake: Equilibrium, Isotherm And Kinetics Studies	Mohamed Sulyman Ali Alzitrini Younes El-Ghanoudi Salem Abu Zariba

Research Title	Authors
Advanced Diabetes Classification through 1D Convolutional Neural Network (CNN)	Sanaa matoug belhaj Amal Omar S.Omar
Analysis Short Term Load Forecasting using Artificial Neural Network and Adaptive Neuro-Fuzzy Inference Systems	Naji Ammar Eltawil
Characterizations of Group Theory under Bipolar Neutrosophic Environment	Fatma Adam Hamad
<i>Design of Rectangular Microstrip M-array Patch Antenna for Ku – ban</i>	Prof. Marei Abousetta Ayah Alkabeer
Determination of Glomerular Filtration Rate by Using Gamma Camera	H.I. Mansour M. A. Mohamed Mona A .Koshlaf
Determining the extent of the association between TORCH infections and fetal, neonatal death at Benghazi medical Centre.	Samia Ibraheem Abdelgawad Twfeik Elbagrmi Amal Ali Mukhtad Hameida Muftah Elfarssi
Deriving a scientific methodology for restoration and protection of the historical cities in Libya according to Vitruvius values and Maslow theory of incentives	Dr.Mariam M T Shibub
Effect of Austenitizing Heat treatment on the Hardness and Microstructure of Martensitic Stainless Steel AISI410	Abdarazag . A . Hassan Samir. S. Abubaker Mohamed.R.Buder Salem. A . Sultan
Enhancing Oil Recovery in Sandstone Core Samples Using Zeolite, Sodium & Potassium Hydroxide, Silica, Aluminum Addition to Formation Water	Mahmoud Abdussalam Masouda Farhat Hamad Abubaker Taher Mohamed

Research Title	Authors
Extraction and Purification of Nicotine Compound and Study of its Effect on Some Pathogenic Bacteria	Najla Habeeb Elhadi Mohamed
Identification of <i>slt-II</i> gene homologue in a selection of pathogec bacterial species	Ali Ownis C. Dow
Image Impulse Noise Removal Using hybrid system	Mabrouka Mohammed Hamed Nadia Hamed Fatmah Fathi Hammid
Investigation of circular Horn Antenna for X-band Radar and Space Communications	Marai M. Abousetta Haadel Ali ALdoukali
Molecular detection and phylogenetic analysis of Cyanobacteria species Case study (Libyan drinking water)	Ali Ownis Wafa Ali Al Shaibani
Revolutionizing Multiplication: A Comprehensive Approach to Single-Digit Multiplication Using Compliments	Omar A. Zargelin Saad A. Mohamed Ali K. Saber
Robot Arm Control Using Hybrid intelligent	T. Hussein Elmenfy Mona Mohammed Mosa Aljeadif Samah Abdelsalam Dweher
<i>Semi-connected Spaces in Neutrosophic Crisp Set Theory</i>	Rukaia M. Rashed
Study the effect of welding parameters on the mechanical properties and microstructure of aluminum alloy (5052)	Mohamed. R. Budar Abdel hafid. B. Kridan Akrm Almabrouk Ali Alaya Hamza Abobakr O Ali
The Effect of Fixed Series Capacitor on the Performance of Distance Protection Relays	Ahmed Ashaibi Youssef Hamza
Weed flora of Kaam area of Al-Khums city – Libya	Najat Beleed AL-Sheef

Research Title	Authors
The relationship between glutathione used to treat facial pigmentation and some immune cells in the blood	Abtisaam Miftah Dhaw Omaro A. Aburas Aisha Ashammam Rameen Ashour Emhamed Boras Salwa Muftah Eljamay
Thin Films of Binary Mixture in the Off-critical Case (Two Layers Laterally Stratified Composition)	Fathi A M Bribesh Hamza Daoub
Proposal of a method for implementing knowledge management in a dean of a public higher education institution	Abdelhamid Naid Mohamed El Sayah