

## **Jill R. Stewart**

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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 and a minor in Chemistry  
University of Virginia, Charlottesville, 1996

### **PROFESSIONAL EXPERIENCE**

- 2013-present Deputy Director, UNC Center for Galápagos Studies
- 2013-present Adjunct Assistant Professor, UNC Department of Marine Sciences
- 2008-present Assistant Professor, UNC Department of Environmental Sciences & Engineering
- 2002-2008 Contract Microbiologist, NOAA National Ocean Service, Charleston, SC
- 2006-2012 Associate Faculty, Medical University of South Carolina (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
- 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

### **HONORS**

- 01/10 UNC Junior Faculty Development Award
- 06/04 Certificate of Achievement, NOAA National Ocean Service
- 09/02 Certificate of Achievement, NOAA National Ocean Service
- 08/02 Off-Campus Dissertation Fellowship, UNC Graduate School
- 05/96 Mahlon L. Kelley Ecology Award, UVA Dept. of Environmental Sciences
- 05/96 Highest Honors, UVA Distinguished Majors Program

### **PROFESSIONAL MEMBERSHIPS**

- American Society for Microbiology (ASM)
  - Councilor, ASM Division Q: Applied and Environmental Microbiology (2012-2014)
  - 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)

## PUBLICATIONS

### *Referreed Papers/Articles – In Review*

1. Nadimpalli, M, JI Rinsky, S Wing, D Hall, **J Stewart**, J Larsen, KE Nachman, DC Love, E Pierce, N Pisanic, J Strelitz, L Harduar-Morano, CD Heaney. Persistence of livestock-associated antibiotic-resistant *Staphylococcus aureus* among industrial hog operation workers in North Carolina over 14 days.
2. Heaney, CD, K Myers, S Wing, D Hall, D Baron and **JR Stewart**. Source tracking swine fecal waste run-off proximal to swine concentrated animal feeding operations.
3. Nadimpalli, M, N Pisanic, C Heaney and **J Stewart**. Effect of extraction method on recovery of Influenza A virus RNA from nasal swabs.
4. Schinasi, L, S Wing, KL Augustino, KM Ramsey, DL Nobles, DB Richardson, PDM MacDonald and **JR Stewart**. 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.

### *Referreed Papers/Articles – Published or In Press*

5. **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* the southeastern USA. *Diseases of Aquatic Organisms*. 108(2): 91-102.
6. Love, DC, RA Rodriguez, CD Gibbons, JH Griffith, Q Yu, **JR Stewart** and MD Sobsey. Human viruses and viral indicators in marine water at two recreational beaches in Southern California, USA. *Journal of Water and Health*. In press. doi:10.2166/wh.2013.078.
7. Wu, 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.
8. Johnston, 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 and Technology*. 47(23): 13621-13628.
9. **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.
10. 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, 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.
11. Layton, BA, Y Cao, DL Ebentier, KT Hanley, E Ballesté, J Brandão, MN Byappanahalli, RR Converse, AH Farnleitner, J Gentry-Shields, 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.

12. Nadimpalli, 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.
13. 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.
14. Rinsky, JL, M Nadimpalli, 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.
15. Sanger, D, A Blair, G DiDonato, T Washburn, S Jones, G Riekerk, E Wirth, **J Stewart**, D White, L Vandiver and AF Holland (2013). Impacts of coastal development on the ecology of tidal creek ecosystems of the US southeast including consequences to humans. *Estuaries and Coasts*. May 2013.
16. Gentry-Shields, 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.
17. Gentry-Shields, 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.
18. Rowny, 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.
19. Gentry-Shields, J, JG Rowny 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.
20. 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.
21. 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, yeast, and helminthes in sand at a subtropical recreational beach site. *Journal of Applied Microbiology*. 110(6): 1571-1583.
22. 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.
23. Wu, 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.
24. Gregory, JB, LF Webster, JF Griffith and **JR Stewart** (2011). Improved detection and quantification of norovirus from water. *Journal of Virological Methods*. 172(1-2): 38-45.

25. Johnston, 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.
26. 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.
27. DiDonato, GT, **JR Stewart**, DM Sanger, BJ Robinson, 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.
28. **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.
29. Kelsey, 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.
30. Klopchin, 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.
31. 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: 120-132.
32. **Stewart, JR**, J Vinjé, SJG Oudejans, GI Scott, & MD Sobsey (2006). Sequence variation among group III F<sup>+</sup>RNA coliphages from waters and swine lagoons. *Applied and Environmental Microbiology*. 72(2): 1226-1230.
33. **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.
34. 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.
35. Vinjé, J, SJG Oudejans, **JR Stewart**, MD Sobsey and SL Long (2004). Molecular detection and genotyping of male-specific coliphages by reverse transcription-PCR and reverse line blot hybridization. *Applied and Environmental Microbiology*. 70(10): 5996-6004.
36. 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.
37. **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.

*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.
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.
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.

*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 (WRRRI) of the University of North Carolina. Report No. 403. 67 pp. Available: <http://go.ncsu.edu/70252>.
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. 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. 123pp. Available: <http://www.epa.gov/nrmrl/pubs/600r05064/600r05064.pdf>.

*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 a NOAA-EPA collaborative study (PI: Sandifer). 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. 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*

<sup>T</sup> Technicians, <sup>U</sup> Undergraduates, <sup>M</sup> Masters or <sup>D</sup> PhD students mentored by Dr. Stewart are noted.

#### *Invited Presentations*

1. **Stewart, JR** (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.
2. **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.
3. **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.
4. **Stewart, JR** (2012). Global environmental change: are we making mopulations? Bugs vs. Drugs: A One Medicine Approach to Antimicrobial Resistance. Ninth One Medicine Symposium. Dec. 5-6. Raleigh, NC.
5. **Stewart, JR** and JG Shields<sup>D</sup> (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.
6. **Stewart, JR**, JG Rowny<sup>M</sup> and JG Shields<sup>D</sup> (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.

7. **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.
8. **Stewart, JR**, JG Rowny<sup>M</sup> and JG Shields<sup>D</sup> (2010). Microbial contaminants associated with urbanization of a drinking water reservoir. NC Urban Water Consortium. June 4. Cary, NC.
9. **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.
10. **Stewart, JR**, JW Dickerson<sup>T</sup>, JB Gregory<sup>T</sup>, C Johnston<sup>T</sup>, 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.
11. **Stewart, JR** (2009). Enteric viruses in coastal waters. Ecosystem-Based Management Conference. Chesapeake Research Consortium. March 23-25. Baltimore, MD.
12. **Stewart, JR** (2009). Detecting and tracking pathogens in coastal waters. UNC Department of Marine Sciences Seminar Series. March 4. Chapel Hill, NC.
13. **Stewart, JR** and GW Characklis (2009). Assessing microbial contamination of North Carolina stormwater. NC Urban Water Consortium Stormwater Group. June 11. Fayetteville, NC.
14. **Stewart, JR** (2009). What's in your water? Linking ecosystem and human health. ENVR 400: in-house seminar series. Jan. 28. Chapel Hill, NC.
15. **Stewart, JR** (2007). Detecting and tracking pathogens in surface waters. UNC Environmental Sciences and Engineering Seminar Series. Aug. 30. Chapel Hill, NC.
16. **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.
17. 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, September, Washington DC.
18. **Stewart, JR** (2006). Ocean observing systems and public health. Ecosystem-Based Approaches to Management. UNC Wilmington. March 19-21. Wrightsville Beach, NC.
19. **Stewart, JR**, GI Scott and MD Sobsey (2002). F<sup>+</sup>RNA coliphage typing for microbial source tracking. 102<sup>nd</sup> General Meeting of the American Society for Microbiology (ASM). May 19-23. Salt Lake City, UT.
20. **Stewart, JR** and MD Sobsey (1998). Detection and characterization of coliphages in a ground water aquifer recharged with reclaimed waste water. 98<sup>th</sup> General Meeting of the American Society for Microbiology. May 17-21. Atlanta, GA.  
*Presentation invited for a student oral presentation from among all student abstracts that were submitted.*

#### *Contributed Presentations*

21. Myers<sup>M</sup>, K., SM Hatcher<sup>D</sup>, 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.

22. **Stewart, JR**, JG Rowney<sup>M</sup> and JG Shields<sup>D</sup> (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.
23. Rinsky, J, M Nadimpalli<sup>D</sup>, 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 52<sup>nd</sup> International Conference on Antimicrobial Agents and Chemotherapy (ICAAC). Sept. 9-12. San Francisco, CA.
24. Rinsky, J, C Heaney, S Hatcher<sup>D</sup>, M Nadimpalli<sup>D</sup>, 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.
25. **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.
26. Myers<sup>M</sup>, K, C Heaney, M Nadimpalli<sup>D</sup>, 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*
27. Heaney, C, S Wing, **J Stewart**, K Myers<sup>M</sup>, 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.
28. Prevette<sup>M</sup>, 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.
29. Simmons<sup>U</sup>, T, D Moore<sup>U</sup>, K Myers<sup>M</sup> 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.
30. Steele<sup>U</sup>, B, R Relyea<sup>U</sup>, **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.
31. **Stewart, JR**, J Gregory<sup>T</sup>, C Johnston<sup>T</sup>, 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.
32. 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. 55<sup>th</sup> Annual Meeting of the North American Benthological Society (NABS). June 3-8. Columbia, SC.
33. 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.
34. 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.



35. 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.
36. **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.
37. Robinson<sup>T</sup>, 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. April 24-25.
38. **Stewart, J**, D Sanger, G DiDonato, B Robinson<sup>T</sup> and B Thompson (2006). Microbial water quality of tidal creek systems along the South Carolina coast. The 13<sup>th</sup> Ocean Sciences Meeting. American Society for Limnology and Oceanography. Feb. 20-24. Honolulu, HI.
39. Gooch JA, **JR Stewart**, LF Webster, BJ Robinson<sup>T</sup>, 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.
40. **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.
41. Robinson<sup>T</sup>, 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.
42. 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.
43. **Stewart, JR** (2005). Microbial source tracking in South Carolina. Southeastern Estuarine Research Society (SEERS). Feb. 28-March 2. Charleston, SC.
44. 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.
45. **Stewart, JR** (2004). Library independent methods for microbial source tracking. 7<sup>th</sup> International Conference on Shellfish Restoration. Nov. 17-19. Charleston, SC.
46. **Stewart, JR** (2003). Utilization of coliphages for microbial source tracking. Biennial meeting of the Interstate Shellfish Sanitation Conference (ISSC). Aug. 3-7. Portland, OR.
47. 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.
48. **Stewart, JR**, GI Scott and MD Sobsey (2002). F<sup>+</sup>RNA coliphage typing for microbial source tracking. 102<sup>nd</sup> General Meeting of the American Society for Microbiology (ASM). May 19-23. Salt Lake City, UT.
49. 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) 16<sup>th</sup> Biennial Conference. Nov. 4-8, St. Pete Beach, FL.
50. **Stewart, JR** (2001). Utilization of coliphages for microbial source tracking. Biennial meeting of the Interstate Shellfish Sanitation Conference (ISSC). July 21-27. Norfolk, VA.

51. **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.
52. Hsu, F-C , **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.
53. 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*

<sup>T</sup> Technicians, <sup>U</sup> Undergraduates, <sup>M</sup> Masters or <sup>D</sup> PhD students mentored by Dr. Stewart are noted.

1. Nadimpalli<sup>D</sup>, M, J Rinsky, D Hall, E Pierce, N Pisanic, J Larsen, K Nachman, D Love, S Wing, J Stewart, C Heaney. 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.
2. Hatcher<sup>D</sup>, S, K Myers, C Heaney, D Hall, J Larsen, S Wing and J Stewart. 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.
3. Nadimpalli<sup>D</sup>, 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.*
4. 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.
5. Gentry-Shields<sup>D</sup>, J, C Heaney, K Myers<sup>M</sup>, 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. 140<sup>th</sup> Annual Meeting of the American Public Health Association (APHA). Oct. 27-31. San Francisco, CA.
6. Hatcher<sup>D</sup>, S, K Myers<sup>M</sup>, 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.
7. 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.
8. Gentry-Shields<sup>D</sup>, 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. 112<sup>th</sup> 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*

9. Hatcher<sup>D</sup>, SM, E Prevette<sup>M</sup>, 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. 112<sup>th</sup> 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*
10. Nadimpalli<sup>D</sup>, 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. 112<sup>th</sup> 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*
11. Gentry-Shields<sup>D</sup>, J, C Heaney, K Myers<sup>M</sup>, 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*
12. Gentry-Shields<sup>D</sup>, J, C Heaney, K Myers<sup>M</sup>, 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.
13. 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. 19<sup>th</sup> Biennial Conference on the Biology of Marine Mammals. Nov. 27-Dec. 2. Tampa, FL.
14. Rinsky, J, C Heaney, S Hatcher<sup>D</sup>, M Nadimpalli<sup>D</sup>, 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. 139<sup>th</sup> Annual Meeting & Exposition of the American Public Health Association (APHA). Oct. 29-Nov.2. Washington, DC.
15. Nadimpalli<sup>D</sup>, 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*
16. Shields<sup>D</sup>, JG, JG Rowny<sup>M</sup>, S Schumaker<sup>U</sup> and **JR Stewart** (2011). Alternative indicators to predict water quality in a drinking water reservoir based on land-use characteristics. 111<sup>th</sup> General Meeting of the American Society for Microbiology. May 21-24. New Orleans, LA.
17. Shields<sup>D</sup>, JG, JG Rowny<sup>M</sup> 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.
18. Myers<sup>M</sup>, 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.
19. Rowny<sup>M</sup>, 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.

20. Shields<sup>D</sup>, JG, JG Rowny<sup>M</sup> 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 (WRI) Annual Conference. March 22-23. Raleigh, NC.  
*Poster awarded honorable mention in NCWRA student poster competition*
21. 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.
22. 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.
23. 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.
24. 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.
25. 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.
26. 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.
27. Wu<sup>D</sup>, 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. 110<sup>th</sup> General Meeting of the American Society for Microbiology. May 23-27. San Diego, CA.
28. Gregory<sup>T</sup>, J, B Robinson<sup>T</sup>, 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. 108<sup>th</sup> General Meeting of the American Society for Microbiology. June 1-5. Boston, MA.
29. Johnston<sup>T</sup>, 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.
30. Ross, J<sup>D</sup>, 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.

31. Sanger, D, **J Stewart**, G DiDonato, B Robinson<sup>T</sup>, B Thompson and F Holland (2006). Microbial water quality of tidal creek systems along the southeastern coast. 27<sup>th</sup> Annual Meeting of the Society for Environmental Toxicology and Chemistry (SETAC). Nov. 5-9. Montréal, Québec, Canada.
32. Robinson<sup>T</sup>, 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.
33. Robinson, BJ<sup>T</sup>, BC Thompson, LF Webster, G DiDonato, **J Stewart** and J Gooch (2006). Microbial water quality of tidal creek systems along the South Carolina coast. 106<sup>th</sup> General Meeting of the American Society for Microbiology. May 21-25. Orlando, FL.
34. Hsu, F.-C., D. Battigelli, R. Wong, F. Tepper, B. Robinson<sup>T</sup>, and **J. Stewart** (2005). Detection of coliphages in large volumes of water using positively charged filters. Poster and Abstract Q-321. 105<sup>th</sup> General Meeting of the American Society for Microbiology. June 5-9, Atlanta, GA.
35. **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) 24<sup>th</sup> Annual Meeting. Nov. 9-13, Austin, TX.
36. **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. 103<sup>rd</sup> General Meeting of the American Society for Microbiology. May 18-22. Washington, D.C.
37. Webster, LF, BC Thompson, **JR Stewart**, and DA Eargle (2002). Microbial source tracking of fecal pollution: a case study. Poster and Abstract Q-453. 102<sup>nd</sup> General Meeting of the American Society for Microbiology. May 19-23, Salt Lake City, UT.
38. **Stewart, JR**, MD Sobsey and GI Scott (2001). Coliphages as indicators and for fecal source tracking. Poster and Abstract Q-258. 101<sup>st</sup> General Meeting of the American Society for Microbiology. May 20-24. Orlando, FL.
39. **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. 100<sup>th</sup> General Meeting of the American Society for Microbiology. May 21-25. Los Angeles, CA.
40. **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 2<sup>nd</sup> place in meeting-wide RUSKA competition*
41. **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

### *UNC Courses*

#### **ENVR 412: Ecological Microbiology** (3 credits)

Instructor

Spring Semesters (2009 – present)

Jill R. Stewart

**ENVR 296-001S Humans and their Microbial Footprint** (3 credits)

Instructor

Summer Study Abroad, Galapagos Islands (2012, 2013)

**ENVR 890-005 Water-Health Research I** (2 credits)

Co-Instructor

Fall Semesters (2012 – present)

**ENVR 890-005 Water-Health Research II** (2 credits)

Co-Instructor

Spring Semesters (2013 – present)

**ENVR 401: Unifying Concepts of Environmental Sciences** (3 credits)

Module Instructor

Spring Semesters (2010 – 2012)

Guest Lecturer in the Following:

ENVR 431: Techniques in Environmental Health Sciences (2008, 2009)

ENVR 890: Epidemiology for Environmental Scientists and Engineers (2012)

EPID 785: Environmental Epidemiology (2010, 2012, 2013, 2014)

EPID 755: Infectious Disease Epidemiology (2013)

PUBH 690-008: One Health: Philosophy to Practice (2014)

(cross-listed at Duke, UNC and NCSU)

*Additional Teaching and Outreach*

- 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-present).
- Mentored a team of 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).
- 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).
- 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 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).
- Gave invited presentation at the SC Aquarium then sat on panel discussing water quality issues with the public. 2007.

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

*Student Advising*

***Primary Advisor for Students – PhD (3 current, 2 graduated)***

- Sarah Hatcher (PhD, in progress)  
*National Award: NSF Graduate Research Fellowship (2012-2015)*
- Maya Nadimpalli (PhD, in progress)  
*National Award: EPA Science to Achieve Results (STAR) Fellowship (2011-2014)*
- Patsy Polston (PhD, in progress)
- Jennifer Gentry Shields (PhD, 2012)  
*National Award: Graduate Women in Science (GWIS) Fellowship (2012)*
- Jianyong Wu (PhD, 2011); co-advised with Prof. Michael Emch

***Primary Advisor for Students – Master's (5 current, 5 graduated)***

- David Holcomb (MSPH, in progress)
- Sarah Rhodes (MSPH, in progress)
- Elizabeth Pierce (MS, in progress)
- Stephen Bell (MS, in progress)
- William Gerhard (MS, in progress)
- Robert Albury (MS, 2012)
- Maya Nadimpalli (MS, 2012)
- Tracey Slaughter (MPH, 2012); Ms. Kathleen Gray served as research advisor
- Kevin Myers (MSPH, 2011)  
*National Award: CDC Public Health Prevention Service Fellowship (2011-2014)*
- Jakob Rowny (MS, 2011)
- Emylee Pevette (MSPH, 2010)

***Research Advisor for Students – Undergraduate Honors (1 current, 1 graduated)***

Jill R. Stewart

- Katie Overbey (BS Environmental Sciences, in progress)
- Hunter Story (BS Biology, 2011); Dr. Ann Matthyse served as academic advisor

***Committee Member for Students – PhD (7 current, 4 graduated)***

- Ampai Soros (PhD, in progress)
- Yvonne Yuen (PhD, in progress)
- Eric Staunton (PhD, in progress)
- Angela Wang (PhD, in progress)
- Ariel Atkinson (PhD, in progress)
- Ferdinand “Jay” Reyes (PhD, in progress)
- Melanie Napier (PhD, in progress, Epidemiology)
- Raul Gonzales (PhD, 2013)
- Leah Schinasi (PhD, 2012, Epidemiology)
- Tim Otten (PhD, 2012)
- Curtis Stumpf (PhD, 2011, Marine Sciences)

***Committee Member for Students – Master’s (28 graduated)***

- Carrie Doyle (MS, 2013)
- Tania Jordanova (MSPH & MCRP, 2013)
- Brad Bennett (MSEE, 2012)
- Sage Dunleavy (MS, 2012)
- Gabe McGowan (MS, 2012)
- Sara Mishamandani (MSPH, 2012)
- Rebecca Milsk (MS, 2012)
- Kristen Betz (MS, 2012)
- Grant Lignon (MSPH, 2012)
- Alyson Malone (MSPH, 2012)
- Abhinav Komandur (MSPH, 2012)
- Will Stanley (MS, 2011)
- Paul Ebohon (MS, 2011)
- Angela Wang (MSPH, 2011)
- Jenia Tufts (MS, 2011)
- Jonny Crocker (MSEE, 2011)
- Patsy Polston (MSPH, 2011)
- Mary (Katie) Kelly (MSPH, 2010)
- Amanda Kaufman (MSPH, 2010)
- Jacqueline Knee (MSPH, 2010)
- Katherine Pierson (MSPH, 2010)
- Emma Susick (MS, 2010)
- Kavya Kasturi (MSEE, 2009)
- Lauren Thie (MSPH, 2009)
- Julianne Tajuba (MSPH, 2008)
- Heidi Williams (MS, College of Charleston, 2008)
- Jordan Felber (MES, College of Charleston, 2007)
- Jeanette Klopchin (MES, College of Charleston, 2005)



**Committee Member for Students – Undergraduate Honors (1 current, 3 graduated)**

- Shannon Steele (BS, in progress, Geography)
- Sophie Wilderotter (BS, 2012)
- Abhinav Komandur (BSPH, 2011)
- Grant Ligon (BSPH, 2010)

**PROFESSIONAL SERVICE**

*Peer Review*

- Conducts 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 Science & Technology*
  - Estuaries and Coasts*
  - Hydrobiologia*
  - 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*
  - NOAA Non-Native Oyster Research Program*

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*NIWR-USGS Competitive Grants Program  
NC Biotechnology Center  
Robert Wood Johnson Foundation*

- Organized review and sorting of 415 abstracts submitted to Division Q for presentation at the 2012 American Society for Microbiology (ASM) General Meeting (2012).
- Reviewed and scored selected abstracts submitted to conference “Water and Health: Where Science Meets Policy” jointly sponsored by the Water Institute at UNC and UNC’s Institute for the Environment (2010, 2012, 2013).
- Served on a project advisory committee for the American Water Works Association Research Federation (2006-2008).

*Workshop Participation*

- 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).
- NSF Ecology of Marine Infectious Diseases Workshop (Feb. 12-13, 2011; San Juan, PR).
- International Joint Commission’s (IJC) Beaches and Recreational Water Quality Work Group (Oct. 21-22, 2010; Erie, PA).
- EPA workshop on final indicators of ecosystem services for estuaries and wetlands. (June 7-10, 2010; Denver, CO).
- 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).
- 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).
- National Institute of Standards and Technology (NIST) conference on accelerating innovation in biosciences (Oct. 2008; Gaithersburg, MD).
- 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)
- Alliance for Coastal Technologies (ACT) Genetic Sensors Workshop (01/05; St. Petersburg, FL)

*Conference Activities*

- Reviewed session proposals and invited Division Lecturer for 2013 ASM General Meeting, then led Division business meeting including nominations for new chair (2013).
- Co-Convened 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 (Oct., 2011; Chapel Hill, NC).
- 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).

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- Performed as rapporteur 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).
- 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).

*Committees*

- Serves as an officer for the American Society for Microbiology (ASM) Division Q (Applied and Environmental Microbiology): Councilor (2013-2014), Chair (2012-2013), Chair-Elect (2011-2012)
- 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).
- Represents the Department of Environmental Sciences and Engineering on the Gillings School of Global Public Health Academic Programs Committee (2011-present).
- Serves on the Department of Environmental Sciences and Engineering Academic Programs Committee (2012-present).
- Serves on the Department of Environmental Sciences and Engineering Space Committee (2013-present).
- Chaired a faculty search committee for the Department of Environmental Sciences and Engineering to hire a Research Assistant Professor in Microbial Ecology (2012).
- Served on a faculty search committee for the Department of Environmental Sciences and Engineering to hire an Assistant Professor in Process Engineering (2009).
- Served on faculty committee to organize annual Medical University of South Carolina Student Research Open House (2006-2007)
- Served on faculty committee to organize annual College of Charleston Grice Marine Biology Colloquium (2007-2008).
- Represented NOAA on committee that coordinates Fort Johnson campus Marine Science Seminar Series in Charleston, SC (2003-2008).