

**Fredrick Lisili Mufoyongo**  
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## **EDUCATION**

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### **University of Louisville**

**, KY, USA**

- Ph.D. scholar: Analytical Chemistry *January. 2023 - Present*  
(Advisor: Prof. Andrew J. Wilson)
- Research Interest: Enhancing ammonium synthesis from nitrate with electrocatalysis in a magnetic field

[The Wilson Lab](#)

### **University of Nairobi**

**Nairobi, Kenya**

Bachelor of Education (Science)

*Jan 2014 – Sept.2018*

- Mathematics and Chemistry

## **WORK AND PROFESSIONAL EXPERIENCE**

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### **University of Louisville, Chemistry Department**

**KY, USA**

*Jan 2023 –Present*

Position: Graduate Teacher Assistant

Roles: Teaching undergraduate labs, holding office hours, reinforcing lab safety, grading, and proctoring undergraduate exams.

Classes taught:

Spring 2026:	General Chemistry 1, Recitation, CHEM 201 (125 students)
Fall 2025:	Instrumental and statistical analysis lab, CHEM 426 (8 students)
Spring 2025:	Introduction to chemical analysis III, CHEM 209 & CHEM 210 (48 students)
Fall 2024:	Introduction to chemical analysis III, CHEM 209 & CHEM 210 (48 students)
Summer 2024:	Introduction to chemical analysis III, CHEM 209 & CHEM 210 (48 students)
Spring 2024:	Introduction to chemical analysis III, CHEM 209 & CHEM 210 (48 students)
Fall 2023:	Introduction to chemical analysis III, CHEM 209 & CHEM 210 (48 students)
Summer 2023:	Introduction to chemical analysis III, CHEM 209 & CHEM 210 (32 students)
Spring 2023:	Introduction to chemical analysis III, CHEM 209 & CHEM 210 (32 students)

**Averroes Tuition Centre, Chemistry Department****Nairobi, Kenya***Feb. 2018 – Dec 2022*

Position: Mathematics and Chemistry tutor, Head of Department

Roles: Taught International General Certificate of Secondary Education, IGCSE, As, A-levels Chemistry and Mathematics.

HOD roles: Reviewed science schemes of work, lesson plans, progress reports, and students' performance. Facilitated individualized academic assistance for students requiring additional guidance.

**Highway Secondary School****Nairobi, Kenya***May 2016 – Aug 2016*

Position: Teacher Intern (100 – 150 students)

Roles: Taught high school Chemistry and Mathematics Form 1 &amp; 2

**GOOGLE SCHOLAR**

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- Fredrick Lisili Mufoyongo

**SERVICE & OUTREACH**

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- Mentored undergraduate student in their research project, Spring 2026
- Volunteered as a judge for the Louisville Regional Science and Engineering Fair, University of Louisville, KY, March 1st, 2025
- Presented a research poster titled Enhancing Ammonium Synthesis from Nitrate with Electrocatalysis in a Magnetic Field as a way to encourage students to pursue STEM courses. Fairdale High School, KY, January 24th, 2025
- Guided students through the synthesis of gold and silver nanoparticles. Fairdale High School, KY, October 30<sup>th</sup>, 2024
- Volunteered as a judge at Fairdale High School's Science Fair, Fairdale High School, KY, May 30<sup>th</sup>, 2024
- Volunteered as a judge for the Undergraduate Arts & Research Showcase, University of Louisville, April. 23, 2024
- High School Outreach: Volunteered on July 17th, 2025, to help assemble chemistry experimental kits for distribution to high schools in Kentucky during the Fall semester

**LEADERSHIP SKILLS**

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- Treasurer of the Chemistry Graduate Student Association (CGSA), University of Louisville, KY, 2024 – 2025
- Head of Chemistry department, Averroes Tuition Center, Kenya, 2018 - 2022

## PROFESSIONAL SOCIETIES

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- American Chemical Society (ACS), August 2025 – Current
- ACS Technical Division Energy & Fuels (ENFL), August 2025 – Current
- The Electrochemical Society, August 2025 – Current

## SOCIAL ORGANIZATION

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- Member of African Graduate Student Association (AGSA), since 2023
- Member of Kenyan Community in Louisville, since 2023
- The Kenyan Students in Diaspora, KESID, since 2023

## PRESENTATIONS

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- Enhancing Ammonium Synthesis from Nitrate with Electrocatalysis in a Magnetic Field, Fairdale High School, January 24<sup>th</sup>, 2025
- Magnetoelectrocatalysis of nitrate reduction reaction to ammonium product. The 17th Annual Graduate Students Regional Research Conference, University of Louisville, KY, March 28th, 2024

## PUBLICATION(S)

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- N. Karki, F.L. Mufoyongo, A.J. Wilson\*. "[Utilizing the magnetic properties of electrodes and magnetic fields in electrocatalysis](#)," *Inorg. Chem.Front.* **2024**, *11*, 5414-5434

## REFERENCES

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**Dr. Andrew J. Wilson, Ph.D.**

Research Advisor - PI

Department of Chemistry

University of Louisville

Louisville, KY 40292

Lab: <https://www.ajwilsonlab.org>

**Dr. Francis P. Zamborini**

Associate Professor

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