

CURRICULUM VITAE

Gracious Yoofi Boafo Donkor

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EDUCATION

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| 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

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| University of Illinois Graduate Research Assistant <u>Principal Investigator:</u> 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, <u>Principal Investigator:</u> 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 <u>Principal Investigator:</u> 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. *mBio* 16: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

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| 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

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| 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

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| 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

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| 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 |