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EDUCATION

Ph.D. Environmental Sciences & Engineering, Univ. of North Carolina, Chapel Hill, 2003
M.S. Environmental Sciences & Engineering, Univ. of North Carolina, Chapel Hill, 1998
B.A. Environmental Sciences with a concentration in Ecology, Chemistry Minor
University of Virginia, Charlottesville, 1996

PROFESSIONAL EXPERIENCE

2014-present Associate Professor, UNC Department of Environmental Sciences & Engineering
2013-present Deputy Director, UNC Center for Galápagos Studies
2016-present Faculty Fellow, UNC Carolina Population Center
2015-present Member, NCSU Comparative Medicine Institute
2013-present Adjunct Assistant Professor, UNC Department of Marine Sciences
2008-2014 Assistant Professor, UNC Department of Environmental Sciences & Engineering
2006-2012 Associate Faculty, MUSC Marine Biomedicine and Environmental Sciences
2005-2011 Adjunct Faculty, College of Charleston, Grice Marine Biology Program
2005-2008 Adjunct Assistant Professor, College of Charleston, Environmental Studies
2004-2008 Adjunct Research Assistant Professor, University of South Carolina, Arnold School of Public Health, Environmental Health Sciences
2002-2008 Contract Microbiologist, NOAA National Ocean Service, Charleston, SC
1999-2002 PhD Student/Fellow, NOAA National Ocean Service, Charleston, SC
1999 Product Development Chemist, HaloSource Corp., Seattle, WA
1996-1998 Research Assistant, Environmental Health Microbiology Lab, UNC
1996 Research Assistant, Coastal Wetlands Ecology Lab, UVA
1995-1996 Research Assistant, Isotope Geochemistry Lab, UVA
1995 REU (undergraduate researcher), NSF Virginia Coastal Reserve LTER Project

SELECT HONORS & PROFESSIONAL ACTIVITIES

- UNC ESE Newton Underwood Award for Excellence in Teaching, 2016
- Editorial Board Member, *Applied and Environmental Microbiology*, 2016-2019
- Distinguished Lecturer, American Society for Microbiology (ASM), 2014-2016
- UNC Provost's Environmental Task Force II, 2016
- UNC Provost's Environmental Task Force I, Co-Chair for Research Subcommittee, 2015
- Faculty Advisory Council, UNC Institute for the Environment, 2015-present
- MPH Core Curriculum Planning Committee, Gillings School of Public Health, 2015-2016
- Teaching Innovation Award, UNC Gillings School of Global Public Health, 2015
- Organizing Committee, UNC Water Microbiology Conference, 2014-present
- UNC Junior Faculty Development Award, 2010
- Certificates of Achievement, NOAA National Ocean Service, 2002 & 2004
- Mahlon L. Kelley Ecology Award, UVA Dept. of Environmental Sciences, 1996
- Highest Honors, UVA Distinguished Majors Program, 1996

PROFESSIONAL MEMBERSHIPS

American Society for Microbiology (ASM)

Councilor, ASM Division Q: Applied and Environmental Microbiology (2013-2014)

Chair, ASM Division Q: Applied and Environmental Microbiology (2012-2013)

Chair-Elect, ASM Division Q: Applied and Environmental Microbiology (2011-2012)

Southeastern Estuarine Research Society (SEERS)

BIBLIOGRAPHY

^TTechnicians, ^UUndergraduates, ^MMasters and ^DPhD students supervised by Dr. Stewart are noted, as are ^PPost-doctoral researchers.

Referreed Papers/Articles – In Submission or In Review

1. Nadimpalli^D, M, **JR Stewart**, E Pierce, N Pisanic, DC Love, D Hall, J Larsen, KC Carroll, T Tekle, TM Perl and CD Heaney. Face mask use and persistence of livestock-associated *Staphylococcus aureus* nasal carriage among industrial hog operation workers and household contacts, USA. *Environmental Health Perspectives*.
2. Napier, MD, C Poole, **JR Stewart**, DJ Weber, S Glassmeyer, DW Kolpin, ET Furlong, AP Durfour, TJ Wade. Exposure to human-associated chemical markers of fecal contamination and self-reported illness among swimmers at recreational beaches. *Environmental Science & Technology*.
3. George, A, **J Stewart** and J MacDonald Gibson. Paths of resistance: A systematic review and meta-analysis of antibiotic resistant *Staphylococcus aureus* dispersion from hog operations. *PLOS ONE*.
4. Le^U, T-T, M Nadimpalli^D, J Wu^P, CD Heaney and **JR Stewart**. Homology of *Staphylococcus aureus* in the anterior nares of persistent and intermediate carriers. *Frontiers in Public Health*.

Referreed Papers/Articles – Published or In Press

1. Wu^P, J, **JR Stewart**, MD Sobsey, C Cormency, MB Fisher and JK Bartram (2018). Rapid detection of *Escherichia coli* in water using sample concentration and optimized enzymatic hydrolysis of chromogenic substrates. *Current Microbiology*. In press. doi: 10.1007/s00284-018-1454-8
2. Davis, MF, N Pisanic, SM Rhodes^D, A Brown, H Keller, M Nadimpalli^D, A Christ, S Ludwig, C Ordak, K Spicer, DC Love, J Larsen, A Wright, S Blacklin, B Flowers, **J Stewart**, K Sexton, A Rule, C Heaney (2017). Occurrence of *Staphylococcus aureus* in swine and swine workplace environments on industrial and antibiotic-free hog operations in North Carolina, USA: a One Health pilot study. *Environmental Research*. In press. doi: 10.1016/j.envres.2017.12.010
3. Greenfield, DI, J Gooch Moore, **JR Stewart**, ED Hilborn, BJ George, Q Li, J Dickerson, CK Keppler and PA Sandifer (2017). Temporal and environmental factors driving *Vibrio vulnificus* and *V. parahaemolyticus* populations and their associations with harmful algal blooms in South Carolina detention ponds and receiving tidal creeks. *GeoHealth*. 1(9): 306-317. doi: 10.1002/2017GH000094
4. Napier, MD, R Haugland, C Poole, AP Dufour, **JR Stewart**, DJ Weber, M Varma, JS Lavender and TJ Wade (2017). Exposure to human-associated fecal contamination and self-reported illness among swimmers at recreational beaches: a cohort study. *Environmental Health*. 16: 103. doi: 10.1186/s12940-017-0308-3
5. Gerhard^M, WA, WS Choi, KM Houck and **JR Stewart** (2017). Water quality at points-of-use in the Galapagos Islands. *International Journal of Hygiene and Environmental Health*. 220(2, Pt B): 485-493. doi: 10.1016/j.ijheh.2017.01.010

6. Hatcher^D SM, S Rhodes^D, **JR Stewart**, E Silbergeld, N Pisanic, J Larsen, S Jiang^U, A Krosche, D Hall, K Carroll, CD Heaney (2017). The prevalence of antibiotic-resistant *Staphylococcus aureus* nasal carriage among industrial hog operation workers, community residents, and children living in their households: North Carolina, USA. *Environmental Health Perspectives*. 125: 560–569. doi:10.1289/EHP35
7. Nadimpalli^D, M, **J Stewart**, E Pierce, N Pisanic, DC Love, D Hall, J Larsen, K Carroll, T Tekle, TM Perl and CD Heaney (2016). Livestock-associated, antibiotic resistant *Staphylococcus aureus* nasal carriage and recent skin and soft tissue infection among industrial hog operation workers. *PLOS ONE*. 11(11): e0165713. doi: 10.1371/journal.pone.0165713
8. Wu^P, J, Y Cao, B Young^M, Y Yuen, S Jiang^U, D Melendez^U, J Griffith and **J Stewart** (2016). Decay of coliphages in sewage-contaminated freshwater: Uncertainty and seasonal effects. *Environmental Science & Technology*. 50:11593-11601. doi: 10.1021/acs.est.6b03916
9. Hatcher^D, SM, KW Meyers^M, CD Heaney, J Larsen, D Hall, MB Miller, **JR Stewart** (2016). Occurrence of methicillin-resistant *Staphylococcus aureus* in surface waters near industrial hog operation spray fields. *Science of the Total Environment*. 565: 1028-1036. doi: 10.1016/j.scitotenv.2016.05.083
10. Overbey^U, KN, SM Hatcher^D and **JR Stewart** (2015). Water quality and antibiotic resistance at beaches of the Galápagos Islands. *Frontiers in Environmental Health*. 3(64). 9 pages. doi: 10.3389/fenvs.2015.00064
11. Pisanic, N, M Nadimpalli^D, JL Rinsky, **J Stewart**, S Wing, DC Love, D Hall and CD Heaney (2015). Pig-2-Bac as a biomarker of occupational exposure to pigs and livestock-associated *Staphylococcus aureus* among industrial hog operation workers. *Environmental Research*. 143(Pt A): 93-97. doi: 10.1016/j.envres.2015.09.026
12. Brown, J, O Cumming, J Bartram, S Cairncross, J Ensink, D Holcomb^D, J Knee, P Kolsky, K Liang, S Liang, R Nala, G Norman, R Rheingans, **J Stewart**, O Zavale, V Zuin and W-P Schmidt (2015). A controlled, before-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). 12 pages. doi: 10.1136/bmjopen-2015-008215
13. Nadimpalli^D, M, N Pisanic, C Heaney and **J Stewart** (2015). Equivalence of influenza A virus RNA recovery from nasal swabs when lysing the swab and storage medium versus storage medium alone. *Journal of Virological Methods*. 217: 14–17. doi: 10.1016/j.jviromet.2015.01.008
14. Gentry-Shields^D, J, K Myers^M, N Pisanic, C Heaney and **J Stewart** (2015). Hepatitis E virus and coliphages in waters proximal to swine concentrated animal feeding operations. *Science of the Total Environment*. 505: 487-493. doi: 10.1016/j.scitotenv.2014.10.004
15. Nadimpalli^D, M, JI Rinsky, S Wing, D Hall, **J Stewart**, J Larsen, KE Nachman, DC Love, E Pierce^M, N Pisanic, J Strelitz, L Harduar-Morano, CD Heaney (2015). Persistence of livestock-associated antibiotic-resistant *Staphylococcus aureus* among industrial hog operation workers in North Carolina over 14 days. *Occupational and Environmental Medicine*. 72(2): 90-99. doi: 10.1136/oemed-2014-102095
16. Sanger, D, A Blair, G DiDonato, T Washburn, S Jones, G Riekerk, E Wirth, **J Stewart**, D White, L Vandiver and AF Holland (2015). Impacts of coastal development on the ecology of tidal creek ecosystems of the US southeast including consequences to humans. *Estuaries and Coasts*. 38(Suppl 1): 49. doi: 10.1007/s12237-013-9635-y

17. Schinasi, L, S Wing, KL Augustino, KM Ramsey, DL Nobles, DB Richardson, LB Price, M Aziz, PDM MacDonald and **JR Stewart** (2014). A case control study of environmental and occupational exposures associated with methicillin resistant *Staphylococcus aureus* nasal carriage in patients admitted to a rural tertiary care hospital in a high density swine region. *Environmental Health*. 13(1): 54. doi: 10.1186/1476-069X-13-54
18. **Stewart, JR**, FI Townsend, SM Lane, E Dyar, AA Hohn, TK Rowles, LA Staggs, RS Wells, BC Balmer and LH Schwacke (2014). Survey of antibiotic-resistant bacteria isolated from bottlenose dolphins *Tursiops truncatus* in the southeastern USA. *Diseases of Aquatic Organisms*. 108(2): 91-102. doi: 10.3354/dao02705
19. Love, DC, RA Rodriguez, CD Gibbons, JH Griffith, Q Yu, **JR Stewart** and MD Sobsey (2014). Human viruses and viral indicators in marine water at two recreational beaches in Southern California, USA. *Journal of Water and Health*. 12(1): 136-150. doi: 10.2166/wh.2013.078
20. Wu^D, J, AD Gronewold, R Rodriguez, **JR Stewart** and MD Sobsey (2014). Integrating quantitative PCR and Bayesian statistics to quantify human adenoviruses in small volumes of source water. *Science of the Total Environment*. 470-471: 255-262. doi: 10.1016/j.scitotenv.2013.09.026
21. Johnston^T, C, MN Byappanahalli, J MacDonald Gibson, JA Ufnar, RL Whitman and **JR Stewart** (2013). Probabilistic analysis showing that a combination of *Bacteroides* and *Methanobrevibacter* source tracking markers are effective for identifying waters contaminated by human fecal pollution. *Environmental Science & Technology*. 47(23): 13621-13628. doi: 10.1021/es403753k
22. **Stewart, JR**, AB Boehm, EA Dubinsky, T-T Fong, KD Goodwin, JF Griffith, RT Noble, OC Shanks, V Kannappan, and SB Weisberg (2013). Recommendations following a multi-laboratory comparison of microbial source tracking methods. *Water Research*. 47(18): 6829-6838. doi: 10.1016/j.watres.2013.04.063
23. Harwood, VJ, AB Boehm, LM Sassoubre, V Kannappan, **JR Stewart**, T-T Fong, M-P Caprais, RR Converse, D Diston, J Ebdon, JA Fuhrman, M Gourmelon, J Gentry-Shields^D, JF Griffith, DR Kashian, RT Noble, H Taylor and M Wicki (2013). Performance of viruses and bacteriophages for fecal source determination in a multi-laboratory, comparative study. *Water Research*. 47(18): 6929-6943. doi: 10.1016/j.watres.2013.04.064
24. Layton, BA, Y Cao, DL Ebentier, KT Hanley, E Ballesté, J Brandão, MN Byappanahalli, RR Converse, AH Farnleitner, J Gentry-Shields^D, ML Gidley, M Gourmelon, CS Lee, J Lee, S Lozach, T Madi, WG Meijer, RT Noble, L Peed, GH Reischer, R Rodrigues, JB Rose, A Schriewer, C Sinigalliano, S Srinivasan, **JR Stewart**, LC Van De Werfhorst, D Wang, R Whitman, S Wuertz, J Jay, PA Holden, AB Boehm, OC Shanks and JF Griffith (2013). Performance of human fecal anaerobe-associated PCR-based assays in a multi-laboratory method evaluation study. *Water Research*. 47(18): 6897-6908. doi: 10.1016/j.watres.2013.05.060
25. Nadimpalli^D, M, C Heaney and **J Stewart** (2013). Recovery of *Staphylococcus aureus* from enriched nasal swabs within 24 hours is improved with the use of multiple culture media. *Journal of Medical Microbiology*. 62(Pt 9): 1365-1367. doi: 10.1099/jmm.0.058248-0
26. Schinasi, L, S Wing, PDM MacDonald, DB Richardson, **JR Stewart**, KL Augustino, DL Nobles and KM Ramsey (2013). Medical and household characteristics associated with methicillin resistant *Staphylococcus aureus* nasal carriage among patients admitted to a rural tertiary care hospital. *PLOS ONE*. 8(8): e73595. doi: 10.1371/journal.pone.0073595
27. Rinsky, JL, M Nadimpalli^D, S Wing, D Hall, D Baron-Hall, LB Price, J Larsen, M Stegger, **J Stewart** and CD Heaney (2013). Livestock-associated methicillin and multidrug resistant *Staphylococcus aureus* is present among industrial, not antibiotic-free livestock workers in North Carolina. *PLOS ONE*. 8(7): e67641. doi: 10.1371/journal.pone.0067641

28. Gentry-Shields^D, J, A Wang, RM Cory and **JR Stewart** (2013). Determination of specific types and relative levels of qPCR inhibitors in environmental water samples using excitation-emission matrix spectroscopy and PARAFAC. *Water Research*. 47(10): 3467-3476. doi: 10.1016/j.watres.2013.03.049
29. Gentry-Shields^D, J and **J Stewart** (2013). Similar concentration and extraction recoveries allow for use of Turnip Crinkle Virus as a spike and recovery control for Enteroviruses in water. *Journal of Virological Methods*. 189(2): 250-257. doi: 10.1016/j.jviromet.2013.02.013
30. Rowny^M, J and **JR Stewart** (2012). Characterization of nonpoint source microbial contamination in an urbanizing watershed serving as a municipal water supply. *Water Research*. 46(18): 6143-6153. doi: 10.1016/j.watres.2012.09.009
31. Gentry-Shields^D, J, JG Rowny^M and **JR Stewart** (2012). HuBac and *nifH* source tracking markers display a relationship to land use but not rainfall. *Water Research*. 46(18): 6163-6174. doi: 10.1016/j.watres.2012.09.016
32. Rodríguez RA, Love DC, **Stewart JR**, Tajuba J, Knee J, Dickerson JW Jr, Webster LF, Sobsey MD (2012). Comparison of methods for the detection of coliphages in recreational water at two California, United States beaches. *Journal of Virological Methods*. 181(1): 73-79. doi: 10.1016/j.jviromet.2012.01.013
33. Shah, AH, AM Abdelzaher, H Phillips, R Hernandez, HM Solo-Gabriele, J Kish, G Scorzetti, JW Fell, MR Diaz, TM Scott, J Lukasik, VJ Harwood, S McQuaig, CD Sinigalliano, ML Gidley, D Wanless, A Agar, J Lui, **JR Stewart**, LR Plano and LE Fleming (2011). Indicator microbes correlate with pathogenic bacteria, yeasts, and helminthes in sand at a subtropical recreational beach site. *Journal of Applied Microbiology*. 110(6): 1571-1583. doi: 10.1111/j.1365-2672.2011.05013.x
34. Abdelzaher, AM, M E Wright, C Ortega, AR Hasan, T Shibata, H M Solo-Gabriele, J Kish, K Withum, G He, SM Elmir, J A Bonilla, TD Bonilla, CJ Palmer, TM Scott, J Lukasik, VJ Harwood, S McQuaig, CD Sinigalliano, ML Gidley, D Wanless, LRW Plano, AC Garza, X Zhu, **JR Stewart**, JW Dickerson Jr, H Yampara-Iquise, C Carson, JM Fleisher and LE Fleming (2011). Daily measures of microbes and human health at a non-point source marine beach. *Journal of Water and Health*. 9(3): 443-457. doi: 10.2166/wh.2011.146
35. Wu^D, J, RA Rodriguez, **JR Stewart** and MD Sobsey (2011). A simple and novel method for recovering adenovirus 41 in small volumes of source water. *Journal of Applied Microbiology*. 110(5): 1332-1340. doi: 10.1111/j.1365-2672.2011.04987.x
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37. Johnston^T, C, JA Ufnar, JR Griffith, J Gooch and **JR Stewart** (2010). A real time qPCR assay for the detection of the *nifH* gene of *Methanobrevibacter smithii*, a potential indicator of sewage pollution. *Journal of Applied Microbiology*. 109(6): 1946-1956. doi: 10.1111/j.1365-2672.2010.04824.x
38. Rosario, K, EM Symonds, C Sinigalliano, **J Stewart** and M Breitbart (2009). Pepper mild mottle virus as an indicator of fecal pollution. *Applied and Environmental Microbiology*. 75(22): 7261-7267. doi: 10.1128/AEM.00410-09
39. DiDonato, GT, **JR Stewart**, DM Sanger, BJ Robinson^T, BC Thompson, AF Holland and R. Van Dolah (2009). Effects of changing land use on the microbial water quality of tidal creeks. *Marine Pollution Bulletin*. 58(1): 97-106. doi: 10.1016/j.marpolbul.2008.08.019

40. **Stewart, JR**, RJ Gast, RS Fujioka, HM Solo-Gabriele, JS Meschke, LA Amaral-Zettler, E Del Castillo, MF Polz, TK Collier, MS Strom, CD Sinigalliano, PDR Moeller and AF Holland (2008). The coastal environment and human health: Microbial indicators, pathogens, sentinels and reservoirs. *Environmental Health*. 7(Suppl 2): S3. doi: 10.1186/1476-069X-7-S2-S3
41. Kelsey^D, RH, LF Webster, DJ Kenny, **JR Stewart** and GI Scott (2008). Spatial and temporal variability of ribotyping results at a small watershed in South Carolina. *Water Research*. 42(8-9): 2220-2228. doi: 10.1016/j.watres.2007.11.038
42. Klopchin^M, J, **JR Stewart**, LF Webster and PA Sandifer (2008). Assessment of environmental impacts of a colony of free-ranging rhesus monkeys (*Macaca mulatta*) on Morgan Island, South Carolina. *Environmental Monitoring and Assessment*. 137: 301-313. doi: 10.1007/s10661-007-9766-3
43. Siewicki, TC, T Pullaro, W Pan, S McDaniel, R Glenn and **J Stewart** (2007). Models of total and presumed wildlife sources of fecal coliform bacteria in coastal ponds. *Journal of Environmental Management*. 82(1): 120-132. doi: 10.1016/j.jenvman.2005.12.010
44. **Stewart, JR**, J Vinjé, SJG Oudejans, GI Scott, & MD Sobsey (2006). Sequence variation among group III F⁺RNA coliphages from waters and swine lagoons. *Applied and Environmental Microbiology*. 72(2): 1226-1230. doi: 10.1128/AEM.72.2.1226-1230.2006
45. **Stewart, JR**, JW Daugomah, DE Chestnut, DA Graves, MD Sobsey and GI Scott (2006). FRNA coliphage typing for microbial source tracking in surface waters. *Journal of Applied Microbiology*. 101(5): 1015-1026. doi: 10.1111/j.1365-2672.2006.03011.x
46. Richter, J, M Livet, **J Stewart**, G Scott, G Feigley (2005). Coastal terrorism: Using tabletop discussions to enhance infrastructure through relationship building. *Journal of Public Health Management and Practice*. Nov. (Suppl). S45-S49. PMID: 16205543
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48. Noble, RT, SM Allen, AD Blackwood, W Chu, SC Jiang, GL Lovelace, MD Sobsey, **JR Stewart**, and DA Wait (2003). Use of viral pathogens and indicators to differentiate between human and nonhuman fecal contamination in a microbial source tracking comparison study. *Journal of Water and Health*. 1(4): 195-208. PMID: 15382724
49. **Stewart, JR**, RD Ellender, JA Gooch, S Jiang, SP Myoda, & SB Weisberg (2003). Recommendations for microbial source tracking: Lessons from a methods comparison study. *Journal of Water and Health*. 1(4): 225-231. PMID: 15382726

Books and Chapters

1. **Stewart, JR**, LE Fleming, JM Fleisher, AM Abdelzaher and MM Lyons (2011). Waterborne Pathogens. Chapter 2 *In: Issues in Environmental Science and Technology Vol. 33: Marine Pollution and Human Health*. R. M. Harrison and R. E. Hester (eds.). Royal Society of Chemistry (RSC) Publishing. London. 43pp. doi: 10.1039/9781849732871-00025
2. Jofre, J, **JR Stewart** and W Grabow (2011). Phage Methods. Ch. 6 *In: Microbial Source Tracking: Methods, Applications and Case Studies*. C Hagedorn, AR Blanch and VJ Harwood (eds.). Springer Publishing Co. New York, NY. 20pp. doi: 10.1007/978-1-4419-9386-1_6
3. **Stewart, JR**, J Santo Domingo, and TJ Wade (2007). Fecal pollution, public health and microbial source tracking. Ch. 1 *In: Microbial Source Tracking*. J Santo Domingo and M Sadowsky (eds). American Society for Microbiology. Washington D.C. 32pp. doi: 10.1128/9781555815769.ch1

Refereed Reports

1. **Stewart, JR**, JG Rowny and JG Shields (2011). Microbial contaminants associated with urbanization of a drinking water reservoir. Water Resources Research Institute (WRRI) of the University of North Carolina. Report No. 403. Raleigh, NC. 67 pp.
2. Sanger, D, A Blair, G DiDonato, T Washburn, S Jones, R Chapman, D Bergquist, G Riekerk, E Wirth, **J Stewart**, D White, L Vandiver, S White, D Whitall (2008). Integrative Ecological Assessments of NOAA's National Estuarine Research Reserves System (NERRS), *Volume I: The Impacts of Coastal Development on the Ecology and Human Well-being of Tidal Creek Ecosystems*. NOAA Technical Memorandum. NOS NCCOS 82. Silver Spring, MD. 76 pp.
3. Santo Domingo, J, T Edge, J Griffith, J Hansel, VJ Harwood, M Jenkins, A Layton, M Molina, C Nakatsu, R Oshiro, M Sadowsky, O Shanks, G Stelma, **J Stewart**, D Stoeckel, B Wiggins and J Wilbur (2005). *Microbial Source Tracking Guide Document*. EPA/600-R-05-064, Office of Research & Development. Cincinnati, OH. 123 pp.

Unrefereed Project Reports

1. Linking changes in plankton biodiversity to increased human exposure to pathogens and potential for using the Global Earth Observing System (GEOS) to monitor and predict such threats (2010). Final project report of NOAA-EPA Interagency Agreement DW-13-92270801 (PI: Sandifer). Charleston, SC. 28pp.
2. The pilot epidemiologic assessment of microbial indicators for monitoring recreational water quality in marine sub/tropical environments (2008). Final Project Report (PI: Fleming). University of Miami. Miami, FL. 29pp.
3. Gooch, JA, LF Webster, R Ascanio, BC Thompson, MH Fulton, **JR Stewart** and GI Scott (2007). Multiple antibiotic resistance (MAR) testing and ribotyping (RT) of *Escherichia coli* isolates from three North Carolina impaired watersheds. Report submitted to the UNC Coastal Studies Institute. Manteo, NC. 69pp.
4. **Stewart, J**, B Robinson, J Gooch, J Ufnar and RD Ellender (2005). Identification of human-associated microorganisms from Charleston stormwater samples. Report submitted to the Charleston Commissioners of Public Works. Charleston, SC. 4pp.
5. Gooch, JA, **JR Stewart**, BC Thompson, LF Webster, SM Allen, LM Kracker, PL Pennington, MH Fulton, and GI Scott (2004). Use of three microbial source tracking methods to analyze shellfish harvesting waters in South Carolina. Report submitted to the South Carolina Department of Health and Environmental Control. Columbia, SC. 93pp.
6. **Stewart, JR**, BC Thompson, LF Webster, JW Daugomah, AK Leigh, JA Gooch, and GI Scott (2001). *Escherichia coli* and coliphage analyses to distinguish microbial pollution sources in surface waters of South Carolina. Report submitted to the South Carolina Department of Health and Environmental Control. Columbia, SC. 139pp.

Contributions to White Papers and Government Reports

1. Report on the Experts Scientific Workshop on Potential Human Health Risks from Exposure to Fecal Contamination from Avian and Other Wildlife Sources in Recreational Waters (2011). U.S. Environmental Protection Agency Office of Water and Office of Research and Development. Washington, DC. 34 pp.
2. Report from the Workshop on Indicators of Final Ecosystem Goods and Services for Wetlands and Estuaries (2011). Ringold, P, A Nahlik, J Boyd and D Bernard. U.S. Environmental Protection Agency. Corvallis, OR. 78 pp.

3. Conference Report: Accelerating Innovation in 21st Century Biosciences: Identifying the Measurement, Standards and Technological Challenges (2009). Special Publication 903034. National Institute of Standards and Technology. Gaithersburg, MD. 98 pp.
4. Report on the Experts Scientific Workshop on Critical Research and Science Needs for the Development of Recreational Water Quality Criteria for Inland Waters (2009). Report Number: PATH4W09. Water Environment Research Foundation. Alexandria, VA. 124pp.
5. Interagency Oceans and Human Health Research Implementation Plan: A Prescription for the Future (2007). Interagency Working Group on Harmful Algal Blooms, Hypoxia, and Human Health of the Joint Subcommittee on Ocean Science and Technology. Washington, DC. 92pp.

Verbal Presentations and Abstracts

^T Technicians, ^U Undergraduates, ^M Masters or ^D PhD students mentored by Dr. Stewart are noted.

Invited Presentations and Keynotes

1. **Stewart, JR** (2017). Ecology of antibiotic resistant *Staphylococcus aureus* in food animal production. Duke University Department of Civil and Environmental Engineering Seminar Series. Sept. 18. Durham, NC.
2. **Stewart, JR** (2017). Tracking pathogens in coastal waters. North Carolina Coastal Conference. April 4-5. Raleigh, NC.
3. **Stewart, JR** (2017). Water research at UNC: Assisting communities across NC. NC Clean Tech Summit. March 3. Chapel Hill, NC.
4. **Stewart, JR** (2016). Ecology of antibiotic resistant *Staphylococcus* in industrial food animal production. Spring Meeting of the South Carolina Branch of the American Society for Microbiology (SCBASM). April 9. Charleston, SC.
5. **Stewart, JR** (2016). The impact of intensive livestock production on the disease ecology of antibiotic resistant *Staphylococcus*. Carolina Population Center Interdisciplinary Research Seminars. Feb. 12. Chapel Hill, NC.
6. **Stewart, JR** (2015). The impact of intensive livestock production on the evolution and dissemination of antibiotic resistant *Staphylococcus*. Agriculture and the Environment Interdepartmental Seminar Series. Virginia Polytechnic Institute and State University. Sept. 22. Blacksburg, VA.
7. **Stewart, JR** (2015). Global environmental change: Are we making populations of antibiotic resistant bacteria? American Society for Microbiology Tri-Branch Meeting. Meeting convened by the Rio Grande, Intermountain and Rocky Mountain Branches of ASM. April 24-25. Durango, CO.
8. **Stewart, JR** (2015). Global environmental change: Are we making populations of antibiotic resistant bacteria? 2015 Annual Meeting of the Alaska Branch of the American Society for Microbiology. April 17-18. Anchorage, AK.
9. **Stewart, JR** (2015). Ecology of antibiotic resistant *Staphylococcus* in industrial food animal production. University of Alaska Anchorage Biological Sciences Seminar Series. April 17. Anchorage, AK.
10. **Stewart, JR** (2015). Climate change and inland waters: Effects of increasing storm intensity on patterns of pathogen loading. 2015 Spring Meeting of the Indiana Branch of the American Society for Microbiology. March 27-28. Nashville, IN.

11. Heaney, C and **J Stewart** (2014). Human exposures to antibiotic resistant bacteria in the WASH context. UNC Water and Health Conference: Where Science Meets Policy. Oct. 13-17. Chapel Hill, NC.
12. Pierce, E^M, M Nadimpalli^D, N Pisanic, C Heaney, D Hall and **J Stewart** (2014). *Staphylococcus aureus* in industrial hog farmers in eastern North Carolina: Persistence of nasal carriage. 114th General Meeting of the American Society for Microbiology. May 17-20. Boston, MA.
Pierce selected among international pool of submissions for a Young Investigator Oral Presentation
13. **Stewart, JR** and M Nadimpalli^D (2014). The impact of intensive livestock production on the evolution and dissemination of antibiotic resistant *Staphylococcus*. University of South Carolina Environmental Health Sciences Seminar Series. April 2. Columbia, SC.
14. **Stewart, JR** (2013). Global environmental change: Are we making populations of antibiotic resistant bacteria? NC Population Medicine Forum Spring Seminar Series. April 12. Raleigh, NC.
15. **Stewart, JR** (2013). Pathogen loads in source water are associated with landuse change and storm events. UNC Global Research Institute Seminar Series. Jan. 9. Chapel Hill, NC.
16. **Stewart, JR** (2012). Global environmental change: Are we making populations of antibiotic resistant bacteria? Bugs vs. Drugs: A One Medicine Approach to Antimicrobial Resistance. Ninth One Medicine Symposium. Dec. 5-6. Raleigh, NC.
17. **Stewart, JR** and JG Shields^D (2011). *Methanobrevibacter smithii nifH* qPCR for microbial source tracking. Meeting for the California Microbial Source Identification Protocol Project hosted by the Southern California Coastal Water Research Project (SCCWRP). Dec. 13-14. Costa Mesa, CA.
18. **Stewart, JR**, JG Rowny^M and JG Shields^D (2011). Effect of storm events on pathogen loads in a drinking water reservoir. 139th Annual Meeting & Exposition of the American Public Health Association (APHA). Oct. 29-Nov.2. Washington, DC.
19. **Stewart, JR** and JA Gooch (2010). Improving detection of human pathogens for beaches & coastal waters: Advancing technologies and employing sentinel species. Center Review for NOAA Hollings Marine Laboratory Center of Excellence in Oceans and Human Health. July 7. Charleston, SC.
20. **Stewart, JR**, JG Rowny^M and JG Shields^D (2010). Microbial contaminants associated with urbanization of a drinking water reservoir. NC Urban Water Consortium. June 4. Cary, NC.
21. **Stewart, JR** (2009). Detecting and tracking pathogens in coastal waters to reduce public health risks. National Environmental Public Health Conference. Oct. 26-28. Atlanta, GA.
22. **Stewart, JR**, JW Dickerson^T, JB Gregory^T, C Johnston^T, BC Thompson, LF Webster and JA Gooch (2009). Improved detection and quantification of pathogens from coastal waters. NOAA Oceans and Human Health Initiative all-PI Meeting. Oct. 13-16. Seattle, WA.
23. **Stewart, JR** (2009). Enteric viruses in coastal waters. Ecosystem-Based Management Conference. Chesapeake Research Consortium. March 23-25. Baltimore, MD.
24. **Stewart, JR** (2009). Detecting and tracking pathogens in coastal waters. UNC Department of Marine Sciences Seminar Series. March 4. Chapel Hill, NC.
25. **Stewart, JR** and GW Characklis (2009). Assessing microbial contamination of North Carolina stormwater. NC Urban Water Consortium Stormwater Group. June 11. Fayetteville, NC.
26. **Stewart, JR** (2009). What's in your water? Linking ecosystem and human health. ENVR 400: in-house seminar series. Jan. 28. Chapel Hill, NC.
27. **Stewart, JR** (2007). Detecting and tracking pathogens in surface waters. UNC Environmental Sciences and Engineering Seminar Series. Aug. 30. Chapel Hill, NC.

28. **Stewart, JR.** Detection and tracking of pathogens in coastal waters (2006). Marine Biology and Fisheries Seminar Series. University of Miami Rosenstiel School of Marine and Atmospheric Science. Nov. 3. Miami, FL.
29. Stoeckel, DM, JW Santo Domingo, **JR Stewart**, T Edge and M Jenkins (2006). Microbial source tracking of fecal contamination is a tool to protect high-quality water and remediate poor-quality water resources. Presented to the National Science and Technology Council, Committee of Environment and Natural Resources, Subcommittee on Water Availability and Quality. Sept. Washington DC.
30. **Stewart, JR** (2006). Ocean observing systems and public health. Ecosystem-Based Approaches to Management. UNC Wilmington. March 19-21. Wrightsville Beach, NC.
31. **Stewart, JR**, GI Scott and MD Sobsey (2002). F⁺RNA coliphage typing for microbial source tracking. 102nd General Meeting of the American Society for Microbiology (ASM). May 19-23. Salt Lake City, UT.
32. **Stewart, JR** and MD Sobsey (1998). Detection and characterization of coliphages in a ground water aquifer recharged with reclaimed waste water. 98th General Meeting of the American Society for Microbiology. May 17-21. Atlanta, GA.
Presentation invited for a student oral presentation

Contributed Presentations

33. Riveros-Iregui, DA, SR Moser, EC Christenson^D, J Gray, M Hedgespeth, T Jass, D Lowry, K Martin, E Nichols, **JR Stewart** and RE Emanuel (2017). Impacts of extreme flooding on hydrologic connectivity and water quality in the atlantic coastal plain and implications for vulnerable populations. American Geophysical Union (AGU) Annual Meeting. Dec 11-15. Now Orleans, LA.
34. Tipton^M, C, MD Sobsey and **JR Stewart** (2017). Evaluation of a low-cost compartment bag test to quantify hydrogen sulfide producing bacteria in drinking water. UNC Water and Health Conference. Oct. 16-20. Chapel Hill, NC.
35. Grube^D, A, **JR Stewart** and V Ochoa-Herrera (2017). Long-term water quality monitoring program on San Cristobal Island: summary of results. Galapagos Conservation and Research Symposium. Galapagos National Park and Galapagos Science Center. July 10-11. Isla San Cristobal, Galapagos, Ecuador.
36. Holcomb^D, D, J Knee, J Brown and **J Stewart** (2017). 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. May 15-17. Chapel Hill, NC.
37. Rhodes^D, SR, SM Hatcher^D, **JR Stewart**, E Silbergeld, N Pisanic, J Larsen, S Jiang, A Krosche, D Hall, K Carroll and CD Heaney (2017). A community-based participatory research study of exposure to antibiotic-resistant *Staphylococcus aureus* in regions of dense industrial hog production in North Carolina, USA. University of Warwick Annual Toxic Expertise Workshop: Pollution, Environmental Justice, and Citizen Science. May 3-4. Warwick, United Kingdom.
38. **Stewart, JR** (2016). Candidate AMR indicator targets and methods for their culture-based detection and quantification. Workshop titled "Monitoring Antimicrobial Resistance in the Environment to Support Global Surveillance." Side Event held at the UNC Water Microbiology Conference. May 17-19. Chapel Hill, NC.
39. Hatcher^D, S, S Rhodes^D, J Larsen, S Jiang, D Hall, A Krosche, K Carroll, E Silbergeld, **J Stewart** and C Heaney (2015). Prevalence of antibiotic-resistance *Staphylococcus aureus* nasal carriage among

- children living with industrial hog operation workers. 4th ASM-ESCMID Conference on Methicillin-Resistant *Staphylococci* in Animals: Veterinary and Public Health Implications. Nov 2-5. Chicago, IL.
40. Nadimpalli^D, **JR Stewart**, N Pisanic, DC Love, D Hall, J Larsen, A Krosche, T Tekle, T Ross, K Carroll, TM Perl and CD Heaney (2015). *Staphylococcus aureus* nasal carriage is associated with symptoms of skin and soft tissue infection among industrial hog operation workers in North Carolina. 4th ASM-ESCMID Conference on Methicillin-Resistant *Staphylococci* in Animals: Veterinary and Public Health Implications. Nov 2-5. Chicago, IL.
 41. Pisanic, N, ML Nadimpalli^D, JL Rinsky, **J Stewart**, S Wing, DC Love, D Hall and CD Heaney. Pig-2-Bac as a biomarker of occupational exposure to swine and to *Staphylococcus aureus* and methicillin resistance. 4th ASM-ESCMID Conference on Methicillin-Resistant *Staphylococci* in Animals: Veterinary and Public Health Implications. Nov 2-5. Chicago, IL.
 42. Christenson, E, **J Stewart** and M Serre (2015). Using remote sensing to calculate plant available nitrogen needed by crops on swine farm sprayfields in North Carolina. SPIE Remote Sensing Conference. Sept. 21-24. Toulouse, France.
 43. Houck, K, **J Stewart** and M Bentley (2015). Exploring the relationships between infections and municipal water quality on San Cristobal Island, Galapagos. Galápagos Science Center Summer Seminar Series. July 3. San Cristobal Island, Galápagos, Ecuador.
 44. Wu^P, J and **J Stewart** (2015). The use of remote sensing and GIS in microbial source tracking. UNC 2nd Annual Water Microbiology Conference. Chapel Hill, NC.
 45. Overbey^U, K, S Steel^U, W Gerhard^M and **J Stewart** (2014). An Interdisciplinary Study of Water Quality in the Galápagos. Galápagos Science Center Summer Seminar Series. June 20. San Cristobal Island, Galápagos, Ecuador.
 46. Hatcher^D, S, K Myers^M, C Heaney, D Hall, J Larsen, S Wing, M. Miller and **J Stewart** (2014). Multidrug- and methicillin-resistant *Staphylococcus aureus* are present in surface waters near industrial hog operations in North Carolina. 6th Annual "Water and Health" Seminar for PhD Students. June 16-18. Cannes, France.
Hatcher awarded certificate for ranking among top three student presentations
 47. Overbey^U and **J Stewart** (2014). Sewage impacts on water quality and antibiotic resistance in beach waters in the Galapagos Islands, Ecuador. UNC Water Institute 1st Annual Water Microbiology Conference. May 5-7. Chapel Hill, NC.
 48. Hatcher^D, S, K Myers^M, C Heaney, D Hall, J Larsen, S Wing, M. Miller and **J Stewart** (2014). Multidrug- and methicillin-resistant *Staphylococcus aureus* are present in surface waters near industrial hog operations in North Carolina. UNC Water Institute 1st Annual Water Microbiology Conference. May 5-7. Chapel Hill, NC.
 49. Overbey^U, K, S Steel^U, W Gerhard^U and **J Stewart** (2014). An Interdisciplinary Study of Water Quality in the Galápagos. UNC 15th Annual Celebration of Undergraduate Research. April 14. Chapel Hill, NC.
 50. **Stewart, JR** (2013). Water Quality in the Galápagos Islands. Science and Conservation in the Galápagos Islands: A Summer Seminar Series. Galápagos Science Center and Galápagos National Park. June 7. San Cristobal Island, Galápagos, Ecuador.
 51. Myers^M, K., SM Hatcher^D, C Heaney, D Hall, S Wing and **J Stewart** (2013). Microbial water quality assessment near industrial swine operations in North Carolina. North Carolina Environmental Justice Network Summit. Oct. 14-15. Whitakers, NC.

52. **Stewart, JR**, JG Rowny^M and and JG Shields^D (2012). Land use and storm events affect pathogen loading in a drinking water reservoir of the Southeastern US. UNC Water and Health Conference: Science, Policy and Innovation. Oct. 29-Nov. 2. Chapel Hill, NC.
53. Rinsky, J, M Nadimpalli^D, D Hall, D Baron-Hall, **J Stewart**, S Wing and C Heaney (2012). Carriage of *Staphylococcus aureus* CC398 among Livestock Workers and Household Members in NC. ASM 52nd International Conference on Antimicrobial Agents and Chemotherapy (ICAAC). Sept. 9-12. San Francisco, CA.
54. Rinsky, J, C Heaney, S Hatcher^D, M Nadimpalli^D, D Hall, D Baron-Hall, **J Stewart** and S Wing (2011). Prevalence of and risk-factors for MRSA carriage among industrial and sustainable livestock workers and household members in North Carolina. North Carolina Environmental Justice Annual Summit. Oct 14-15. Whitakers, NC.
55. **Stewart, JR** (2011). Effects of inhibitors and other barriers to molecular quantification in water. Workshop titled “The New Age of Rapid Methods for Water Quality Applications” convened at the UNC Water and Health Conference. Oct. 4. Chapel Hill, NC.
56. Myers^M, K, C Heaney, M Nadimpalli^D, S Wing, D Hall and **J Stewart** (2011). Detection of antibiotic resistant *Staphylococcus* in environmental waters near industrial swine operations in eastern North Carolina. 2nd ASM-ESCMID Conference on Methicillin-resistant Staphylococci in Animals: Veterinary and Public Health Implications. Sept. 8-11. Washington, DC.
Myers awarded ASM student travel grant to pay conference registration
57. Heaney, C, S Wing, **J Stewart**, K Myers^M, A Ammerman, N Muhammad, D Hall and D Baron-Hall (2010). Asking microbiological research questions responsive to community concerns about environmental justice and industrial hog operations. The 138th Annual Meeting of the American Public Health Association (APHA). Nov. 6-10. Denver, CO.
58. Prevette^M, EB, CD Heaney, TJ Wade, E Sams and **JR Stewart** (2010). Beach sand analysis for indicators of microbial contamination. Water and Health: Where Science Meets Policy. UNC Institute for the Environment and UNC Water Institute. Oct. 23-26. Chapel Hill, NC.
59. Simmons^U, T, D Moore^U, K Myers^M and **J Stewart** (2010). Pathogens in Water: Impact of Swine CAFOs (Concentrated Animal Feeding Operations) on Surface Water. Final Presentations of the UNC SMART and DEBS Summer Undergraduate Programs. July 16. Chapel Hill, NC.
60. Steel^U, B, R Relyea^U, **J Stewart**, J Gentry and E Prevette (2009). Assessing the microbiological quality of recreational water and beach sand. Final Presentations of the UNC SMART and DEBS Summer Undergraduate Programs. July 17. Chapel Hill, NC.
61. **Stewart, JR**, J Gregory^T, C Johnston^T, L Webster, B Thompson and J Gooch (2007). Pathogen source tracking. NOAA Oceans and Human Health Initiative all-PI Meeting. Oct. 22-24. Muskegon, MI.
62. DiDonato, GT, AC Blair, AF Holland, G Riekerk, B Robinson, A Rourk, DM Sanger, **J Stewart**, B Thompson, and R Van Dolah (2007). Consequences of changing land use in coastal South Carolina: Effects on water quality in Lowcountry tidal creeks. 55th Annual Meeting of the North American Benthological Society (NABS). June 3-8. Columbia, SC.
63. DiDonato, GT, D Bergquist, AF Holland, DM Sanger, **J Stewart**, R VanDolah and E Wirth (2007). Comparative studies demonstrate the effects of changing land use on tidal creeks. Baruch Institute Research Symposium. March 28-29. Georgetown, SC.
64. Holland, AF, DM Sanger, GT DiDonato, MH Fulton, **JR Stewart** and R Van Dolah (2007). Assessing the impact of coastal development on ecosystem and public health in the Southeast. Estuarine Research Federation Annual Meeting. Science and Management Observations/ Syntheses/ Solutions. Nov. 4-8. Providence, RI.

65. Holland, F, J Lewis and **J Stewart** (2006). NOAA's Oceans and Human Health Initiative. New England Shellfish Sanitation Association. Oct. 23-26. Cape May, NJ.
66. **Stewart, JR** (2006). Oceans and human health research at the Hollings Marine Laboratory. California and the World Ocean Conference. Sept. 17-20. Long Beach, CA.
67. Robinson^T, BJ, **J Stewart**, F-C Hsu and J Gooch (2006). Efficiency of Detecting Viruses from Environmental Waters. The AOAC International Southern Regional Meeting. April 24-25. Atlanta, GA.
68. **Stewart, J**, D Sanger, G DiDonato, B Robinson^T and B Thompson (2006). Microbial water quality of tidal creek systems along the South Carolina coast. The 13th Ocean Sciences Meeting. American Society for Limnology and Oceanography. Feb. 20-24. Honolulu, HI.
69. Gooch JA, **JR Stewart**, LF Webster, BJ Robinson^T, BC Thompson, and GI Scott (2006). Microbial source tracking in South Carolina: Lessons learned and future directions. EPA Gulf of Mexico Water Quality Monitoring Workshop. Feb. 2. Mobile, AL.
70. **Stewart, J**, B Thompson, L Webster, J Gooch, D Graves, D Chestnut, M Fulton, G Scott and F Holland (2005). Pathogens and source tracking in South Carolina. Estuarine Interactions: Biological-Physical Feedbacks and Adaptations. Estuarine Research Federation (ERF). Oct. 16-20. Norfolk, VA.
71. Robinson^T, B, B Thompson, G DiDonato, J Gooch and **J Stewart** (2005). Virus detection in South Carolina shellfish waters: Indicators versus pathogens. Biennial meeting of the Interstate Shellfish Sanitation Conference (ISSC). Aug. 10-12. Point Clear, AL.
72. Gooch, JA, **JR Stewart** and GI Scott (2005). Pathogens in seafood. Annual Meeting of the South Carolina Public Health Association (SCPHA). May 23-27. Myrtle Beach, SC.
73. **Stewart, JR** (2005). Microbial source tracking in South Carolina. Southeastern Estuarine Research Society (SEERS). Feb. 28-March 2. Charleston, SC.
74. Gooch, JA, **JR Stewart**, LF Webster, BC Thompson and GI Scott (2005). Tracking sources of microbial contaminants. Annual Meeting of the American Association for the Advancement of Science (AAAS). Feb. 17-21. Washington, DC.
75. **Stewart, JR** (2004). Library independent methods for microbial source tracking. 7th International Conference on Shellfish Restoration. Nov. 17-19. Charleston, SC.
76. **Stewart, JR** (2003). Utilization of coliphages for microbial source tracking. Biennial meeting of the Interstate Shellfish Sanitation Conference (ISSC). Aug. 3-7. Portland, OR.
77. Meschke, JS, **JR Stewart** and MD Sobsey (2002). Coliphages as indicators of viral contamination in water. American Water Works Association (AWWA) Water Quality Technology Conference. Nov. 10-14. Seattle, WA.
78. **Stewart, JR**, GI Scott and MD Sobsey (2002). F⁺RNA coliphage typing for microbial source tracking. 102nd General Meeting of the American Society for Microbiology (ASM). May 19-23. Salt Lake City, UT.
79. Scott, GI, MH Fulton, BC Thompson, LF Webster, AK Leight, **J Stewart**, J Gooch, D Chestnut, RF Van Dolah, DW Porter, H Kelsey (2001). Identification of coliform bacterial pollution sources in tidal creek watersheds of South Carolina using multiple antibiotic resistance and selected molecular techniques. Estuarine Research Federation (ERF) 16th Biennial Conference. Nov. 4-8, St. Pete Beach, FL.
80. **Stewart, JR** (2001). Utilization of coliphages for microbial source tracking. Biennial meeting of the Interstate Shellfish Sanitation Conference (ISSC). July 21-27. Norfolk, VA.

81. **Stewart, JR**, MD Sobsey and GI Scott (2001). Coliphages as indicators of waterborne enteric viruses. Meeting of the EPA Environmental Monitoring and Assessment Program (EMAP). April 24-27. Pensacola, FL.
82. Hsu, FC, **J Stewart**, MD Sobsey, and J Larkin. (2000). Coliphages as fecal indicators for groundwater. United States Environmental Protection Agency Science Advisory Board Drinking Water Committee Meeting, Washington, DC.
83. Hsu, FC, TR Handzel, G Lovelace, **JR Stewart**, MD Sobsey, SS Thompson, and MV Yates (1998). Improved methods to detect low levels of coliphages in water by enrichment presence/absence and membrane filter methods. American Water Works Association (AWWA) Water Quality Technology Conference. Nov. 1-5, San Diego, CA.

Poster Presentations and Abstracts

^T Technicians, ^U Undergraduates, ^M Masters or ^D PhD students mentored by Dr. Stewart are noted.

84. Riveros-Ireguui, D, H Moser, E Christenson^D, J Gray, M Hedgespeth, T Jass, D Lowry, K Martin, E Nichols, **J Stewart** and R Emanuel (2017). Impacts of extreme flooding on hydrologic connectivity and water quality in the Atlantic coastal plain. American Geophysical Union (AGU) Fall Meeting. Dec. 11-15. New Orleans, LA.
85. Holcomb^D, D and **J Stewart** (2017). Occurrence of human and avian fecal contamination in urban Mozambican households: Assessing fecal transmission in the MapSan trial. UNC Water and Health Conference. Oct. 16-20. Chapel Hill, NC.
86. Tipton^M, C, MD Sobsey and **JR Stewart** (2017). Evaluation of a low-cost compartment bag test to quantify hydrogen sulfide producing bacteria in drinking water. UNC Water Microbiology Conference. May 15-17. Chapel Hill, NC.
87. Christenson^D, E and **J Stewart** (2017). Prevalence of antibiotic-resistant *E. coli* in North Carolina watersheds with and without swine CAFOs. UNC Water Microbiology Conference. May 15-17. Chapel Hill, NC.
88. Holcomb^D, D and **J Stewart** (2017). 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. May 15-17. Chapel Hill, NC.
89. Rhodes^D, S, E Christenson^D, A Nguyen, D Hall, J Larsen, L Price and **J Stewart** (2016). Prevalence of livestock-associated, multi-drug resistant, methicillin-susceptible *S. aureus* is lower in recently-slaughtered North Carolina hogs raised without antibiotics compared to conventionally raised hogs. The 14th Annual Ecology and Evolution of Infectious Disease Meeting. June 3-5. Ithaca, NY.
90. Young^M, BA, JA Steele, JF Griffith and **JR Stewart** (2016). Effect of environmental factors on coliphage concentrations in marine waters. UNC Water Microbiology Conference. May 17-19. Chapel Hill, NC.
91. Hatcher^D, SM, S Rhodes^D, **JR Stewart**, E Silbergeld, N Pisanic, J Larsen, S Jiang, A Krosche, D Hall, K Carroll, CD Heaney (2015). Livestock worker and community exposure to antibiotic-resistant bacteria in eastern North Carolina. North Carolina Environmental Justice Network (NCEJN) Annual Summit. Oct 18-19. Whitakers, NC.
92. Nadimpalli^D, M, SM Rhodes^D, ML Serre, CD Heaney and **JR Stewart** (2015). Recovery of antibiotic-resistant *Staphylococcus aureus* from industrial hog farmworker households in North Carolina. 4th ASM-ESCMID Conference on Methicillin-Resistant Staphylococci in Animals: Veterinary and Public Health Implications. Nov 2-5. Chicago, IL.

93. Nadimpalli^D, M, S Rhodes^D, M Serre, C Heaney and **J Stewart** (2015). Detection of livestock-associated and antibiotic resistance *Staphylococcus aureus* from household surfaces. 13th annual Ecology and Evolution of Infectious Disease Meeting. May 26-29. Athens, GA.
94. Hatcher^D, SM, SM Rhodes^D, CD Heaney, S. Jiang^U, T Le^U, D Hall, J Larsen and **J Stewart** (2015). Prevalence of methicillin- and multidrug resistant *S. aureus* among children living with industrial hog operation workers in North Carolina. 13th annual Ecology and Evolution of Infectious Disease Meeting. May 26-29. Athens, GA.
95. Holcomb^D, D, K Messier, M Serre, J Rowny^M and **J Stewart** (2015). Geostatistical prediction of microbial water quality on an urbanizing inland stream network. UNC 2nd Annual Water Microbiology Conference. May 18-25. Chapel Hill, NC.
96. Wu^P, J, **JR Stewart**, GW Walters, MD Sobsey, C Cormency and JK Bartram (2015). Toward a rapid enzymatic method for detection of coliform bacteria in water. UNC 2nd Annual Water Microbiology Conference. May 18-25. Chapel Hill, NC.
97. Nadimpalli^D, M, E Pierce^M, N Pisanic, **J Stewart** and C Heaney (2014). Nasal carriage of antibiotic-resistant *Staphylococcus aureus* with multiple markers of livestock association among industrial pig farmers and their household members in eastern North Carolina. International Meeting of Emerging Diseases and Surveillance (IMED). International Society for Infectious Diseases. Oct. 31-Nov.3. Vienna, Austria.
98. Nadimpalli^D, M, N Pisanic, **J Stewart** and C Heaney (2014). Surveillance of influenza A exposure using non-invasive methods among industrial pig farm workers and household members in North Carolina. International Meeting of Emerging Diseases and Surveillance (IMED). International Society for Infectious Diseases. Oct. 31-Nov.3. Vienna, Austria.
99. Heaney, C, N Pisanic, M Nadimpalli^D, J Rinsky, D Love, K Nachman, T Perl, S Wing and **J Stewart** (2014). Concurrent exposure to drug-resistant *Staphylococcus aureus*, influenza A virus, and hepatitis E virus among industrial hog operation workers. ID Week 2014 Meeting of the Infectious Diseases Society of America. Oct. 8-12. Philadelphia, PA.
100. Heaney, C, N Pisanic, M Nadimpalli^D, J Rinsky, D Love, K Nachman, T Perl, S Wing and **J Stewart** (2014). *Staphylococcus aureus* CC398 and pig-specific fecal *Bacteroidales* qPCR concentrations decline with increasing time away from work among industrial hog operation workers. ID Week 2014 Meeting of the Infectious Diseases Society of America. Oct. 8-12. Philadelphia, PA.
101. Polston^D, PM, E Rodgers-Veira, MD Aitken and **JR Stewart** (2014). The development of novel microbial indicators used for environmental tracking of biosolid contaminants. 114th General Meeting of the American Society for Microbiology. May 17-20. Boston, MA.
102. Holcomb^D, D, J Rowny^M, M Serre and **J Stewart** (2014). Application of predictive and space/time interpolative models of fecal contamination in an urbanizing watershed. UNC Water Institute 1st Annual Water Microbiology Conference. May 5-7. Chapel Hill, NC.
103. Polston^D, PM, E Rodgers-Veira, MD Aitken and **JR Stewart** (2014). The development of novel microbial indicators used for environmental tracking of biosolid contaminants. UNC Water Institute 1st Annual Water Microbiology Conference. May 5-7. Chapel Hill, NC.
104. Nadimpalli^D, M, J Rinsky, S Wing, D Hall, D Baron, L Price, J Larsen, M Stegger, **J Stewart** and C Heaney (2014). Carriage of antibiotic-resistant *Staphylococcus aureus* among livestock workers and household members in North Carolina. 2014 Spotlight on Student Research Poster Event. March 21. Chapel Hill, NC.
Nadimpalli awarded the 2014 Gillings Poster Award, 1st Runner-Up

105. Overbey^U, K, S Steel^U, W Gerhard^U and **J Stewart** (2013). An Interdisciplinary Study of Water Quality in the Galápagos. 9th Annual State of North Carolina Undergraduate Research & Creativity Symposium (SNCURCS). Nov. 16. Charlotte, NC.
106. Hatcher^D, S, K Myers, C Heaney, D Hall, J Larsen, S Wing and **J Stewart** (2013). Multidrug- and methicillin-resistant *Staphylococcus aureus* are present in surface waters near industrial hog operations in North Carolina. 3rd ASM-ESCMID Conference on Methicillin-resistant *Staphylococci* in Animals: Veterinary and Public Health Implications. Nov. 4-7. Copenhagen, Denmark.
107. Nadimpalli^D, M, J Rinsky, D Hall, E Pierce, N Pisanic, J Larsen, K Nachman, D Love, S Wing, **J Stewart**, C Heaney (2013). Persistence of livestock-associated methicillin and multidrug-resistant *Staphylococcus* among industrial hog operation workers in North Carolina. 3rd ASM-ESCMID Conference on Methicillin-resistant *Staphylococci* in Animals: Veterinary and Public Health Implications. Nov. 4-7. Copenhagen, Denmark.
108. Nadimpalli^D, M, C Heaney, J Rinsky, D Hall, N Muhammed, D Baron-Hall, L Price, J Larsen, M Stegger and **J Stewart** (2013). Carriage of antibiotic resistant *Staphylococcus aureus* among livestock workers and household members in North Carolina. UNC Graduate Student Recognition Celebration. April 10. Chapel Hill, NC.
Nadimpalli awarded Graduate Education Advancement Board (GEAB) Impact Award.
109. Layton, BA, AB Boehm, M Byappanahalli, AH Farnleitner, M Gourmelon, PA Holden, JA Jay, J Lee, WG Meijer, R Noble, R Rodrigues, JB Rose, OC Shanks, C Sinigalliano, **J Stewart**, R Whitman, S Wuertz, JF Griffith (2013). Performance of general fecal and host-associated *Bacteroidales* markers In the California Source Identification Protocol Project method evaluation study. U.S. Recreational Water Quality Criteria: A Vision for the Future. University of Hawaii Water Resources Research Center. March 11-13. Honolulu, Hawaii.
110. Gentry-Shields^D, J, C Heaney, K Myers^M, D Hall, D Baron-Hall, S Wing and **J Stewart** (2012). Hepatitis E virus in waters proximal to swine Concentrated Animal Feeding Operations in eastern North Carolina. 140th Annual Meeting of the American Public Health Association (APHA). Oct. 27-31. San Francisco, CA.
111. Hatcher^D, S, K Myers^M, C Heaney, S Wing, D Hall, and **J Stewart** (2012). Microbial water quality assessment near industrial swine operations in North Carolina. . UNC Water and Health Conference: Science, Policy and Innovation. Oct. 29-Nov. 2. Chapel Hill, NC.
112. Symonds, EM, K Rosario, DW Griffin, C Sinigalliano, **J Stewart** and M Breitbart (2012). Pepper mild mottle virus as a viral bioindicator of human fecal pollution. UNC Water and Health Conference: Science, Policy and Innovation. Oct. 29-Nov. 2. Chapel Hill, NC.
113. Gentry-Shields^D, J and **JR Stewart** (2012). Similar concentration and extraction recoveries allow for use of Turnip Crinkle Virus as a spike and recovery control for waterborne Enteroviruses. 112th General Meeting of the American Society for Microbiology. June 16-19. San Francisco, CA.
Shields awarded ASM student travel award from among international pool of applicants
114. Hatcher^D, SM, E Prevette^M, C Heaney, T Wade and **J Stewart** (2012). Multidrug-resistant *Staphylococcus sp.* isolated from sand at a tropical beach and a beach impacted by non-point source pollution. 112th General Meeting of the American Society for Microbiology. June 16-19. San Francisco, CA.
Hatcher awarded travel grant from UNC Graduate and Professional Student Federation
115. Nadimpalli^D, M, C Heaney, J Rinsky, S Wing, D Baron-Hall, D Hall and J Stewart (2012). Multidrug-resistant *Staphylococcus aureus* is carried more often by industrial workers and household members than antibiotic-free farmers and household members in North Carolina. 112th General Meeting of the American Society for Microbiology. June 16-19. San Francisco, CA.
Nadimpalli awarded travel grant from UNC Graduate and Professional Student Federation

116. Gentry-Shields^D, J, C Heaney, K Myers^M, D Hall, D Baron-Hall, S Wing and **J Stewart** (2012). Detection of Hepatitis E virus in water proximal to swine concentrated animal feeding operations in eastern North Carolina. UNC SPH Spotlight on Student Research Event, held in conjunction with annual Innovations in Public Health lecture. April 3, Chapel Hill, NC.
Poster won award from the UNC chapter of the Delta Omega Honorary Society in Public Health
117. Gentry-Shields^D, J, C Heaney, K Myers^M, D Hall, D Baron-Hall, S Wing and **J Stewart** (2012). Detection of Hepatitis E virus in water proximal to swine concentrated animal feeding operations in eastern North Carolina. Hepatitis E in the United States. An NIH Workshop. March 26. Bethesda, MD.
118. Lane, SM, BC Balmer, L Dyar, JG Moore, TK Rowles, **JR Stewart**, FI Townsend and LH Schwacke (2011). Bacterial pathogens in bottlenose dolphins of Brunswick and Sapelo, GA, USA. 19th Biennial Conference on the Biology of Marine Mammals. Nov. 27-Dec. 2. Tampa, FL.
119. Rinsky, J, C Heaney, S Hatcher^D, M Nadimpalli^D, D Hall, D Baron-Hall, **J Stewart** and S Wing (2011) Prevalence of and risk-factors for MRSA carriage among industrial and sustainable livestock workers and household members in North Carolina. 139th Annual Meeting & Exposition of the American Public Health Association (APHA). Oct. 29-Nov.2. Washington, DC.
120. Nadimpalli^D, M, C Heaney, J Rinsky, S Wing, D Hall, D Baron-Hall and **J Stewart** (2011). Carriage of methicillin-resistant *Staphylococcus aureus* among workers and household members at livestock farms in North Carolina. 2nd ASM-ESCMID Conference on Methicillin-resistant Staphylococci in Animals: Veterinary and Public Health Implications. Sept. 8-11. Washington, DC.
Nadimpalli awarded ASM student travel grant to pay conference registration
121. Shields^D, JG, JG Rowny^M, S Schumaker^U and **JR Stewart** (2011). Alternative indicators to predict water quality in a drinking water reservoir based on land-use characteristics. 111th General Meeting of the American Society for Microbiology. May 21-24. New Orleans, LA.
122. Shields^D, JG, JG Rowny^M and JR Stewart (2011). Alternative indicators to predict water quality in a North Carolina drinking water reservoir based on land-use characteristics. 2011 Spotlight on Student Research Poster Event sponsored by the SPH Office of Research, the Office of Student Affairs. April 7. Chapel Hill, NC.
123. Myers^M, K, C Heaney, S Wing, D Hall and **J Stewart** (2011). Microbial water quality assessment near industrial swine operations in North Carolina. NC Water Resources Research Institute (WRRI) Annual Conference. March 22-23. Raleigh, NC.
124. Rowny^M, JG and **JR Stewart** (2011). Characterization of nonpoint source microbial contamination in an urbanizing watershed serving as a municipal water supply. NC Water Resources Research Institute (WRRI) Annual Conference. March 22-23. Raleigh, NC.
125. Shields^D, JG, JG Rowny^M and **JR Stewart** (2011). Alternative indicators to predict water quality in a North Carolina drinking water reservoir based on land-use characteristics. NC Water Resources Research Institute (WRRI) Annual Conference. March 22-23. Raleigh, NC.
Poster awarded honorable mention in NCWRA student poster competition
126. Breitbart, M, TF Ng, F Gulland, E Wheeler, K Rosario, E Symonds, Y Ruan, C Nilsson, YW Lim, C Sinigalliano, **J Stewart**, E Bixby, J Polston, G Vallad, and S Duffy (2011). Virus hunting in the age of metagenomics. NSF Ecology of Marine Infectious Diseases Workshop. Feb. 12-13. San Juan, PR.

127. Abdelzaher, A, M Wright, C Ortega, AR Hasan, H Solo-Gabrielle, T Shibata, J Kish, K Withum, G He, S Elmir, JA Bonilla, C Palmer, T Scott, G Lukasik, VJ Harwood, S McQuaig, C Sinigalliano, M Gidley, J Wanless, K Goodwin, L Plano, CA Garza, X Zhu, **J Stewart**, H Yampara-Iquise, C Carson, J Dickerson, J Fleisher and L Fleming (2011). Relationship between measured indicator microbes, pathogens, and human health effect levels in a non-point source subtropical marine recreational beach. NSF Ecology of Marine Infectious Diseases Workshop. Feb. 12-13. San Juan. PR.
128. Moore, JG, JW Dickerson, Jr., L Schwacke, T Rowles and **JR Stewart** (2010). *Vibrio* concentrations in bottlenose dolphins from Sapelo Island and Brunswick GA. International *Vibrios* in the Environment Conference. Nov. 7-12. Biloxi, MS.
129. Nilsson, WB, RN Paranjpye, BD Bill, VL Trainer, JW Dickerson, JG Moore, DI Greenfield, **JR Stewart** and MS Strom (2010). Linking changes in *Vibrio parahaemolyticus* populations to phytoplankton abundance and composition in the Puget Sound and coastal South Carolina. International *Vibrios* in the Environment Conference. Nov. 7-12. Biloxi, MS.
130. Abdelzaher, A, M Wright, C Ortega, AR Hasan, H Solo-Gabriele, T Shibata, J Kish, K Withum, G He, S Elmir, JA Bonilla, C Palmer, T Scott, G Lukasik, VJ Harwood, S McQuaig, C Sinigalliano, M Gidley, D Wanless, K Goodwin, L Plano, CA Garza, X Zhu, JD Wang, **J Stewart**, H Yampara-Iquise, C Carson, J Dickerson, J Fleisher and L Fleming (2010). Relationship between measured indicator microbes, pathogens, and human health effect levels in a non-point source subtropical marine recreational beach.” Gordon Conference in Oceans and Human Health. June. Biddeford, Maine.
131. Shah, AH, Abdelzaher, AM, Solo-Gabriele, HM, Phillips, M, Hernandez, R, Kish, J, Scorzetti, G, Fell, JW, Diaz, MR Scott, TM, Lukasik, J, Harwood, VJ, McQuaig, S, Sinigalliano, CD, Gidley, ML, Wanless, D, Agar, A, Lui, J, **Stewart, JR**, Plano, LWR, Fleming, LE. (2010) Exploratory Study of Bacteria, Protozoa, Yeast, Helminthes, and Viruses of Health Significance at a Recreational Beach. Gordon Conference in Oceans and Human Health, June. Biddeford, Maine.
132. Wu^D, J, R Rodriguez, JR Stewart, OD Simmons and MD Sobsey (2010). Concentrating adenovirus 41 in drinking water using electronegative membrane filtration and hollow fiber ultrafiltration. Poster and Abstract Q-2400. 110th General Meeting of the American Society for Microbiology. May 23-27. San Diego, CA.
133. Gregory^T, J, B Robinson^T, L Webster and **J Stewart** (2008). Use of a competitive internal positive control for reliable qRT-PCR detection of norovirus in marine environments. Poster and Abstract Q-446. 108th General Meeting of the American Society for Microbiology. June 1-5. Boston, MA.
134. Johnston^T, C, J Ufnar, J Gooch and **J Stewart** (2007). Development and validation of a multiplex Luminex assay for detection and tracking of fecal contamination. NOAA Oceans and Human Health Initiative (OHHI) all-PI meeting. Oct. 22-24. Muskegon, MI.
135. Ross, J^D, JA Gooch, and **JR Stewart** (2007). *Vibrio vulnificus* and *V. parahaemolyticus* densities in oyster samples from coastal South Carolina. Medical University of South Carolina (MUSC) Marine Biomedicine and Environmental Sciences (MBES) Center Student Research Open House. July 20, Charleston, SC.
136. Sanger, D, **J Stewart**, G DiDonato, B Robinson^T, B Thompson and F Holland (2006). Microbial water quality of tidal creek systems along the southeastern coast. 27th Annual Meeting of the Society for Environmental Toxicology and Chemistry (SETAC). Nov. 5-9. Montréal, Québec, Canada.
137. Robinson^T, BJ, DL Richardson, **JR Stewart**, LD Coen, GHM Riekerk, RF Van Dolah, and JA Gooch (2006). Coliphage and human Norovirus presence at SCECAP and oyster disease monitoring sites. International Conference on Shellfish Restoration. Nov. 15-18. Charleston, SC.

138. Robinson, BJ^T, BC Thompson, LF Webster, G DiDonato, **J Stewart** and J Gooch (2006). Microbial water quality of tidal creek systems along the South Carolina coast. 106th General Meeting of the American Society for Microbiology. May 21-25. Orlando, FL.
139. Hsu, F.-C., D. Battigelli, R. Wong, F. Tepper, B. Robinson^T, and **J. Stewart** (2005). Detection of coliphages in large volumes of water using positively charged filters. Poster and Abstract Q-321. 105th General Meeting of the American Society for Microbiology. June 5-9, Atlanta, GA.
140. **Stewart, JR**, SA McDaniel, BC Thompson, LF Webster, and GI Scott (2003). Prevalence of antibiotic resistant *Escherichia coli* in South Carolina environmental waters. Society of Environmental Toxicology and Chemistry (SETAC) 24th Annual Meeting. Nov. 9-13, Austin, TX.
141. **Stewart, JR**, J Vinje, SJG Oudejans and MD Sobsey (2003). Phylogenetic relationships of group III F+RNA coliphages from different sources. Poster and Abstract Q-475. 103rd General Meeting of the American Society for Microbiology. May 18-22. Washington, D.C.
142. Webster, LF, BC Thompson, **JR Stewart**, and DA Eargle (2002). Microbial source tracking of fecal pollution: a case study. Poster and Abstract Q-453. 102nd General Meeting of the American Society for Microbiology. May 19-23, Salt Lake City, UT.
143. **Stewart, JR**, MD Sobsey and GI Scott (2001). Coliphages as indicators and for fecal source tracking. Poster and Abstract Q-258. 101st General Meeting of the American Society for Microbiology. May 20-24. Orlando, FL.
144. **Stewart, JR**, BC Thompson, LF Webster, DE Chestnut, DA Graves and GI Scott (2000). *Escherichia coli* and coliphage analyses to differentiate pollution sources in surface waters of South Carolina. Poster and Abstract Q-297. 100th General Meeting of the American Society for Microbiology. May 21-25. Los Angeles, CA.
145. **Stewart, JR**, MD Sobsey, JL Carson, TM Gambling, and FP Williams (1998). Morphological identification of indicator viruses from reclaimed wastewater. Microscopy and Microanalysis Annual Meeting. July 12-16, Atlanta, GA.
Poster awarded 2nd place in meeting-wide RUSKA competition
146. **Stewart, JR** and SA Macko (1996). A Stable Isotope Study of Meteoric Water: The Determination of a Local Meteoric Water Line for the Chesapeake Bay Area and its Relation to the Fresh Water Lenses on Parramore Island, VA. Virginia EnviroDays Exhibition. April. Charlottesville, VA.

TEACHING RECORD

UNC Courses

Ecological Microbiology (ENVR 412)

Instructor, 3 credits

Fall 2016 [19]

Fall 2015 [30]

Spring 2014 [30]

Spring 2013 [30]

Spring 2012 [30]

Spring 2011 [20]

Spring 2010 [27]

Spring 2009 [20]; Co-instructor with Prof. Fred Pfaender

Water and Health Communications (ENVR 684; formerly ENVR 890-005)

Co-Instructor with Profs. Bartram and MacDonald-Gibson, 2 credits

Spring 2018 [8]
Spring 2017 [6]
Spring 2016 [12]
Spring 2015 [11]
Spring 2014 [10]
Spring 2013 [7]

Water and Health Research (ENVR 683; formerly ENVR 890-005)

Co-Instructor with Profs. Bartram and MacDonald-Gibson, 2 credits

Fall 2014 [10]
Fall 2013 [7]
Fall 2012 [15]

One Health: Integration of Human, Animal and Environmental Health (ENVR 705/PUBH 705; formerly ENVR 890-003); Cross-listed at Duke and NC State Universities

Co-Instructor with Prof. Sackey-Harris, 1-3 credits

Spring 2017 [9]

Humans and their Microbiological Footprint (ENVR 296-01S)

Summer Study Abroad in the Galapagos Islands

Instructor, 3 credits

Summer 2013 [11]
Summer 2012 [22]

Unifying Concepts Module on Identification of a Bacterial Unknown (ENVR 401)

Module Instructor (Primary Instructor: Steve Whalen), 3 credits

Spring 2013 [15]
Spring 2011 [6]
Spring 2010 [13]

Environmental Epidemiology (EPID 785)

Guest Lecturer (Primary Instructor: Larry Engel), 1 lecture per semester, 3 credits

Spring 2010, 2012, 2013, 2014, 2016, 2017, 2018

Emerging and Re-Emerging Infectious Diseases (EPID 751)

Guest Lecturer (Primary Instructor: Lola Stamm), 1 lecture per semester, 3 credits

Fall 2014, 2015, 2016, 2017

One Health: Integration of Human, Animal and Environmental Health (PUBH 690-008)

Guest Lecturer (Primary Instructor: Mamie Sackey-Harris), 1 lecture per semester

Spring 2014

Infectious Disease Epidemiology (ENVR 755)

Guest Lecturer (Primary Instructor: Steve Meshnick), 1 lecture per semester, 3 credits

Spring 2013

Epidemiology for Environmental Scientists and Engineers (ENVR 890)

Guest Lecturer (Primary Instructors: Fry and Yeatts), 1 lecture per semester, 3 credits

Fall 2012

Techniques in Environmental Health Sciences (ENVR 431)

Guest Instructor (Primary Instructor: Louise Ball), 1 laboratory per semester, 3 credits

Fall 2008, 2009

Additional Teaching and Outreach

- Mentored a “pod” of 15 undergraduate students (class of 2017) who received Col. Robinson Scholarships. These scholarships focus on students engaged in math and science (2013-2017).
- Mentored a team of three undergraduate students (Overbey, Gerhard and Steel) who won the Vimy Global Team Award from a university-wide pool of applicants. The Vimy Award is given annually to one interdisciplinary team of students (Vimy Scholars) working collaboratively to pursue research or service projects outside the United States (2013).
- Supervised honors contracts for UNC undergraduate honors students Kelli Paice (2011), Sharon Jiang (2014) and Ashley Cairns (2014).
- Hosted undergraduate students in laboratory for summer programs aimed at increasing representation of underrepresented minorities in sciences, including the UNC Science and Math Achievement and Resourcefulness Track (SMART) Program, the UNC Duke Energy Bioscience Summer (DEBS) Research Program (2009, 2010) and Morehouse College’s Project IMHOTEP (2014).
- Gave invited presentation at the South Carolina Aquarium then sat on panel discussing water quality issues with the public (2007).
- Designed and taught Marine Microbiology Module of Marine Biomedicine and Environmental Sciences Program Selective Course, Medical Univ. of South Carolina (2006).
- Judged science fairs for local schools in Charleston, SC (2003-2008).
- Offered pollution seminar to touring school groups in Charleston, SC (2005-2008).
- Designed and supervised an independent study on public health microbiology for a University of South Carolina PhD student (2005).
- Helped plan a coliphage methods demonstration at the biennial Interstate Shellfish Sanitation Conference (ISSC) in Point Clear, AL. Helped develop instructional brochures for use at the conference and subsequent dissemination. (2005).
- Trained representatives from the Hampton Roads, VA Sanitation District (HRSD) in coliphage detection technology (2005).
- Answers media queries for popular science news pieces (e.g. CNN 1999; Charleston Post & Courier 2004; The Weather Channel 2005).
- Developed curriculum and materials, and performed as faculty for American Society for Microbiology (ASM) pre-meeting workshop on microbial source tracking (Washington D.C. 2003; New Orleans, LA 2004; Atlanta, GA 2005).

Jill R. Stewart

- Served on panel and participated in webcast discussion of NC coastal water quality in Beaufort, NC. Sponsored by the NC National Estuarine Research Reserve (2002).

Student Advising

Primary Advisor for Students (14 current, 21 graduated)

Current (14 current)

Sarah Rhodes (PhD, in progress)

David Holcomb (PhD, in progress)

Elizabeth Christenson (PhD, in progress)

Alyssa Grube (PhD, in progress)

Corinne Wiesner (MS/PhD, in progress); co-advisor with Prof. Marc Serre

Collin Knox Coleman (PhD, in progress); co-advisor with Prof. Mark Sobsey

Jennifer Styles (PhD, in progress); co-advisor with Dr. Tim Wade

Connor LaMontagne (PhD, in progress); co-advisor with Profs. Mike Aitken and Kun Lu

Ryan Leighton (MS, in progress)

Lindsay Wickersham (MS, in progress)

Megan Lott (MS, in progress); co-advisor with Prof. Mark Sobsey

Amy Guo (MS, in progress); co-advisor with Prof. Jamie Bartram

Rachel Lempp (BSPH honors, in progress)

Emily Browning (BSPH honors, in progress); co-advisor with Prof. Diego Riveros-Iregui

Graduated (21 graduated)

Doctorate Primary Advisor (5 graduated)

Patsy Polston (PhD, 2015; Pasteur Institute Postdoc)

“Development and evaluation of candidate microbial source tracking markers to use following land application of biosolids”

Maya Nadimpalli (PhD, 2015; Pasteur Institute Postdoc)

National Award: EPA Science to Achieve Results (STAR) Fellowship (2011-2014)

“Exposure to zoonotic Staphylococcus aureus among industrial hog operation workers and their household contacts in North Carolina, and dissemination into the household environment”

Sarah Hatcher (PhD, 2015; CDC Epidemic Intelligence Service Fellowship)

National Award: NSF Graduate Research Fellowship (2012-2015)

“Environmental presence of and potential occupational exposure to antibiotic-resistant Staphylococcus aureus in regions of high industrial hog operation density”

Jennifer Gentry Shields (PhD, 2012; Procter and Gamble Research & Development)

National Award: Graduate Women in Science (GWIS) Fellowship (2012)

“Utilization of microbial source-tracking markers to inform targeted remediation and predict potential pathogens in the Cape Fear Watershed”

Jianyong Wu (PhD, 2011; US EPA Researcher); co-advisor with Prof. Michael Emch

“Diarrheal diseases in rural Bangladesh: spatial-temporal patterns, risk factors and pathogen detection”

Master's Primary Advisor (11 graduated)

Claire Tipton (MS, 2017)

"Evaluation of a low-cost compartment bag test to quantify hydrogen sulfide producing bacteria in drinking water resources"

Sharon Jiang (MS, 2017)

"The contribution of temperate phages to coliphage numbers detected by plaque assay"

Brianna Young (MS, 2016)

"Effect of environmental factors on coliphage concentrations in surface waters"

William Gerhard (MSPH, 2015)

"Assessing microbial drinking water quality and human-specific contaminants on San Cristobal Island, Galapagos"

Elizabeth Pierce (MS, 2014)

National Award: Selected for student oral presentation at ASM General Meeting
"Persistence of Staphylococcus aureus nasal carriage among industrial hog operation workers and their household contacts in North Carolina"

Maya Nadimpalli (MS, 2012)

"Carriage of antibiotic-resistant Staphylococcus aureus by livestock workers and household members in North Carolina"

Robert Albury (MS, 2012)

"Detection of enterovirus in marine recreational waters of southern California using quantitative and nested PCR"

Tracey Slaughter (MPH, 2012); Academic advisor with Ms. Kathleen Gray as research advisor

"Community assessments at North Carolina superfund sites: A qualitative analysis of knowledge and concerns of communities located near hazardous waste sites and recommendations for implementing ATSDR's community engagement guidance"

Kevin Myers (MSPH, 2011)

National Award: CDC Public Health Prevention Service Fellowship (2011-2014)
"Microbial water quality assessment near industrial swine operations in North Carolina"

Jakob Rowny (MS, 2011)

"Characterization of nonpoint source microbial contamination in an urbanizing watershed serving as a municipal water supply"

Emylee Prevette (MSPH, 2010)

"Beach sand analysis for indicators of microbial quality"

Bachelor's with Honors Primary Advisor (5 graduated)

Alexandra Nguyen (BSPH Honors, 2016)

"Antibiotic resistance in Staphylococcus aureus from hogs raised with and without antibiotics"

Sharon Jiang (BSPH Honors, 2016)

"Comparison of antibiotic-resistant Staphylococcus aureus among industrial hog operation households and community referent households in North Carolina"

Jill R. Stewart

Connor Ifkovits (BS Honors, UNC Biology, 2015). Research advisor with Dr. Elizabeth Shank as academic advisor, “*Analyzing the prevalence of Staphylococcus aureus virulence factor Panton-Valentine leukocidin (pvl) in a North Carolina livestock worker community*”

Katie Overbey (BS Honors, UNC Environmental Science, 2014)
”*Sewage impacts on water quality and antibiotic resistance in beach waters in the Galapagos Islands*”

Hunter Story (BS Honors, UNC Biology, 2011); Research advisor with Dr. Ann Matthyse as academic advisor; “*Characterizing bacterial contamination of drinking water wells in North Carolina*”

Committee Member for Students (68 graduated)

Doctorate Committee Member (12 graduated)

Kelly Houck (PhD, Anthropology, 2017)
”*Early life effects of a dual burden environment: Childhood intestinal health and immune function in Galapagos, Ecuador*”

Emily Bailey (PhD, 2017)
”*Microbial quality and risk assessment of alternative sources of drinking water Impacted by waste water: An analysis of NC type 2 reclaimed water for potable reuse*”

Elizabeth Martin (PhD, 2017)
”*The use of metabolic profiling to elucidate mechanisms underlying arsenic-associated diabetes*”

Ariel Atkinson (PhD, 2016)
”*Development and performance evaluation of an innovative anti-biofouling reverse osmosis membrane for water purification applications*”

Melanie Napier (PhD, Epidemiology, 2016)
”*Exposure to human source-associated fecal indicators and self-reported illness among swimmers*”

Ampai Soros (PhD, 2015)
”*Chitosan coagulation for household water treatment in developing countries*”

Alice Wang (PhD, 2015)
”*Performance evaluation of the compartment bag test for E. coli in drinking water*”

Eric Staunton (PhD, 2015)
”*Integrated biological treatment of swine waste for nitrogen removal and energy recovery*”

Raul Gonzales (PhD, 2013)
”*Tools for predicting microbial water quality in estuaries used for recreation and shellfish harvesting*”

Leah Schinasi (PhD, Epidemiology, 2012)
”*Environmental, occupational, and medical exposures associated with methicillin resistant Staphylococcus aureus nasal carriage in eastern North Carolina residents*”

Tim Otten (PhD, 2012)

“Ecophysiology and toxigenicity of cyanobacterial assemblages: molecular insights into toxin production with emphasis on microcystins”

Curtis Stumpf (PhD, Marine Sciences, 2011)

“New approaches and technologies for quantifying fecal contamination in tidal creek and coastal receiving waters”

Master’s (48 graduated)

Lisa Fleming (MS, 2017)

“A conceptual model of pathogen-specific hazards in pit latrines over time”

Zhe Wang (MS, 2017)

“Biodegradation of N-heterocyclic aromatic hydrocarbons in contaminated soil”

Jennifer Styles (MSPH, 2017)

“Demographic predictors and biomarkers of vascular injury associated with human cytomegalovirus infection”

Joseph Strasser (MSPH, 2017)

“Survival and sodium hypochlorite disinfection of ebola virus surrogates in a conservative matrix of raw hospital sewage and human fecal waste”

Sloane Tilley (MS, 2017)

“Analysis of bladder cancer tumor CpG methylation and gene expression within the Cancer Genome Atlas identifies GRIA1 as a prognostic biomarker for basal-like bladder cancer”

Collin Knox Coleman (MSPH, 2016)

“Efficacy of sodium hypochlorite for disinfecting Raoultella terrigena cells in varying preparation conditions, and in multiple test water matrices under point-of-use conditions”

Andrew Nguyen (MSPH, 2016)

“Towards in silico toxicity prediction: Analyzing superfund chemicals for their biological properties using the Toxcast data”

Katherine Brown (MSPH, 2016)

“Methods for surveillance of antimicrobial resistant bacteria in environmental water and wastewater”

Katherine Broadwater (MS, 2016)

“Passive reduction of methane emissions from a hog waste lagoon using a floating biofilter system”

Lisa Smeester (MS, 2016)

“Chronic early childhood exposure to inorganic arsenic is associated with TNF-mediated proteomic signaling response”

A.J. Karon (MSPH, 2016)

“Evaluation of three different selective media for enumeration of Clostridium perfringens in untreated and treated wastewater”

Elizabeth Corteselli (MSPH, 2016)

“Characterization of two novel proteobacteria isolated from contaminated soil and capable of degrading aromatic compounds”

Rachel Baum (MSPH, 2016)

“Implementing water safety plans in North Carolina: Bridges, barriers, and potential benefits”

Jenna Hartley (MS, 2016)

“Spatial and temporal patterns of gastrointestinal illness and their relationship with precipitation across the state of North Carolina”

Frank Joseph Stillo III (MSPH, 2015)

“Community water systems vs private wells: A comparison of water quality on the fringes of municipalities”

Elizabeth Christenson (MS, 2015)

“Using remote sensing to calculate plant available nitrogen from industrial swine farms in North Carolina at the sprayfield and sub-watershed scales”

Kellen Lauer (MS, Marine Sciences, 2015)

“Quantitative analysis of fecal contamination in stormwater conveyance systems and the effects of drain discharge on beach water quality in Wrightsville Beach, NC”

Tucker Witsil (MSPH, 2014)

“Disinfection of stored water by antimicrobial granular metallic particles”

Caroline Kostyla (MS, 2014)

“Seasonality of drinking water contamination: A systematic literature review”

Lauren Koban (MS, 2014)

“Small-unit water purifiers in U.S. Army special operations: A multi-attribute evaluation”

Carrie Doyle (MS, 2013)

“Contributions of Bacterial Cells to the Fluorescence Spectra of Natural Organic Matter in Freshwaters”

Tania Jordanova (MSPH & MCRP, 2013)

“Modeling fecal coliform contamination of surface waters to evaluate stormwater management policies in North Carolina”

Brad Bennett (MSEE, 2012)

“Characterization of brass, copper and zinc as potential alternatives for the reduction of nitrate in water supplies”

Sage Dunleavy (MS, 2012)

“Stable-isotope probing of anthracene-degrading bacteria in a bioreactor treating polycyclic aromatic hydrocarbon-contaminated soil”

Gabe McGowan (MS, 2012)

“Sediment emission and water column oxidation of methane in Alaskan arctic lakes”

Sara Mishamandani (MSPH, 2012)

“Phylogentic analysis and activity of hydrocarbon-degrading bacteria associated with the marine diatom Skeletonema costatum during a simulated oil spill experiment”

Rebecca Milsk (MS, 2012)

“Comparative cytotoxicity of drinking water disinfection by-product mixtures produced during chlorination and chloramination”

Kristen Betz (MS, 2012)

“Methane production and consumption in Alaskan arctic lake sediments”

Grant Lignon (MSPH, 2012)

“Synthesizing waterborne disease outbreak data to assess the effects of water system failures on human health: a systematic review”

Alyson Malone (MSPH, 2012)

“Characterization of ionic copper and zinc as microbial disinfectants in drinking water”

Abhinav Komandur (MSPH, 2012)

“Copper and zinc nanoparticles as microbial disinfectants in water”

Will Stanley (MS, 2011)

“Dynamics of micropollutant removal from wastewater”

Paul Ebohon (MS, 2011)

“Screening disinfection by-products and phenolic compounds for estrogenic activity”

Angela Wang (MSPH, 2011)

“Influence of land use and storm events on dissolved organic matter quantity and quality in the Jordan Lake watershed”

Jenia Tufts (MS, 2011)

“Thermal inactivation of viable Geobacillus stearothermophilus and Bacillus atrophaeus spores in a bench-scale landfill gas flare”

Jonny Crocker (MSEE, 2011)

“Characterization and cost analysis of drinking water quality monitoring programs in India and Jordan”

Patsy Polston (MSPH, 2010)

“Field evaluation of improved methods to detect infectious group F adenoviruses in source water”

Mary (Katie) Kelly (MSPH, 2010)

“Total coliform and E. coli content of North Carolina new groundwater wells: an analysis of environmental variables and sampling practices among North Carolina counties in spring, 2009”

Amanda Kaufman (MSPH, 2010)

“Efficacy of CrystalPur™ Household Water Filter for Removal of Pathogenic Microorganisms: Lifespan volume test”

Jacqueline Knee (MSPH, 2010)

“Optimization of EPA Method 1601 for rapid detection of male-specific (F+) coliphages in seawater”

Katherine Pierson (MSPH, 2010)

“Evaluation of a low-cost compartmentalized bag MPN method for the detection and enumeration of E. coli in fecally contaminated drinking water”

Emma Susick (MS, 2010)

“Relationship of total Vibrio spp. and V. vulnificus to plankton and water quality parameters in the Neuse River Estuary, North Carolina”

Kavya Kasturi (MSEE, 2009)

“Implications of variation in Best Management Practice effectiveness on the selection of a watershed restoration strategy for microbial contamination”

Lauren Thie (MSPH, 2009)

“Reducing environmental inhibition in the quantitative real-time PCR detection of adenovirus, norovirus and MS-2 in recreational seawaters”

Julianne Tajuba (MSPH, 2008)

“Evaluation of different methods for detecting male specific coliphages from marine water at Doheny Beach, CA”

Heidi Williams (MS, College of Charleston, 2008)

“The immune response of the eastern oyster Crassostrea virginica: Effects of cadmium and the localization and bacteriostasis of introduced Vibrio”

Jordan Felber (MES, College of Charleston, 2007)

“Variability of fecal coliform concentrations with regards to land use, tidal cycles, rainfall events, and creek size”

Jeanette Klopchin (MES, College of Charleston, 2005)

“Environmental impacts of the free-ranging rhesus monkey colony (Macca Mulatta) on Morgan Island, South Carolina”

Bachelors with Honors (8 graduated)

Jack Cordes (BSPH, 2017)

“Comparing euclidean and river distance metrics in the Bayesian Maximum Entropy (BME) estimation of E. coli concentrations in Connecticut rivers”

Abhishek Komandur (BSPH, 2017)

“The association between water lead levels and blood lead levels: A systematic review”

Saideep Gona (BSPH, 2016)

“Evidence for the transcription factor occupancy theory: An in silico analysis of DNA methylation responses to metal exposures in adults”

Stefanie Schwemlein (BSPH, 2014)

“Systematic review and application of indicator selection methods for monitoring school WASH”

Shannon Steel (BS, Geography, 2014)

“Sewage waste on San Cristobal Island: It’s not just a numbers game”

Sophie Wilderotter (BSPH, 2012)

“Stream orders and other environmental factors as indicators of carbon dioxide and methane partial pressures and fluxes in North Carolina Piedmont streams”

Abhinav Komandur (BSPH, 2011)

“Copper and zinc salts as E. coli antagonists in water”

Grant Ligon (BSPH, 2010)

“Analyzing long-term ceramic filter usage and the associations between user characteristics and water quality in post-tsunami Sri Lanka”

GRANTS

Current Support

- NSF Ecology and Evolution of Infectious Disease (EEID) Program: “The impact of intensive livestock production on the disease ecology of antibiotic resistant *Staphylococcus*.” Role: PI. 09/15/13-08/31/18. \$1.86 million.
- Bill & Melinda Gates Foundation. “Proof of concept of estimates of the unsafe return of human excreta to the environment.” Role: Investigator (PI Kolsky). 10/1/2016-9/30/2018. \$589,944.
- Eastman Chemical Company. “Efficacy of peracetic acid for on-site disinfection of hospital surfaces and waste streams.” Role: PI. 08/01/2017-07/31/2018. \$166,511.
- NIH Fogarty International Center for Advanced Study in the Health Sciences: Exploratory Research (R21). “Water, food, and the Triple Burden of Disease in the Galapagos, Ecuador.” Role: co-PI (PI Thompson). 09/22/2017-06/30/2019. \$177,755
- Yadkin Riverkeeper. “Microbial indicators of poultry litter: A water quality study in the NC Yadkin Water Basin.” Role: PI. 09/01/2017-11/30/2018, \$13,000
- Gillings Innovation Labs: “Novel tools to track land-applied biosolids.” Role: PI. 01/01/2015-06/30/2018. \$100,000.

Completed Support

- NSF RAPID: “Impacts of extreme flooding on hydrologic connectivity and water quality in the Atlantic coastal plain and implications for vulnerable populations.” Role: Co-PI (PI: Riveros-Iregui). 12/01/2016-11/30/2017. Total award: \$58,851.
- University of South Carolina: “A proposed study to evaluate the efficacy of chlorine dioxide in selected clinical trials.” Role: PI on a subaward with prime funding from WaterTech Healthcare, LLC. 8/1/2015-8/31/2017. Total subaward: \$25,000.
- London School of Hygiene and Tropical Medicine: “Population density, neighborhood-level sanitation access, and health in urban Maputo.” Role: Investigator on a subaward (PI Bartram) with prime funding from the US Agency for International Development (USAID). 01/01/2015-08/31/2016. Total subaward: \$385,011.
- NC Sea Grant: “Rapid detection of fecal indicator bacteria in water by enzymatic hydrolysis of specific chromogenic substrates.” Role: PI. 02/01/14-01/31/16. Total award: \$50,000.
- Southern California Coastal Water Research Project (SCCWRP): “Coliphage analysis in support of a health risk pilot study at beaches in San Diego County II.” Role: PI. 01/01/2015-06/31/2015. Total award: \$57,374.
- Southern California Coastal Water Research Project (SCCWRP): “Coliphage analysis in support of a health risk pilot study at beaches in San Diego County.” Role: PI. 01/15/2014-07/14/2014. Total award: \$19,598.
- United Nations Children’s Fund (UNICEF): “Rapid detection of fecal bacteria in water by improved enzymatic methods.” Role: Co-PI (PI: Bartram). 01/01/2015-08/31/2015. Total award: \$100,000.
- United Nations Children’s Fund (UNICEF): “Real-time *E. coli* water testing research.” Role: Co-PI (PI Bartram). 11/01/13-04/30/14. Total award: \$100,000.

Jill R. Stewart

- Center for a Livable Future, Johns Hopkins University: “Longitudinal study of pathogen exposure and CAFO worker health.” Role: Investigator (PI Heaney). 10/01/12-06/01/14. Total award: \$86,000.
- Gillings Innovation Labs: “Microbial source tracking technology to evaluate land application of waste products.” Role: PI. 07/01/10-06/30/13. Total award: \$80,000.
- NC TraCS Institute: “Biomarkers to assess infectivity of *Staphylococcus* isolated from surface waters.” Role: PI. 09/01/11-11/30/12. Total award: \$2,500.
- UNC ECHO Program: “Developing, optimizing and validating non-invasive measures for zoonotic pathogen carriage.” Role: PI. 04/01/11-07/31/12. Total award: \$8,000.
- UNC University Research Council Small Grant: "Impacts of CAFOs on microbial water quality." Role: PI. 12/01/09-11/30/11. Total award: \$3,822.
- Southern California Coastal Water Research Project (SCCWRP): “Virus analysis in support of California recreational water epidemiology studies.” Role: PI on subaward with prime funding from the State Water Resources Control Board. 08/01/10-07/31/11. Total subaward: \$112,734.
- NC Water Resources Research Institute (WRRI): "Microbial contaminants associated with urbanization of a drinking water reservoir." Role: PI. 03/01/10-02/28/11. Total award: \$50,000.
- UNC Junior Faculty Development Award: "Evaluation of public health risks associated with beach sand." Role: PI. 01/01/10-12/31/10. Total award: \$7,500.
- NOAA Oceans and Human Health Initiative: “Establishment of a center of excellence in oceans and human health within the Hollings Marine Laboratory at Charleston, SC.” Role: PI, Pathogen Source Tracking Program (Center PI Holland). 10/01/04-09/30/10. Initial budget for award: \$10.1 million.
- US EPA Advanced Monitoring Initiative: “Linking changes in plankton biodiversity to increased human exposure to pathogens and potential for using the Global Earth Observing System to monitor and predict such threats.” Role: Project Lead (PI Sandifer). 03/01/08-05/31/10. Total award: \$250,000.
- The Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET): “Assessment of microbial contaminants pertinent to swimming-related illnesses at Doheny Beach, Orange County, CA.” Role: Co-PI (PI Noble). 05/01/07-04/30/08. Total award: \$460,010.
- US EPA 319 grant awarded by the SC Department of Health and Environmental Control (DHEC): “Microbial source tracking to identify pollution sources affecting shellfish harvesting waters.” Role: Co-PI (PI Scott). 2001-2003. Total award: \$100,000.
- US EPA 319 grant awarded by the SC Department of Health and Environmental Control (DHEC): “*Escherichia coli* and coliphage analyses to differentiate pollution sources in surface waters.” Role: Co-PI (PI Scott). 2000-2001. Total award: \$100,000.

PROFESSIONAL SERVICE

To discipline

- Serves on Editorial Board for *Applied and Environmental Microbiology* (2016-2019).
- Serves as a review editor for the *Environmental Health* section of Frontiers journals. The *Environmental Health* section is cross-listed in the journals *Frontiers in Public Health* and *Frontiers in Environmental Science* (2014-present).
- Conducts ad-hoc peer-review for scientific journal articles:
 - Applied and Environmental Microbiology*
 - Aquatic Biology*
 - Canadian Journal of Microbiology*
 - Coastal Management Journal*
 - Environmental Health*
 - Environmental Health Perspectives*
 - Environmental Microbiology*
 - Environmental Monitoring and Assessment*
 - Environmental Pollution*
 - Environmental Science & Technology*
 - Estuaries and Coasts*
 - Government (NOAA, EPA) Internal Review
 - Hydrobiologia*
 - International Journal of Environmental Research and Public Health*
 - Journal of Applied Microbiology*
 - Journal of Environmental Management*
 - Journal of Environmental Quality*
 - Journal of Great Lakes Research*
 - Journal of the American Water Works Association*
 - Journal of Virological Methods*
 - Journal of Water, Sanitation and Hygiene for Development*
 - Letters in Applied Microbiology*
 - Marine Pollution Bulletin*
 - Microbial Ecology*
 - Oceanography*
 - Science of the Total Environment*
 - Water Research*
- Conducts peer-review for research proposals:
 - USDA Small Business Innovative Research (panelist)*
 - Sea Grant*
 - NC Sea Grant*
 - UPR Sea Grant*
 - SC Sea Grant*
 - WI Sea Grant*
 - EPA Gulf of Mexico and RARE Programs*
 - The Cooperative Institute for Coastal and Estuarine Technology (CICEET)*
 - Department of Commerce SBIR Program*
 - NOAA Oceans and Human Health Initiative*

Jill R. Stewart

NOAA Non-Native Oyster Research Program
NIWR-USGS Competitive Grants Program
NC Biotechnology Center
NC WRRRI
Robert Wood Johnson Foundation

- Moderated panel discussion titled “Communicating Research and Evidence in the Clickbait Era” at 4th annual UNC Water Microbiology Conference (2017).
- Co-Convended a workshop titled “Coliphage as fecal indicator viruses in recreational water and shellfish” held prior to the 2nd annual UNC Water Microbiology Conference (2015).
- Served as an officer for the American Society for Microbiology (ASM) Division Q (Applied and Environmental Microbiology): Chair-Elect (2011-2012), Chair (2012-2013), and Councilor (2013-2014).
- Co-Convended a workshop titled “Preparedness and Response in Context of Microbial Contaminants, Public Health, and Extreme Events” held prior to the UNC Water Microbiology Conference (2014).
- Reviewed session proposals and invited Division Lecturer for 2013 ASM General Meeting, then led Division business meeting including selection of new chair (2013).
- Organized review and sorting of 415 abstracts submitted to Division Q for presentation at the 2012 American Society for Microbiology (ASM) General Meeting (2012).
- Participated by invitation in an EPA Experts Scientific Workshop on “The potential human health risks from exposure to fecal contamination from avian and other wildlife sources in recreational waters” (Nov. 15-17, 2011; Atlanta, GA).
- Co-Convended a workshop titled “The New Age of Rapid Methods for Water Quality Applications: Blending Scientific Advancement with Routine Monitoring Needs”. The workshop was organized by Prof. Rachel Noble and was held at the UNC Water and Health Meeting (2011).
- Participated by invitation in an NSF Ecology of Marine Infectious Diseases (EMID) Workshop (Feb. 12-13, 2011; San Juan, PR).
- Provided expert consultation to the International Joint Commission’s (IJC) Beaches and Recreational Water Quality Work Group in association with the Great Lakes Beach Association Conference (Oct. 21-22, 2010; Erie, PA).
- Participated by invitation in an EPA workshop on final indicators of ecosystem services for estuaries and wetlands. (June 7-10, 2010; Denver, CO).
- Participated in an Experts Scientific Workshop on Inland Waters coordinated by the Environment Research Foundation (WERF) and sponsored by EPA’s Office of Water (Feb. 18-20, 2009; Dallas, TX).
- Participated on the Environment Technical Panel at National Institute of Standards and Technology (NIST) conference on accelerating innovation in biosciences (Oct. 2008; Gaithersburg, MD).
- Facilitated session on Seafood Quality and Safety, and Natural Products from the Sea at the NOAA Oceans and Human Health Initiative all-PI meeting (Oct 24, 2007; Muskegon, MI).
- Served on a project advisory committee for the American Water Works Association Research Federation (2006-2008).

Jill R. Stewart

- Served on faculty committees to organize annual Medical University of South Carolina Student Research Open House (2006-2007) and annual College of Charleston Grice Marine Biology Colloquium (2007-2008).
- Represented NOAA on committee that coordinates Fort Johnson campus Marine Science Seminar Series (2003-2008).
- Performed as rappateur for breakout group identifying human health research priorities for National Ocean Research Priorities Plan and Implementation Strategy (April 2006; Denver).
- Facilitated session “Designing an Ocean Observation System to Support Public Health Decisions” at Coastal Observations for Decision Making Conference (Jan. 23-25, 2006; St. Petersburg, FL).
- Co-Chaired session titled “Understanding and Predicting Pathogens in an Ecosystem Context” at the NOAA Oceans and Human Health all-PI meeting (Jan. 18 2006; Charleston SC).
- Participated by Invitation in Cary Conference “Ecology of Infectious Diseases” Workshop (05/05; Milbrook, NY); Water and Environment Research Federation (WERF) Microbial Source Tracking Workshop (02/05; San Antonio, TX); and the Alliance for Coastal Technologies (ACT) Genetic Sensors Workshop (01/05; St. Petersburg, FL) and others.
- Co-Chaired a pathogens session for SYM05 “Connecting Estuarine and Great Lakes Health with Human Health” at the 18th Biennial Conference of the Estuarine Research Federation (Oct. 16-21, 2005; Norfolk, VA).
- Co-Chaired a technical session on microbial source tracking at the Biennial meeting of the Interstate Shellfish Sanitation Conference (ISSC) (Aug. 3-7, 2003; Portland, OR).
- Helped organize and administer two CDC-funded workshops on coastal public health preparedness (2003 & 2004; Charleston, SC).

Within State of North Carolina

- Participates in the research working group convened by UNC Gillings School of Global Public Health and NC State University College of Veterinarian Medicine to develop sustainable shared research and training programs with global impact on health (2015-present).
- Maintains membership in the Emerging and Infectious Diseases Program of the Comparative Medicine Institute at NC State University (2014-present).
- Participates in the Mid-Atlantic Stormwater Stakeholder Task Force convened by the UNC Institute of Marine Sciences (2015-present).
- Serves as a member of the North Carolina climate-related health working group, convened by the NC Division of Public Health to identify and advise on climate-related health indicators (2011-present).
- Attended a stakeholders meeting in Duplin Co., NC to address hog waste management and community health issues, along with representatives from the US EPA, USDA and NC DENR (May 26, 2010; Duplin County, NC).

Within UNC-Chapel Hill

- Serves on planning committee for annual Water Microbiology Conference: Microbial Contaminants from Watersheds to Human Exposure. This conference is held annually in Chapel Hill, NC (2014-present).
- Serves on the Department of Environmental Sciences and Engineering Admissions Committee (2016-present)
- Serves on the Department of Environmental Sciences and Engineering Space Committee (2013-present).
- Served on planning committee for adding a Global Health concentration to the Gillings One MPH degree (2017).
- Served on the Provost's Environmental Task Force and co-chaired research subcommittee charged with leveraging and expanding UNC contributions and leadership to environmental research, education and impact (2015-2016).
- Served on the planning committee for revising the MPH degree core curriculum for the UNC Gillings School of Global Public Health (2015-2016).
- Served on the Department of Environmental Sciences and Engineering Academic Programs Committee (2012-2017).
- Represented the Department of Environmental Sciences and Engineering on the Gillings School of Global Public Health Academic Programs Committee (2011-2016).
- Provides program area presentations to student applicants at Department of Environmental Sciences and Engineering spring open house events (2012-2016, 2018)
- Served on planning committee for departmental faculty retreat (2017)
- Served as a moderator at the UNC Celebration of Undergraduate Research Symposium (April 2016).
- Serves on Faculty Advisory Committee (FAC) for the UNC Institute for the Environment (2015-2017).
- Serves as an ex-officio member of the advisory board for the Center for Galapagos Studies (2013-present).
- Serves on search committee for the UNC Water Institute to hire an Associate Director of Research (2014-2016).
- Mentoring a 'pod' of undergraduate students (class of 2017) who received Col. Robinson Scholarships. These scholarships focus on students engaged in math and science (2013-2017).
- Serves on the Steering Committee of the Center for Galapagos Studies (2012-present).
- Chaired a faculty search committee for the Department of Environmental Sciences and Engineering to hire a Research Assistant Professor in Microbial Ecology (2012).
- Reviewed and scored selected abstracts submitted to conference "Water and Health: Where Science Meets Policy" sponsored by the Water Institute at UNC and UNC's Institute for the Environment (2010, 2012 - 2014).

Jill R. Stewart

- Hosted undergraduate students in laboratory for summer programs aimed at increasing representation of underrepresented minorities in sciences, including the UNC Science and Math Achievement and Resourcefulness Track (SMART) Program and the UNC Duke Energy Bioscience Summer (DEBS) Research Program (2009, 2010).
- Served on a faculty search committee for the Department of Environmental Sciences and Engineering to hire an Assistant Professor in Process Engineering (2009).