

Oluwatoyin Akerele

1, Solaru Street, Soluyi, Gbagada, Lagos, Nigeria. T: +2348032170782 +2348053567425. E: omolarakr@yahoo.com

SUMMARY

To seek and maintain a full-time position that offers a professional opportunity to utilize my writing, interpersonal, excellent time management, and problem-solving skills. A polished writer who successfully delivered documentation compiled from research and data in a logical manner, with dedication to innovative, dynamic, and organized work. Successful at maintaining accuracy and productivity through long and short-term projects with a proven history of efficiency. Extensive knowledge of writing, editing, and proofreading, and skill in delivering excellent content. Demonstrated track records of success working with a diverse group of people, successfully managed research projects, engaged with stakeholders, and proactively resolved issues to achieve my ambitious goals.

EDUCATION

April 2022 Ph.D. in Chemistry

Dept. of Chemistry & polymer science,
Stellenbosch University, South Africa

Research title: Computational and experimental investigation of factors affecting the quality of multi-component crystals.

Thesis supervisor: Professor Catharine Esterhuysen

2014 MSc in Chemistry

Dept. of Chemistry,
University of Lagos, Nigeria

2008 BSc in Education Chemistry

Dept. of Science and Technology Education,
University of Lagos, Nigeria

RESEARCH EXPERIENCE

→ Queens Drive Estate Limited, Lagos, Nigeria

Position: Research Project Assistant/writer

14th April 2023-till date

Responsibility/Accomplishment

- ◆ Developed research protocols and procedures to obtain the required information.
- ◆ Summarized database search results by preparing written reports, graphs, spreadsheets, and tables
- ◆ Edit and Proofread articles with appropriate references.
- ◆ Disseminated research findings to personnel as presentations.
- ◆ Use all the above to produce 10 pages of paper weekly on topics like science, environment, health, design, and construction.
- ◆ Determined areas of research to increase knowledge in a particular field.

→ Wellness Health group, Lagos, Nigeria

Position: Research Assistant

Nov 2022- 31st March 2023

Responsibility/ Accomplishment

- ◆ Research databases for articles, seminar papers, and peer-reviewed journals
- ◆ Created surveys and questionnaires to collect data for research projects.
- ◆ Write a conceptual framework paper with clarity in the flow of ideas.
- ◆ Edit, proofread, and use the APA 7th edition referencing style.
- ◆ Search for international programs and conferences for paper presentations.
- ◆ Used strong analytical and problem-solving skills to develop effective solutions for challenging situations.
- ◆ Produced a conceptual paper on health insurance.

→ **Stellenbosch University, Stellenbosch, South Africa**

Position: PhD researcher at chemistry department

April 2019- April 2022

Responsibility/Accomplishment

- ◆ Collaborated with researchers and scientists to design and execute experiments.
- ◆ Worked both independently and collaboratively in a fast-paced laboratory environment.
- ◆ Learned new laboratory techniques and applied expertise in experimental studies.
- ◆ Worked flexible hours across nights, weekends, and holidays.
- ◆ Collected research data through experimentation and density function theory (DFT) calculations.
- ◆ Maintained up-to-date records of research activities and findings for future reference.
- ◆ Reviewed documents and data to identify trends and patterns, and interpret their findings.
- ◆ Performed qualitative and quantitative analyses.
- ◆ Analysed results using analytical software and wrote detailed reports for presentation to stakeholders.
- ◆ Scheduled appointments with supervisors over the phone and through email.
- ◆ Created representative graphs and charts highlighting results for presentations.
- ◆ Attended seminars and symposiums to improve overall knowledge and understanding.
- ◆ Participated in lab meetings and project presentations to the supramolecular group.
- ◆ Managed time efficiently to complete all tasks within deadlines.
- ◆ Identified the intrinsic factors affecting the formation of good-quality molecular organic crystals.
- ◆ I wrote research manuscripts and a thesis on the quality of molecular organic crystals.
- ◆ Demonstrated leadership skills in managing research projects from concept to completion.

Technical skills: Experience in Single-Crystal X-ray diffraction (SC-XRD), Powder-XRD, Differential Scanning Calorimetry (DSC), Thermal Gravimetric Analysis (TGA), Hot Stage Microscopy (HSM), and IR.

Computational skills: Experience in DFT, Ab Initio, and Molecular Mechanics calculations (using Gaussian, Orca, Crystal Explorer, Material Studio, and AIMAll), use of supercomputing, MS Office, and Learned Python (Basic).

→ **University of Lagos, Akoka, Nigeria**

Position: Researcher (Part-time) at chemistry department

2014-2018

Responsibility/Accomplishment

- ◆ Performed research on hemoglobins and medicinal plants in relation to sickle cell anaemia to increase knowledge and provide valuable contributions.
- ◆ Developed research proposals, identified research objectives, and created research plans.
- ◆ Learned new laboratory techniques and applied expertise to carry out enhanced experiments.
- ◆ Isolated essential oils from plants using the hydro distillation method.
- ◆ Separate the whole blood into red blood cells (RBC), platelets, and plasma using a centrifuge, and carefully obtain RBC for further studies.
- ◆ Conducted a cyclic voltammetry experiment on the RBC with anti-sickling agents.
- ◆ Collected and sorted the data into well-organized formats.
- ◆ Transformed data into figures and visualizations for presentation.
- ◆ Analysed and interpreted patterns and trends to draw inferences and conclusions.
- ◆ Identified active components in medicinal plants used to manage sickle cell anaemia.
- ◆ Provided a clear explanation of the impact of anti-sickling agents on HBS and HBA.

Technical skills: Cyclic Voltammetry (CV), Spectrophotometry, Centrifugation, and Gel filtration.

Soft skills: Reporting writing, Data analysis, Independent and Teamwork, and Problem-solving.

TEACHING EXPERIENCE

→ **Stellenbosch University, South Africa**

Position: Chemistry Tutor at Faculty of Medicine and Health Sciences

March 2021-December 2021

Responsibilities/Accomplishment

- ◆ Provided one-on-one online lesson to students.
- ◆ I worked closely with students on specific chemistry class struggles, reviewing materials and assignments to offer targeted help.

- ◆ Developed methods to motivate and engage students in learning.
- ◆ Responded to email and telephone requests from students to provide specific information.
- ◆ Motivated students with accurate feedback and positive reinforcement.
- ◆ Assisted students in developing study skills and strategies, critical thinking skills, and perseverance to persist with challenging tasks.
- ◆ Conducted review sessions to help students prepare for tests and exams.
- ◆ Students have an understanding of challenging topics and have obtained good grades in tests and exams.

→ **Stellenbosch University, South Africa**

Position: Demonstrator of chemistry practical

June 2019-June 2021

Responsibilities/Accomplishment

- ◆ Explained the experiment and supervised students in the Laboratory to ensure their understanding of the concept.
- ◆ Guide students on how to run DFT calculations, extract the output, and interpret their results.
- ◆ Demonstrated a high level of initiative and creativity while supervising laboratory experiments.
- ◆ Assisted with lab operations and worked efficiently and productively with all team members.
- ◆ Adhered to laboratory safety procedures to maintain compliance with quality control standards.
- ◆ Managed time efficiently to complete all tasks within the timeframe.
- ◆ Facilitated and paced instruction to maximize learning for the students.
- ◆ Assessed students' lab reports and prepared student mark sheets.

→ **School of Foundation, University of Lagos, Nigeria**

Position: Chemistry Teacher

2018 - March 2019

Responsibilities/Accomplishment

- ◆ Prepared and delivered inorganic course content in line with the JUPEB syllabus.
- ◆ Prepared materials and activities for students to reach chemistry learning outcomes.
- ◆ Foster a motivated learning environment by planning and displaying enthusiasm for inorganic chemistry.
- ◆ Incorporated exciting and engaging activities to achieve student participation and hands-on learning.
- ◆ Leveraged varied instructional delivery modes to support student differences and learning styles.
- ◆ Inspected lab equipment before student use to reduce the chances of potential hazards.
- ◆ Engaged students and promoted intellectual curiosity through hands-on chemistry experiments.
- ◆ Constructed and administered tests and exams to measure student learning.
- ◆ Used standardized assessment tools to measure student progress.
- ◆ Moderated chemistry practical sessions.
- ◆ Prepared a mark guide on the subject, invigilated, and marked examination scripts.

→ **University of Benin in Affiliation with Federal College of Education (Technical) Akoka.**

Position: Lecturer, Department of Chemistry (Part-time)

2014 – 2018

Responsibilities/Accomplishment

- ◆ Designed semester outlines and instructional plans for each class to meet academic objectives.
- ◆ Delivered course content on electrochemistry and physical chemistry.
- ◆ Created materials and exercises to illustrate the application of course concepts.
- ◆ Used a variety of learning modalities and support materials to facilitate the learning process and emphasize presentations.
- ◆ Created excitement and enthusiasm in the classroom by delivering engaging content.
- ◆ Developed and implemented innovative teaching strategies to engage students in lectures and coursework.
- ◆ Conducted engaging in-class discussions to facilitate learning and encourage participation.
- ◆ Collaborated with faculty and staff to create meaningful learning experiences
- ◆ Evaluated and revised lesson plans and course content to achieve student-centered learning.
- ◆ Created and designed tests and exams to assess student knowledge.
- ◆ Graded tests, assignments, and exams to provide students with timely academic progress information and feedback to enhance learning.
- ◆ Mentored and advised students to explore career pathways based on their knowledge, skills, and strengths.
- ◆ Conducted individual research projects to actively contribute to the institution's research work.

- ◆ Participated in conferences and professional development opportunities to stay up-to-date with the latest trends in the field.

→ **University of Lagos, Akoka, Lagos, Nigeria**

Position: Graduate Assistant, Department of Chemistry (Volunteer)

2012 – 2013

Responsibilities/Accomplishment

- ◆ Provided professional services and support in a dynamic work environment.
- ◆ Conducted tests on equipment and instruments for quality.
- ◆ Supervised undergraduate chemistry laboratory practical sessions.
- ◆ Adaptable and proficient in learning new concepts quickly and efficiently.
- ◆ Demonstrated respect, friendliness, and willingness to help wherever needed.
- ◆ Participated in team projects, demonstrating an ability to work collaboratively and effectively.
- ◆ Strengthened interpersonal skills by building positive relationships with others.
- ◆ Managed time efficiently to complete all tasks within deadlines.
- ◆ Invigilated and assessed examinations and chemistry practical scripts.

→ **Victory Grammar School, Mobolaji Bank Anthony Way, Ikeja, Lagos, Nigeria**

Position: Chemistry and Integrated Science Teacher

2010 – 2012

Responsibilities/Accomplishment

- ◆ Planned and prepared chemistry and integrated science lesson plans.
- ◆ Delivered interactive lessons and activities to help students comprehend complex concepts.
- ◆ Developed and implemented a variety of instructional strategies to meet the different learning styles of students.
- ◆ Used a variety of teaching methods to successfully help students master learning objectives.
- ◆ Supported students in developing skills and strategies to become independent and successful learners.
- ◆ Created and maintained a positive, safe, and orderly classroom environment conducive to learning.
- ◆ Managed students and promoted a culture of inclusion, respect, and collaboration in the classroom.
- ◆ Encouraged Junior high school students' interest in Science, Technology, Engineering, and Mathematics (STEM) and participation in science competitions.
- ◆ Instructed students in the lab by teaching safety protocols for proper use of chemicals and safe disposal of hazardous materials.
- ◆ Organized and conducted chemistry practical sessions.
- ◆ Built a variety of formative and summative assessments to measure student performance and progress.
- ◆ Provided feedback to students and parents regarding academic progress, assignments, and behaviour.
- ◆ Established and maintained professional relationships with students, staff, parents, and community members.
- ◆ Participated in department meetings to provide input to colleagues about student achievement and improvement.
- ◆ Assisted in the development of extracurricular activities and special events.

→ **Community Secondary School, Odagwa, Etche L.G.A, Rivers State, Nigeria**

Position: Chemistry Teacher (National Youth Service Corps)

2009 – 2010

Responsibilities/Accomplishment

- ◆ Distributed an approved course syllabus to students to convey the goals and outcomes of the course.
- ◆ Prepared plans, materials, and activities for students to reach chemistry learning outcomes.
- ◆ Leveraged varied instructional delivery modes to support student differences and learning styles.
- ◆ Evaluated and revised lesson plans and course content to achieve student-centered learning.
- ◆ Incorporated exciting and engaging activities to achieve student participation and hands-on learning.
- ◆ Managed the laboratory and stock room by pricing and ordering chemical supplies and equipment.
- ◆ Inspected lab equipment before student use to reduce the chances of potential hazards.
- ◆ Engaged students and promoted intellectual curiosity through hands-on experiments, PowerPoint presentations, and mnemonics to provide a positive attitude towards scientific processes.

- ◆ Constructed and administered tests and exams to measure student learning.
- ◆ Maintained records of student progress and lab completions.
- ◆ I consult with students individually and in groups to help them efficiently reach their learning goals.
- ◆ Provided guidance and mentoring to students regarding academic, social, and emotional issues.

→ **Our Lady of Apostle Secondary School, Yaba, Lagos, Nigeria**

Position: Assistant Chemistry Teacher (Teaching Practice)

2007 – 2008

Responsibilities/Accomplishment

- ◆ Developed lesson plans that incorporated mandated topics and included immersive activities for student engagement.
- ◆ Instructed students in core educational principles, concepts, and in-depth subject matter.
- ◆ Set up visual aids, equipment, and classroom displays to support the teacher's lesson delivery.
- ◆ Created and implemented different learning activities to meet the needs of different types of learners.
- ◆ Encouraged critical thinking and problem-solving skills to enable students to step out of their comfort zone.
- ◆ Facilitated discussions and activities to promote student collaboration and engagement.
- ◆ Assisted in administering tests and other assessments to evaluate student progress.
- ◆ Graded assignments, tests, and exams and reported individual progress to the teacher.
- ◆ Monitored student progress to provide feedback on assignments and guidance on areas requiring improvement.
- ◆ I worked with the classroom teacher to learn about current standards and best practices.
- ◆ Assisted with the management of classroom rules, procedures, and expectations to instil discipline and the observance of the conduct code.
- ◆ Cultivated positive relationships with administration, teaching staff, and students.
- ◆ Observed and participated in special learning opportunities to expand horizons and learn different approaches.

GRANT AND FELLOWSHIP

The National Research Funding/The World Academy of Science (NRF-TWAS).

2019 NRF-TWAS African Renaissance Doctoral Scholarship for Research in South Africa.

CONFERENCE PRESENTATIONS

- ◆ Oluwatoyin Akerele, Catharine Esterhuysen, and Delia Haynes. Intrinsic factors affecting the formation of quality molecular organic crystals. Pan African Conference on Crystallography. 17th to 21st January 2023, conference hosted at BOMAS of Kenya, Nairobi-Kenya. Oral presentations.
- ◆ Oluwatoyin Akerele, Catharine Esterhuysen, and Delia Haynes. Do ionic characters have an impact on the quality of molecular organic crystals: The 14th Centre for High-Performance Computing (CHPC) National Conference. 1 to 3 December 2021, virtual conference hosted from South Africa. Poster and student micro-talk presentations.
- ◆ Oluwatoyin Akerele, Catharine Esterhuysen, and Delia Haynes. Does electrostatics have an impact on the quality of molecular organic crystals: 2nd Commonwealth Chemistry Posters – Building Networks to Address the Goals. UK, 30 September – 01 October 2021.
- ◆ Oluwatoyin Akerele, Catharine Esterhuysen, and Delia Haynes. Does electrostatics have an impact on the quality of molecular organic crystals? RSC/SACI Young Chemist's Symposium 2021, National Virtual Conference, 8 - 9 July 2021, South Africa. Flash presentation.
- ◆ Oluwatoyin Akerele, Catharine Esterhuysen, and Delia Haynes. Computational studies of intermolecular interactions of multi-component crystals: The 14th Centre for High-Performance Computing (CHPC) National Conference. 30 November to 2 December 2020, virtual conference hosted from South Africa. Poster and student micro-talk presentations.
- ◆ Oluwatoyin Akerele, Catharine Esterhuysen, and Delia Haynes. Ionic and closed-shell Interaction in a Set of Binary Complexes: The 4th International Symposium on Halogen Bonding, ISXB-4 Symposium Virtual Conference, 2 - 5 November 2020, hosted from Stellenbosch, South Africa. Poster presentation.
- ◆ Ogunlesi Modupe and Oluwatoyin Akerele. Benin mahogany stem bark gives relief in sickle cell disease: GC-MS analysis of the essential oil from the stem bark of *Khaya grandifoliola*: RSC-P&G Symposium 2016 Chemical Sciences & Technology-enabling growth in Africa, Lagos. February 11-12, 2016. Poster presentation.
- ◆ Ogunlesi Modupe and Oluwatoyin Akerele. Wellness in sickle cell disease: GC-MS analysis of the essential oil from the fresh and dry leaves of *Moringa oleifera* in the management of sickle cell disease: Unilag Annual

International Chemistry Conference Chemical science – solutions to global challenges, Lagos. 15-17 February 2016. Oral presentation.

- ◆ Ogunlesi Modupe and Oluwatoyin Akerele. Analysis of Essential Oils from Anti-Sickling Plants by GC-MS and Effect of Anti-Sickling Drug on Electrochemical Properties of Some Haemoglobin. (MSc Chemistry Thesis, University of Lagos). Presented at the International Society Electrochemistry Conference in Pretoria, April 2013.

PROFESSIONAL AFFILIATIONS / LEADERSHIP

- ◆ Mentor A Girl child (MAGIC'2017) Leader
- ◆ Young Africa Leaders Initiative (YALI) West Africa Fellow
- ◆ The South African chemical institute
- ◆ Mentor of A group in 1000 Girls 1000 Futures students in Fall 2022 STEM challenges.
- ◆ New York Academy of Sciences (Member) till December 2023.

KEY COMPETENCIES

- ◆ Strong analytical mind, skilled in listening, explaining, and consulting.
- ◆ Extensive knowledge in documentation, data entry, analysis, and writing reports.
- ◆ Self-motivated, result-oriented, and with a strong sense of personal responsibility.
- ◆ Excellent team-builder and demonstrated ability to work collaboratively and independently.
- ◆ Adaptable and proficient in learning new concepts quickly and efficiently.
- ◆ Passionate about learning and committed to continual improvement.
- ◆ Gained strong leadership skills by managing projects from start to finish.
- ◆ Strong communication and organizational skills.
- ◆ Paid attention to detail while completing assignments.
- ◆ Developed and maintained courteous and effective working relationships.
- ◆ Used critical thinking to break down problems, evaluate solutions, and make decisions.
- ◆ Demonstrated creativity and resourcefulness through the development of innovative solutions.

SKILLS

- ◆ Meticulous, attention to detail and accuracy
- ◆ Teamwork, collaboration, and interpersonal skills
- ◆ Excellent English written and verbal communication skills
- ◆ Proficient in the use of communication tools
- ◆ Excellent time management and problem-solving skills
- ◆ Analytical and numerical skills
- ◆ Excellent database search, research and analysis
- ◆ Proficient in research design, report and writings
- ◆ A logical and independent mind
- ◆ Patience, determination, and flexibility
- ◆ Excellent in Microsoft Office, IT, and installations of software
- ◆ Planning and Coordination.
- ◆ Dependable and Responsible

LANGUAGE SPOKEN

English and Yoruba

HOBBIES

Travelling, listening to music, and reading.

REFEREES

Upon request