

BARAKAT TOPE KAREEM

Oyo State, Nigeria | kareembarakat568@gmail.com | [LinkedIn](#)

PERSONAL PROFILE

A motivated, dedicated, and goal-oriented Applied chemistry graduate skilled in organic synthesis, research, and analysis. I am privileged to have research and work experience, which gives me in-depth knowledge of analytical techniques, chemical analyses, and strong teamwork qualities. I am seeking to leverage my academic experience and research expertise to enhance research initiatives in medicinal chemistry, organic chemistry, and analytical chemistry and contribute immensely to the betterment of humanity.

RESEARCH INTEREST

- Drug design, discovery, and delivery.
- Organic/catalytic synthesis
- Medicinal chemistry
- Bioorganic chemistry
- Chemical Biology

EDUCATION

Bachelor of Technology (B.TECH) in Pure and Applied Chemistry

2023

Ladoke Akintola University OF Technology (LAUTECH), Ogbomoso, Oyo, Nigeria.

Grade: First Class Honors || CGPA: 4.61/5.0 (I-WES-3.78/4.0) || **Rank:** Top 1%

Undergraduate Thesis Title: *Effect Of Solvents On The Absorption Of Some Synthetic Azo Dye*

Supervisor: Professor Isah A. Bello and Professor Misbaudeen Abdul-Hammed

RESEARCH EXPERIENCE

Bureau Veritas (African Quality Assurance Centre)

Ogun state.

Laboratory Analyst

Jan.2024- present

- Carried out organic material digestion using the Kjeldahl method, which is used for the determination of the total Nitrogen value and Protein value of some samples.
- Validation of test methods for proximate and heavy metal analysis, and physicochemical analysis of food, water, and wastewater.
- Carried out comparative analysis through soxhlet fat extraction for sesame seed using a solvent of different polarities (chloroform and petroleum ether) this led to the extraction of sesame oil better in a less polar solvent.

Research laboratory

LAUTECH, Nigeria.

Undergraduate research team lead

Oct.2022 – May 2023

- Synthesized 11 azo dyes from diazotization of primary aromatic amines e.g. aniline with nitrous acid, the resulting diazonium salt was reacted as an electrophile by coupling with an electrons-rich component e.g. naphthol, phenol, etc.
- Carried out the purification of azo dyes using crystallization and re-crystallization methods with methanol to ensure high-quality azo dyes
- Characterized azo dyes using UV-vis spectroscopic techniques. The solute-solvent interactions were determined based on multilinear solvation energy relationships concept.

Handyware Industries Nigeria Limited, Research and Development unit.

Oyo state.

Internship

Aug .2021- Jan. 2022

- Determined the specific gravity of liquid samples (flavors), which helped in avoiding improper mixer engineering.

- Carried out the flowability of powdered seasoning samples, which gives a measure of the amount of strength the material retains at a stress-free surface following consolidation to a given stress level.
- Formulated and prepared seasoning samples used to match a reference sample.
- Determined the refractive index of liquid samples (flavors) using a refractometer, which helped to identify a particular substance, confirm its purity, or measure its concentration.

WORK EXPERIENCE

Purdue BIP Summer Institute 2024

Purdue University

Fellow

May 2024 – July 2024

- Collaborated with my team from the University of Puerto Rico to deliver a research poster presentation at the Department of the Navy Climate Action 2030, June 2024.
- Received training on showcasing clear and concise scientific writing skills, adherence to publication guidelines, and effective communication of research outcomes.
- Collaborated with Professors, mentors and fellows to design and develop research strategies, and identify research gaps.
- Actively engaged in professional development opportunities, attended seminars, and webinars to enhance skills in project management, communication, and administrative support.

Bureau Veritas (African Quality Assurance Center)

Shagamu, Ogun state.

Laboratory Analyst

Jan. 2024 – Present

- outcome Collaborated with quality assurance teammates to determine overall product quality by accurately conducting and evaluating quality assurance tests (physicochemical analysis).
- Documented and executed standard operating procedures to conform to established standards.
- Completed analysis reports, describing performance outcomes and carefully documenting irregularities or variance from the expected

PUBLICATIONS, PRESENTATIONS AND CONFERENCES/SEMINAR

Poster Presentations || [click here](#)

- Real-time resource monitoring and data collection - towards making Puerto Rico a living laboratory| Department of Navy Climate Action 2030: Tabletop Exercise III
- Modeling of CO2 sequestration by system modeler| BIP Conference on Coastal Resilience and Adaptation at the University of Puerto Rico
- Exploring Microgrid Innovation: Enhancing localized Power resilience and transforming energy mobility for a Greener Tomorrow. | BIP Conference on Coastal Resilience and Adaptation at the University of Puerto Rico

Publication||

- Protective role of Gallic acid with Rutin or Quercetin on Testicular Glutathione and Histopathology in Rats Exposed to Busulfan (Asian Journal of Basic Science & Research) [click here](#)
- Innovation in mRNA-BASED Cancer Immunotherapy Challenges and Future Directions (submitted to World Journal of Biology Pharmacy and Health Sciences)
- Effect Of Solvents On The Absorption Of Some Synthetic Azo Dye: A Spectroscopic Study on the Absorption Behavior of Synthetic Azo Dyes. (Submitted to Lautech Faculty of Science, for publication).

Conferences/Seminar || [click here](#)

- Africa Regional Conference On Green And Sustainable Chemistry| ACS 2024 • Harvard Climate Week 2024 (Online) • Caribbean Green Engine: Utilizing Government Contracts as a vehicle for building an epic life| Purdue University • Virtual conference and national inter-university competition on Green Chemistry| Beyond Benign • LAUTECH Nanotechnology Research Group and Panafstrag International conference: The Treasure Beyond Consumption: Exploring Kola for Sustainable Development Digital Green Skills 2024 • Analytical approaches for therapeutic oligonucleotide (ASO) RNA analysis; ThermoFisher Scientific. 2024 • LAUTECH Neuroscience Group Diversity Conference and Outreach event. 2024 • Chemical Festival 2021; Evolution in chemistry practice. Prof. O.E Onawumi. | ACS LAUTECH • Computational biophysical chemistry the bridge between phenomena in the scientific world; Prof. M. Abdul-hammed, Prof. B. Semire.

2019 • Organosulfur and related compounds; Synthesis, biological activities, and applications as Agricultural pesticides. Prof. E.T Ayodele. 2018.

CERTIFICATION || [click here](#)

- How to write and publish a scientific paper, Ecole Polytechnique.
- Excel skills for Business, Macquarie University.

VOLUNTEERING AND LEADERSHIP EXPERIENCE

Gender and Charity Group Member

Shagamu, Ogun state.
2023 – Present

- Participated in the sensitization on menstrual hygiene at Ayodele College of Excellence Shagamu.
- Participated in the sensitization on gender equality at the antenatal unit of OOSUTH Isale Oko.
- Coordinated the team on the street talk; Bringing smiles to children's faces in the Ajaka community.
- Participated in the sensitization against Bullying and Fighting; and its consequences.

Harmony Hostel

Ogbomosho, Oyo state.

Chemistry Tutor / Minister for works and power

2019 – 2023

- I instructed undergraduate students at Harmony Hostel in various chemistry courses, covering foundational topics such as Thermodynamics, Basic Organic Chemistry I and II, Transition Metal Chemistry, Chemistry of Groups, and Stoichiometry. Under my direction, 85% of my pupils proved proficient and completed their courses.
- Taught my department colleagues about organic reaction processes, chemical kinetics, photochemistry, quantum mechanics in physical chemistry, and other chemistry-related areas. Roughly 90% of the recorded cases were good.

AFFILIATION/FELLOWSHIP

- American Chemical Society (ACS) • Student Chemical Society Of Nigeria (SCSN) • Society of Petroleum Engineers (SPE)

HONORS & AWARDS

- Purdue Climate Scholar 2024 Award
- Award of excellence; Third-best graduating student in a class of 180 students
- Most dependable graduating student; Outstanding student award for providing solutions to academic questions and sharing with others in chemistry class '21
- Outstanding comrade; An emerging leadership award for serving as hostel minister for works and power for four years at Harmony Hostel.

OTHER SKILLS

Instrumentation skills: Soxtherm, HPLC, GC-MS, GC-FID, ICP-OES, UV Visible Spectrophotometer, TEM, XRD, FTIR, Kjeldahl apparatus, moisture analyzer, furnace, fibretherm, centrifuge.

Computer: PyMOL, LIMS, Microsoft Office tools, Chems sketch. Zotero, System modeler.

REFERENCES

Available on Request