

# ABDULWASIU IBRAHIM

📍 Department of Biochemistry, University of Ibadan, Ibadan, Oyo State, Nigeria.

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## Research Interest

- Cancer Biology and Genomics.
- Molecular Biology and Bioinformatics
- Drug Discovery and Design
- Precision Medicine and Genetic Profiling
- Pharmacogenomics and Toxicogenomics
- Biological Drug Delivery

## Research Skills

- Strong experience in Computer-Aided Drug Design, Bioinformatics, Immunoinformatics, Molecular Biology, and Biochemical Analytics.
- Experience with Gel-Electrophoresis, Spectroscopy, ELISA, and PCR
- Proficient in statistical data analysis using Graph Pad Prism and Microsoft Excel with beginner knowledge in basic Python

## Education

**University of Ibadan, Ibadan, (Nigeria)**

**02/2022-06/2024**

Master of Science in Biochemistry (*Cancer Research and Molecular Biology*)

**Thesis:** Interactive Toxicity of 2-Acetylaminofluorene and Diethylnitrosamine in *Drosophila melanogaster*

**Usmanu Danfodiyo University Sokoto, Sokoto (Nigeria)**

**11/2015-11/2019**

Bachelor of Science in Biochemistry (Second Class Upper-Honours)

**Thesis:** Analgesic Activity of n-Hexane Extract of Castor Seed on Formalin-Induced Pain in Albino Rats

## Research Experience

**Drosophila Research and Training Centre,**

**Ibadan (Nigeria)**

**01/2022 – present**

**Research Fellow**

- Design, plan and execute controlled laboratory-based experiments related to *Drosophila* research
- Manage laboratory operations, including equipment organization, ordering and scheduling.
- Provide supervision and training to undergraduate students and visiting researchers.
- Contribute to STEM education by facilitating workshops at primary, high schools and universities.
- Teach researchers and interns on the use of *Drosophila melanogaster* in biomedical research
- Spectrophotometric analysis of biochemical parameters (oxidative stress and antioxidants biomarkers) and microscopic analysis of *Drosophila melanogaster* gut and brain
- Engage in hands-on experience with DNA/RNA extraction, gel electrophoresis, reverse transcription PCR (RT-PCR), Nanodrop Spectrophotometer, and Enzyme-Linked Immunosorbent assay (ELISA)

**Institute of Bioinformatics and Molecular Therapeutics,**

**Oshogbo, Osun (Nigeria)**

**03/2022 – present**

**Research Associate (Volunteer)**

- Design novel therapeutic drugs (enzyme inhibitors/receptor modulators) against various human diseases such as cancer, and neurodegenerative diseases through Computer Aided Drug Design
- Perform homology/pharmacophore modelling, molecular docking, virtual high-throughput screening, quantitative structure-activity relationship (QSAR), molecular quantum mechanics calculation (MM-GBSA/MM-PBSA), molecular dynamics simulations and pharmacokinetics/pharmacodynamics study
- Train interns and researchers on the use of computational models for drug design and development

**Cancer Research and Molecular Biology Laboratory,  
Department of Biochemistry, University of Ibadan, Ibadan (Nigeria)  
Post-Graduate Research Assistant**

**2/2022– 6/2024**

- Prepare albino rats' organs for dissection
- Performed biochemical analysis on experimental samples
- Ensure animal care according to the university animal ethics and standard
- Performed molecular analysis of some antioxidants and cancer markers such as P<sup>53</sup> and catalase among others
- Operator of several laboratory equipment
- Co-supervision of at least 2 undergraduate dissertations yearly

**Drosophila Laboratory, Department of Biochemistry,  
University of Ibadan, Ibadan (Nigeria)**

**02/2021 – 10/2022**

**Research Assistant**

- Teaching of laboratory students and undergraduate students on the use of *Drosophila melanogaster* in biomedical research
- Operator of laboratory equipment and facilities including Gel-electrophoresis, Nanodrop, Real-time-PCR, microscopes, centrifuges, and microplate readers.
- Spectrophotometric analysis of biochemical parameters (oxidative stress and antioxidants biomarkers) and microscopic analysis of *Drosophila melanogaster* gut and brain
- Hands-on operation of fly facilities e.g fly pad, fly morgue, paintbrush and upgrading of laboratory protocols and assay procedures
- Engaged in hands-on experience with genomic DNA/RNA extraction, gel electrophoresis, reverse transcription PCR (RT-PCR), Nanodrop Spectrophotometer, Tissue Imaging and Enzyme-Linked Immunosorbent assay (ELISA)

**Department of Biochemistry and Molecular Biology  
Usmanu Danfodiyo University Sokoto, Sokoto (Nigeria)**

**1/2019 – 2/2020**

**Undergraduate Research Assistant**

- Performed biochemical analysis of biological samples
- Literature review and manuscript drafting
- Phytochemical screening and plant extraction
- Performed systemic review and meta-analysis
- Data analysis using RevMan, GraphPad Prism and Excel

## Teaching Experience

**Nigerian Society of Biochemistry Students,  
Usmanu Danfodiyo University, Sokoto  
Tutorial Teacher**

**1/2019 – 10/2019**

- Taught and provided educational assistance to pre-clinical and paraclinical students offering biochemistry, pharmacology, molecular biology and chemistry
- Organized tutorial classes for biochemistry undergraduate students on protein chemistry and enzymology, and molecular biology

## Academic Awards and Honours

- **Conference Fellowship:** 11<sup>th</sup> Conference of the Nigerian Institute of Medical Research (NIMR). **11/2022**
- **Virtual Chair Award:** Midwest Drosophila Conference. **10/2022**
- **Conference Fellowship:** 2<sup>nd</sup> Drug Discovery Africa International Conference (DDA). **9/2022**
- **Conference Fellowship:** 2<sup>nd</sup> Conference of the Nigerian Bioinformatics and Genomics Network (NBGN) **9/2021**
- **Conference Fellowship:** 10<sup>th</sup> Conference of the Nigerian Institute of Medical Research (NIMR). **11/2021**
- **Workshop Fellowship:** 7<sup>th</sup> Unibadan Conference of Basic Medical Sciences, University of Ibadan. **9/2021**

## Conferences / Workshops

- 11<sup>th</sup> Conference of Nigerian Institute of Medical Research, held at Nigerian Institute of Medical Research (NIMR), Lagos, Nigeria. **11/2022**  
Pre-Conference Workshop: Genotyping with TaqMan and Real-time-time PCR
- Midwest Drosophila Conference, Bloomington Stock Centre. **10/2022**
- 2<sup>nd</sup> Drug Discovery Africa: International Conference (DDA), held at Afebabalola University. Ado-Ekiti, Nigeria. **9/2022**  
**Paper Presented:** Discovery of Potential Phytochemicals from *Carica Papaya* Targeting BRCA-1 In Breast Cancer Treatment

- **10<sup>th</sup> Conference of Nigerian Institute of Medical Research**,  
held at Nigerian Institute of Medical Research (NIMR), Lagos, Nigeria **11/2021**  
Pre-Conference Workshop: Bioinformatics
- **Drosophila: Simple, Yet Powerful Model for Biomedical Research**  
**DrosAfrica Virtue Workshop** **10/2021**
- **2nd conference of the Nigerian Bioinformatics and Genomics Network (NBGN)**,  
held at Landmark University, Omu-Aran Nigeria. **10/2021**  
**Pre-Conference Workshop (NBGN):** Introduction to Genome-Wide Association  
Studies and Polygenic Risk Scoring
- **Nigerian Society of Biochemistry and Molecular Biology**,  
held at Usmanu Danfodiyo University, Sokoto. **6/2021**  
**Poster presented:** Analgesic Activity of n-Hexane Extract of Castor Seed on Formalin-Induced Pain in Albino  
Rats
- **Drosophila: A Simple but Powerful Model for Biomedical Research**  
**DrosAfrica Virtue Workshop.** **10/2020**

## Publications (10)

- Ipinloju, N., Balogun, T. A., Oyeneyin, O. E., **Ibrahim, A.**, ESAN, T. O., Emmanuel, A. V., ... & Adeyemo, M. A. (2024). Computational Investigation of Polo-like Kinase 1 (plk1): Inhibitive Potential of Benzimidazole-Carbonamide Derivatives for Cancer Treatment. *Physical Chemistry Research*, 12(2), 333-348.
- Jiyah, A., Muhammad, S. A., **Ibrahim, A.**, Bulama, I., Ibrahim, A., Abbas, A. Y., ... & Bilbis, L. S. (2024). Plant-derived extracellular vesicles as potential smart nano drug delivery systems for antioxidant vitamins C and E in Alzheimer's disease. *Journal of Drug Delivery Science and Technology*, 105618.
- Nwokebu, G. C., Adesina, A. B., Isibor, C. N., Aigbepue, S. A., Egbo, C. C., Pureaziba, N., ... **Ibrahim, A.** & Balogun, T. A. (2024). Identification of phytochemicals with inhibitory potential against beta-lactamase enzymes via computer aided approach. *Bioorganic Chemistry*, 107238.
- Oyeneyin, O. E., **Ibrahim, A.**, Ipinloju, N., Ademoyegun, A. J., & Ojo, N. D. (2023). Insight into the corrosion inhibiting potential and anticancer activity of 1-(4-methoxyphenyl)-5-methyl-N'-(2-oxoindolin-3-ylidene)-1H-1, 2, 3-triazole-4-carbohydrazide via computational approaches. *Journal of Biomolecular Structure and Dynamics*, 1-18.
- Suleiman, T. A., Francis, A. C., **Ibrahim, A.**, Jonn-Joy, A. O., Adebisi, E., & Anyimadu, D. T. (2023). Biotechnological Drug Development—The Role of Proteins, Genes, In-Silico, and Stem Cells in Designing Models for Enhanced Drug Discovery. *Open Access Library Journal*, 10(8), 1-20.
- Ipinloju, N., **Ibrahim, A.**, da Costa, R. A., Adigun, T. B., Olubode, S. O., Abayomi, K. J., ... & Oyeneyin, O. E. (2023). Quantum evaluation and therapeutic activity of (E)-N-(4-methoxyphenyl)-2-(4-(3-oxo-3-phenylprop-1-en-1-yl) phenoxy) acetamide and its modified derivatives against EGFR and VEGFR-2 in the treatment of triple-negative cancer via in silico approach. *Journal of Molecular Modeling*, 29(5), 159.
- **Ibrahim, A.**, Ipinloju, N., Aiyelabegan, A. O., Alfa-Ibrahim, A. A., Muhammad, S. A., & Oyeneyin, O. E. (2023). Discovery of Potential Phytochemicals from Carica papaya Targeting BRCA-1 in Breast Cancer Treatment. *Applied Biochemistry and Biotechnology*, 1-17.
- **Ibrahim, A.**, Ipinloju, N., Atasie, N. H., Babalola, R. M., Muhammad, S. A., & Oyeneyin, O. E. (2023). Discovery of small molecule PARKIN activator from antipsychotic/anti-neuropsychiatric drugs as therapeutics for PD: an in silico repurposing approach. *Applied biochemistry and biotechnology*, 1-23.
- Ishabiyi F. O., Ogidi J., Olukade B. A., Amorha C. C., El-Sharkawy L. Y., Okolo C. C., Adeniyi T. M., Atasie N. H., **Ibrahim A.**, Balogun T. A.. Computational Evaluation of Azadirachta indica-Derived Bioactive Compounds as Potential Inhibitors of NLRP3 in the Treatment of Alzheimer's Disease. *Journal of Alzheimer's Disease*, (Preprint), 1-19.
- **Ibrahim, A.**, and Muhammad, S. A. (2022). Antioxidant-Rich Nutraceutical as a Therapeutic Strategy for Sick Cell Disease. *Journal of the American Nutrition Association*, 1-10.

## Professional Development and Certification

- An Introduction to PubChem for Life Science (National Centre for Biotechnology Information, June, 2023)
- Exploring the Relationship Between Two Eukaryotic Genomics Using the Comparative Genome Viewer (National Centre for Biotechnology Information, July 2023)

## Professional Affiliations

- **Member:** American Society for Nutrition 2023-Present
- **Member:** American Society for Microbiology 2020-Present
- **Member:** DrosAfrica 2020-Present
- **Member:** Nigerian Bioinformatics and Genomics Network (NBGN) 2020-present
- **Member:** Nigerian Society of Biochemistry Student (NSBS) 2018-2019
- **Member** Nigerian Association of Biochemistry Students (NABS) 2015-2018

## Professional Service (3)

### Peer-Reviewed Articles for:

- Bioinformatics and Biology Insight, Sage Publication
- Beni-Suef University Journal of Basic and Applied Sciences, Springer Nature Publication
- ChemistrySelect, Wiley Publication

## Community Services / Leadership Positions

- **December 2019-Present:** SDGs Educator, World's Largest Lesson, Nigeria
- **December 2019-Present:** SDGs Educator, Dean Initiative, Nigeria
- **May 2022-Present:** Community Champion, TrackaNg
- **March 2021-March, 2022:** Recycling Champion, Aid for Rural Education Access Initiative
- **January - December 2020:** General Secretary, Nigeria Ambassador for Positive Change
- **July 2018-October, 2019:** General Secretary, Nigerian Society of Biochemistry Students (NSBS)
- **June 2018-November, 2020:** Editor-in-Chief, Inter-Watch Press, Usmanu Danfodiyo University, Sokoto

## Referees

### Oyeronke A. Odunola, Ph.D

*Professor of Biochemistry  
Dean, Faculty of Basic Medical Sciences,  
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