

Curriculum Vitae

Personal Information

Name: Shabani Kililwa Muller

Languages: English (very good command), French (very good command), Kiswahili (native)

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ResearchGate: <https://www.researchgate.net/profile/Shabani-Muller>

Education

Ph.D. Candidate in Natural Resources (Applied Ecology), University of Nebraska–Lincoln, USA (Expected 2026)

M.Sc. in One Health Molecular Biology, Sokoine University of Agriculture, Tanzania

B.Sc. in Biotechnology and Laboratory Science, St. John's University of Tanzania

Research Interests

Environmental health, applied ecology, One Health, wildlife toxicology, agrochemical contamination, and ecological risk assessment. Focused on linking pesticide exposure to biological responses in sentinel species.

Dissertation

Systemic pesticide exposure in wildlife sentinels in eastern Nebraska: A One Health study on agrochemical contamination linked to the AltEn facility.

Teaching and Guest Lectures

- Guest lectured on Sustainable Development Goals (SDGs) in Environmental Science (School of Natural Resources, UNL, 2024)
- Led undergraduate discussions on sustainability and applied ecology

Research Experience

- Graduate Research Assistant, University of Nebraska–Lincoln (2021–Present)
Conducting a multi-year field and laboratory study on agrochemical contamination using sentinel species (tadpoles and songbird eggs) around the AltEn ethanol facility in Mead, Nebraska.
- Collected and analyzed over 350 avian eggs and 175 amphibian samples for pesticide residues using UPLC-MS/MS.
- Applied R statistical software, ArcGIS Pro, and Google Earth Engine for spatial and temporal analysis.
- Developed ecological models to assess contaminant effects on wildlife health indicators.

Scientific Presentations

- Oral Presentation, Daugherty Water for Food Institute (DWFI) Student Forum, 2024
- Research Talks at the Department of Agronomy and Plant Health, UNL, 2023–2024
- Graduate Student Association (GSA) Research Presentations, UNL, 2023 & 2024
- Seminar Talk, School of Natural Resources Graduate Seminar, 2024

Professional Memberships

- Nebraska One Health

Technical and Research Skills

- R (data analysis, visualization, statistical modeling)
- ArcGIS Pro and Google Earth Engine (spatial mapping)
- UPLC-MS/MS data interpretation
- Scientific writing and research communication

Awards and Fellowships

- Student Support Award – Daugherty Water for Food Institute, UNL (2023–2024)
- Leadership Development Award – International Students Inc., Texas, USA (2023)
- Bayer 4U Mentorship Award – Bayer AG (2024)
- Research Training Fellowship – Government of India (2014)
- Wellcome Trust Student Fellowship – Morogoro University (2012)

Selected Conference talks and Publications

- Muller, S.K., Ng'akola, J., Nyakiha, Z., et al. (2019). Joint efforts to improve malaria control in three refugee camps in Kigoma, Tanzania: successes, challenges, and lessons learned. *Journal of Tropical Health Matters*.
- Muller, S.K., Assenga, J.A., Matamba, L.E., Misinzo, G., & Kazwala, R.R. (2016). Human leptospirosis in Tanzania: Sequencing and phylogenetic analysis confirm that pathogenic *Leptospira* species circulate among agro-pastoralists. *BMC Infectious Diseases*, 16:273.
- Assenga, J.A., Matamba, L.E., Muller, S.K., et al. (2015). Quantitative analysis of risk factors associated with brucellosis in livestock in the Katavi-Rukwa ecosystem, Tanzania. *Tropical Animal Health and Production*.
- Assenga, J.A., Matamba, L.E., Muller, S.K., et al. (2015). Epidemiology of *Brucella* infection in the human–livestock–wildlife interface in the Katavi-Rukwa ecosystem, Tanzania. *BMC Veterinary Research*.
- Assenga, J.A., Matamba, L.E., Muller, S.K., et al. (2015). Predominant leptospiral serogroups circulating among humans, livestock, and wildlife in Katavi-Rukwa ecosystem, Tanzania. *PLoS Neglected Tropical Diseases*, 9(3): e0003607.

Community and Leadership Engagement

- Active member of the FACS Bible Team and Evangelism Department (2024–2025)
- Organized Bible discussions, prayer meetings, and academic mentorship for students