

Joe Brown PhD PE

Associate Professor

Department of Environmental Sciences and Engineering

Gillings School of Global Public Health

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I. Earned Degrees

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| PhD | Environmental Sciences and Engineering, Gillings School of Global Public Health, University of North Carolina at Chapel Hill (2007).
Advisor: Mark Sobsey |
| MPhil | Environment and Development, University of Cambridge (2003).
Advisors: Peter Guthrie (Engineering), Keith Richards (Geography) |
| BS | Civil and Environmental Engineering, University of Alabama (2001) |

Professional licensure

2011 - present Professional Engineer (PE) licensure (AL32388-E, NC 038888)

II. Employment History

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| 2020 - present | Associate Professor (with tenure), Department of Environmental Sciences and Engineering, Gillings School of Global Public Health, University of North Carolina at Chapel Hill |
| 2020 | Associate Professor (with tenure), School of Civil and Environmental Engineering, Georgia Institute of Technology; Carlton S. Wilder Chair |
| 2014 – 2020 | Assistant Professor, School of Civil and Environmental Engineering, Georgia Institute of Technology; Carlton S. Wilder Chair |
| 2010 – 2013 | Lecturer in Water Quality and Health, Department of Disease Control, Faculty of Infectious and Tropical Diseases, London School of Hygiene and Tropical Medicine, University of London, United Kingdom |
| 2007 – 2011 | Assistant Professor, New College & Department of Biological Sciences, University of Alabama |

III. Honors and Awards

A. International or National Awards

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| 2017 | NSF CAREER Award, National Science Foundation |
| 2015 | Young Future Leaders, STS Forum, National Academies |
| 2015 | Fellow, Chinese-American Frontiers of Engineering, National Academies |
| 2014 | Arab-American Frontiers of Science, Engineering, and Medicine, National Academies |
| 2012 | Fellow, University of North Carolina – Chapel Hill Global Research Institute |
| 2010 | Creative and Novel Ideas in HIV Research, New Investigator Award, NIH |

2008	International Water Association Global Small Project Innovation Award
2008	International Water Association Project Innovation Award, Asia Region
2002	National Science Foundation Graduate Research Fellow
2005	EPA P ³ Award for Sustainable Design, US EPA
2002	Gates Cambridge Scholar, Cambridge University, UK
2001	Eckenfelder Award for Environmental Engineering, Brown and Caldwell

B. Other Awards

2018	Carlton S. Wilder Assistant Professorship, School of Civil & Environmental Engineering
2017	Women in Engineering (WIE) Faculty Teaching Award, Georgia Tech
2016	CEE Excellence in Research Program Development Award
2009	Engineers Without Borders Faculty Mentoring Award, University of Alabama
2009	The Other Club Outstanding Faculty Award, University of Alabama
2007	University of Alabama Faculty Fellow in Service Learning
2006	Dissertation Fellowship, UNC Graduate School
2004	Tinker Fellow, PhD Research in Latin America, University of North Carolina
2003	Trinity Hall Postgraduate Research Fellow, Cambridge University, UK
2001	University of Alabama Engineering Most Outstanding Senior Award
2000	McWane Fellowship for Research in United Kingdom

IV. Research, Scholarship, and Creative Activities

A. Published Books, Book Chapters, and Edited Volumes

A1. Books

- 1 Sobsey, M., and **Brown, J.** 2011. *Evaluating household water treatment options: health-based targets and performance specifications*. Geneva: World Health Organization. ISBN: 978 92 4 154822 9.

A2. Refereed Book Chapters (*advisee)

- 3 *Berendes, D. and **Brown, J.** 2018. Inequality beyond the toilet: fecal sludge management and the community-level dimensions of sanitation. Chapter in: O. Cumming & T. Slaymaker (ed.) *Achieving Equality in Water and Sanitation Service Delivery*. London: Routledge.
- 2 **Brown, J.**, Cavill, S., Cumming, O., and Jeandron, A. 2015. Water, sanitation, and hygiene in emergencies. Chapter in: Richard Carter (ed.) *Water, Sanitation and Hygiene in Humanitarian Contexts: Reflections on current practice*. London: Practical Action Publishing. ISBN 9781853398841.
- 1 **Brown, J.** and *Grammer, P. 2015. 'Indicators of microbial quality', in Bartram, J., with Baum, R., Coclanis, P.A., Gute, D. M., Kay, D., McFayden, S., Pond, K., Robertson, W. and Rouse, M.J. (eds) *Routledge Handbook of Water and Health*. London and New York: Routledge.

B. Refereed Publications and Submitted Articles

B1. Published and Accepted Journal Articles (*advisee)

- 117 Konopka, J.K., Chatterjee, P., LaMontagne, C., and **Brown, J.** 2022. Environmental impacts of mass drug administration programs: exposures, risks, and mitigation of antimicrobial resistance. *Infectious Diseases of Poverty* [accepted].
- 116 Delahoy, M.J., Hubbard, S., Mattioli, M., Culquichicón, C., Knee, J., **Brown, J.**, Cabrera, L., Barr, D.B., Ryan, P.B., Lescano, A.G., Gilman, R.H., Levy, K. 2022. High prevalence of chemical and microbiological drinking water contaminants in households with infants enrolled in a birth cohort — Piura, Peru, 2016. *American Journal of Tropical Medicine and Hygiene* [accepted].
- 115 Wolf, J., Hubbard, S., Brauer, M., Ambelu, A., Arnold, B.F., Bain, R., Bauza, V., **Brown, J.**, Caruso, B.A., Clasen, T., Colford, J.M., Freeman, M.C., Gordon, B., Johnston, R.B., Mertens, A., Prüss-Ustün, A., Ross, I., Stanaway, J., Zhao, J., Cumming, O., Boisson, S. 2022. Effectiveness of interventions to improve drinking water, sanitation and handwashing with soap on diarrhoeal disease in children in low- and middle-income settings: a systematic review and meta-analysis. *The Lancet* [accepted].
- 114 Capone, D.*, Bivins, A., and **Brown, J.** 2022. Producing ratio measures of effect with quantitative microbial risk assessment. *Risk Analysis* doi: <https://doi.org/10.1111/risa.13972>.
- 113 Zhu, K.*, Suttner, B., Knee, J.*, Capone, D.*, Moe, C.L., Stauber, C.E., Konstantinidis, K.T., Wallach, T.E., Pickering, A.J., and **Brown, J.** 2022. Elevated fecal mitochondrial DNA from symptomatic norovirus infections suggests potential health relevance of human mitochondrial DNA in fecal source tracking. *Environmental Science and Technology Letters* <https://doi.org/10.1021/acs.estlett.2c00140>.
- 112 Bivins, A., Kaya, D., Ahmed, W., **Brown, J.**, Butler, C., Greaves, J., Leal, R., Maas, K., Rao, G.*, Sherchan, S., Sills, D., Sinclair, R., Wheeler, R., and Mansfeldt, C. 2022. Passive sampling to scale wastewater surveillance of infectious disease: lessons learned from COVID-19. *Science of the Total Environment* 835:155347. doi: 10.1016/j.scitotenv.2022.155347.
- 111 Lai, A.*, Velez, I., Ambikapathi, R., Seng, K., Cumming, O., and **Brown, J.** 2022. Risk factors for early childhood growth faltering in rural Cambodia: a cross-sectional study. *BMJ-Open* [accepted].
- 110 Ginn, O.*, Lowry, S.*, and **Brown, J.** 2022. A systematic review of enteric pathogens and antibiotic resistance genes in outdoor urban aerosols. *Environmental Research* Volume 212, Part A, 113097. doi: <https://doi.org/10.1016/j.envres.2022.113097>.
- 109 Rocha-Melogno, L., Crank, K., Ginn, O.*, Bergin, M.H., **Brown, J.**, Gray, G.C., Hamilton, K., Bibby, K., and Deshusses, M.A. 2022. Quantitative microbial risk assessment of outdoor aerosolized pathogens in cities with poor sanitation. *Science of the Total Environment* 827:154233. doi: 10.1016/j.scitotenv.2022.154233.
- 108 Budge, S., Ambelu, A., Bartram, J., **Brown, J.**, and Hutchings, P. 2022. Environmental sanitation and the evolution of water, sanitation, and hygiene. *Bulletin of the World Health Organization* 100:286–288. doi: <http://dx.doi.org/10.2471/BLT.21.287137>.
- 107 Nadimpalli, M.L., Lanza, V.F., Montealegre, M.C., Sultana, S., Fuhrmeister, E.R., Worby, C.J., Teichmann, L., Caduff, L., Swarthout, J.M., Crider, Y.S., Earl, A.M., **Brown, J.**, Luby, S.P., Islam, M.A., Julian, T.R., Pickering, A.J. 2022. Drinking water chlorination has minor effects on the intestinal flora and resistomes of Bangladeshi children. *Nature Microbiology* <https://doi.org/10.1038/s41564-022-01101-3>.

- 106 MacDonald, L., Thomas, E., Javernick-Will, A., Austin-Breneman, J., Aranda, I., Salvinelli, C., Klees, R., Walters, J., Parmentier, M.J., Schaad, D., Shahi, A., Bedell, E., Platais, G., **Brown, J.**, Gershenson, J., Watkins, D., Obonyo, E., Oyanedel-Craver, V., Olson, M., Lau, R., Rao, G.*, Arzon, A., Krishnaswamy, K., Pickering, A.J., Mabey, C., Johnson, A., Gehr, R., and Linden, K. 2022. Aligning global engineering graduate program learning objectives and approaches: review and recommendations of an interdisciplinary working group. *Development Engineering* Volume 7, 100095. doi: <https://doi.org/10.1016/j.deveng.2022.100095>.
- 105 Stauber, C., **Brown, J.**, Bourgeois, A., Palma, F., Spears, C., White, C., and Costa, F. 2022. Mobile health technologies are essential for reimagining the future of water, sanitation, and hygiene. *American Journal of Tropical Medicine and Hygiene* [accepted].
- 104 **Brown, J.** 2022. Sanitation innovation holds promise but must consider risks to users. *Environmental Health Perspectives* 130(1) <https://doi.org/10.1289/EHP10609>.
- 103 Lindner, B., Suttner, B., Zhu, K.*, Conrad, R., Rodriguez-R, L., Hatt, J., **Brown, J.**, and Konstantinidis, K. 2021. Toward shotgun metagenomic approaches for microbial source tracking sewage spills based on laboratory mesocosms. *Water Research* 210:177993 <https://doi.org/10.1016/j.watres.2021.117993>.
- 102 Ross, I., Greco, G., Opondo, C., Adriano, Z., Nalá, R., **Brown, J.**, Dreibelbis, R., and Cumming, O. 2021. Measuring and valuing broader impacts in public health: development of a sanitation-related quality of life instrument in Maputo, Mozambique. *Health Economics* doi: [10.1002/hec.4462](https://doi.org/10.1002/hec.4462).
- 101 Wang, Y., Mairinger, W., Raj, S.J., Yakubu, H., Siesel, C., Green, J., Durry, S., Joseph, G., Rahman, M., Amin, N., Hassan, M.Z., Wicken, J., Dourng, D., Larbi, E., Adomako, L.A.B., Senayah, A.K., Doe, B., Buamah, R., Tetteh-Nortey, J.N.N., Kang, G., Karthikeyan, A., Roy, S., **Brown, J.**, Munume, B., Sene, S.O., Tuffuor, B., Mugambe, R.K., Bateganya, N.L., Surridge, T., Ndashe, G.M., Ndashe, K., Ban, R., Schrecongost, A., Moe, C.L. 2021. Quantitative assessment of exposure to fecal contamination in urban environment across nine cities in low-income and lower-middle-income countries and a city in the United States. *Science of the Total Environment* 806(Pt 3):151273 doi: 10.1016/j.scitotenv.2021.151273.
- 100 Ginn, O.*, Rocha-Melogno, L., Bivins, A.*, Lowry, S.*, Cardelino, M.*, Nichols, D.*, Tripathi, S., Soria, F., Andrade, M., Bergin, M., Deshusses, M.A., **Brown, J.** 2021. Detection and quantification of enteric pathogens in aerosols near open wastewater canals in cities with poor sanitation. *Environmental Science and Technology* doi: <https://doi.org/10.1021/acs.est.1c05060>.
- 99 Suttner, B., Kim, M., Johnston, E., Orellana, L., Ruiz-Perez, L., Hatt, J., **Brown, J.**, Santo Domingo, J., and Konstantinidis, K. 2021. Transcriptomic and rRNA:rDNA signatures of environmental vs. enteric *Enterococcus faecalis* isolates under oligotrophic freshwater conditions. *Microbiology Spectrum* 9(2):e0081721. doi: [10.1128/Spectrum.00817-21](https://doi.org/10.1128/Spectrum.00817-21).
- 98 Amebelu, A., Ban, R., Bhagwan, J., **Brown, J.**, Chandler, C., Chilengi, R., Colford, J.M., Cumming, O., Curtis, V., Evans, B.E., Freeman, M.C., Guiteras, R., Howard, G., Humphrey, J., Kang, G., Kulabako, R., Lanata, C.F., Montgomery, M.A., Null, C., Pickering, A.J., and Wolf, J. 2021. The Lancet Commission on water, sanitation and hygiene, and health. *The Lancet* [https://doi.org/10.1016/S0140-6736\(21\)02005-5](https://doi.org/10.1016/S0140-6736(21)02005-5).
- 97 Holcomb, D., Knee, J.*, Capone, D.*, Sumner, T.*, Adriano, Z., Nalá, R., Cumming, O., **Brown, J.**, Stewart, J. 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 <https://doi.org/10.1021/acs.est.1c01538>.

- 96 Mattos, K.J., Mulhern, R., Naughton, C., Anthonj, C., **Brown, J.**, Brocklehurst, C., Brooks, C., Desclos, A., Escobedo Garcia, N.E., Gibson, J.M., Linden, K.G., Lindsay, C.A., Newby, J., Sinclair, R., and Smith, A. 2021. Reaching those left behind: knowledge gaps, challenges, and approaches to achieving SDG 6 in high-income countries. *Journal of Water, Sanitation, and Hygiene for Development* 11 (5): 849–858 <https://doi.org/10.2166/washdev.2021.057>.
- 95 Bick, S., Buxton, H., Chase, R.P., Ross, I., Adriano, Z., Capone, C.*, Knee, J.*, **Brown, J.**, Nalá, R., Cumming, O., and Dreibelbis, R. 2021. Using path analysis to test Theory of Change: a quantitative process evaluation of the MapSan trial. *BMC Public Health* 21:1411 <https://doi.org/10.1186/s12889-021-11364-w>.
- 94 Bivins, A.*, Lowry, S.*, Wankhede, A., Hajare, R., Murphy, H.M., Borchardt, M., Labhasetwar, P., **Brown, J.** 2021. Microbial water quality improvement associated with transitioning from intermittent to continuous water supply in Nagpur, India. *Water Research* 201:117301.
- 93 Capone, D.*, Berendes, D.*, Cumming, O., Holcomb, D., Knee, J.*, Konstantinidis, K., Levy, K., Nalá, R., Risk, B., Stewart, J., **Brown, J.** 2021. Impact of an urban sanitation intervention on enteric pathogen detection in soils. *Environmental Science and Technology* 55, 14, 9989–10000 <https://doi.org/10.1021/acs.est.1c02168>.
- 92 Knee, J.*, Sumner, T.*, Adriano, Z., Anderson, C.*, Bush, F.*, Capone, D.*, Casmo, V., Holcomb, D., Kolsky, P., Macdougall, A., Molotkova, E.*, Braga, J.M., Russo, C.*, Schmidt, W.P., Stewart, J., Zambrana, W., Zuin, W., 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* doi: 10.7554/eLife.62278.
- 91 Capone, D.*, Chigwechokha, P., de los Reyes III, F., Holm, R. H., Risk, B. B., Tilley, E., and **Brown, J.** 2021. Impact of sampling depth on enteric pathogen detection in pit latrines. *PLoS Neglected Tropical Diseases* <https://doi.org/10.1371/journal.pntd.0009176>.
- 90 Capone, D.*, Bivins, A.*, Knee, J.*, Cumming, O., Nalá, R., and **Brown, J.** 2021. A quantitative microbial risk assessment of pediatric infections attributable to ingestion of fecally contaminated domestic soils in low-income urban Maputo, Mozambique. *Environmental Science and Technology* 55(3): 1941–1952. <https://doi.org/10.1021/acs.est.0c06972>.
- 89 Ginn, O.*, Nichols, D.*, Rocha-Melogno, L., Bivins, A.*, Berendes, D.*, Soria, F., Andrade, M., Deshusses, M., Bergin, M., and **Brown, J.** 2021. Antimicrobial resistance genes are enriched in aerosols near impacted urban surface waters in La Paz, Bolivia. *Environmental Research* 194: 110730. <https://doi.org/10.1016/j.envres.2021.110730>.
- 88 Ginn, O.*, Berendes, D.*, Wood, A.*, Bivins, A.*, Rocha-Melogno, L., Deshusses, M., Tripathi, S., Bergin, M., and **Brown, J.** 2021. Open waste canals as potential sources of antimicrobial resistance genes in aerosols in urban Kanpur, India. *American Journal of Tropical Medicine and Hygiene* [accepted].
- 87 Thomas, E. and **Brown, J.** 2020. Using feedback to improve accountability in global environmental health and engineering. *Environmental Science and Technology* 55(1): 90-99.
- 86 Maxcy-Brown, J., Elliott, M., Krometis, L. A., White, K., **Brown, J.**, Lall, U. 2020. Right in our backyard: surface discharge of untreated wastewater from homes in the United States. *Water Research* doi: 10.1016/j.watres.2020.116647.

- 85 Medina, C., Ginn, O.*, **Brown, J.**, Soria, F., Garvizu, C., Salazar, D., Tancara, A., and Herrera, J. 2020. Assessment of the presence and antibiotic resistance of *Enterobacteriaceae* recovered from bioaerosols in the Choqueyapu River area, La Paz, Bolivia. *Science of the Total Environment* doi: 10.1016/j.scitotenv.2020.143340.
- 84 Capone, D.*, Berendes, D., Cumming, O., Knee, J.*, Nalá, R., Risk, B., Stauber, C., Zhu, K.*, **Brown, J.** 2020. Analysis of fecal sludges reveals common enteric pathogens in urban Maputo, Mozambique. *Environmental Science and Technology Letters* 7(12): 889:895.
- 83 Rosenthal, J., Arku, R.E., Baumgartner, J., **Brown, J.**, Clasen, T., Eisenberg, J.N.S., Hovmand, P., Jagger, P., Luke, D.A., Quinn, A., and Yadama, G.N. 2020. Systems science approaches for global environmental health research: enhancing intervention design and implementation for Household Air Pollution (HAP) and Water, Sanitation and Hygiene (WASH) programs. *Environmental Health Perspectives* doi: 10.1289/EHP7010.
- 82 Goddard, F., Ban, R., Barr, D., **Brown, J.**, Cannon, J., Colford, J., Eisenberg, J., Ercumen, A., Petach, H., Freeman, M., Levy, K., Luby, S., Moe, C., Pickering, A., Sarnat, J.A., Stewart, J., Thomas, E., Taniuchi, M., Clasen, T. 2020. Measuring environmental exposure to enteric pathogens in low-income settings: review and recommendations of an interdisciplinary working group. *Environmental Science and Technology* 54(19): 11673–11691. <https://doi.org/10.1021/acs.est.0c02421>
- 81 Goddard, F.G.B., Pickering, A.J., Ercumen, A., **Brown, J.**, Chang, H.H., Clasen, T. 2020. Faecal contamination of the environment and child health: a systematic review and meta-analysis using individual participant data. *Lancet Planetary Health* 4(9): e405-e415. [https://doi.org/10.1016/S2542-5196\(20\)30195-9](https://doi.org/10.1016/S2542-5196(20)30195-9).
- 80 Muirhead, A., Zhu, K.*, **Brown, J.**, Basu, M., Brinton, M., Costa, F., Hayat, M., Stauber, C. 2020. Zika Virus RNA Persistence in Sewage. *Environmental Science and Technology Letters* 7(9): 659-664. <https://doi.org/10.1021/acs.estlett.0c00535>
- 79 Johnson, A.*, Ginn, O.*, Bivins, A.*, Rocha-Melogno, L., Tripathi, S.N., and **Brown, J.** 2020. Extended-spectrum beta-lactamase (ESBL)-positive *Escherichia coli* presence in urban aquatic environments in Kanpur, India. *Journal of Water and Health* jwh2020065. <https://doi.org/10.2166/wh.2020.065>
- 78 Bivins, A.*, Lowry, S.*, Murphy, H. M., Borchardt, M., Coyte, R., Labhassetwar, P., and **Brown, J.** 2020. Waterborne pathogen monitoring in Jaipur, India reveals potential microbial risks of urban groundwater supply. *npj-Clean Water* 3(35). <https://doi.org/10.1038/s41545-020-00081-3>.
- 77 Zhu, K.*, Suttner, B., Pickering, A., Konstantinidis, K., and **Brown, J.** 2020. A novel droplet digital PCR human mtDNA assay for fecal source tracking. *Water Research* doi: <https://doi.org/10.1016/j.watres.2020.116085>.
- 76 Capone, D.*, Nichols, D.*, Cumming, O., and **Brown, J.** 2020. Water and sanitation in urban America, 2017-2019. *American Journal of Public Health* 110(10): 1567–1572. doi: 10.2105/AJPH.2020.305833.
- 75 Bivins, A., North, D., Ahmad, A., Ahmed, W., Alm, E., Béen, F., Bhattacharya, P., Bijlsma, L., Boehm, A., **Brown, J.**, Buttiglieri, G., Calabró, V., Carducci, A., Castiglioni, S., Cetecioglu, Z., Charkraborty, S., Costa, F., de los Reyes III, F., Delgado Vela, J., Farkas, K., Fernandez Cassi, X., Gerba, C., Gerrity, D., Girones, R., Gonzalez, R., Haramoto, E., Harris, A., Holden, P., Islam, T., Jones, D., Kasprzyk-Hordern, B., Kitajima, M., Kotlarz, N., Kumar, M., Kuroda, K., La Rosa, G., Malpei, F., Matus, M., McLellan, S., Medema, G., Meschke, J. S., Mueller, J., Newton, R., Nilsson,

- D., Noble, R., van Nuijs, A., Peccia, J., Perkins, A., Pickering, A., Rose, J., Sánchez, G., Smith, A., Stadler, L., Stauber, A., Thomas, K., van der Voorn, T., Wigginton, K., Zhu, K.*, Bibby, K. 2020. Wastewater-Based Epidemiology: Global Collaborative to Maximize Contributions in the Fight Against COVID-19. *Environmental Science and Technology Letters* 54(13): 7754–7757. <https://doi.org/10.1021/acs.est.0c02388>.
- 74 Rocha-Melogno, L., Ginn, O.*, Bailey, E., Soria, F., Andrade, M., Bergin, M., **Brown, J.**, Gray, G.C., Deshusses, M.A. 2020. Bioaerosol sampling optimization for community exposure assessment in cities with poor sanitation: a one health cross-sectional study. *Science of the Total Environment* 738: 139495. doi: 10.1016/j.scitotenv.2020.139495.
- 73 Bedell, E., Sharpe, T., Purvis, T.*, **Brown, J.**, and Thomas, E. 2020. Demonstration of tryptophan-like fluorescence sensor concepts for fecal exposure detection in drinking water in remote and resource constrained settings. *Sustainability* 12(9): 3768. doi: 10.3390/su12093768.
- 72 Goddard, F.G.B.*, Knee, J.*, Sumner, T.*, Nalá, R., Clasen, T., and **Brown, J.** 2020. Child salivary SIgA and its relationship to enteric infections and EED biomarkers in Maputo, Mozambique. *International Journal of Environmental Research and Public Health* 17(9): 3035. doi: 10.3390/ijerph17093035.
- 71 Berendes, D., Kirby, A., **Brown, J.**, and Wester, A.L. 2020. Estimation of human feces-associated extended spectrum β -lactamase-1 producing *E. coli* discharge into sanitation systems: a first global- and regional-scale calculation. *Lancet Planetary Health* 4(6): E246-E255. doi: [https://doi.org/10.1016/S2542-5196\(20\)30099-1](https://doi.org/10.1016/S2542-5196(20)30099-1).
- 70 Holcomb, D.A., Knee, J.*, Sumner, T.*, Adriano, Z., de Bruijn, E., Nalá, R., Cumming, O., **Brown, J.**, Stewart, J.R. 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: <https://doi.org/10.1016/j.ijheh.2020.113496>.
- 69 Salazar, D., Ginn, O.*, **Brown, J.**, Soria, F., Garvizu, C. 2020. Assessment of antibiotic resistant coliforms from bioaerosol samples collected above a sewage-polluted river in La Paz, Bolivia. *International Journal of Hygiene and Environmental Health* 228: 113494. doi: <https://doi.org/10.1016/j.ijheh.2020.113494>.
- 68 Bick, S., Perieres, L., D’Mello-Guyett, L., Baker, K., **Brown, J.**, Muneme, B., Nalá, R., Dreibelbis, R., Cumming, O. 2020. Risk factors for child food contamination in low-income neighbourhoods of Maputo, Mozambique – an exploratory, cross-sectional study. *Maternal and Child Nutrition* e12991. doi: 10.1111/mcn.12991.
- 67 **Brown, J.**, Bir, A.*, and Bain, R.E.S. 2020. Novel methods for global water safety monitoring: comparative analysis of low-cost, field-ready *E. coli* assays. *npj Clean Water* 3:9. doi: <https://doi.org/10.1038/s41545-020-0056-8>.
- 66 Humphrey, J.H., **Brown, J.**, Cumming, O., Evans, B., Howard, G., Kulabako, R.N., Lamontagne, J., Pickering, A.J., and Wang, E.N. 2020. The potential for atmospheric water harvesting to accelerate household access to safe water. *Lancet Planetary Health* 4(3): e91-e92. doi: 10.1016/S2542-5196(20)30034-6.
- 65 *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.

- 64 Capone, D.*, Buxton, H., Cumming, O., Dreibelbis, R., Knee, J.*, Nalá, R., Ross, I., **Brown, J.** 2020. Impact of an intervention to improve pit latrine emptying practices in low income urban neighborhoods of Maputo, Mozambique. *International Journal of Hygiene and Environmental Health* 226: 113480. doi: 10.1016/j.ijheh.2020.113480.
- 63 Berendes, D.*, Knee, J.*, Sumner, T.*, Capone, D.*, Lai, A.*, Wood, A.*, Patel, S.*, Nalá, R., Cumming, O., and Brown, J. 2019. Gut carriage of antimicrobial resistance genes among young children in urban Maputo, Mozambique: associations with enteric pathogen carriage and environmental risk factors. *Plos One* 14(11):e0225464. doi: 10.1371/journal.pone.0225464.
- 62 *Capone, D., Adriano, Z., Berendes, D.*, Cumming, O., Dreibelbis, R., Holcomb, D.A., *Knee, J., Ross, I., and **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.
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- 16 **Brown, J.** and Sobsey, M. 2012. Boiling as household water treatment in Cambodia: a longitudinal study of boiling practice and microbiological effectiveness. *American Journal of Tropical Medicine and Hygiene* 87(3): 394–398.
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- 2 Brown, P., **Brown, J.**, and Allen, S. 2001. The application of kudzu as a medium for the adsorption of heavy metals from dilute aqueous wastestreams. *Bioresource Technology* 78:195-201.
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B3. Other Refereed Material

- 4 **Brown, J.**, Jeandron, A., Cavill, S., and Cumming, O. 2012. *Evidence Review and Research Priorities: Water, Sanitation, and Hygiene for Emergency Response*. London: UK Department for International Development (DfID). <http://r4d.dfid.gov.uk/Output/193031/>
- 3 Cairncross, S., Baker, S., **Brown, J.**, Cavill, S., Cumming, O., Ensink, J., Rheingans, R., and Schmidt, W.P. 2011. *Evidence Paper: Water, Sanitation and Hygiene*. London: UK Department for International Development (DfID). <http://r4d.dfid.gov.uk/Output/193434/>
- 2 **Brown, J.**, Outlaw, T., Clasen, T., Wu, J., and Sobsey, M. 2009. *Safe Water for All: Harnessing the Private Sector to Reach the Underserved*. Washington, D.C.: World Bank/International Finance Corporation.
- 1 **Brown, J.**, Sobsey, M., and Proum, S. 2007. *Use of Ceramic Water Filters in Cambodia*. Washington, DC: WSP-World Bank Field Note.

C. Other Publications and Creative Products

Sobsey, M.D., Stauber, C.E., Casanova, L.M., **Brown, J.**, and Elliott, M.A. 2008. Response to Comment on “Point of Use Household Drinking Water Filtration: A Practical, Effective Solution for Providing Sustained Access to Safe Drinking Water in the Developing World”. *Environmental Science & Technology* 43 (3), 970-971.

D. Presentations

D1. Keynote Addresses and Plenary Lectures

- 3 2017 **Brown, J.** Water quality and health in the Sustainable Development Goals era. 11th Annual Global Educational Forum: Engineering, Education, and Technology in Human Development and Sport. 28 March. Invited keynote, University of Georgia.

- 2 2014 **Brown, J.** Water infrastructure: protecting public health since 1854. American Water Works Association Water Infrastructure Conference, Atlanta, GA. 27 October. Invited keynote at Opening General Session/Plenary.
- 1 2006 **Brown, J.** The WHO protocol for household treatment ETV: an introduction. Siem Reap, Cambodia: World Bank WSP & UNICEF Inter Country Workshop on Household Water Treatment and Safe Storage. Invited keynote at Opening General Session/Plenary.
- D2. Invited Conference and Workshop Presentations
- 11 2019 **Brown, J.** From the Lab to the Field: Emerging Research in Water Quality. Colorado Water, Sanitation, and Hygiene (WASH) Symposium. Invited panel talk, Boulder, CO. 6 March.
- 10 2018 **Brown, J.** The Maputo Sanitation Trial. Gates Foundation WSH MEDS Convening, Dakar.
- 9 2018 **Brown, J.** Open defecation and enteric infection exposure risks in Atlanta. Gates Foundation WSH MEDS Convening, Dakar.
- 8 2018 **Brown, J.** Systematic review of small-scale water treatment technologies. World Health Organization *Guidelines for Drinking-Water Quality* Meeting on Microbial Aspects. Invited talk, Boulder, 17 April.
- 7 2018 **Brown, J.** Programs and Strategies for Developing International Research Partnerships: Crowdsourcing Water Quality. International Higher Education Corps 6th Meeting, United States Department of State. Invited talk, Washington, D.C., 9 April.
- 6 2016 **Brown, J.** Global water and sanitation: future directions in environmental engineering and sciences research. AEESP Workshop, Houston: “Redefining Environmental Engineering and Science”. Invited talk, 1 April.
- 5 2015 **Brown, J.** Small water supplies under the microscope: water infrastructure sustainability, water quality, and health. Chinese-American Frontiers of Engineering, National Academy of Engineering. 2 June.
- 4 2013 **Brown, J.** Small water supplies under the microscope. 10th CECIA-IAUPR Biennial Symposium on Potable Water Issues in Puerto Rico: Science, Technology and Regulation, Concurrently celebrated with the XI PR AIDIS Congress on Sanitary and Environmental Engineering. February 28.
- 3 2012 **Brown, J.** Water quality interventions and health. International Conference on Emerging Infectious Diseases (ICEID), Waterborne Disease Workshop. Atlanta. March 11.
- 2 2009 **Brown, J.** Scaling up access to safe water: challenges and opportunities. World Bank Water Week, Washington, D.C. Invited speaker. February 11.
- 1 2006 **Brown, J.** Ceramic water purifier (CWP) evaluation results. Siem Reap, Cambodia: World Bank WSP & Unicef Inter Country Workshop on Household Water Treatment and Safe Storage.

- D3. Selected conference and Workshop Presentations
- 37 2022 **Brown, J.** Enteric pathogens in outdoor urban aerosols: knowns and unknowns. Gordon Research Conference, Microbiology of the Built Environment: Microbes at the Interface of Water, Air and Human Health in Built Environments. Waterville Valley, NH, 20 June 2022.
- 36 2022 **Brown, J.** The future of environmental engineering and science education. World Environmental and Water Resources Congress / ASCE. Atlanta, 6 June 2022.
- 35 2022 **Brown, J.** Wastewater treatment as if people mattered: sanitation and health in Alabama's Black Belt. World Environmental and Water Resources Congress / ASCE. Atlanta, 6 June 2022.
- 34 2022 **Brown, J.** Water, sanitation, and household exposures in Alabama's Black Belt. WEF Public Health, Cincinnati Ohio, 24 March 2022.
- 33 2018 **Brown, J.** Access to household water quality information leads to safer water: a cluster randomized controlled trial in India. Water and Health Conference 2018: Where Science Meets Policy, Chapel Hill, NC.
- 32 2018 **Brown, J.** Potential for fecal-oral transmission of discarded human feces. American Society of Microbiology (ASM Microbe), Atlanta.
- 31 2017 **Brown, J.** New approaches to health impact measurement in water, sanitation, and hygiene (WASH) trials. American Society of Tropical Medicine and Hygiene 2017, Baltimore. Symposium chair.
- 30 2017 **Brown, J.** QMRA and water quality interventions: the role of adherence. International Water Association, Health Related Water Microbiology Conference 2017/Water Micro 2017.
- 29 2016 **Brown, J.** Social impact bonds for WASH investments. Stockholm International Water Week. Stockholm, Sweden.
- 28 2016 **Brown, J.** Social impact bonds for WASH investments (panelist). Water and Health Conference 2016: Where Science Meets Policy, Chapel Hill, NC.
- 27 2016 **Brown, J.** Quantitative microbial risk assessment and WASH epidemiology: future directions, opportunities, and challenges. Water and Health Conference 2016: Where Science Meets Policy, Chapel Hill, NC.
- 26 2016 **Brown, J.** Public health engineering: opportunities and challenges (panelist). Water and Health Conference 2016: Where Science Meets Policy, Chapel Hill, NC.
- 25 2015 **Brown, J.** and Chunga, R. When Pits Fill Up: Sanitation Technology Adoption and Adaptation in Urban Malawi. Water and Health Conference 2015: Where Science Meets Policy, Chapel Hill, NC.
- 24 2015 **Brown, J.** and Loo, A. Crowdsourcing Water Quality Data Using Low-Cost Quantal E. coli Tests with Ambient-Temperature Incubation. Water and Health Conference 2015: Where Science Meets Policy, Chapel Hill, NC.
- 23 2015 **Brown, J.** and Chunga, R. When Pits Fill Up: Sanitation Technology Adoption and Adaptation in Urban Malawi. Water and Health Conference 2015: Where Science Meets Policy, Chapel Hill, NC.

- 22 2015 **Brown, J.** and Loo, A. Crowdsourcing Water Quality Data Using Low-Cost Quantal E. coli Tests with Ambient-Temperature Incubation. Water and Health Conference 2015: Where Science Meets Policy, Chapel Hill, NC.
- 21 2015 **Brown, J.** and Shaheed, A. A Multi-Site, Mixed-Methods Crossover Trial of Adherence to Point-of-Use Water Treatment in Post-Emergency Settings. Water and Health Conference 2015: Where Science Meets Policy, Chapel Hill, NC.
- 20 2015 **Brown, J.** and Cumming, O. MapSan: Measuring Health Impacts of Urban Sanitation in Maputo. Water and Health Conference 2015: Where Science Meets Policy, Chapel Hill, NC. Session organizer.
- 19 2015 **Brown, J.** Unknown knowns: measuring sanitation's health impacts. International Conference on Emerging Infectious Diseases, 25 August 2015.
- 18 2014 **Brown, J.** and Cumming, O. The MapSan Trial: a Controlled, Before-and-After (CBA) study of urban sanitation in Maputo. Water and Health Conference: Where Science Meets Policy, Chapel Hill. October 16. Session organizer.
- 17 2014 **Brown, J.** and Bivins, A.* Risks associated with intermittent service and low pressure events. Water and Health Conference: Where Science Meets Policy, Chapel Hill. October 13.
- 16 2012 **Brown, J.** Water quality and health in the Southeastern USA: emerging trends and opportunities for research. Water and Health Conference, Chapel Hill. October 30. Session chair and moderator.
- 15 2012 **Brown, J.** WASH & HIV: links with maternal and child health. International Aids Society. Washington, DC. July 24.
- 14 2011 **Brown, J.** et al. Safe drinking water access limited by decaying infrastructure in rural Alabama. UNC Water and Health Conference, Chapel Hill. October 3.
- 13 2011 **Brown, J.** Environmental health and HIV/AIDS in Zambia. Creative and Novel Ideas in HIV Research, Special Session. International Aids Society, Rome. July 16.
- 12 2011 **Brown, J.** Ambient temperature incubation for the field detection of *Escherichia coli* in drinking water. Edinburgh: Fecal Indicators – Problem or Solution? (FIPS 2011). June 6.
- 11 2010 **Brown, J.** Household water treatment technology performance evaluation: emerging WHO guidelines and review of current technologies. Atlanta: American Society of Tropical Medicine and Hygiene, 59th annual meeting. Session co-chair. November 6.
- 10 2010 **Brown, J.** and Sobsey, M. 2010. Proposed WHO guidelines for microbiological effectiveness of household water treatment. HWTS Conference for SAARAC Countries: Making Wise Choices about HWT Option Selection. Kathmandu, Nepal. Invited speaker. May 4. Gave the same talk, also as an invited speaker, at World Health Organization-sponsored workshops in Singapore (1 July 2010, Singapore International Water Week) and Chapel Hill (24 October 2010, Water and Health: Where Science Meets Policy).
- 9 2010 **Brown, J.,** Hien, V.T., McMahan, K., Thie, L., Printy, E., Sobsey, M. Relative benefits of piped water supply over other “improved” sources: a case study from rural Vietnam. Water and Health: Where Science Meets Policy. Chapel Hill, NC, USA. October 25.

- 8 2009 **Brown, J.**, Cherry, J., and Steinberg, M. Interdisciplinary approaches to service learning in environmental science. Association for Integrative Studies Annual Conference.
- 7 2008 **Brown, J.** and Sobsey, M. Point-of-use drinking water treatment in Cambodia: a randomized, controlled trial of local ceramic filters. World Health Organization International Symposium on Household Water Management, Accra, Ghana. June 2-5.
- 6 2008 **Brown, J.** and Sobsey, M. Ceramic pot filters: Sustainability of interventions in rural Cambodia from 2002-2006. World Health Organization International Symposium on Household Water Management, Accra, Ghana. June 2-5.
- 5 2008 **Brown, J.** Preparing for drought conditions with a rainwater catchment system. Louisville: Southern Sustainable Agriculture Working Group, 17th annual meeting.
- 4 2007 **Brown, J.** and Sobsey, M. Household-scale drinking water treatment in Cambodia: a randomized, controlled trial of locally made ceramic water filters. Philadelphia: American Society of Tropical Medicine and Hygiene, 56th Annual Meeting.
- 3 2006 **Brown, J.** and Sobsey, M. Ceramic filters for household-scale drinking water treatment in rural Cambodia: independent appraisal of interventions from 2002-2006. Atlanta: American Society of Tropical Medicine and Hygiene, 55th annual meeting.
- 2 2005 **Brown, J.** and Sobsey, M. Ceramic filter augmentation for the reduction of viruses in drinking water. Bangkok: Research Symposium, World Health Organization International Network to Promote Household Water Treatment and Safe Storage.
- 1 2005 **Brown, J.** and Sobsey, M. Technology verification for household water treatment and storage (HWTS). Bangkok: 3rd general meeting, World Health Organization International Network to Promote Household Water Treatment and Safe Storage.

D4. Invited Seminar Presentations

- 19 2020 **Brown, J.** Enteric pathogen detection in fecal sludges for pathogen surveillance in low-income urban settings. Invited seminar, ETH-Zurich.
- 18 2019 **Brown, J.** The Maputo Sanitation (MapSan) trial: measuring health impacts of urban sanitation improvements. Department of Environmental Sciences and Engineering, Gillings School of Global Public Health, University of North Carolina – Chapel Hill. 25 January.
- 17 2017 **Brown, J.** Urban water and sanitation quality: methods for the 200 Cities Study. The Marron Institute of Urban Management, Stern School of Business, New York University. 2 February 2.
- 16 2016 **Brown, J.** Challenges for development of technologies for rapid detection of *E. coli*. Real-time *E. coli* Detection Stakeholder Consultation, UNICEF Supply Division. Copenhagen, Denmark. 22 November.
- 15 2016. **Brown, J.** The Maputo sanitation (MapSan) trial, Mozambique. Department of Civil and Environmental Engineering, Duke University. Invited talk, 14 November.
- 14 2016 **Brown, J.** Water, sanitation, and health in Alabama's Black Belt. Department of Biological and Systems Engineering, Virginia Tech. Invited talk, 2 February.

- 13 2015 **Brown, J.** The Maputo Sanitation trial. Bill and Melinda Gates Foundation, 4 August. Invited talk.
- 12 2015 **Brown, J.** Small water supplies under the microscope. Indian Water Works Association. Nagpur, India. 9 July. Invited talk.
- 11 2015 **Brown, J.** Low cost ceramic filters for drinking water treatment. Yale University, Department of Civil and Environmental Engineering. 29 January. Invited seminar.
- 10 2014 **Brown, J.** The MapSan Trial: a Controlled, Before-and-After (CBA) study of urban sanitation in Maputo. Tufts University, Department of Civil and Environmental Engineering. 12 November. Invited seminar.
- 9 2014 **Brown, J.** Opportunities at the intersection of environmental engineering and public health. Workshop on Water Quality Management, CSIR-National Environmental Engineering Research Institute, Nagpur. Invited talk. July 30.
- 8 2014 **Brown, J.** Sanitation and health in urban Maputo, Mozambique. Emory University, Center for Global Safe Water and Rollins School of Public Health. Invited seminar. April 18.
- 7 2013 **Brown, J.** Small water supplies under the microscope: case studies from Alabama and Vietnam. UNC Global Research Institute Symposium. 29 March. Invited seminar.
- 6 2012 **Brown, J.** Why WASH matters for people living with HIV. International Aids Society, Global Village Workshop. Washington, DC. July 25. Invited seminar.
- 5 2012 **Brown, J.** Randomized, controlled trial of safe water storage among people living with HIV. UNC Center for Aids Research (CFAR) and UNC School of Medicine. 4 May. Invited seminar.
- 4 2012 **Brown, J.** Safe drinking water access limited by decaying infrastructure in rural Alabama. Carolina Women's Leadership Council and the UNC Water Institute. Invited speaker. 1 March.
- 3 2012 **Brown, J.** Water and health: emerging issues and priorities for research. Bhavan's College, Mumbai. Invited speaker. February 28.
- 2 2012 **Brown, J.** Water, Sanitation, and Hygiene and HIV: current research and opportunities. WaterAID, London. Invited speaker. January 24.
- 1 2004 **Brown, J.,** Clasen, T., Suntura, O., and Collin, S. Tratamiento casero de agua con filtros de cerámica por goteo. La Paz, Bolivia: Viceministry of Basic Services. Invited seminar.

D5. Other Presentations

- 5 2014 **Brown, J.** Crowdsourcing water quality. Arab-American Frontiers of Science, Engineering, and Medicine. Muscat, Oman. 16 December. Poster presentation.
- 4 2010 **Brown, J.,** Hien, V.T., McMahan, K., Thie, L., Printy, E., Sobsey, M. 2010. Relative benefits of piped water supply over other "improved" sources: a case study from rural Vietnam. Singapore International Water Week. Singapore. Poster.
- 3 2008 **Brown, J.** and Sobsey, M. 2008. Long-term effectiveness of ceramic water filters in Cambodia. Singapore: International Water Association Project Innovation Awards. Poster.

- 2 2007 **Brown, J.**, Sampson, M., Proum, S., and Sobsey, M. 2007. Low-tech ceramic water filters for drinking water treatment: laboratory and field effectiveness against waterborne indicators of human fecal contamination. Toronto: American Society for Microbiology. Poster.
- 1 2005 **Brown, J.**, Casanova, L., Elliott, M., Stauber, C. Comparative analysis of three point-of-use technologies. Washington D.C.: EPA P³ Conference.

V. Teaching Record

A. Courses

Semester & Year	Course Number	Title	Students
Fall 2014	CEE 8813	Global Water and Sanitation	18
Spring 2015	CEE 4803	Environmental Technology in the Developing World	10
Fall 2015	CEE 6311	Microbial Principles in Environmental Engineering	30
Spring 2016	CEE 4350	Environmental Technology in the Developing World	10
Fall 2016	CEE 6311	Microbial Principles in Environmental Engineering	34
Spring 2017	CEE 4350	Environmental Technology in the Developing World	10
Fall 2017	CEE 6311	Microbial Principles in Environmental Engineering	47
Fall 2017	ECE 2811	Vertically Integrated Projects program: HumaniTech Section VVS (Non-Lead Instructor)	15
Spring 2018	CEE 4350	Environmental Technology in the Developing World	10
Spring 2018	ECE 2811	Vertically Integrated Projects program: HumaniTech Section VVS (Non-Lead Instructor)	24
Fall 2018	CEE 6311	Microbial Principles in Environmental Engineering	16
Fall 2018	ECE 2811	Vertically Integrated Projects program: HumaniTech Section VVS (Non-Lead Instructor)	24
Spring 2019	CEE 4350	Environmental Technology in the Developing World	10
Spring 2019	ECE 2811	Vertically Integrated Projects program: HumaniTech Section VVS (Non-Lead Instructor)	29
Fall 2019	CEE 6311	Microbial Principles in Environmental Engineering	32
Fall 2019	ECE 2811	Vertically Integrated Projects program: HumaniTech Section VVS (Non-Lead Instructor)	43
Fall 2020	CEE 6311	Microbial Principles in Environmental Engineering	29
Spring 2022	ENVR 421	Environmental Health Microbiology	16

B. Individual Student Guidance

B1. PhD Students

B1.a. Graduated PhD students

Aug 2017 – May 2021 Amanda Lai, Georgia Institute of Technology, primary advisor
Title: Community-led total sanitation and stunting in rural Cambodia

Aug 2017 – May 2021 Olivia Ginn, Georgia Institute of Technology, primary advisor
Title: Enteric pathogen transmission in bioaerosols in cities with poor sanitation

Jan 2015 – Aug 2021 Kevin Zhu, Georgia Institute of Technology, primary advisor

Title: Persistence and kinetics of human mtDNA in fecal source tracking applications

- Aug 2017 – Aug 2020 Drew Capone, Georgia Institute of Technology
Title: Sanitation gaps among low income urban populations
PhD conferred 8/2020
- Jan 2014 – Dec 2019 Aaron Bivins, Georgia Institute of Technology
Title: Estimating the health risks posed by intermittent water supply using quantitative microbial risk assessment
PhD conferred 12/2019
- Aug 2014 – Aug 2019 Jacqueline Knee, Georgia Institute of Technology
Title: Quantifying the impact of an urban onsite shared sanitation intervention on child health in Maputo, Mozambique: the MapSan Trial
PhD conferred 08/2019
- 2011 – 2015 Richard Chunga, LSHTM, former primary adviser and co-adviser (with J. Ensink upon leaving LSHTM), PhD conferred 09/2015
Title: Investigating demand for ecological sanitation in peri-urban Malawi
- 2010 – 2015 Ameer Shaheed, LSHTM, co-adviser (with S. Cairncross), PhD conferred 11/2015
Title: Household point-of-use water treatment adoption and adherence in post-emergency settings: Zambia and Pakistan
- 2008 – 2014 Jessica Wedgworth, UA, former primary adviser (co-advised from 2011 with J. Olson upon leaving UA)
Title: Microbial risks in rural water supply systems in Alabama's Black Belt
PhD conferred 12/2014, University of Alabama

B1.b. In Process PhD students

- Aug 2019 – present Gouthami Rao, UNC, primary advisor
- Aug 2021 – present Erin Kowalsky, UNC, primary advisor
- Jan 2022 – present Anjerul Islam, UNC, co-advisor (with A. Salzberg)
- Aug 2021 – present Sarah Lebu, UNC, co-advisor (with A. Salzberg)
- May 2022 – present Yarrow Linden, UNC, primary advisor

B2. MS, MSc, MPH, MSPH, and MSEE Students

B2.a. Graduated MS, MSc, MPH, MSPH, and MSEE students, primary advisor

- 2017 – 2019 Victoria Dean, MS EnvE (non-thesis)
- 2017 – 2018 Cat Reynolds, MS EnvE (non-thesis)
- 2017 – 2018 Mio Unno, MS EnvE (non-thesis)

2017 – 2018	Austin Rasbach, MS EnvE (non-thesis)
2017 – 2018	Siddhartha Patel, MS EnvE (non-thesis)
2016 – 2018	Yufan Lu, MS EnvE (non-thesis)
2015 – 2016	Nikunj Khekurlar, MS EnvE (non-thesis)
2014 – 2015	Andy Loo, MS EnvE (non-thesis)
2014 – 2015	Suganya Pandian, MS EnvE (non-thesis)
2012 – 2013	Elise Presser, LSHTM, MSc Control of Infectious Diseases (thesis) “Salivary antibody recovery, processing, and storage for field surveillance of enteric infections”
2012 – 2013	Edgar Wellington, LSHTM, MSc Control of Infectious Diseases (thesis) “Trends in travel-associated gastro-intestinal illness in the UK, 2000-2010”
2011 – 2012	Olivia Johns, LSHTM, MSc Control of Infectious Diseases (thesis) “On-site sanitation access and function among randomly selected households in the rural Black Belt of Alabama”
2011 – 2012	Max Izenberg, LSHTM/LSE, MSc Health Policy, Planning, and Financing (thesis) “Barriers to accessing on-site sanitation in rural Alabama”
2011 – 2012	Charlotte Sellers, LSHTM, MSc Control of Infectious Diseases (thesis) “Ambient temperature –incubated H2S tests and diarrhoeal disease in peri-urban Cambodia”
2011 – 2012	Simon Taylor, LSHTM, MSc Control of Infectious Diseases (thesis) “Household water quality and collection time in urban Lusaka, Zambia”
2010 – 2011	Jessica May, LSHTM, MSc Control of Infectious Diseases (thesis) “Microbial characterisation of household water sources in Kandal Province, Cambodia”
2010 – 2011	Phillip Grammer, UA, MS Environmental Engineering (thesis) “Development of a low-cost, rapid detection method for <i>Escherichia coli</i> ”
2009 – 2010	Emily Phillimore, LSHTM, MSc Control of Infectious Diseases (thesis) “Evaluating health outcomes of a floating water treatment plant in Tonlé Sap Lake, Cambodia”
B2.a. In process MS, MSc, MPH, MSPH, and MSEE students, primary advisor (thesis or research supervision only)	
Aug 2021 – present	Sierra Brantz, MPH Global Health
Aug 2021 – present	Jack Dalton, MPH Global Health
Jan 2021 – present	Troy Barker, MPH Global Health

Aug 2021 – present Abby Knoble, MPH Global Health

Dec 2021 – present Berkley Wood, MPH Environmental Health Solutions

B3. Undergraduate students (≥1 semester supervision)

UNC: Maya Arora, Toheedat Bakare, Ryan Clark, Abeoseh Flemister, Victor Ilevbare, Elizabeth Kim, Alka Manoj, Sam Pomper

Georgia Tech: Claire Anderson, Lauren Aycock, Samantha Becker, Arjun Bir, Farran Bush, Maria Cardelino, Diana Chumak, Kelsey Eichbauer, Shannon Evanchec, Allie George, Valeria Hernandez, Ann Johnson, Haley Lewis, Sarah Lowry, Jenia Molotkova, Soseimiebi Ogan, Timothy Purvis, Celina Russo, Nick Selby, Collin Spencer, Olivia Stehr, Lorenzo Tolentino, Rebecca Yoo, Winnie Zambrano

B4. Service on Thesis or Dissertation Committees

B4.a. Same institution

Student	Degree & Institution	Advisor	Dates
Connor LaMontaigne	PhD, UNC	Stewart	8/20 – present
Maya Hoon	MS, UNC	Fisher	5/21 – present
Timothy Purvis	MSPH, UNC	Salzberg	5/21 – present
Mark Radin	PhD, UNC	Whittington	5/21 – present
Maya Hoon	MSPH, UNC	Fisher	5/21 – present
Katharine Conaway	MS, UNC	Salzberg	5/21 – present
Xincheng Shen, PhD student	Georgia Institute of Technology	Hanchao Lu, HSOC	2017 – 2019
Josephine Bates	Georgia Institute of Technology	Russell	2017 – 2018
Tanvi Singh, MS student	Georgia Institute of Technology	Sabir Khan, ID	2017 – 2018
Qian Zhang, PhD student	Georgia Institute of Technology	Russell	2017 – 2018
Raj Lal, PhD student	Georgia Institute of Technology	Russell	2017 – 2019
Ran Huang, PhD student	Georgia Institute of Technology	Russell	2017 – 2019
Minjae Kim, PhD student	Georgia Institute of Technology	Konstantinidis	2015 – 2019
Brittany Suttner, PhD student	Georgia Institute of Technology	Konstantinidis	2015 – 2020
Luis Orellana, PhD student	Georgia Institute of Technology	Konstantinidis	2015 – 2018
Rachel Peletz, PhD	LSHTM	Clasen	2010 - 2011

B4.b. External institutions

Student	University	Advisor	Dates
Lucas Melogno-Rocha, PhD student	Duke University	Deshusses	2017 - 2021
Oliver Cumming, PhD student	LSHTM	Cairncross	2016 - present
David Holcomb, PhD student	UNC-Chapel Hill	Stewart	2014 - 2020
Heather Reece, PhD student	Emory, Environmental Health	Clasen	2015 - 2017
Casey Siesel	Emory, Environmental Health	Clasen	2016 - 2017
Brad Wilson, PhD student	University of Alabama, EnvE	Bob Pitt	2012 - present
Batsi Majuru, MSc student	University of Johannesburg	Paul Jagals	2008 - 2010
Mike Mokoena, MSc student	University of Johannesburg	Paul Jagals	2009 - 2009

B5. Mentorship of Post-Doctoral or Visiting Scholars

B5.a. Post-doctoral Fellows

2021 – present	David Holcomb PhD, post-doctoral researcher, co-advised with Larry Engel (UNC Department of Epidemiology)
2021 – present	Amanda Lai PhD PE, post-doctoral researcher
2020 – present	Drew Capone PhD, post-doctoral researcher and T32 trainee
2016 – 2018	David Berendes PhD, post-doctoral researcher SaniVac: rotavirus vaccine effectiveness modified by access to sanitation infrastructure, Mozambique

B5.b. Visiting Scholars

2018	Olivia Zarella, MS student in environmental health, Emory University (lab rotation, Spring 2018 – Summer 2018)
2017 – 2018	Anna Wood, MS student in epidemiology, Emory University (lab rotation, Fall 2017 – Spring 2018)
2017	Ifeoma Ozodiegwu, DrPH student, East Tennessee State University, internship supervisor
2017	Frederick Goddard, PhD student in environmental health, Emory University (lab rotation Fall 2017)
2017	Frederica Lamar, PhD student in environmental health, Emory University (lab rotation Fall 2017)

C. Educational Innovations and Other Contributions

C1. Course Development

2017 – 2019	ECE 2811: Vertically Integrated Projects: HumaniTech, with R. Wallace and N. Kumar. New course design and instruction.
2015 – 2016	CEE4804: Global Engineering Practicum (GEP), with Adjo Amekudzi-Kennedy. New course design.
2014	Graduate Seminar: CEE 8813: Global Water and Sanitation. New course design and instruction.

C2. Other Teaching Activities (including in Previous Academic Appointments)

IHE-UNESCO

2018	Co-organizer: Sanitation and Public Health, a short course for sanitation engineers, held in Delft, the Netherlands, with support from the Gates Foundation
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Georgia Tech

2015 – 2016	Guest Lecturer: Global Engineering Leadership (GT/CEE)
2015 – 2016	Guest Lecturer: Environmental Epidemiology (Emory)

<i>UNICEF</i> 2014 - 2017	Shaping WASH policy and practice: research into action Online course for United Nations Children’s Fund (UNICEF) water and sanitation staff. I helped design the course and give two lectures each year.
<i>UNC-Chapel Hill</i> 2013	Water in Our World (co-taught with J. Bartram <i>et al.</i>)
<i>LSTHM</i> 2010 – 2013	ID210: Water and Sanitation (postgraduate) Tutor, MSc Control of Infectious Diseases
<i>U of Alabama</i> 2007 – 2010	Environmental Modeling (graduate/undergraduate) Sustainability by Design (graduate/undergraduate) International Engineering Service Learning (graduate/undergraduate) The Laboratory Experience (undergraduate methods course) Organic Farming (undergraduate) Agroecology (undergraduate) Research Experience for Undergraduates (REU) mentor

