

Noelle Atieno Mware

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EDUCATION

PhD Candidate, Civil and Environmental Engineering University of Nebraska (UNL), Lincoln, NE <i>Concentration:</i> Environmental Engineering <i>Dissertation title:</i> "Novel mitigation strategies for antimicrobial resistance in beef cattle manure management systems" <i>Advisors:</i> Dr. Xu Li and Dr. Shannon Bartelt-Hunt	Anticipated December 2021 G.P.A: 3.925
Master of Science, Civil and Environmental Engineering University of Nebraska (UNL), Lincoln, NE <i>Concentration:</i> Environmental Engineering	August 2021 G.P.A: 3.925
B.S., Environmental Engineering Benedict College, Columbia, SC	May 2016 G.P.A: 3.96

PROFESSIONAL EXPERIENCE

Graduate Research Assistant <i>Department of Civil and Environmental Engineering, UNL</i> <ul style="list-style-type: none">Design and execute experiments to evaluate mitigation strategies for the fate and transport of antimicrobial resistance genes and antimicrobial resistant bacteria in the environmentCollaborate with team to manage multidisciplinary project employing environmental microbiology techniquesContribute to multi-university research project and deliver project updates and reports	August 2016- Present
Graduate Teaching Assistant, Introduction to Environmental Engineering Lab <i>Department of Civil and Environmental Engineering, UNL</i> <ul style="list-style-type: none">Prepare materials for different lab and demonstrations, hybrid-learning and lecture online lessonsWork closely with students and guide them through lab experimentsAssist as an ad hoc instructor, grade lab reports and exams and hold office hoursMentored students on graduate school application procedure outside lab class	August 2016- Present
Teaching Assistant, English (as a second language) <i>Universidad Del Pacifico, Colombia, South America</i> <ul style="list-style-type: none">Developed teaching curriculum for beginner and Intermediate English learnersCreated fundamental English grammar activities and vocabulary for native Spanish speakersParticipated in community immersion activities that enhanced my Spanish language	May 2016-August 2016
Summer Research Intern <i>MIT Summer Research Program, MIT</i> <ul style="list-style-type: none">Analyzed the effects of photo-irradiation on the interaction between particulate organic matter and trace metals in surface water environmentGained knowledge on atomic and mass spectrophotometry	June 2015-August 2015
Undergraduate Student Researcher <i>Environmental Remediation Laboratory, Benedict College</i> <ul style="list-style-type: none">Evaluated the sorption properties of coconut husk derived biochar on removal of heavy metals and organic dyes from simulated wastewater as an independent senior research projectCollected experimental data using X-Ray diffractometer, FTIR and atomic absorption spectrophotometer	February 2013-May 2016
Undergraduate Teaching Assistant <i>Freshman Institute, Benedict College</i> <ul style="list-style-type: none">Tutored freshman and upper-class students in STEM-related courseworkOffered academic and professional development mentorship to fellow studentsMaintained records and assigned duties to undergraduate teaching assistants, as head undergraduate teaching assistant	January 2013-May 2016
Vestegaard Frandsen LifeStraw Campaign -Kenya, East Africa <i>Outreach Educator</i> <ul style="list-style-type: none">Distributed LifeStraw filters, trained recipient households and monitored the filter useMaintained database of recipient households to ensure safe drinking water supply.	May 2011-July 2012

MENTORING

Graduate Student Mentor

Summer 2017, 2018, 2019, 2020

Nebraska Summer Research Program, UNL

- Mentored four undergraduate students in the Civil Sustainability REU summer program
- Guided REU students in conducting research experiments, preparing and presenting research findings
- Successfully completed a summer mentoring program via an online Zoom session

Department of Civil and Environmental Engineering, UNL

- Trained undergraduate and graduate research assistant on microbiology experiment procedures
- Assisted graduate students with developing experimental procedures and troubleshooting
- Worked both hands-on and hands-off with students in field and lab experiments

LEADERSHIP

- President, Civil and Environmental Engineering Graduate Student Association (CEE-GSA)
- Chair and Co-Chair, Professional Development Committee, ASUN Graduate Student Assembly (GSA)
- Representative, College of Engineering, Graduate Student Engineering Advisory Board (GeSAB)
- Student Officer and member, America Water Works Association (AWWA), UNL Chapter
- Member, National Society of Black Engineers (NSBE), UNL Chapter
- Member, Graduate Society of Women Engineers (Grad-SWE), UNL chapter

UNIVERSITY INVOLVEMENT

McNair Summer Virtual Colloquium Judge, UNL

- Provided feedback to student research presentations in effort to prepare future graduate students

Introduce a Girl to Engineering Day

- Served in a student panel to talk to girls in Grades 3-12 on the importance of engineering

UNL Recycle

- Encouraging recycling efforts among the UNL community during football game days by handing out recycle bags and explaining the need for recycle and sustainability.

World O! Water

- Demonstrated different water quality and conservation activities in live experiments to attendees of all ages

Women in Physical Sciences Conference, UNL

- Represented Civil Engineering department and volunteer as a tour guide for conference attendees

PUBLICATIONS

Noelle A. Mware, Maria C. Hall, Selvakumar Kumar, John E. Gilley, Yifan Zhang, and Xu Li, "High throughput quantitative polymerase chain reaction on the effects of setback distance on antibiotics and antibiotic resistance genes in soil and runoff following swine manure slurry application." *In Preparation*.

Noelle A. Mware, Marissa Golgosky, Shannon L. Bartelt-Hunt, Amy M. Schmidt, Kent M. Eskridge, and Xu Li, "Effectiveness of Alkaline Stabilization on the Reduction of Antibiotic Resistance in Beef Cattle Manure." *In Preparation*.

Carlton Poindexter, Mara Zelt, **Noelle A. Mware**, Kari Nixon, and Xu Li, "Improved public engagement with antimicrobial resistance: A proposed media communication model." *Under Review*.

Maria C. Hall, **Noelle A. Mware**, John E. Gilley, Shannon L. Bartelt-Hunt, Daniel D. Snow, Amy M. Schmidt, Kent M. Eskridge, and Xu Li. "Influence of setback distance on antibiotics and antibiotic resistance genes in soil and runoff following the land application of swine manure slurry." *Environmental Science & Technology* (2020).

Darko, Samuel, Gurcan Comert, **Noelle A. Mware**, and Faith Kibuye. "Evaluation of Sustainable Green Materials: Pinecone in Permeable Adsorptive Barriers for Remediation of Groundwater Contaminated by Pb²⁺ and Methylene Blue." *arXiv preprint arXiv:2101.03137* (2020).

Snow, Daniel D., David A. Cassada, Megan L. Larsen, **Noelle A. Mware**, Xu Li, Matteo D'Alessio, Yun Zhang, and J. Brett Sallach. "Detection, occurrence and fate of emerging contaminants in agricultural environments." *Water Environment Research* 89, no. 10 (2017)

PRESENTATIONS

Oral Presentations

Noelle Atieno Mware, Kent Eskridge, Amy Schmidt, Galen Erickson, Xu Li. *Reduction of Antimicrobial Resistance in Beef Cattle Manure during Alkaline Stabilization of Pen Floor Material in Animal Feedlot*. American Society of Agricultural and Biological Engineer (ASABE) Annual International Meeting, July 12th -16th, 2021, Virtual

Poster Presentations

Noelle Atieno Mware, Marissa Golgosky, Amy Schmidt, Xu Li. *The effectiveness of alkaline stabilization in the reduction of antibiotic resistance in beef cattle manure*. Association of Environmental Engineering and Science (AEESP) Research and Education Conference, May 14th -16th, 2019, Arizona State University, AR

Noelle Atieno Mware, Cecilia Hall, Xu Li. *Influence of setback distance on the occurrence of antibiotic resistance genes in soil and runoff following swine manure slurry application*. Great Plains Waste Management Conference. April 19th, 2019. La Vista, NE

AWARDS

- Peck/ Benack Engineering Achievement Fellowship 2019-2020 **September 2019**
- Lincoln Branch of American Association of University Women **August 2019**
- College of Engineering Graduate Student Conference Travel Grant **February 2019**
- 2017-2018 Milton Mohr Graduate Fellowship **April 2017**
- Robert A. and Becky Reisdorff Student Scholarship **April 2017, 2018, 2019 &2020**
- AWWA Leisen Scholarship Recipient **November 2016**
- 2016-2017 Nebraska Engineering Recruitment Fellowship **August 2016**
- Benedict College Presidential Award of Excellence **August 2013- August 2016**

TECHNICAL SKILLS

Programming languages: MATLAB, C++, Python, Perl, Linux, R and SAS

Foreign languages: Fluent Swahili and Luo, Intermediate Spanish, Beginner French

REFERENCES

Xu Li, Professor and Graduate Chair
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Shannon Bartelt-Hunt, Professor and Department Chair
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