IDERA **LAWAL**

(302) 635-4969
Ideraoluwa.lawal@ttu.edu
Lubbock, TX

SUMMARY

Goal-driven Chemical Engineering Ph.D. with a focus in bioengineering and nanomedicine and over 5 years of experience in medical device development. Expert in experimental design and statistical data analysis, with a proven track record in enhancing device efficacy and safety. Published in top-tier journals and a regular at international conferences. Actively seeking to leverage expertise in development of innovative technologies.

EDUCATION

Doctor of Philosophy in Chemical Engineering Dec. 2023
Texas Tech University

Master of Science in Chemical Engineering Aug. 2022
Texas Tech University

Bachelor of Science in Chemical Engineering Jun. 2015
University of Lagos

WORK EXPERIENCE

Post-doctoral Research Associate Jan. 2024 to present
Texas Tech University, Lubbock, TX

- Lead a multidisciplinary team on projects enhancing intradermal drug delivery systems through innovative jetting technologies

Research Assistant Dec. 2018 to Dec. 2023
Texas Tech University, Lubbock, TX

- Developed and implemented a comprehensive project strategy, from initial concept to validation, achieving a 10% improvement in device efficacy for needle-free jet injectors (NFJIs)
- Enhanced device safety and compliance through rigorous design controls and risk assessment, leading to the successful development of a prototype for vaccination via tattooing.
- Investigated thin film deposition effects in ophthalmic drug delivery and outlined key factors to optimize the process
- Accelerated project milestones by fostering effective collaborations with academic and industry stakeholders, ensuring alignment and efficiency.
- Managed lab operations, equipment maintenance, and safety protocols as Laboratory Safety Captain
- Performed materials characterization (rheology, spectrophotometry) of various chemicals and Newtonian & Non-Newtonian fluids
- 3D printed components for jet injector optimization
- Presented research results at seminars & scientific conferences
- Published in high-impact factor peer-reviewed journals

Sustainability Intern Jul. 2013 to Jan. 2014
State Environmental Protection Agency, Lagos, Nigeria

- Conducted analysis and optimization projects for industrial waste management systems, gaining early experience in applying engineering solutions to improve sustainability and efficiency.

ACADEMIC INVOLVEMENT

Graduate Senator, Student Government Association

Texas Tech University, Lubbock, TX Aug. 2022 to May 2023

- Held senate sessions with administration to address pressing student body issues
- Led initiatives to improve chemical engineering students' resources

President, Chemical Engineering Graduate Students Association

Texas Tech University, Lubbock, TX Oct. 2021 to Sep. 2022

- Promoted chemical engineering graduate studies enrollment and retention
- Coordinated seminar speakers schedule and outreach events

Awards

- 2021/2022 Michael H. Laird Engineering Scholarship
- 2021 Texas Tech Graduate Dissertation Awards

Organizations

60+ hours of Community Service

- Member of the American Institute of Chemical Engineers (AIChE): Sep. 2022 – present
- Member of the National Society of Black Engineers (NSBE): Jul. 2021 – present
- Member of the American Physics Society (APS): Aug. 2019 – present

SKILLS

- Ansys (FLUENT)
- AutoCAD
- Autodesk Fusion
- Matlab
- Python
- ELISA
- R
- SolidWorks
- MS Office Suite
- Lab Safety
- Languages: English & Yoruba (native)
- Protein Assays

PUBLICATIONS

Papers

Lawal, I., Rohilla, P., & Marston, J. (2022). **Visualization of drug delivery via tattooing: effect of needle reciprocating frequency and fluid properties**. Journal of Visualization, 1-9.

Rohilla, P., **Lawal, I.,** Le Blanc, A., O'Brien, V., Weeks, C., Tran, W., ... & Marston, J. (2020). **Loading effects on the performance of needle-free jet injections in different skin models**. Journal of Drug Delivery Science and Technology, 60, 102043.

Rohilla, P., Rane, Y. S., **Lawal, I.,** Le Blanc, A., Davis, J., Thomas, J. B., ... & Marston, J. O. (2019). **Characterization of jets for impulsively-started needle-free jet injectors: Influence of fluid properties**. Journal of Drug Delivery Science and Technology, 53, 101167.

Presentations

Lawal, I., & Marston, J. (2022). **Use of drops and jets for front-of-the-eye drug delivery**. Bulletin of the American Physical Society.

Lawal, I., Rohilla, P., & Marston, J. (2022). **Visualization of Tattooing: What happens beneath the surface?**. In APS March Meeting Abstracts (Vol. 2022, pp. D09-009).

Lawal, I., & Marston, J. (2021). **Droplet bouncing and merging on a wet spherical surface**. In APS Division of Fluid Dynamics Meeting Abstracts (pp. M12-004).

Lawal, I., Mallet, P., & Marston, J. (2019, November). **Effect of fluid properties and impact speed for ophthalmic drug delivery via droplet impact.** In APS Division of Fluid Dynamics Meeting Abstracts (pp. P30-006).