

GIFT AYALA

Biochemistry Graduate | Biomedical Research | Laboratory & Pharmacology
Abuja, Nigeria | Phone: 0704 779 8590 | Email: giftayala2021@gmail.com

PROFESSIONAL PROFILE

Motivated and detail-oriented Biochemistry graduate with practical laboratory and biomedical research experience gained through a five-month internship in the Pharmacology and Toxicology Department at the National Institute for Pharmaceutical Research and Development (NIPRD). Experienced in supporting in vivo and in vitro studies, pharmacological screening, malaria research, laboratory animal studies, biochemical assays, sample preparation and laboratory equipment use.

Completed an undergraduate research project investigating the effects of a herbal preparation on hepatic magnesium and ascorbic acid levels in Plasmodium berghei-infected mice, developing practical skills in experimental research, biochemical analysis, spectrophotometry, iodometric titration, Excel-based statistical analysis and scientific reporting.

A proactive team player with strong attention to detail, communication and problem-solving skills, seeking voluntary or entry-level opportunities within biomedical research, pharmaceutical science, healthcare, public health, laboratory science or related organisations to contribute existing skills while developing further practical research experience.

EDUCATION

BSc Biochemistry

University of Port Harcourt, Rivers State

Oct 2021 - Sept 2025

Senior Secondary School Certificate (SSCE)

Christ Ambassadors' College, Kaduna

Sept 2014 - Jul 2020

RESEARCH & LABORATORY EXPERIENCE

Research Intern - Pharmacology and Toxicology Department

National Institute for Pharmaceutical Research and Development (NIPRD), Abuja | 5-Month Internship | Jul 2024 – Dec 2024

- Participated in pharmacological screening studies involving antitussive, antiemetic, analgesic and anti-inflammatory activities, including experimental models used to investigate potential mechanisms of action.
- Gained exposure to research involving neuropathic pain, pain and inflammation, ulceration and NSAID-related effects, as well as antidepressant and anticonvulsant experimental models.
- Participated in malaria and antimalarial research, including prophylactic, suppressive and curative approaches for evaluating antimalarial activity.
- Developed practical understanding of laboratory animal handling, breeding, dosing and experimental procedures, while following established laboratory safety and research protocols.
- Gained exposure to haematological investigations in laboratory animals, biological sample handling and biochemical assessment.
- Participated in phytochemical investigations of plant materials, including cold extraction and preparation of plant extracts for laboratory studies.
- Developed knowledge of drug discovery and development, pharmacodynamics, toxicology and pharmacological screening principles.
- Used and maintained laboratory equipment while following appropriate laboratory safety, sample-handling and experimental procedures.
- Recorded experimental observations and supported laboratory documentation, data collection and interpretation as part of a multidisciplinary research environment.

- Developed awareness of zoonotic diseases, parasitic infections, experimental pharmacology and preclinical evaluation of therapeutic substances.

Research Project

Experimental Investigation of the Effects of a Herbal Preparation on Hepatic Magnesium and Ascorbic Acid in Plasmodium berghei-Infected Mice

University of Port Harcourt | May 2025 - August 2025

- Conducted a controlled animal study involving 54 Swiss mice across nine experimental groups, including normal, infected, treatment and standard-drug control groups.
- Supported animal infection procedures, experimental grouping, treatment administration and dose-response evaluation using treatment levels of 100, 200 and 300 mg/kg/day.
- Prepared herbal extracts through drying, grinding, sieving, aqueous extraction, filtration, concentration, weighing and controlled storage prior to experimental administration.
- Prepared biological samples through liver tissue harvesting, homogenisation, centrifugation and supernatant collection for biochemical analysis.
- Performed protein quantification using the Lowry method, including preparation of standards, reagents, controls and samples and spectrophotometric measurement at 750 nm.
- Determined hepatic magnesium concentrations using a Phosphonazo III-based biochemical assay with spectrophotometric analysis at 630 nm.
- Determined hepatic ascorbic acid concentrations using iodometric titration, including reagent standardisation, sample analysis and endpoint determination.
- Used Microsoft Excel and the Data Analysis Add-in to organise experimental data, calculate descriptive statistics, perform one-way ANOVA and least significant difference comparisons, and assess statistical significance at $p < 0.05$.
- Analysed and interpreted findings in relation to malaria infection, hepatic biochemical changes, oxidative stress, antioxidant status, mineral regulation and potential hepatoprotective effects.
- Conducted scientific literature review, identified research gaps and developed recommendations for further investigation into the pharmacological and therapeutic potential of herbal preparations.

PROFESSIONAL SKILLS

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| • Attention to Detail | • Teamwork and Collaboration |
| • Effective Communication | • Problem-Solving |
| • Time Management | • Organisation |
| • Ability to Follow Protocols | • Laboratory Safety Awareness |
| • Willingness to Learn | • Adaptability |

TECHNICAL & LABORATORY SKILLS

Laboratory Techniques

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| • In vivo and in vitro experimental techniques | • Biological sample preparation |
| • Liver tissue homogenisation | • Centrifugation |
| • Pipetting and reagent preparation | • Standard and control preparation |
| • Incubation and titration | • Spectrophotometry |
| • Iodometric titration | • Protein quantification using Lowry method |

- Biochemical assays
- Phytochemical extraction and cold extraction
- Haematological testing

Pharmacology & Research

- Pharmacological screening
- Antitussive and antiemetic studies
- Neuropathic pain research
- Antidepressant and anticonvulsant experimental models
- Drug discovery and development
- Laboratory animal research
- Experimental design and data collection
- Antimalarial research
- Analgesic and anti-inflammatory studies
- Ulcer and NSAID studies
- Pharmacodynamics
- Toxicology
- Scientific literature review
- Scientific report writing

Data & Computer Skills

- Microsoft Excel
- Microsoft PowerPoint
- Descriptive statistics
- Interpretation of experimental results
- Microsoft Word
- Data organisation and analysis

ADDITIONAL EXPERIENCE

Support Teacher | Sept 2022 - Oct 2022

Hillfort Academy, Wuye, Abuja

- Assisted with preparation and organisation of teaching materials, classroom resources and learning activities.
- Supported pupils during classroom exercises, assignments and other learning activities.
- Assisted the class teacher with supervision, classroom management and maintaining appropriate behaviour.
- Provided individual support to pupils who required additional assistance with classroom tasks and activities.
- Helped maintain a safe, inclusive and positive classroom environment.
- Worked collaboratively with the class teacher and other staff to support effective delivery of classroom activities.
- Developed strong communication, teamwork, organisation, patience and interpersonal skills through regular interaction with pupils and teaching staff.
- Supported the class teacher with day-to-day classroom activities, helping to create an organised and supportive learning environment.

Hair Stylist / Sales Representative | Apr 2022 - Aug 2022

Martha's Style and Beauty Salon, Warri

- Provided hair styling and braiding services while maintaining attention to client requirements.
- Supported manicure and pedicure treatment procedures.
- Assisted with sales and customer service activities.
- Communicated with customers to understand requirements and provide appropriate services.
- Developed customer service, communication, organisation and time-management skills.

LANGUAGES

English | Hausa

BIO-DATA

- Date of Birth: July 16, 2004
 - Place of Birth: Kaduna
 - Nationality: Nigerian
- Gender: Female
 - State of Origin: Edo (Akoko-Edo LGA)

REFERENCES

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Researcher
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