Christine C. **Amuzie**

Programmer · Research Assistant

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"Somewhere, something incredible is waiting to be known."
-Carl Sagan

Summary

Motivated, team-oriented, and responsible biomedical researcher with experience analyzing complex data sets in -omics research. History of utilizing consultative skills to communicate findings with diverse professional backgrounds through clear and concise reports and presentations. Interested in devising creative and novel problem-solving strategies for healthcare data, and learning new technologies and tools as the need arises. Highly educated, possessing a Bachelor's in Biology and advanced graduate coursework in Biotechnology and Biomedical Engineering. Data nerd fluent in R, C++, Python, MATLAB, GraphPad, SPSS, and the AutoDesk suite.

Work Experience

The University of Texas MD Anderson Cancer Center

Houston, TX

Research Assistant II — *2017 - 2018*

- Mined NCBI RNA-Seq database for EMT-associated differential expression in kras-driven non-small cell lung cancer
- Created Next-Generation Sequencing analysis workflow of novel RNA-Seq gene expression data in R
- Collected clinical measurements from patients in lung cancer early detection clinical trial
- Utilized Oracle Advanced Analytics to invoke machine learning algorithms in Python interface
- Delineated analytic queries for Oracle Database System

University of Texas Medical Branch

Galveston, TX

Graduate Research Assistant — *2015 - 2017*

- Utilized Texas Advanced Computing Center (TACC) supercomputer clusters for virtual screening, drug library design, and molecular dynamics simulations
- Prototyped Python-based high-throughput screening tools for structure-based drug design (SBDD) and structure-activity relationship (SAR) analysis
- Adapted MATLAB-based high-throughput lipidomics data analysis pipeline for large MALDI imaging datasets
- Rotated through biomedical research laboratories as part of predoctoral pharmacology and toxicology training

Johns Hopkins University School of Medicine

Baltimore, MD

Graduate Researcher and Laboratory Technician — *2012 - 2015*

- Investigated biomarkers of cardiovascular disease using label-free quantitative mass spectrometry
- Consulted with industry and academic experts to develop laboratory SOP and high-throughput lipidomics data analysis pipeline in MATLAB
- Collected, combined and cleaned large metabolomic datasets
- Implemented statistical tools (R, GraphPad Prism, SPSS) to conduct regression analyses and analyze decomposition of variance (ANOVA, ANCOVA, etc)
- Prepared grants, manuscripts, and presentations
- Summarized and presented research project results on local and national stage

Georgia Institute of Technology

Atlanta, GA

Student Assistant — *2008 - 2012*

- Designed 3D nanotubular drug delivery vehicles in Autodesk AutoCAD for thoracolumbar injury
- Explored the role of sphingolipids in cancer and inflammation by mining microarray and LCMS datasets
- Provided administrative assistance in event scheduling and managing daily operations

Education and Training

Baylor College of Medicine

Houston, TX

Pre-Graduate Education Training (PGET) Program — *2018 - Present*

- Training: bioinformatics, grant-writing, career development
- Research: somatic genome editing with AAV-CRISPR

University of Texas Medical Branch

Galveston, TX

Graduate Coursework in Pharmacology and Toxicology — *2015 - 2017*

- Training: Computer-assisted biomaterial design for vaccine development and immunotherapy; exploration of differential glycomic expression via multidimensional NMR data analysis in Python; sphingolipidomics in neuropsychopharmacology

Johns Hopkins University *Baltimore, MD*

Graduate Coursework in Biotechnology and Applied Biomedical Engineering *2013 - 2015*

- Training: Bioinformatics; High-throughput screening and automation; bioengineering innovation and design

Georgia Institute of Technology *Atlanta, GA*

B.S. in Biology *2007 - 2012*

- Research: Controlled release for nerve regeneration; analysis of sphingolipids in inflammation
- Honors Thesis: "Spectromic Analysis of Sphingolipids in RAW 264.7 Cells on Indium Tin Oxide Slides Reveals Activation of Inflammatory Pathways"

Honors & Awards

2015	**Recipient,** NIH (NHLBI) Research Supplement to Promote Diversity in Health-Related Research	*Bethesda, MD*
2014	**Recipient,** NIH (NHLBI) Research Supplement to Promote Diversity in Health-Related Research	*Bethesda, MD*
2013	**Recipient,** NIH (NHLBI) Research Supplement to Promote Diversity in Health-Related Research	*Bethesda, MD*
2012	**Dean's List,** Georgia Institute of Technology	*Atlanta, GA*
2008	**Winner and Representative,** Carbon Reduction Challenge	*Washington, DC*
2007	**Scholar,** Georgia Tech Honors Program	*Atlanta, GA*

Presentations and Publications

Bedja D, Mishra S, Amuzie C, Avolio A, Chatterjee S. "Prevention of cardiac hypertrophy by the use of a glycosphingolipid synthesis inhibitor in ApoE-/- mice." BBRC 465(1): 159-164. 4 Aug 2015.

Mishra, S., D. Bedja, C. Amuzie, C. A. Foss, M. G. Pomper, R. Bhattacharya, K. J. Yarema, and S. Chatterjee. "Improved intervention of atherosclerosis and cardiac hypertrophy through biodegradable polymer-encapsulated delivery of glycosphingolipid inhibitor." Biomaterials 64 (2015): 125-135.

Amuzie, Christine, et al. "Inhibition of glycosphingolipid synthesis ameliorates atherosclerosis and arterial stiffness in Apo E-/-mice and rabbits fed a high fat and cholesterol diet (607.11)." Experimental Biology 2014 . 30 April 14. San Diego: Oral Presentation.

Chatterjee S, Bedja D, Mishra S, Amuzie C, Avolio A, Kass DA, Berkowitz D, Renehan M. "Inhibition of glycosphingolipid synthesis ameliorates atherosclerosis and vascular stiffness in apoE-/- mice." Circulation (2014): CIRCULATIONAHA-113.

Mishra S, Bhattacharya R, Bedja D, Amuzie C, Yarema K, Chatterjee S. "Biopolymer encapsulation of a glycolipid synthesis inhibitor prolongs its antiproliferative effects." Glycobiology Interest Group Poster Session . 14 April 2013. Baltimore: Print.

Amuzie CC, Chen YF, and Merrill AH. "Spectromic Analysis of Sphingolipids in RAW 264.7 Cells on Indium-Tin Oxide Slides Reveals Activation of Inflammatory Pathways." The Tower . 2012. Vol 5

Amuzie C, Brown B, Chen T, Ly N, Sheard K, and Yi E. "LyGDI as a Promising Biomarker for Ovarian Cancer." Festival of Research Ideas in Cancer Biology and Technology . 17 Nov 2011. Atlanta: Print