

GOODNESS AJAMU

Abuja, Nigeria. LinkedIn
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OBJECTIVE STATEMENT:

Passionate and driven theoretical condensed physicist, dedicated to unveiling the mysteries of the quantum realm. Graduated with top honors, driven by a profound fascination with quantum mechanics, molecular and optical physics, seeking to contribute to transformative advancements in the dynamic field of condensed matter physics.

EDUCATION:

University of Ilorin (UIL), Kwara State, Nigeria. (Visit Website) Aug 2021.
Bachelor of Science (B.Sc.) Degree in Physics. (View Certificate)

- **CGPA:** 4.50/5.00 (3.60 / 4.00) ~ 90% (First Class Honors)

AWARD(S) and HONOR(S):

- **“Biological Making of Materials”** Summer School, Dresden, Germany: Fully funded scholarship recipient for prestigious interdisciplinary summer school in materials science. July 2023.
- **African Physical Society Funding Award (AfPS) :** Successfully secured funding to attend the renowned African Physical Society conference, showcasing research contributions in Synchrotron physics. Nov 2022.
- **M.Sc. Scholarship Award:** Fully funded academic scholarship recipient for the Advanced Quantum Science and Nanophotonic Systems program (Hybrid Materials Track), Department of Physics, ITMO University, St. Petersburg, Russia.(Declined). Aug 2022.
- **E-Passport Funding Award:** Selected from a pool of 1152 applicants to benefit from the Scholarships Café E-Passport funding initiative. Jan 2022.
- **Tutor of the Year:** Recognized by National Association of Physics Students (NAPS), as tutor of the year, for exceptional teaching and student support. Aug 2021.

TEACHING EXPERIENCE and MENTORSHIP:

ITMO University, St. Petersburg, Russia. Sept - Nov, 2023.
ITMO.Mentors Program

Student Mentor, Foreign Language in Professional Activities (FLPa).

- Demonstrated adeptness in teaching English for specific purposes to 15 third-year undergraduate students in the fields of bioengineering and food technology. Delivered individualized guidance, designed interactive lessons, and curated additional materials for an enriched language learning experience.

Kebbi State University of Science and Technology, Nigeria. Oct 2022 – Sept. 2022.
High School Physics Instructor

- Mentored over 100 High School Seniors of Kebbi State University of Science and Technology Secondary school; consequently, about half of my mentees obtained over six distinctions in their West African Senior Secondary Certificate Examination (WASSCE).
- Taught both theoretical and experimental aspects of Physics - mechanics and electromagnetism - and administered quizzes and assessment tests to help gauge students' understanding and retention level of course material.

University of Ilorin, Kwara State, Nigeria. Aug 2018 – July 2021.
Undergraduate Teaching Assistant

- Taught courses such as, Quantum Mechanics, Nuclear and Particle Physics, Electromagnetic Theory, and Solid-State Physics to over 50 third year and final year physics undergrads; consequently, over 80% of these students reported an upshift in their academic grades.

RESEARCH WORK and PROJECTS UNDERTAKEN:

ITMO University, St. Petersburg, Russia. Sept 2022 - Oct, 2023.

Research Student, Nanophotonics Lab Project(Optical Heating, PhCs, and Scattering)

- Accurately calculated the temperature increase of the spherical silicon nanoparticle on a silica substrate, considering the electromagnetic heating effects induced by the incident plane wave, enabling the evaluation of thermal response and heat dissipation in the system.
- Employed advanced modeling techniques to optimize simulation time and reduce computation resources by utilizing symmetry properties and partitioning the geometry into two pieces through the use of Work Plane and Partition Objects, implementing proper boundary conditions, and comparing the temperature increase obtained

from 2D and 3D simulations, emphasizing the ability to analyze and exploit symmetries for more efficient simulations.

University of Ilorin, Kwara State, Nigeria.

Sept 2020 - Sept 2023.

Undergraduate Research Student

Thesis: Solution to Quantum Mechanical Problems Employing the Variational Scheme in the Vicinity of the Kratzer Potential.

- Conducted research centered on utilizing the variational scheme to approximately determine ground state energy eigenvalues and associated eigenfunctions for diatomic molecules, such as Scandium Hydride (ScH) and Nitrous Oxide(NO), employing MATLAB for potential energy plots and comparison with experimental values.
- Investigated the deviation between approximate and experimental ground state energy eigenvalues of diatomic molecules, analyzing potential energy versus diameter plots for the aforementioned molecules.

CONFERENCES and SEMINARS ATTENDED:

- **“Biological Making of Materials”** Summer School, Dresden, Germany. Sept 10th - Sept 15th, 2023.
- **Second International Perovskite Workshop**, Nanoscience Center, Lund, Sweden. May 10th - May 11th, 2023.
- **African Physical Society Virtual Conference on Synchrotron Technologies.** Nov. 15th - Nov. 28th, 2022.

LEADERSHIP, VOLUNTEER EXPERIENCE, and COMMUNITY DEVELOPMENT:

NYSC Education Community Development Group, Kebbi State, Nigeria.

Feb – October 2022.

General Secretary/Acting President

- Spearheaded science inclined sensitization programmes in schools with a combined population of over 500; in addition, talked about the pertinence and role of STEAM courses in nation building and development.

National Youth Service Corps (NYSC), Kebbi State, Nigeria.

Nov – Dec 2021.

Platoon Leader

- Successfully led over 140 platoon members to victory in varied platoon competitions; also, gathered over NGN 100,000, in donations, with the help of other executives, to fund various platoon activities.
- Served as a liaison officer between platoon members and the platoon officer, helping to relay camp related issues faced by platoon members: from missing identity cards, theft cases, to misplaced meal tickets.

Planetary Health Alliance (PHA), University of Abuja, Nigeria.

July – Aug 2021.

Student Volunteer

- Participated in a 4-week online campaign against open defecation, leveraging social media platforms such as Facebook and WhatsApp, to sensitize over 120 people about the damaging effects of open defecation on communal health.
- Effectively utilized statistical data from various world organizations such as WHO and UNICEF, to back up claims throughout the course of the online campaign; also, gave actionable recommendations, as part of a team, on how best to tackle the menace.

TECHNICAL COMPETENCIES and INTERESTS:

- **Programming Languages and Software Skills:** COMSOL Multiphysics, CST Microwave Studio Suite, Python, Match, and CorelDraw.
- **Lab Skills:** Scanning Electron Microscopy(SEM), Transmission Electron Microscopy(TEM), Atomic Force Microscopy(AFM), Raman Spectroscopy, Lithography, and 3D-printing
- **Interests and hobbies:** Scientific and Creative Writing, Communication, Leadership, Public Speaking, Teaching and Mentoring, Project Management, Travel and Music.

MOOCs and PROFESSIONAL CERTIFICATIONS:

- Density Functional Theory(Certified by Institut Polytechnique De Paris) View
- IntroductiontoParticleAccelerators(NPAP MOOC)(CertifiedbyLundUniversity) View
- IntroductiontoQuantumInformation(CertifiedbyKAIST) View
- Teaching in Science and Engineering (Certified by ITMO University) View
- Understanding ResearchMethods(CertifiedbytheUniversityofLondon) View
- Communication and Interpersonal Skills at Work (Certified by the University of Leeds) View
- Improving Communication Skills(Certified by the University of Pennsylvania) View
- Project Management Essentials(Certified by Management and Strategy Institute) View

SCHOLARLY and PROFESSIONAL AFFILIATIONS:

- **Member**, National Association of Black Physicists (NSBP) 2022 – Present.
- **Member**, African Physical Society (AfPS). 2021 – Present.