

CURRICULUM VITAE

Gracious Yoofi Boafu Donkor

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EDUCATION

University of Illinois at Urbana-Champaign (UIUC) Ph.D. Microbiology <i>Thesis advisor: James M. Slauch, Ph.D.</i>	Aug 2023 – present
Illinois State University (ISU) M.S. Biotechnology <i>Thesis advisor: Jan-Ulrik Dahl, Ph.D.</i>	Jan 2021 – July 2023
Kwame Nkrumah University of Science and Technology (KNUST) BSc. Medical Laboratory Technology <i>Thesis advisor: Alex-Owusu Ofori, Ph.D.</i>	Sept. 2013 - 2017

RESEARCH EXPERIENCE

University of Illinois Graduate Research Assistant Principal Investigator: James M. Slauch, PhD	Urbana-Champaign	Aug. 2024 - Present
<ul style="list-style-type: none">Investigating the role of small RNAs in modulating mRNA stability of <i>hilD</i>, the major transcriptional regulator of the <i>Salmonella</i> Pathogenicity Island-1 (SPI1) type 3 secretion system (T3SS) in <i>Salmonella typhimurium</i>Exploring the relationship between the termination factor, Rho, and the RNA degradosome in controlling stability and expression of <i>hilD</i> mRNA.Developed protein engineering and mutagenesis techniques to probe the structural basis of protein-protein between HilD and its major negative regulator, HilE.		
Illinois State University Graduate Research Assistant, Principal Investigator: Jan Ulrik-Dahl, PhD	Normal, Illinois	Jan. 2021-July 2023
<ul style="list-style-type: none">Combined bacteriological, biochemical, and molecular biology techniques to understand the antimicrobial effects and stress responses elicited against a novel antimicrobial AGXX in <i>Pseudomonas aeruginosa</i>.Adapted a high throughput screen to identify synergistic interactions between antimicrobials.Contributed to preliminary investigations on the relationship between polyphosphate deficiency and antibiotic sensitivity in <i>Pseudomonas aeruginosa</i>.		
Kwame Nkrumah Uni. of Science & Technology Undergraduate Research Assistant Principal Investigator: Alex Owusu-Ofori, PhD	Kumasi, Ghana	Sept. 2016 – April 2017
<ul style="list-style-type: none">Developed a disk-diffusion based technique to screen for antibiotic residues in patient urine samples.Developed a questionnaire-based study to map prior patient antibiotic use in hospital attendees.		

PUBLICATIONS/MANUSCRIPTS

- Grant NA, **Donkor GY**, Sontz J, Soto W, Waters CM. 2025. Deployment of a *Vibrio cholerae* ordered transposon mutant library in a quorum-competent genetic background. mBio16:e00036-25
- Canchola, J.; **Donkor, G.Y.B.**; Tawiah, P.O.; Fasawe, A.; Ayim, E.; Engelke, M.F.; Dahl, J.-U. Alkyl Pyridinol Compounds Exhibit Antimicrobial Effects against Gram-Positive Bacteria. *Antibiotics* 2024, 13, 897.
- Donkor GY**, Anderson GM, Stadler M, Tawiah PO, Orellano CD, Edwards KA, Dahl J-U. A novel ruthenium-silver based antimicrobial potentiates aminoglycoside activity against *Pseudomonas aeruginosa*. mSphere. 2023 Oct 24;8(5):e0019023.

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- **Donkor GY**, Dontoh E, Owusu-Ofori A (2019) A cross-sectional study on the prevalence of antibiotic use prior to laboratory tests at two Ghanaian hospitals. PLOS ONE 2019 Jan 15;14(1):e0210716. doi: 10.1371/journal.pone.0210716

AWARDS & HONORS

Apr 2025	Mame Shiao Debbie Award, UIUC
Apr 2025	James R. Beck Fellowship, UIUC
Sept 2024	James L. Fisher Outstanding Thesis Award (2023/2024), ISU
May 2024	School of Biological Sciences Outstanding MS Student (2023/2024), ISU
May 2024	Phi Sigma Publication Award (2023/2024), ISU
Oct 2022	Lela Winegarner Fellowship
Sept 2022	BirdFEEDER Research Grant Award
Sept 2022	College of Science Travel Grant, ISU
June 2022	SigmaXI Grants in Aid of Research
May 2022	Mockford-Thompson Research Fellowship
May 2022	Robert D. Weigel Research Grant
Feb 2022	Phi Sigma Symposium – 2 nd Place Graduate Poster Presentation
May 2021	Mockford-Thompson Research Fellowship
May 2021	Robert D. Weigel Research Grant

PRESENTATIONS

Sept. 2022	Donkor G., Stadler M., Anderson G., Dahl J. Investigating the antibiotic synergizing effects of the novel antimicrobial AGXX. <i>Midwest Microbial Pathogenesis Conference, Madison, WI</i> . [Poster presentation]
Aug. 2022	Donkor G., Stadler M., Anderson G., Dahl J. Investigating the antibiotic synergizing effects of the novel antimicrobial AGXX. <i>Molecular Genetics of Bacteria and Phages Meeting, Madison, WI</i> . [Poster presentation]
April 2022	Donkor G. Stress response of <i>Pseudomonas aeruginosa</i> to the reactive oxygen species generating antimicrobial, AGXX. <i>Integrative Biology Seminar, ISU, IL</i> [Oral presentation]
Feb. 2022	Donkor G., Stadler M., Anderson G., Dahl J. Investigating the antibiotic synergizing effects of the novel antimicrobial AGXX. <i>Phi Sigma Research Symposium, ISU, IL</i> [Poster presentation]
Nov. 2021	Donkor G., Anderson G., Hoffman K., Dahl J. Understanding <i>P. aeruginosa</i> 's response to the novel antimicrobial AGXX. <i>Midwest Microbial Pathogenesis Conference, East Lansing, MI</i> . [Poster presentation]

TEACHING & MENTORSHIP

Illinois State University

2021-2022: Taught a total of 60 students in \ laboratory sections for Microbiology and Society (BSC 160) and Microbiology (BSC 160). Trained students in basic bacterial culturing, pathogen identification techniques and molecular biology techniques such as PCR and Sanger sequencing.

Illinois State University

2021-2022: Trained two undergraduate students in the Dahl lab on biochemical and microbiological techniques to contribute to two research projects. Designed and supervised a summer workshop for over 15 high school students to screen soil microbial isolates for secondary metabolites active against *ESKAPE* pathogens.

POSITIONS HELD

Illinois State University

Graduate Research Assistant	Spring 2024-Present
Graduate Teaching Assistant (BSC 160)	Fall 2021 Spring 2022, Spring 2023
Graduate Research Assistant	Fall 2022
Graduate Teaching Assistant (BSC 260)	Spring 2021

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VOLUNTEER WORK

Poster Judge for UIUC MCB Undergraduate Research Symposium	Sept 2023
MCB Graduate Student Association Student Member	Aug 2023 - Present
Business Manager, Phi Sigma Honors Society-ISU	Aug 2021-May 2023
Illinois Summer Research Academy, Microbiology Division – ISU	July 2021 & 2022
Social Chair, Phi Sigma Honors Society-ISU	Aug 2021-May 2022
Cofounder, Shared-Shelf Foundation, Ghana	June 2021-present
Community Health Screening Coordinator, Epithelium Diagnostics	April-Sept. 2018
Editor-in-Chief, Student Magazine, MELTSA-KNUST.	Sept 2015-May 2016