

Abah Moses Adondua

CONTACT 200 Katsina-Ala Road, Federal University Wukari, Wukari, Taraba State. Mobile Number: +2347064945026
INFORMATION Postal code: 661109 m.abah@fuwukari.edu.ng

RESEARCHGATE LINK: <https://www.researchgate.net/profile/Moses-Abah-2>

GOOGLE SCHOLARLINK: https://scholar.google.com/citations?user=D_FVZ7sAAAAJ&hl=en

RESEARCH INTEREST

Molecular Biology and Genetic Engineering, Environmental Biochemistry, Toxicology, Bioremediation, Nanotechnology, and Protein Chemistry.

EDUCATION

Master of Science (Biochemistry)
Federal University Wukari, Taraba State, Nigeria. Date: December, 2022.

Weighted Average Mark : 70.48%/100% (4.51/5.00)

Thesis: Effect of Co^{2+} and Ni^{2+} on Low-Molecular Weight Protein Tyrosine Phosphatase (LMW-PTP) (Mouse Model) Activity

Supervisor: Professor Igunnu Adetoyin

Outcome: Co^{2+} activates LMW-PTP activity in a concentration dependent manner. Ni^{2+} activates LMW-PTP activity in a concentration dependent manner. Co^{2+} exerts its activatory effect on LMW-PTP by reducing the K_m value of the enzyme. The presence of 5mM Co^{2+} also lowered the value of V_{\max} by 2-fold. The presence of 5mM Ni^{2+} also lowered the value of V_{\max} slightly. The interactive effect of Co^{2+} and Ni^{2+} dramatically increases the activity of LMW-PTP. The major amino acid residues that Co^{2+} and Ni^{2+} interact with upon binding LMW-PTP are (GLU-60, ASP-56, ASP-135) and (ASP-137, GLU-139, ASN-134) respectively. Co^{2+} has a higher binding affinity (1.077) than Ni^{2+} ion (0.956) for LMW-PTP. In conclusion, findings from this study revealed that the interactive effect of Co^{2+} and Ni^{2+} dramatically increases the activity of LMW-PTP thus, offering insight on the catalytic mechanism of the LMW-PTP which may be essential for its regulation

Bachelor of Science (Biochemistry)
Federal University Wukari, Taraba State, Nigeria. Date: August, 2016.

CGPA: 4.59/5.00 (3.74/4.00)

Thesis: Determination of Selected Pesticide Residues in Leafy Vegetables (*Amaranthus spinosus*) Samples Consumed in Donga, Taraba State, Nigeria

Supervisor: Professor Arowora Kayode Adebisi

Outcome: The study revealed that organochlorines were the most abundant pesticide residues found in

the analyzed samples which confirmed the wide use of organochlorine pesticides in the study area. Also, it was observed that the concentrations of all the pesticide residues detected in the analyzed samples exceeded the Maximum Residue Limits (MRLs) and Acceptable Dietary Intake (ADI) set by FAO and WHO which confirmed extensive use and prevalence of pesticides in the study area, thus predisposing the populace in that region to the toxic effects of the pesticides residues detected. .

RESEARCH EXPERIENCE

Victoria's Lab, Department of Biochemistry, Federal University Wukari, Nigeria Date: 2023-2024

Research Assistant, Supervisor: Dr. Victoria Ayo Ife

Effect of *Lactuca sativa* supplemented diet on Poloxamer 407 induced hyperlipidemic albino rats (*Rattus norvegicus*)

- The effect of a *Lactuca sativa* L. (lettuce) supplemented diet on Poloxamer 407-induced hyperlipidemic albino rats was investigated;
- Blood sample collection was carried out for the analysis of lipid profiles (High-Density Lipoprotein Cholesterol (HDL-C), Low-Density Lipoprotein Cholesterol (LDL-C), Very Low-Density Lipoprotein (VLDL), Triglycerides (TAG), and Total Cholesterol (TC)) and liver function parameters (ALP, ALT, AST, GGT, TP, ALB and GLB).
- The liver and brain tissues were analyzed for lipid peroxidation levels. Results showed that induction of P407 resulted in a higher body weight gain ($p < 0.05$) compared to other treatments.

Department of Biochemistry, Federal University Wukari, Nigeria

Date: 2022- 2023

Research Assistant, Supervisor: Professor Arowora Kayode

Effects of green-synthesized silver nanoparticles from *Azadirachta indica* on growth performance and liver function parameters in male albino rats

- Green silver nanoparticles (AgNPs) were synthesized from *Azadirachta indica* (Neem Plant);
- The characteristic peak of the synthesized green silver nanoparticles was determined using a UV-VIS spectrophotometer at a resolution of 1nM;
- The crystal structure of AgNPs was determined using the technique of Fourier Transform Infrared Spectroscopy (FTIR);
- The effects of the synthesized green silver nanoparticles were investigated on selected serum biochemical parameters of male albino rats.

Department of Biochemistry, Federal University Wukari, Nigeria

Date: 2021-2022

Research Assistant, Supervisor: Dr. Mida Mayel

Pectinase production from a local isolate of *Aspergillus niger* using orange bagasse as a carbon source

- *Aspergillus niger* was identified morphologically and screened for pectinase production;
- Submerged fermentation was carried out, and the crude pectinase was harvested, with maximum enzyme production at 72 hrs;
- The effect of pH on pectinase activity was assessed, and different temperatures were used to test for pectinase activity;
- The crude enzyme's kinetic constants (K_m and V_{max}) were also determined

Department of Biochemistry, Federal University Wukari

Date: 2015-2016

Undergraduate Student Researcher, Supervisor: Professor Arowora Adebisi Kayode

Determination of Selected Pesticide Residues in Leafy Vegetables (*Amaranthus spinosus*) Samples Consumed in Donga, Taraba State

- Collected Five samples of leafy vegetable (*Amaranthus Spinosus*), 50g each, washed and

transported them to the laboratory using a cold box for analysis;

- The Acetate-buffered QuEChERS sample preparation method for pesticides (AOAC official method 2007.01) was used for preparing the samples,
- liquid chromatography analysis was performed using an Agilent 1100 HPLC. Nineteen pesticide residues and their respective concentrations were found present in the leafy vegetable samples analyzed.

SELECTED PUBLICATIONS

1. Ife AV, **Abah MA**, Moranyo AE, et al. Effect of cucumis callosus fruit extract on the liver function of DMBA-induced mammary cancer in female albino wistar rats. *Int J Complement Alt Med*. 2024;17(6):255–261.
2. Oladosu M.A., **Adondua MA**, et al. Effect of Dietary Sucrose on Body Weight and Antioxidant Status (Vitamin C and Uric Acid) of Wister Strain of Albino Rats. *Food Sci & Nutri Tech* 2024, 9(3): 000353
3. Ayo V.I, **Abah MA**, Musa D.A, Egwim E.C et al. Extraction and Characterization of Type 1 Collagen from Heterotis Niloticus and Lates Niloticus Skin and Scales. *Int J Biochem Physiol* 2024, 9(2): 000261
4. Battah, M. V., Olawale, O., Abah, M., John, U. I., Dauda, M. A., Joel, E. A.- nde, Vera, C., & Umaru, K. I. (2024). Microbial Isolates in Microplastic-Polluted Soil. *African Journal of Biochemistry and Molecular Biology Research*, 1(1), 693-705.
5. Asuelimen Steve Osagie, Ale Ebenezer Morayo, Umaru John Isaac, **Moses Adondua Abah**, Oqbe Monday Eromosele and James Zakariya Gwoma, 2024. Effect of Aqueous Extract of *Allium sativum* on Biochemical Status in Gentamicin-Induced Hepatotoxicity in Wistar Rats. *International Journal of Botany*, 20: 10-19.
6. **Abah, M. A.**, Olawale, O., Timothy, M., Timothy, N. C., Oyibo, O. N., Okpanachi, V., Yola, A., Uchechukwu, U. D., Ifeanyi, O. E., Owei, J. E., Abimbola, A. B., Najeeb, A. O., Chinenye, C. R., Egwolo, F. L., Iheanacho, C. C., & Edoaka, O. S. (2024). Effect of Temperature on Microplastic Degradation in Soil Environment. *Asian Journal of Science, Technology, Engineering, and Art*, 2(5), 677-691.
7. Tatah, S., Shadrach, P., & **Abah, M.** (2024). Nutritional and Biochemical Analysis of Locally Produced Wine from a Blend of Banana (*Musa sapientum*) and Date Palm Fruit (*Phoenix dactylifera* L.). *Asian Journal of Science, Technology, Engineering, and Art*, 2(3), 444-461.
8. Arowora, K., Ugwuoke, K., **Abah, M.**, Dauda, A., & Ruyati, S. (2024). Evaluation of Serum Biochemical Parameters in Male Wistar Rats Administered with *Azadirachta Indica* Silver Nanoparticles. *Asian Journal of Science, Technology, Engineering, and Art*, 2(3), 462-475.
9. Timothy, M., **Abah, M. A.**, Ayo, V. I., Ahmed, M. U., Oyibo, O. N., Ijeomah, N. G., Gbadebo, A.M., A, A.-L. R., Najeeb, A. O., Morolake, O. M., Iseko, K. I., Istifanus, D. K., & Umaru, I. J. (2024). Production and Characterisation of Peroxidase from *Aspergillus terreus* Isolated from Water Sample in Wukari, Taraba State, Nigeria. *African Journal of Biochemistry and Molecular Biology Research*, 1(1), 597-611.
10. **Abah, M. A.**, Adebisi, A. K., Moses, I. O., Dooshima, A. M., Umaru, I. J., Uchechukwu, U. D., Timothy, M., & Timothy, M. (2024). Comparative Study on the Phytochemical and Micronutrients Levels in Selected Edible Mushroom Samples. *African Journal of Biochemistry and Molecular Biology Research*, 1(1), 726-742.
11. Umaru IJ, **Abah MA**, Ugwah EJ, et al. Phytochemical profile and the effect of *Paulownia elongate* root and bark on gram positive and gram negative bacterial species. *Int J Complement Alt Med*. 2024;17(3):147-154.
12. Joseph Ikwebe and **Moses Adondua Abah**. Haematological Changes in Male Albino Rats Administered Silver Nanoparticles. *Asian Journal of Research in Biosciences*. Volume 5, Issue 1, Page 13-20, 2023.
13. Ayo VI, **Adondua MA**, Morayo AE, Ekele JU, Amilo D, Ochuele DA, Ayantse LM, Barrah C, Abdulsalam IO, Eya SB, Iheanacho CC, Tibile ST, Mohammed RI, Barde CE. 2023. Effect of *Lactuca sativa* supplemented diet on Poloxamer 407 induced hyperlipidemic albino rats (*Rattus norvegicus*). *Asian J Nat Prod Biochem* 21: 67-78.
14. Kayode Adebisi Arowora, Kenneth Chinekwu Ugwuoke, **Moses Adondua Abah**, Bonaventure Chinecherem Ugwoke (2023). Effects of green-synthesized silver nanoparticles from *Azadirachta indica* on growth performance and liver function parameters in male albino rats. *Cell Biology & Development*, 7 (1): 35-41
15. Isaac John Umaru, Asuelimen Steve Osagie, Alfred Martha Chizoba and **Moses Abah Adondua**.

Antiulcer effects of the methanolic root extracts of *Paulownia elongata* on indomethacin-induced peptic ulcer in male albino rats. *World Journal of Advanced Research and Reviews*, 2023, 19(02), 178–188

16. Silas TV, Stephen EC, **Abah MA**, Michael AS, Isaac UJ, Emochone RY. Growth indices of seeds (maize and cowpea) grown in heavy metal contaminated soil treated with ginger extract. *Toxicol Adv.* 2023;5(4):17
17. Habibu B, Francis OO, Ejeh YO, **Abah MA**. Heavy metals and health risk analysis of arable farmlands in selected local government areas of Taraba State, Nigeria. *Toxicol Adv.* 2023;5(4):15.
18. Martins AL, Silas TV, **Abah MA**, Adebisi AK, Sunday AM, Emochone RY, Iheanacho CC. 2024. Isolation, identification, and characterization of heavy metal-resistant bacteria from soil samples collected at a cement company in Nigeria. *Asian J Trop Biotechnol* 21: 26-32.
19. Zhema P. Amachundi, **Moses A. Abah**, Emochone R. Yohanna, Emmanuel C. Okoli, Asemave S. Saaku and Bilyaminu Habibu (2022). Investigation of trace metal contamination in bread baked and sold in Wukari. *Global Scientific Journals.* 10(2):2076-2081.
20. Emmanuel Chikodiri Okoli, **Moses Adondua Abah**, Otitoju Olawale, Emochone Roy Yohanna and Zephaniah Sheniah Hananiah (2022). Ecological Risk Assessment of Heavy Metals in Fish Samples from Donga River, Taraba State, Nigeria. *Asian Journal of Applied Sciences*, 15: 24-28.
21. Isaac John Umaru, Yakubu Ojochenemi Ejeh, Maryam Usman Ahmed, Iliya Ezekiel, Kerenhappuch Isaac Umaru, Abu Michael Sunday and **Moses Abah Adondua** (2022). GC-MS, Radicals Scavenging Capacity and Antidiabetic Effect of *Senna alata* Seed Extract in Type II-Induced Diabetes Mellitus in Rats. *Res. J. Med. Plants*, 16(2): 49-58.
22. **Moses Abah Adondua**, Yakubu Ojochenemi Ejeh, Ugwoke Kenneth Chinkwu, Anih David Chinonso, Oduh Victoria Onyemowo and Akor Andrew Adikwu (2022). Selected Food Contaminants and their Interference with Nutrient Utilization by the Body System: Current Insights. *Asian Journal of Research in Biosciences*, 4(2):122- 132.
23. **Moses A. Abah**, Otitoju Olawale, Emmanuel C. Okoli, Ozioma P. Emmanuel, David C. Bando, Zephaniah H. Sheniah (2021). Determination Of Selected Pesticide Residues In Leafy Vegetables (*Amaranthus Spinosis*) Consumed In Donga, Taraba State. *International Journal of Biochemistry, Bioinformatics and Biotechnology Studies*, 6 (2):9-16.
24. **Moses A. Abah**, Otitoju Olawale, Emochone R. Yohanna, Emmanuel C. Okoli, Aondonam Isaac, Asemave S. Saaku, Bilyaminu Habibu (2022). Determination of Organic Pollutants In Water Samples From River Donga, Taraba State, Nigeria. *Journal of Research in Environmental and Earth Sciences*. 8(2), 01-05.

CHAPTERS IN BOOKS

- i. Isaac John Umaru, **Moses Adondua Abah**, Kerenhappuch Isaac Umaru. Enzyme-assisted extraction of virgin olive oil, *Enzymes in Oil Processing*, Elsevier, 2024.

SELECTED CONFERENCES

- i. Imo Chinedu, Ale Ebenezer Morayo, **Abah Moses Adondua**, Asuelimen Steve Osagie Abdullahi Wasila & Ikwebe Joseph. Awareness of Covid-19 and Covid-19 Vaccination Among Students of Federal University Wukari, Nigeria. *7th International Interdisciplinary Research & Development Conference*. December, 2022.
- ii. Imo Chinedu, Asuelimen Steve Osagie, Ale Ebenezer Morayo, **Abah Moses Adondua**, Gambo Asabe Mary & Ikwebe Joseph. Prevalence of Peptic Ulcer among Youths in Wukari, Taraba State, Nigeria. *8th Multi-disciplinary Conference on African Development Analysis*. June, 2023.

- iii. Imo Chinedu, **Abah Moses Adondua**, Asuelimen Steve Osagie, Ale Ebenezer Morayo Mohammed Maryam & Ikwebe Joseph. Awareness of Hypertension and Hypotension among Youths in Wukari Metropolis, Nigeria. *8th Multi-disciplinary Conference on African Development Analysis*. June, 2023.
- iv. Emochone Roy Yohanna, Mida Habila Mayel, Christopher Shaibu, Mgbede Timothy, **Moses Adondua Abah**, Silas Verwiyeh Tatah, Ojochenemi Ejeh Yakubu, Emochonne Utos Jonathan, Priscilla Nanna Binbong. Production, Partial Purification and Characterization of Peroxidase using *Aspergillus Terren* under Submerged Fermentation. *SOCIETY FOR EXPERIMENTAL BIOLOGY OF NIGERIA (NISEB) 22nd Annual Scientific Conference and General Meeting BU-NISEB CONFERENCE 2023*.

WORKSHOPS

1. American Chemical Society Federal University. Wukari International Student Chapter Promotion of Gender Equality in STEM. Workshop: 2023
2. Centre for Gender Studies, Federal University Wukari. 1st Symposium: Gender Issues: Setting the Record Straight. 2023
3. Chemical Society of Nigeria, Wukari Chapter. 1st Training Workshop: Electrochemistry: Fundamentals and Applications. 2023
4. Association of African University (AAU). Quality Assurance (QA) Virtual Workshop in Research, Completing the Research Cycle: Publications and intellectual Property. 2020
5. Association of African University (AAU). Quality Assurance (QA) Virtual Workshop in The African Student's Research Experience: Making a Case for Quality Supervision. Research. 2020

WORK EXPERIENCE

1. Department of Biochemistry, Federal University Wukari, Taraba State, Nigeria (2022 till date)

Assistant Lecturer/Researcher

- Taught various undergraduate courses with several students ranging from 40 to 700 students;
- Prepared and delivered well-structured lectures, and graded tests/exams;
- Designed and supervised final year (400 level) students' thesis and seminar;
- Assisted Professors with research works and the Department with various administrative tasks.

Courses Taught

- General Biochemistry I – BCH 221;
- General Biochemistry II – BCH 242;
- Metabolism of Lipids – BCH 329;
- Biosynthesis of Macromolecules – BCH 421;
- Practical Biochemistry I – BCH 203
- Practical Biochemistry II – BCH 303;
- Product Standardization and Quality Control – BCH 456;
- Metabolism of Carbohydrates – BCH 327;

- Metabolism of Nucleic Acids – BCH 325.

Thesis Supervised

- Effect of temperature on microplastic degradation in soil environment
- Microbial isolates in microplastic-polluted soil
- Effect of NaOH on microplastic-polluted soil
- Effect of H₂CO₃ on microplastic-polluted soil
- Antibiotic residues in poultry eggs sold in Wukari, Taraba State, Nigeria
- Risk assessment of heavy metal content in yam tubers locally produced in selected local government areas of Taraba state
- Determination of particulate matter in residential buildings in Wukari, Taraba state.

Seminar Supervised

- Air pollution and brain health
- Antioxidant as strategy against metal exposure
- Teratogenesis
- Human intelligence: Gene-environment interaction
- Impact of exclusive maternal breast feeding in infants
- Impact of E-waste on human health and environment
- The role of antioxidants in ageing

2. Department of Biochemistry, Federal University Wukari, Taraba state, Nigeria (2018 – 2022) Graduate Teaching Assistant/Researcher

- Assisted assigned senior lecturers with coursework and tutorials for undergraduate students;
- supervised, scored, and recorded students' periodic assessments, and participated in departmental board meetings Acted as a liaison between the undergraduate students and faculty researchers.
- Wrote technical reports to document experimental results.
- Marked and graded students' results of tests and practicals

3. Centre for Human and Zoonotic Virology (Mar. 2020 - Jan. 2021):Trainee/Volunteer

- I trained in this lab as an intern for 6 months before I started working with them as a volunteer molecular scientist during the second wave of COVID-19 in Nigeria.

4. General Hospital Goronyo, Sokoto State, Nigeria (January 2017- January 2018):One year National Youth Service as a youth corps member- Laboratory Scientist

- I collected samples (blood, stool, urine, e.t.c) from patients
- I performed some basic analysis like genotyping, typhoid test, malaria test, urine microscopy, blood transfusion, kidney function test, among others.

5. Benue State University Teaching Hospital, Makurdi, Nigeria (March 2015 – October 2015): Internship -Chemical Pathology Laboratory Scientist

- I collected samples (blood, stool, urine, e.t.c) from patients
- I performed some basic analysis like fasting blood sugar test (FST), fasting lipid profile test (FLP), liver function test (LFT), kidney function test, among others.

SKILLS AND COMPETENCIES

- Operational competence in high containment facilities e.g., BSL 2,3 and 4 laboratories.
- Proficiency in molecular techniques:
- Nucleic acid extraction, amplification, gel electrophoresis and real time PCR.

- Proficiency in immunoassays e.g., Complement fixation test, Enzyme immunoassay,
- Haemagglutination inhibition test, strip tests.
- Proficiency in tissue culture techniques.
- Basic statistical analysis skill using SPSS, Python and R.
- Proficiency in Microsoft Office packages e.g., Word, Powerpoint, Excel and Access.
- Ability to multitask, handle bulky workload and quickly adapt to new challenges.
- Excellent written and oral communication skills.
- Proficiency in Bioinformatics and protein docking

HONOURS AND AWARDS

1. **Tertiary Education Trust Fund (tetfund) Award 2021**
 - Supported research on the effect of Co^{2+} and Ni^{2+} on low molecular weight protein tyrosine phosphatase
2. **Total Nigeria Scholarship Undergraduate Award 2014**
 - The award was a one-time payment of 100,000 naira to support undergraduate studies.
3. **Vice Chancellor's partial scholarship for excellent academic performance, Federal University Wukari.** Year of award: 2015.
4. **Vice Chancellor's academic merit list, Federal University Wukari.** Years of award: 2014.
5. **Dean's academic excellence award, Faculty of Pure and Applied Sciences, Federal University Wukari.** Year of award: 2013

MEMBERSHIP OF PROFESSIONAL ASSOCIATIONS

- | | |
|---|----------------|
| 1. Nigerian Society for Experimental Biology (NISEB) | 2022 till date |
| 2. Society of Environmental Toxicology and Chemistry (SETAC) | 2020 till date |
| 1. Nigerian Society of Biochemistry and Molecular Biology (NSBMB) | 2019 till date |
| 2. National Youth Service Corp (NYSC) | 2016 till date |

ADMINISTRATIVE AND LEADERSHIP EXPERIENCE

1. **Level Adviser** for 300 level Biochemistry Students, Federal University Wukari, Taraba State
2023 till date
2. **President**, Federal Road Safety Corps, Community Development Service (CDS)/National Youth Service Corps, Sokoto, Sokoto State. 2016
3. **Vice-President**, National Association of Biochemistry Students, Federal University Wukari chapter, Nigeria 2015

VOLUNTEERED COMMUNITY SERVICE

- 1. Voluntary blood donor** **2019 till date**

- 2. Independent Electoral Commission (INEC)** **2023**
 - Volunteered to serve as a Ward Collation officer in the presidential and gubernatorial election conducted in Taraba State, Nigeria.

- 3. Covid-19 Volunteer Service, Taraba State, Nigeria** **2020**
 - Volunteered to work in a community hospital (General Hospital Wukari) to distribute COVID-19 test kits, vaccines, and palliatives during the COVID-19 pandemic.

- 4. National Youth Service Corps (NYSC)** **2017**
 - One-year Volunteer service as a laboratory attendant in General Hospital Goronyo, Sokoto state, Nigeria.

- 5. Nigeria Christian Corpers' Fellowship, Sokoto State Chapter** **2017**
 - "Rural Rugged evangelism": outreach which involved reaching out to people in rural areas to distribute relief materials like clothes, medical services, and other services. We visited 6 villages across the State within 10 months.

- 6. Sponsor, Biochemistry Students Tutorial Group** **2015-2016.**
 - I founded this group as an undergraduate student in 2015 to assist students who are not intellectually sound so that they can cope with their academic pursuit in the Department of Biochemistry, Federal University Wukari, Taraba state, Nigeria.

HOBBIES

Reading, traveling, soccer, playing instruments, reading, hanging out, chatting and surfing the internet and playing board games like scrabble, chess and monopoly.

CONTACT REFEREES

Arowora Kayode Adebisi
PhD Professor, Biochemistry,
Department, Federal
University Wukari,
Taraba State
Tel: +234(0)8033481068
Email: k.arowora@fuwukari.edu.ng

Imo Chinedu (PhD)
Associate Professor, Biochemistry
Department, Federal University Wukari,

Taraba State.

Tel: +234(0)8037505543

Email: Imo@fuwukari.edu.ng

Emochone Roy Yohanna (*PhD*)

Senior Lecturer, Biochemistry

Department, Federal University,

Wukari, Taraba State

Tel: +234 (0) 806 770 6242

Email: royemo94@gmail.com