

DAVID A. HOLCOMB

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Department of Environmental Sciences and Engineering
University of North Carolina at Chapel Hill
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EDUCATION & TRAINING

- 2019 – 2021** Postdoctoral Trainee, Environmental Epidemiology
University of North Carolina, Chapel Hill, NC. *Mentor:* Dr. Larry Engel
- 2019** Ph.D., Environmental Sciences and Engineering
University of North Carolina, Chapel Hill, NC. *Advisor:* Dr. Jill Stewart
- 2012** B.S., Environmental Science with highest honors, chemistry minor
University of North Carolina, Chapel Hill, NC. *Advisor:* Dr. Orlando Coronell

PROFESSIONAL EXPERIENCE

- 2021 –** Postdoctoral Research Associate, Department of Environmental Sciences and Engineering, UNC Chapel Hill
- 2019 –** Postdoctoral Research Associate, Department of Epidemiology, UNC Chapel Hill
- 2013 – 2019** Graduate Research Assistant, Department of Environmental Sciences and Engineering, UNC Chapel Hill
- 2012 – 2013** Research Assistant, The Water Institute, UNC Chapel Hill
- 2012** Research Technician, Nicholas School of the Environment, Duke University
- 2011 – 2013** Research Assistant, Department of Environmental Sciences and Engineering, UNC Chapel Hill

TEACHING

- Spring 2023** Guest lecturer, *Environmental Health Microbiology*, UNC ESE (J. Brown)
- Spring 2022** Guest lecturer, *Environmental Epidemiology*, UNC EPID (L. Engel)
- Spring 2021** Guest lecturer, *Environmental Epidemiology*, UNC EPID (L. Engel)
- Spring 2020** Guest lecturer, *Environmental Epidemiology*, UNC EPID (L. Engel)
- Fall 2018** Guest lecturer, *Ecological Microbiology*, UNC ESE (D. Singleton)
- Fall 2016** Guest lecturer, *Ecological Microbiology*, UNC ESE (J. Stewart)
- Fall 2014** Graduate Teaching Assistant, *Laboratory Experiments in Genetics*, UNC Biology (S. Grant)
- Spring 2014** Trainee, *Campus to Community: Public Health Teacher Training Program*

MENTORING

- 2020** Committee member, Taylor Franklin MS thesis
- 2017** Committee member, Jack Cordes undergraduate honors thesis
- 2016** Supervisor, Anna Stamatogiannakis independent undergraduate research
Stamatogiannakis awarded UNC Summer Undergraduate Research Fellowship (2016) and Mingba Norbu Sherpa Fellowship (2016) to conduct this research
- 2014 – 2015** Mentor, UNC Environmental Sciences & Engineering Mentorship Program

SERVICE

Scientific Journals

Editorial Board

International Journal of Hygiene and Environmental Health

Peer Review

American Journal of Tropical Medicine and Hygiene; ACS ES&T Water; Emerging Infectious Diseases; Environmental Engineering Science; Environmental Science and Technology/ES&T Letters; International Journal of Hygiene and Environmental Health; International Journal of Environmental Research and Public Health; ISME Communications; Journal of Water and Health; PLOS Global Public Health; PLOS Medicine; PLOS Neglected Tropical Diseases; PLOS Water; Science of the Total Environment; Tropical Medicine and Infectious Disease; Water; Water Research

Professional Associations

2022 – American Society of Tropical Medicine and Hygiene

2022 – Association of Environmental Engineering and Science Professors

Department of Environmental Sciences and Engineering, UNC Chapel Hill

2018 – 2019 Search Committee, Director of The Water Institute at UNC

2015 – 2016 Search Committee, Department Chair

2015 – 2016 Student Representative to the Faculty

2014 – 2018 Undergraduate Research Liaison, UNC Office of Undergraduate Research

2014 – 2015 President, UNC Environmental Students Organization

Workshop and Conference

2018 Organizer and Host, Careers in WaSH speaker series, UNC Water and Health Conference

2017 Moderator, Water Reuse session, UNC Water and Health Conference

2017 Moderator, Viral Pathogens session, UNC Water Microbiology Conference

2017 Abstract Reviewer, UNC Water Microbiology Conference

HONORS & AWARDS

2019 Graduate Student Transportation Grant, UNC Graduate School

2018 Paul Hardin Dissertation Fellowship, UNC Graduate School

2018 Royster Society of Fellows, UNC Graduate School

2018 Linda West Little Research Endowment in Waste Management, UNC ESE

2015 Honorable Mention, NSF Graduate Research Fellowship Program

2013 Graduate Student Opportunity Fund Award, UNC Graduate School

2013 Annual Fund Scholarship, UNC Gillings School of Global Public Health

2013 Graduate Merit Assistantship, UNC Graduate School

2012 Phi Beta Kappa

2011 Honors Thesis Research Grant, Honors Carolina, UNC Chapel Hill

PUBLICATIONS

Refereed Journal Articles

20. **Holcomb D**, Monteiro V, Capone D, António V, Chiluvane M, Cumbane V, Ismael N, Knee J, Kowalsky E, Lai A, Linden Y, Mataveia E, Nalá R, Rao G, Ribeiro J, Cumming O, Viegas E, Brown J. (2023). “Long-term impacts of an urban sanitation intervention on enteric pathogens in children in Maputo city, Mozambique: study protocol for a cross-sectional follow-up to the Maputo Sanitation (MapSan) trial five years post-intervention.” *medRxiv* preprint. doi:10.1101/2022.08.19.22278991. Under review at *BMJ Open*.
19. Barker T, Capone D, Amato HK, Clark R, Henderson A, **Holcomb DA**, Kim E, Pape J, Parker E, VanderYacht T, Graham J, Brown J. (2023). “Public toilets have reduced enteric pathogen hazards in San Francisco.” *medRxiv* preprint. doi:10.1101/2023.02.10.23285757. Under review at *PLOS Water*.
18. Mertens A, Arnold BF, Benjamin-Chung J, Boehm A, Brown J, Capone D, Clasen T, Fuhrmeister E, Grembi J, **Holcomb D**, Knee J, Kwong LH, Lin A, Luby SP, Nala R, Nelson K, Njenga S, Null C, Pickering AJ, Rahman M, Reese H, Steinbaum L, Stewart J, Thilakarathne R, Cumming O, Colford JM, Ercumen A. (2023). “Associations between detection of enteropathogens and microbial source tracking markers in the environment and child enteric infections and growth: a systematic review and individual participant data meta-analysis.” *SSRN* preprint. doi:10.2139/ssrn.4313717. Under review at *The Lancet Global Health*.
17. Mertens A, Arnold BF, Benjamin-Chung J, Boehm A, Brown J, Capone D, Clasen T, Fuhrmeister E, Grembi J, **Holcomb D**, Knee J, Kwong LH, Lin A, Luby SP, Nala R, Nelson K, Njenga S, Null C, Pickering AJ, Rahman M, Reese H, Steinbaum L, Stewart J, Thilakarathne R, Cumming O, Colford JM, Ercumen A. (2023). “Effects of water, sanitation, and hygiene interventions on detection of enteropathogens and host-specific faecal markers in the environment: an individual-participant data meta-analysis.” *The Lancet Planetary Health* 7 (3), e197–e208. doi:10.1016/s2542-5196(23)00028-1
16. Grube A, Coleman C, LaMontagne C, Miller M, Kothegal N, **Holcomb D**, Blackwood A, Serre M, Engel L, Guidry V, Noble R, Stewart J. (2023). “Detection of SARS-CoV-2 RNA in wastewater and comparison to COVID-19 cases in two sewersheds, North Carolina, USA.” *Science of the Total Environment* 858, 159996. doi:10.1016/j.scitotenv.2022.159996
15. Kotlarz N, **Holcomb D**, Pasha T, Reckling S, Kays J, Lai Y, Daly S, Palani S, Bailey E, Guidry V, Christensen A, Berkowitz S, Hoppin J, Mitasova H, Engel L, de los Reyes III F, Harris A. (2023). “Timing and trends for municipal wastewater, clinically confirmed case, and syndromic case surveillance of COVID-19 in Raleigh, North Carolina, USA.” *American Journal of Public Health* 113, 79–88. doi:10.2105/AJPH.2022.307108

14. Lai A, Velez I, Ambikapathi R, Seng K, Levy K, Kowalsky E, **Holcomb D**, Cumming O, Brown J. (2022). “Independent and combined effects of nutrition and sanitation interventions on child growth and enteric pathogen infection in rural Cambodia: a factorial cluster-randomised controlled trial.” *medRxiv* preprint. doi:10.1101/2021.05.21.21257546. Under review at *eLife*.
13. **Holcomb DA**, Quist AJL, Engel LS. (2022). “Exposure to industrial hog and poultry operations and urinary tract infections in North Carolina, USA.” *Science of the Total Environment* 853, 158749. doi:10.1016/j.scitotenv.2022.158749
12. Quist AJL, **Holcomb DA**, Fliss MD, Delamater PL, Richardson DB, Engel LS. (2022). “Exposure to industrial hog operations and gastrointestinal illness in North Carolina, USA.” *Science of The Total Environment* 830, 154823. doi:10.1016/j.scitotenv.2022.154823
11. Barua VB, Juel MAI, Blackwood AD, Clerkin T, Ciesielski M, Sorinolu AJ, **Holcomb DA**, Young I, Kimble G, Sypolt S, Engel LS, Noble RT, Munir M. (2022). “Tracking the temporal variation of COVID-19 surges through wastewater-based epidemiology during the peak of the pandemic: A six-month long study in Charlotte, North Carolina.” *Science of The Total Environment* 814, 152503. doi:10.1016/j.scitotenv.2021.152503
10. **Holcomb DA**, Knee J, Capone D., Sumner T, Adriano Z, Nalá R, Cumming O, Brown J, Stewart JR. (2021). “Impacts of an urban sanitation intervention on fecal indicators and the prevalence of human fecal contamination in Mozambique.” *Environmental Science and Technology* 55 (17), 11667–11679. doi:10.1021/acs.est.1c01538.
9. Capone D, Berendes D, Cumming O, **Holcomb DA**, Knee J, Konstantinidis KT, Levy K, Nala R, Risk BB, Brown J. (2021). “Impact of an Urban Sanitation Intervention on Enteric Pathogen Detection in Soils.” *Environmental Science and Technology* 55, 9989–10000. doi:10.1021/acs.est.1c02168
8. Knee J, Sumner T, Adriano Z, Anderson C, Bush F, Capone D, Casmo V, **Holcomb DA**, Kolsky P, MacDougall A, Molotkova E, Braga JM, Russo C, Schmidt WP, Stewart J, Zambrana W, Zuin V, Nalá R, Cumming O, Brown J. (2021). “Effects of an urban sanitation intervention on childhood enteric infection and diarrhea in Maputo, Mozambique: a controlled before-and-after trial.” *eLife* 10, e62278. doi:10.7554/eLife.62278
7. **Holcomb DA**, Stewart JR. (2020). “Microbial Indicators of Fecal Pollution: Recent Progress and Challenges in Assessing Water Quality.” *Current Environmental Health Reports* 7, 311-324. doi:10.1007/s40572-020-00278-1
6. **Holcomb DA**, Knee J, Sumner T, Adriano Z, de Bruijn E, Nalá R, Cumming O, Brown J, Stewart JR. (2020). “Human fecal contamination of water, soil, and surfaces in households sharing poor-quality sanitation facilities in Maputo, Mozambique.” *International Journal of Hygiene and Environmental Health* 226, 113496. doi:10.1016/j.ijheh.2020.113496

5. Berendes D, Capone D, Knee J, **Holcomb D**, Sultana S, Pickering A, Brown J. (2020). “Associations between enteric pathogen carriage and height-for-age, weight-for-age, and weight for height in children under 5 years old in urban Dhaka, Bangladesh.” *Epidemiology and Infection* 148 (e39). doi:10.1017/S0950268820000369
4. Capone D, Adriano Z, Berendes D, Cumming O, Dreibelbis R, **Holcomb DA**, Knee J, Ross I, Brown J. (2019). “A localized sanitation status index as a proxy for fecal contamination in urban Maputo, Mozambique.” *PLOS ONE* 14(10): e0224333. doi:10.1371/journal.pone.0224333
3. **Holcomb DA**, Messier KP, Serre ML, Rowny JG, Stewart JR. (2018). “Geostatistical prediction of microbial water quality throughout a stream network using meteorology, land cover, and spatiotemporal autocorrelation.” *Environmental Science and Technology* 52 (14), 7775–7784. doi:10.1021/acs.est.8b01178
2. Luh J, Christenson EC, Toregozhina A, **Holcomb DA**, Witsil T, Hamrick LR, Ojomo E, Bartram J. (2015). “Vulnerability assessment for loss of access to drinking water due to extreme weather events.” *Climatic Change* 133 (4), 665-679. doi:10.1007/s10584-015-1493-0
1. Brown J, Cumming O, Bartram J, Cairncross S, Ensink J, **Holcomb D**, Knee J, Kolsky P, Liang K, Liang S, Nala R, Norman G, Rhenigans R, Stewart J, Zavale O, Zuin V, Schmidt WP. (2015). “A controlled, before-and-after trial of an urban sanitation intervention to reduce enteric infections in children: research protocol for the Maputo Sanitation (MapSan) Study, Mozambique.” *BMJ Open* 5 (6), e008215. doi:10.1136/bmjopen-2015-008215

Manuscripts in Preparation

5. **Holcomb DA**, Garcia T, Christensen A, Guidry VT, Hoffman K, Lee A, Noble R, Reckling S, Serre M, Engel L. “Estimating rates of change to interpret quantitative wastewater surveillance of disease trends.”
4. **Holcomb DA**, Knee J, Capone D., Nalá R, Cumming O, Stewart JR, Brown J. “Associations between markers of human fecal contamination and enteric pathogens in child stool in urban Mozambique.”
3. Lai A, **Holcomb D**, Zhu K, Kowalsky E, Brown J. “Associations between human fecal mitochondrial DNA shedding and enteric pathogen shedding: findings from child stools in rural Cambodia.”
2. Capone D*, **Holcomb D***, Lai A, Jenkins D, Reinhard K, Brown J. “Exploring the Pathogen Profiles of Ancient Feces.”
*contributed equally

1. Hoffman K*, **Holcomb D***, Reckling S, Clerkin T, Blackwood D, Beattie R, de los Reyes F, Harris A, Mitasova H, Kotlarz N, Stewart J, Kazenelson J, Cahoon L, Frampton A, Munir M, Lee A, Berkowitz S, Noble R, Guidry VT, Engel L, Serre M, Christensen A. “Using Detrending to Assess SARS-CoV-2 Wastewater Loads as a Leading Indicator of Fluctuations in COVID-19 Cases at Fine Temporal Scales: Correlations Across Twenty Sewersheds in North Carolina”
*contributed equally

Editorial and Commentary

1. **Holcomb D**, Palli L, Setty K, Uprety S. (2021). “Water and health seminar and special issue highlight ideas that will change the field.” *International Journal of Hygiene and Environmental Health* 234, 113716. doi:10.1016/j.ijheh.2021.113716

PRESENTATIONS

Conference Presentations – Verbal

20. Lee A, Strott R, Cahoon L, Berkowitz S, Engel L, **Holcomb D**, Christensen A, Reckling S, Mitasova H, Salzberg A, Stewart J, Guidry V, Noble R, Serre M. “Daily Inflow and Infiltration at Wastewater Treatment Plants across North Carolina.” NC Water Resources Research Institute (WRRRI) Annual Conference. Raleigh, NC, USA. March 2023.
19. Mertens A, Arnold BF, Benjamin-Chung J, Boehm A, Brown J, Capone D, Clasen T, Fuhrmeister E, Grembi J, **Holcomb D**, Knee J, Kwong LH, Lin A, Luby SP, Nala R, Nelson K, Njenga S, Null C, Pickering AJ, Rahman M, Reese H, Steinbaum L, Stewart J, Thilakarathne R, Cumming O, Colford JM, Ercumen A. “Links between water, sanitation and hygiene interventions, environmental contamination, child enteric infections and growth: An individual participant data meta-analysis.” American Society of Tropical Medicine and Hygiene Annual Meeting, Seattle, WA, USA. October 2022.
18. Hoffman K, **Holcomb D**, Christensen A, Reckling S, Engel L, Guidry V, Nobel R, Blackwood D, Clerkin T, Berkowitz S, Serre M. “Assessing Wastewater SARS-CoV-2 Concentrations as a Leading Indicator of COVID-19 Cases: Analysis of Twenty Sewersheds Across North Carolina.” Council of State and Territorial Epidemiologists Annual Conference, Louisville, KY, USA. June 2022.
17. Miller M, LaMontagne C, Grube A, Coleman C, **Holcomb D**, Stewart J. “Comparison of PCR Methodologies for The Detection and Quantification Of SARS-CoV-2 In North Carolina Municipal Wastewaters.” UNC Water and Health Conference, Chapel Hill, NC, USA. October 2021.
16. Christenson-Diver E, Coleman C, Grube A, **Holcomb D**, Kocheck K, Kothehal N, LaMontagne C, Wiesner C, Wickersham L, Stewart J. “Monitoring microbial surface water quality in the aftermath of Hurricane Florence: longitudinal pre- vs. post-Florence sampling.” North Carolina Water Resources Research Institute Annual Conference, Raleigh, NC. March 2020.

15. Coleman C, Noble R, Christenson-Diver E, Grube A, **Holcomb D**, Kocheck K, Kothegal N, LaMontagne C, Wiesner C, Wickersham L, Stewart J. "Monitoring microbial surface water quality in the aftermath of Hurricane Florence: Salmonella and other pathogens (Campylobacter, phages)." North Carolina Water Resources Research Institute Annual Conference, Raleigh, NC. March 2020.
14. **Holcomb D**, Knee J, Sumner T, Cumming O, Nalá R, Brown J, Stewart J. "Human Fecal Contamination in Urban Mozambican Households." UNC Water and Health Conference, Chapel Hill, NC, USA. October 2019.
13. **Holcomb D**, Capone D. "Intervention Effects on Ambient Fecal Contamination." Maputo Sanitation (MapSan) Trial Side Event, UNC Water and Health Conference, Chapel Hill, NC, USA. October 2019.
12. **Holcomb D**, Knee J, Sumner T, Cumming O, Nalá R, Brown J, Stewart J. "Characterizing domestic fecal contamination and the impacts of an urban sanitation intervention in Maputo, Mozambique." 11th International Water & Health PhD Student Seminar, Cannes, France. June 2019.
11. Dengo-Baloi L, Berendes D, **Holcomb D**, Knee J, Langa J, Magaia A, Nalá R, Brown J. "Increased antibiotic resistance in the community in Maputo, Mozambique: preliminary results of microbial analysis of a pathogen rich environment." XVI Jornadas Nacionais De Saúde (National Health Journeys), Maputo, Mozambique. September 2018.
10. **Holcomb D**, Knee J, Sumner T, Brown J, Stewart J. "Impact of an onsite sanitation intervention on human and avian fecal contamination in urban Mozambican households" UNC Water Microbiology Conference, Chapel Hill, NC. May 2018.
9. Berendes D, **Holcomb D**, Knee J, Sumner T, Nalá R, Brown J. "Antibiotic resistance in dense, low-income neighborhoods: the role of sanitation in gene dispersion." ASTMH: 66th Annual Meeting, Baltimore, MD. November 2017.
8. **Holcomb D**, Knee J, Sumner T, Brown J, Stewart J. "Impact of a controlled, before-and-after trial of shared, onsite sanitation on environmental exposure to fecal contamination in low-income neighborhoods of urban Maputo, Mozambique." UNC Water Microbiology Conference, Chapel Hill, NC. May 2017.
7. **Holcomb DA**, Messier KP, Serre ML, Rowny JG, Stewart JR. "Predicting microbial water quality in an inland stream network: a comparison of statistical modeling approaches and the role of observational data in assessing compliance with water quality standards." North Carolina Water Resources Research Institute Annual Conference, Raleigh, NC. March 2016.

6. **Holcomb D**, Knee J, Brown J, Stewart J. “Characterizing environmental exposure to fecal contamination: preliminary baseline results from the MapSan trial in Maputo, Mozambique.” Maputo Sanitation Trial Side Event, UNC Water and Health Conference, Chapel Hill, NC. October 2015.
5. Elliot M, Banerjee O, Christenson E, **Holcomb D**, Hamrick L, Bartram J. “An Analysis of the Vulnerability of Global Drinking Water Access to Climate-related Hazards.” AGU Fall Meeting 2014, San Francisco, California. December 2014.
4. Elliot M, Banerjee O, Christenson E, **Holcomb D**, Hamrick L, Bartram J. “Vulnerability of Drinking Water Access to Climate-related Hazards – A Global Analysis.” Water and Health Conference, Chapel Hill, NC. October 2014.
3. Christenson E, Elliot M, **Holcomb D**, Hamrick L, Bartram J. “Modeling global, urban, and rural exposure to climate-related hazards.” ESRI International User Conference, San Diego, CA. July 2014.
2. Luh J, Christenson E, **Holcomb D**, Hamrick L, Bartram J. “Assessing the impact of climate change related hazards on the vulnerability of North Carolina drinking water systems.” North Carolina American Water Works Association 93rd Annual Conference, Charlotte, NC. November 2013.
1. Banerjee O, Elliot M, Christenson E, **Holcomb D**, Bartram J. “High-Resolution, Population-Based Global Vulnerability Analysis of Drinking Water Access to Climate-Related Hazards.” AEESP 50th Anniversary Conference, Golden, CO. July 2013.

Conference Presentations – Poster

19. Lee A, **Holcomb D**, Christensen A, Engel L, Serre M. “Estimation of Inflow and Infiltration at 28 Wastewater Treatment Plants and Implications for Wastewater-based Epidemiology.” 6th Annual Southeast Regional Research Symposium (SERRS). Tampa, FL, USA. March 2023.
18. **Holcomb D**, Quist A, Engel L. “Exposure to Industrial Hog and Poultry Production and Urinary Tract Infections in North Carolina, USA.” American Society of Tropical Medicine and Hygiene Annual Meeting, Seattle, WA, USA. October 2022.
17. Grube A, Coleman C, LaMontagne C, Miller M, Kothegal N, **Holcomb D**, Blackwood A, Serre M, Engel L, Guidry V, Noble R, Stewart J. (2022). “Detection of SARS-CoV-2 RNA in wastewater and comparison to COVID-19 cases in two sewersheds, North Carolina, USA.” UNC Water and Health Conference, Chapel Hill, NC. October 2022.
16. Quist AJL, Fliss MD, **Holcomb DA**, Delamater PL, Richardson DB, Engel LS. “Hurricane Flooding, Industrial Hog Operations, and Acute Gastrointestinal Illness in North Carolina.” 34th Annual Conference of the International Society for Environmental Epidemiology, Athens, Greece. September 2022.

15. **Holcomb D**, Lai A, Capone D, Brown J. “Pooled Analysis of Multiple Enteric Pathogen Outcomes to Estimate Treatment Effects in Water, Sanitation, and Hygiene Trials.” GRC Microbiology of the Built Environment, Waterville Valley, NH, USA. June 2022.
14. Hoffman K, **Holcomb D**, Strott R, Dust C, Christenson A, Reckling S, Engel L, Serre M. “Utilizing the BME Method of Geostatistics to Compare COVID-19 Disease Mapping at Different Spatial Scales Across North Carolina.” 5th Annual Southeast Regional Research Symposium (SERRS) and 12th Annual SouthON Meeting. Chapel Hill, NC, USA. March 2022.
13. Lee A, Hoffman K, Strott R, **Holcomb D**, Christenson A, Engel L, Serre M. “Space/Time BME Geostatistical Estimation of Precipitation to Inform Inflow and Infiltration Impacts on Wastewater-Based Epidemiology.” 5th Annual Southeast Regional Research Symposium (SERRS) and 12th Annual SouthON Meeting. Chapel Hill, NC, USA. March 2022.
12. **Holcomb D**, Quist A, Engel L. “Proximity to Industrial Poultry and Hog Production and Emergency Department Visits for Urinary Tract Infection in North Carolina, USA.” 33rd Annual Conference of the International Society for Environmental Epidemiology, New York City (fully virtual conference). August 2021.
11. Quist AJL, **Holcomb DA**, Fliss MD, Delamater PL, Richardson DB, Wade TJ, Engel LS. “Exposure to Industrial Hog Operations and Gastrointestinal Illness in North Carolina, USA.” 33rd Annual Conference of the International Society for Environmental Epidemiology, New York City (fully virtual conference). August 2021.
10. Strott R, Dust C, Hoffman K, Wiesner C, Chen K, **Holcomb D**, Engel L, Serre M. “A proposed BME geostatistical framework to estimate COVID-19 cases at sewersheds using publicly available data.” 4th Annual Southeast Regional Research Symposium (SERRS) and 10th Annual SouthON Meeting (fully virtual conference). February 2021.
9. **Holcomb D**, Knee J, Sumner T, Cumming O, Nalá R, Brown J, Stewart J. “Human fecal contamination of the domestic environment and child enteric infection in urban Maputo, Mozambique.” 32nd Annual Conference of the International Society for Environmental Epidemiology, Washington, DC (fully virtual conference). August 2020.
8. Berendes D, Dengo-Baloi L, **Holcomb D**, Knee J, Sumner T, Nala R, Brown J. “Antibiotic resistance detected in *Escherichia coli* and *Klebsiella* spp. isolates from household water, food preparation surfaces, and soil in compounds in Maputo, Mozambique: implications for environmental transmission outside the clinic.” International Conference on Emerging Infectious Diseases, Atlanta, GA. August 2018.
7. **Holcomb D**, Knee J, Sumner T, Brown J, Stewart J. “Occurrence of human and avian fecal contamination in urban Mozambican households: assessing fecal transmission in the MapSan trial.” UNC Water and Health Conference, Chapel Hill, NC. October 2017.

6. **Holcomb D**, Stewart J. “Validation of quantitative PCR assays to detect fecal contamination of general, human, and poultry origin in low-income neighborhoods of urban Maputo, Mozambique.” UNC Water Microbiology Conference, Chapel Hill, NC. May 2017.
5. Wang C, **Holcomb D**, Singer P, Coronell O. “Granular brass media as a technology for the removal of dissolved copper and lead from water.” Water and Health Conference, Chapel Hill, NC. October 2014.
4. **Holcomb D**, Serre M, Rowny J, Stewart J. “Application of predictive and interpolative models of fecal contamination in an urbanizing watershed.” Water Microbiology Conference, Chapel Hill, NC. May 2014.
3. Elliot M, Banerjee O, Christenson E, **Holcomb D**, Hamrick L, Bartram J. “Global assessment of drinking water vulnerability to climate related hazards.” WASH 2014 Conference, Brisbane, Australia. March 2014.
2. Elliot M, Banerjee O, Christenson E, **Holcomb D**, Hamrick L, Bartram J. “Global assessment of drinking water vulnerability to climate related hazards.” Nexus 2014: Water, Food, Climate, and Energy Conference, Chapel Hill, NC. March 2014.
1. Luh J, Christenson E, **Holcomb D**, Hamrick L, Bartram J. “Assessing the impact of climate change related hazards on the vulnerability of U.S. drinking water systems.” Water and Health Conference, Chapel Hill, NC. October 2013.

Invited Presentations

4. **Holcomb D**, Garcia T, Engel L. “Smoothing Approaches for Wastewater Trend Analysis.” North Carolina Wastewater Monitoring Summit, Chapel Hill, NC, USA. February 2023.
3. **Holcomb D**. “Using Wastewater to Understand COVID-19 Trends in North Carolina.” MURDOCK Study Zoom Event: COVID-19 Research Update. Duke CTSI, Kannapolis, NC (virtual event). February 2021.
2. Kolsky P, Manga M, Stewart J, **Holcomb D**, Bartram J. “Proof of concept of estimates of unsafe return of human excreta to the environment.” Bill & Melinda Gates Foundation MEDS Convening, Patna, Bihar, India. November 2017. (poster)
1. **Holcomb D**, Knee J, Brown J, Stewart J. “Characterizing environmental exposure to human fecal contamination in the MapSan Trial.” National Institute of Health, Ministry of Health, Republic of Mozambique. Maputo, Mozambique. July 2015.