

Solomon Yamoah Effah

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EDUCATION

- **Kwame Nkrumah University of Science and Technology** Kumasi, Ghana
Bachelor of Science in Chemistry July 2020
First Class Honors GPA: 3.81/4.00 (Class rank: 8/237 Top 3%)
- Odorgonno Senior High School Accra, Ghana
West Africa Senior School Certificate Examination (WASSCE), General Science. May 2015

RELEVANT COURSEWORK

Machine Learning, Computational Chemistry, Data Visualization with Python, Biochemistry, Biophysics, Quantum Chemistry, Chemical Kinetics, Physical Chemistry, Organic Synthesis, Medicinal Chemistry, Natural Products Chemistry, Surface Chemistry, Molecular Spectroscopy, Macromolecules and Polymer Science, Instrumental Methods of Analysis and Separation Methods of Analysis.

RESEARCH / WORK EXPERIENCE

Wayne State University

Graduate Teaching Assistant (40 hours/week) Sept 2021 – Present

- Demonstrate General Chemistry lab, hold weekly office hours, grade quizzes and exams.
- Teaching Assistant for Survey of Biochemistry; grade quizzes, in-class exercises, and exams.

Kwame Nkrumah University of Science and Technology, Department of Chemistry Kumasi, Ghana

Teaching Assistant (40 hours/week) Sept 2020 – July 2021

- Physical and Inorganic Chemistry; tutor, design and administer quizzes and grade problem set.
- Hold daily office hours to help students with inorganic chemistry and physical chemistry concepts.
- Supervise 2nd year organic chemistry lab sessions for chemistry students and 1st year physical chemistry lab sessions for environmental chemistry, chemical and petroleum engineering students.

Research Assistant (40 hours/week) Oct 2020 – July 2021

- Topic: Room-temperature ammonia gas resistive sensor based on Ag/Pt doped SnO₂ /PANI nanocomposites.
Supervisor: Dr. Eric Selorm Agorku
- Topic: Carbon Nanotechnology_ Functionalization and application of [60] Fullerene.
Supervisor: Prof. Richard Tia
- Assisted final year undergraduate chemistry students with their research projects.

Undergraduate Research Thesis Sept 2019 – April 2020

- Regio-, Stereo- and Enantio-selectivities of 1,3-Dipolar Cycloaddition Reaction of C,N-Disubstituted Nitrones with Substituted (E)-2-Arylidene-(2H)-Indan-1-one: A Quantum Mechanical Study.
Supervisors: Prof. Richard Tia and Prof. Evans Adei

Theoretical and Computational Chemistry Center, KNUST

Research Intern (60 hours/week) Kumasi, Ghana
July 2018 – Sept 2018

- Provided chemical and mechanistic insight into a series of selected organic reactions using DFT.

- Learned how to use software such as Spartan 14, Gaussian 09, Avogadro, Chem Draw and CYL view.

Mary Lucy Hospital

Accra, Ghana

Student Intern, Medical Laboratory Assistant (40 hours/week) June 2018 – July 2018 & June 2017 – July 2017

- Assisted in setting up, cleaning and sterilizing the lab and its equipment.
- Carried out several urine test (urinalysis) of patients and took accurate records of results obtained.
- Took samples of blood from patients (phlebotomy/ venepuncture)
- Carried out some tests such as; Full Blood Count, Blood Glucose Test, Erythrocyte Sedimentation Rate etc.

Odorgonno Senior High School

Accra, Ghana

Chemistry Laboratory Assistant

Jan 2014 – May 2015

- Responsible for the preparation (setting-up) of the laboratory in advance before chemistry practical sessions and maintenance after lab sessions.
- Made sure students adhered to prescribed lab dress code, such as white coat, goggles and closed shoes.

SELECTED HONOURS / AWARDS

- One of the best graduating students, 2020 (Department of Chemistry). **First Class Honors.**
- Overall best chemistry student and best graduating student, Odorgonno Senior High School, Accra, 2015.

PUBLICATIONS AND PREPRINTS

- **Effah SY**, Kaushalya WKDN, A. Hix M, Walker AR. Computational investigations of the excited state dynamics and quenching mechanisms of polycyclic aromatic hydrocarbon DNA adducts in solution. “Submitted” to Electronic Structure. See Chemarxiv link with preprint:
<https://chemrxiv.org/engage/chemrxiv/article-details/63127a9f5351a31eefed04dc>

SELECTED PRESENTATIONS

- Joint Summer Group Presentation; “Investigating the photophysical properties of perylene-functionalized cytidine analogue using molecular dynamics simulations”. Chemistry Building, Wayne State University. July 2022.
- Poster, “Regio-, Stereo- and Enantio-selectivities of 1,3-Dipolar Cycloaddition Reaction of C,N-Disubstituted Nitrones with Substituted (E)-2-Arylidene-(2H)-Indan-1-one: A Quantum Mechanical Study” – Department of Chemistry Poster Presentation Week. March, 2020.
- “A DFT Mechanistic Study on the Osmium–Catalyzed Amino hydroxylation of Olefins” – Midsemester exams presentation. December, 2019

SELECTED LEADERSHIP AND VOLUNTEERING SERVICES

- **General Secretary, Africa Stem Network (Afrisnet) Graduate Committee [AGC]** July 2022
 - Collate and keep record of AGC files.
 - Produce agendas and take minutes of all meetings.
 - Manage AGC databases and coordinate AGC emails.
- **Graduate School Student Panelist, Africa Stem Network** March 2022
One of eight Africa Stem Network student panelist where I shared my background and stories of success. In particular, I provided best tips and practices that students can take in order to improve their chances of success during grad school application.
- **Academic Board Chairperson, Ghana Students Chemical Society, KNUST** May 2018 – May 2019
Organized programs geared towards improving the academic lifestyle of students such as; effective time management, life after school, balancing Christian and social life with academics etc.
- **General Secretary, Scripture Union Ghana** Sept 2014 – August 2015
 - Ensured that all members are kept informed of dates, times and venues for meetings.
 - Took record of all member attendance at meetings and also took minutes of meetings.

- **Volunteer**, STEM Workshop for Teachers, Ghana Science Association (GSA) October 2020
Part of the organizing team of GSA led by Dr. Michael Apau.
- **Volunteer, Polling Official** for College of Science General Election Feb 2020
Ensured peace and security. Also guided voters about dos and don'ts of the election
- **Volunteer**, Glaucoma Awareness Campaign Feb 2019
Together with a team, we educated the people in the community about the effects of glaucoma and the need for them to be tested.

STUDENT MENTORED

- Owiredo Solomon Boateng (BSc. Chemistry) Sept 2019 –Present
- Agyei Jennifer (BSc. Chemistry) Jan 2021 – Present

SELECTED CONFERENCES / WORKSHOPS

- Research Symposium Committee Meeting, (**Africa STEM Network**) October 2020
Learned how to write an abstract, give a talk and present research to other members in the team.
- **Materials Design** October 2020
Theme: “Interatomic Potentials – Why We Still Need Them and How Can We Improve”
Speaker: Professor Richard Catlow
Accomplishment: The webinar reviewed the continuing role of interatomic potential (force field) based methods in modelling and simulation.
- **Master the art of critical thinking & creative problem solving** – Participant Feb 2020
Speaker: Marricke Kofi Gane (International development expert)
Venue: Great hall conference room, KNUST
- **19th Annual Conference, Ghana Students Chemical Society** –Participant March 2018
Theme: Future prospects of a young chemist
Venue: College of Science Auditorium

SKILLS

- Tools & Technologies: VMD, Microsoft Office Suit (Word, PowerPoint, Excel), python, molecular dynamics, molecular modeling, Mendeley
- Interpersonal skills: Presentation, Motivational speaking, Leadership, Teamwork, Team Leadership
- Languages: English, Ga, Twi and French

REFERENCES

- To be handed in upon request.