

Ph.D. candidate in Pharmaceutical Sciences (expected May 2027) with multidisciplinary drug discovery and development experience spanning **molecular and cellular biology, preclinical pharmacology, bioassays, formulation and drug delivery, analytical characterization, and computational biology**. Hands-on experience includes mammalian cell culture, transfection, viral infectivity testing, ddPCR, multicolor flow cytometry, tissue imaging, nanoparticle formulation and characterization, LC-MS/MS sample processing, and RNA-seq analysis. Experienced in designing, executing, troubleshooting, and interpreting complex experiments across biological, analytical, and drug-delivery platforms. Interested in applying interdisciplinary science to innovative pharmaceutical discovery and development.

EDUCATION

- 📍 **Ph.D. in Pharmaceutical Sciences, University of Nebraska Medical Center, Omaha, NE** 📅 2023 – Present
- 📍 **M.Pharm in Pharmacy, Cyprus International University, North Cyprus, Turkey** 📅 2013 – 2018

SELECT SKILLS

Molecular & Cell Biology	Mammalian Cell Culture Transfection Luciferase Reporter Assay DNA & RNA Isolation ddPCR Multicolor Flow Cytometry FlowJo IHC IF Tissue Processing Viral Infectivity Assays Multispectral Imaging
Neuroscience & In Vivo Research	Humanized Microglial Mouse Models CNS & Spinal Cord Research Viral Infection Dosing (SQ, IV, IP, Oral Gavage) Animal Restraint Blood Collection Euthanasia Surgical Tissue Collection
Drug Formulation, Characterization & Bioanalytics	Polymeric & Lipid Nanoparticle Design Drug Loading Formulation Optimization Solvent Diffusion Self-Assembly Lyophilization Spray Drying DLS Particle Size & PDI Zeta Potential NMR LC-MS/MS Sample Processing TLC Column Chromatography Dialysis Encapsulation Efficiency
Genomics & Bioinformatics	Bulk & Single-cell RNA-seq Analysis Python R Linux Seurat Scanpy R Shiny Normalization Clustering Cell Annotation Differential Expression Gene-Set Enrichment
Data & Statistical Analysis	GraphPad Prism RStudio Quantitative Image Analysis BioRender Microsoft Office
Scientific Communication	Experimental Design Manuscript Preparation Scientific Presentation Cross-Functional Collaboration
Leadership & Mentoring	Undergraduate Research Mentoring Laboratory Training Experimental Design Guidance

EXPERIENCE

University of Nebraska Medical Center

Omaha, NE

Ph.D. Candidate, Graduate Research Assistant

📅 2023 – Present

1) **CNS and Spinal Cord Efficacy of Antiretroviral Therapy (ART) in a Humanized Microglial Mouse Model**

- Designed and conducted preclinical studies using a clinically relevant humanized microglial mouse model.
- Integrated ddPCR, multicolor flow cytometry, IHC, IF, multispectral microscopy, quantitative image analysis, and LC-MS/MS pharmacokinetic data to connect molecular, cellular, pathologic, and drug-exposure outcomes.
- Mentored two undergraduate summer researchers.

2) **Polymeric Nanoparticle Drug Delivery**

- Designed, formulated, and optimized polymeric nanoparticle drug-delivery systems using solvent diffusion and self-assembly. Characterized particle size, dispersity, surface charge, and composition

using DLS, zeta potential, and NMR, with dialysis-based purification and encapsulation-efficiency assessment.

3) **Viral Infectivity Profiling of HIV Strains**

- Generated infectious HIV strain stocks through bacterial transformation, selective colony propagation, plasmid DNA purification, and mammalian-cell transfection.
- Employed TZM-bl luciferase reporter assays to quantify strain-specific viral infectivity and evaluate assay performance.

4) **RNA-Seq Analysis Pipeline Development**

- Developed an interactive R Shiny pipeline for RNA-seq normalization, differential expression analysis, visualization, and functional annotation; trained in bulk and single-cell workflows using R, Python, Seurat, and Scanpy.

ADDITIONAL EXPERIENCES

- *Pharmaceutical Representative*, SFH Access to Health (2022–2023)
- *Pharmacist*, multiple sites: Precise Care Pharmacy (2022), Defense Headquarters MC (2020–2021), H-Medix Pharmacy and Stores (2020), New Trends Pharmacy (2018)
- *Pharmacist Intern* (Regulatory Affairs), NAFDAC Delta State Office (2019–2020)

AWARDS & HONORS

- UNMC Dean of Graduate Studies Conference Attendance Award, 2026
- Best Abstract Award, AAPS PharmSci 360, 2026
- Nancy and Ronald Reagan Alzheimer's Scholarship, Kinman-Oldfield Family Foundation, 2026
- Outstanding Oral Presentation Award, Neuroscience Symposium, 2026
- Dean's Award – High Honor Certificate, Cyprus International University, 2015–2018
- Dean's Award – Honor Certificate, Cyprus International University, 2013–2015

SELECT PUBLICATIONS

- **E. Etafo, et al.**, (2026) *Neuroimmune Crosstalk in HIV Infection and the Impact of Antiretroviral Therapy*, Published in *Brain, Behavior, and Immunity*, doi.org/10.1016/j.bbi.2026.106931
- **E. Etafo, et al.**, (2026) *Does HIV-1 Infection Drive Alzheimer's Disease?* Published in *Neuroscience & Biobehavioral Reviews*, doi.org/10.1016/j.neubiorev.2026.106932

CERTIFICATIONS & PROFESSIONAL DEVELOPMENT

- Pharmacist License, Pharmacists Council of Nigeria, 2021–2023
- Responsible Conduct of Research, CITI Program, Sep 2024
- Fundamentals of Global Health Research, University of Washington, Jul 2023
- Additional training: Single-Cell & Bulk RNA-seq Data Analysis (Udemy, 2025); Biostatistics of the Laboratory Mouse (UNMC IACUC, 2025)

SELECT PRESENTATIONS

- **E. Etafo et al.**, *Systemic Control, CNS Escape: Regimen-Specific Differences in Brain HIV Suppression Revealed in a Humanized Microglial Mouse Model*, AAPS PharmSci 360, October 2026, New Orleans, LA – **Best Abstract Award**
- **E. Etafo et al.**, *Persistent HIV and Associated Pathology in the Spinal Cord of ART-Treated Humanized Glial Mice*, 57th Midwest Student Biomedical Research Forum, 2026

MEMBERSHIP & LEADERSHIP

- Advocate, American Physician Scientists Association (APSA), UNMC Student Chapter, 2025–2026
- Global Ambassador, University of Nebraska Medical Center, 2024–Present
- Committee Member, American Association of Pharmaceutical Scientists (AAPS) Student Chapter, 2024–2025
- Member, American Association of Pharmaceutical Scientists (AAPS), 2024–Present