

JOHN T. LISLE
US Geological Survey
St. Petersburg Coastal & Marine Science Center
600 Fourth Street-South
St. Petersburg, FL 33701

Phone: 727-502-8140

Email: jlisle@usgs.gov

Professional page link: <https://www.usgs.gov/staff-profiles/john-thomas-lisle>

Education

1996 Ph.D., University of South Florida, College of Public Health

1983 M.S., Eastern Kentucky University, Department of Biology

1978 B.S., Eastern Kentucky University, Department of Biology

Professional Experience

2004-present Microbial Ecologist, USGS Center for Coastal & Watershed Studies, St. Petersburg, FL

2002-2010 Affiliate Graduate Faculty in the University of South Florida's Biology Department

2002-2010 Assistant Courtesy Professor in the University of South Florida's College of Marine Sciences

2002-2004 USGS Mendenhall Fellow, Center for Coastal & Watershed Studies, St. Petersburg, FL (Position: Microbial Ecologist)

2001-2002 Microbial Ecologist, NASA, Astrobiology Institute for the Study of Biomarkers, Johnson Space Center, Houston

2000-2001 Research Microbiologist, Lockheed Martin, NASA Astrobiology Institute for Biomarkers, Johnson Space Center, Houston

1998-2000 Assistant Research Professor, Department of Microbiology, Montana State University

1996-1998 Post-doctoral research fellow at Montana State University in the laboratory of Dr. Gordon McFeters, Department of Microbiology

1991-1995 Laboratory supervisor at University of South Florida College of Public Health & Department of Marine Sciences for Dr. Joan Rose

1983-1991 Microbiologist at the City of Tampa Water Department, Tampa, FL

Funding

Principle Investigator (2017-2018). Microbial inactivation and nutrient cycling in aquifer zones targeted for aquifer storage and recovery (ASR). South Florida Water Management District. 1 year. \$125,000.

Principle Investigator (2014-2017). Statistical analyses and interpretations of soil geochemistry and microbiology variables. USEPA/National Homeland Security Research Center. per year. \$25,000.

Co-investigator (2013-2014). Nutrient Source Identification for Near Shore Reefs in Virgin Islands National Park. USGS and National Park Service. [Co-PIs: V. Garrison (USGS), T. Bargar (USGS), D. Alvarez (NPS), R. Boulon (NPS)]. 3 years. \$195,000.

Principle Investigator (2010-2012). Characterization of Native Microbial Communities and Carbon and Survival of Microbial Indicators in the Upper Floridan Aquifer. South Florida Water Management District. 2 years. \$100,000.

Co-investigator (2007-2009). Microbial and Geochemical Investigations of the Influence of Dissolved Organic Carbon on the Microbial Ecology of Native and Blended Waters from the Floridan and Biscayne Aquifers. Miami-Dade County Government/Water & Sewage Department [Co-PIs: R. Harvey (USGS), G. Aiken (USGS), K. Cunningham (USGS)] 2 years. \$370,000.

Co-investigator (2006-2007). Healthy and Safe Public Beaches:Tampa Beach Study. Florida Department of Health [Co-PIs: C. Kellogg (USGS), D. Wingfield (FL DOH), J. Harwood (USF)]. 1 year. \$146,000.

Co-investigator (2006). Evaluation of Arsenic Mobilization Processes Occurring During Aquifer Storage and Recovery Activities. Southwest Florida Water Management District [Co-PIs: M. McNeal (CH₂M Hill), J. Mirecki (US Army Corps of Engineers)]. 1 year. \$100,000.

Co-investigator (2006). Evaluation of Arsenic Mobilization Processes Occurring During Aquifer Storage and Recovery Activities. Southwest Florida Water Management District [Co-PIs: D. Pyne (ASR Systems), T. Pichler (USF)]. 1 year. \$100,000.

Co-investigator (2005-2008). Integrated Geologic Studies of Coral Reefs: Deep Reefs and Spatially Distributed Models: Microbial Productivity in Coral reef Systems (Subtask 2.4). US Geological Survey (PI: R. Halley). 4 years. \$62,000.

Co-investigator (2005-2006). Assessment of the Influence of Microbial Diversity and Function on Sea Grass Systems in Tampa Bay. US Geological Survey: Tampa Bay Project (PI: K. Yates). 2 year. \$30,950/year

Principle investigator (2005-2006). Microbial Ecology of Aquifer Storage and Recovery Systems. US Geological Survey Cooperative Water Program & Florida Department of Environmental Protection/Florida Geological Survey (Co-PI: J. Arthur). 1 year. \$50,000.

Principle investigator (2005). Characterization of the Native Microbial Ecology in Aquifer Systems In Reclaimed Water Application Sites. Orange County Utilities. 1 year. \$26,380.

Principle investigator (2004). Preliminary Characterization of the Microbial Ecology and Literature Review of Microbe-induced Changes in Metal Mobility and Toxicity in Aquifer Storage and Recovery (ASR) Water.

US Army Corps of Engineers/Comprehensive Everglades Restoration Project/Regional ASR Study Program. 1 year. \$30,000.

Principle investigator (2004) Characterization of the Microbial Ecology in Aquifer Storage and Recovery (ASR) Systems. Florida Department of Environmental Protection. 1 year. \$25,000.

Principle investigator (2000-2004) Studies on the Impact of Sewage-Associated Microorganisms on Indigenous Seal and Bacterial Populations and Drinking Water Quality at McMurdo Station, Antarctica. National Science Foundation. 4 years. \$270,000. [G. McFeters (Co-PI)]

Co-investigator (2001-2003) Monitoring Trace Levels of Biological Contamination for Extraterrestrial Sample Processing and Curation. NASA/Johnson Space Center. 3 years. \$150,000 [C. Allen (PI)]

Co-investigator (2000-2002) Impact of Disinfection and Disinfectant Selection on the Chemical and Microbiological Composition of Wastewater and the Associated Risks. Water Environment Research Foundation. 2 years. \$300,000. [E. Blatchley (PI) & J. Rose]

Co-principle investigator (2000-2002) Bacterial physiology and virulence on earth and in microgravity. National Aeronautics & Space Administration (NASA). 3 years. \$297,000. [B. Pyle (PI) & G. McFeters]

Professional Service

Invited expert to The National Academies of Sciences National Research Council committee meeting to review the Florida Aquifer Storage and Recovery Regional Study Report. This was one of the principle studies and reports for the Comprehensive Everglades Restoration Plan. Participated as an expert in microbial ecology and related biogeochemistry within the Floridan Aquifer system in south Florida with co-members from US Army Corps of Engineers and South Florida Water Management District. (Project identification number: DELS-WSTB-14-01) (2014)

U.S. Coastal Research Program (USCRP) proposal reviewer for the Understanding the Cross-Roads of Human Health and Ecosystem Health funding opportunity (2019).

RGE panel member for the USGS Water Resources Division, Ecology discipline. Boulder, CO (2005).

Chairman for doctoral dissertation defense, University of South Florida (n=7) (2003-present).

Participation in the Great American Teach-In (2 classes per annual event) (2000-2013).

Additional Research Activities

Statistical analyses of soil geochemical and microbiological variables in data sets generated by the EPA/Homeland Security Center and USGS (Dale Griffin, FL) (2014-2017). Conducting regression and multivariate statistical analyses to (1) determine the likelihood of predicting anthrax outbreaks from soil geochemical characteristics and (2) compare two methods for the detection of anthrax related genes in soils matrices.

Collaborating scientist (2012-Present). Nominated for inclusion as a collaborating scientist on the NSF funded McMurdo Dry Valleys Long Term Ecological Research (LTER) project. My research experience on bacterial survival and carbon cycling in oligotrophic aquatic ecosystems and the roles of viruses on

biogeochemical processes have now become a research focus for this project.

Supporting USGS Research (2012). Constructed and provided membrane diffusion chambers for a USGS Toxic Substances Hydrology Program funded research project. Project description published as: Haack, S. et al. (2012). *Effects of groundwater microbial communities of an engineered 30-day in situ exposure to the antibiotic sulfamethoxazole*. Environmental Science & Technology 46(14):7478-7486.

Collaborating scientist (2005-2007). The influence on microbial activities on arsenic mobilization from Floridan aquifer material. PI: Jon Arthur (Florida Geologic Survey). I designed a bench-top bioreactor in which to monitor the influence that native and introduced bacteria have on rates of arsenic mobilization.

Collaborating scientist (2005-2007). Microbial chemotaxis in hydrocarbon contaminated aquifers. PI: Ron Harvey (USGS/NRP). I designed diffusion chambers used as downhole microcosms in which Dr. Harvey conducted experiments on the influence of industrial contaminants on bacterial chemotaxis in an aquifer.

Collaborating scientist (2004-Present). Characterization of bacterial and bacteriophage dynamics in ice and selected glacial melt streams and permanently ice-covered lakes in the Antarctic Dry Valleys. PI: C. Foreman (Montana State University) and J. Laybourn-Parry (University of Nottingham, UK).

Invited scientist (1999-2002). Characterization of the bacterial and viral population dynamics in the permanently ice-covered lakes in the Dry Valleys of Antarctica. PI: John Priscu (Montana State University).

Technical reviewer (2008). Reviewed and edited the aquifer storage and recovery documents related to microbiology for the annual interim report for the Comprehensive Everglades Restoration Project (CERP).

Teaching/Mentoring Experience

2002-2010 **University of South Florida, Tampa, FL**

- Member of PhD committee for:
 - **Shannon McQuaig** (Advisor: Jody Harwood/Biology Dept.). Project: Development of a real-time PCR assay to detect human polyomaviruses as indicators of human fecal contamination of water.
 - **Asja Korajkic** (Advisor: Jody Harwood/Biology Dept.). Project: *Escherichia coli* diversity, ribotyping and survival in natural waters.
- Member of Masters of Science committee for:
 - **Miriam Brownell** (Advisor: Jody Harwood/Biology Dept.). Project: The use of Rep-PCR to assess enterococci as an indicator species for bacterial source tracking. Graduated December, 2006.
 - **Katrina Gordon** (Advisor: Jody Harwood/Biology Dept.). Project: The use of *Vibrio* species in microbial source tracking. Graduated May, 2008.
 - **Matthew Anderson** (Advisor: Jody Harwood/Biology Dept.). Project: Bacterial source tracking using antibiotic resistance and ribotyping to determine the source of microbial contaminants in water. Graduated 2004.
 - **Tracy Idocks** (Advisor: Joan Rose/College of Marine Sciences). Evaluation of automated ribotyping as a tool for bacterial source tracking in aquatic environments. Graduated 2004.

2001-2002 **NASA/Johnson Space Center, Houston, TX**

- Mentoring and teaching undergraduate students at Rice University on techniques and methods used to search gene sequence databases, compare sequences and design of consensus PCR primer sequences. This was done as part of a project designed to develop a PCR-based method to screen sediment samples for the presence of magnetotactic bacteria and desert varnish scrapings for the presence of manganese oxidizing bacteria.
- Mentoring and teaching undergraduate students at University of Houston on techniques and methods used to sample bacteria from different types of water, fluorescently stain bacteria and perform total cell counts using epi fluorescent microscopy. This was done as part of a project designed to evaluate the microbiological quality of ultrapure water systems that will be used in the Mars sample return research facility.

University of Houston-Clear Lake, Houston, TX/ Department of Applied & Natural Sciences

- Co-chair of Masters of Science committee for Tanya Smith. Project : Microbiological analyses of water and wastewater prior to and following disinfection by chlorine and ultraviolet light. She has worked on the WERF funded project for her Masters of Science degree research requirement. Graduated in 2003.
- Mentoring and teaching graduate student Yuho Hayashi microbial ecology and molecular techniques for the recovery and identification of indicator bacteria, plasmid isolation and characterization and the use of pulse field gel electrophoresis to genotype *Clostridium perfringens* isolates.

1997-1999

Montana State University, Bozeman, MT/ Department of Microbiology

- Instructor for the Water Microbiology section of annual Students, Teachers and Researchers (StaR) summer program for high school teachers and students. Lectures, field collection trips and sample and data analysis were included in the section.
- Lectures for Microbiology department classes in Microbial Physiology (MB420: Gordon McFeters) and careers in Microbiology (MB100: Seth Pincus), co-instructor in Microbial Ecology (MB515: David Ward) and instructor in Graduate Reading Seminar (MB500).
- Adjunct Ph.D. committee member for three students. Responsibilities include participating in the written and oral exams and evaluating their dissertations.
- Presentation of a technique seminar, Molecular Staining Techniques and Analyses, for the Center for Biofilm Engineering seminar series, Molecular Biology Tools and Techniques: Discussion Series.

1987-1991

University of Tampa, Tampa, FL

- Adjunct faculty in Department of Biology teaching introductory and intermediate level biology (lecture & laboratory)

1983-1987

Hillsborough Community College, Tampa, FL

- Adjunct faculty in Department of Biology teaching general biology (lecture & laboratory) and medical microbiology (lecture & laboratory)

1991-1992

Assistant instructor at American Water Works Association Water Quality

Technology

Conference Workshop on Methods for Detecting Identifying and Enumerating Giardia and Cryptosporidium in Water Samples.

1983-1990 Instructor for training water and wastewater treatment plant operators basic microbiology theory and techniques at the annual Florida Water and Pollution Control Operators Association short school.

Publications

Robbins, L., Daley, K., Barbero, L., He, R., Zong, H., Lisle, J., Cai, W. and Smith, C. (2018). Spatial and temporal variability of pCO₂, carbon fluxes and saturation state on the West Florida Shelf. *Journal of Geophysical Research-Oceans*. 123:6174-6188. (DOI: 10.1029/2018JC014195)

Robbins, L. and Lisle, J. (2018). Regional acidification trends in Florida shellfish estuaries: a 20+ year look at pH, oxygen, temperature and salinity. *Estuaries and Coasts*. 41:1268-1281. (DOI:10.1007/s12237-017-0353-8).

Smith, H., Foster, R., McKnight, D., Lisle, J., Littmann, S., Kuypers, M. and Foreman, C. (2017). Microbial formation of labile organic carbon in Antractic glacial environments. *Nature Geosciences*. 10:356-359. (DOI:10.1038/NGEO2925).

Lisle, J. and Robbins, L. (2016). Viral bursting of cyanobacteria as a mechanism for calcium carbonate nucleation and precipitation in seawater. *Frontiers In Microbiology* 7:Article #1958 (DOI: 10.3389/fmicb.2016.01958).

Silvestri, E., Feldhake, D., Griffin, D., Lisle, J., Nichols, T., Shah, S., Pemberton, A., Schaefer III, F. (2016). Optimizing recovery of *Bacillus anthracis* spores from soil. *Journal of Microbiological Methods* 130:6-13.

Lisle, J. (2016). Natural inactivation of *Escherichia coli* in anaerobic and reduced groundwater. *Journal of Applied Microbiology*. *Journal of Applied Microbiology* 120:1739-1750.

Harvey, R., Underwood, J., Lisle, J., Metge, D., Aiken, G. (2014). Role of DOC in the fate and transport of *Escherichia coli* K12 in a deep limestone aquifer in South Florida. USGS Scientific Investigation Report 2014-5035, pp. 4.

Lisle, J. (2014). Survival of bacterial indicators and the functional diversity of native microbial communities in the Floridan Aquifer, South Florida. USGS Open-File Report 2014-1011, pp. 72.

Lisle, J., Reich, C. and Halley, R. (2014). Aragonite saturation states and nutrient fluxes in coral reef sediments in Biscayne National Park, FL. *Marine Ecology Progress Series* 509:71-85.

Lisle, J. (2014). Fate of microorganisms and pathogens during ASR cycle testing. Chp. 6, pp. 89-102. In: Aquifer Storage Recovery (ASR) Regional Study Technical Data Report. US Army Corps of Engineers and South Florida Water Management District, West Palm Beach, FL. pp. 267. [Submitted to National Research Council of the National Academy of Sciences/Division on Earth & Life Studies/Water Science & Technology Board which was charged with review and comment on the science and progress of the ASR within the context of the Comprehensive Everglades Restoration Plan (CERP)]

Lisle, J., Garrison, V. and Gray, M. (2014). Evaluation of coral pathogen growth rates after exposure to atmospheric African dust samples. USGS Open-File Report 2014-1017, pp. 12.

H. Browman, S. Dupont, J. Havenhand, L. Robbins, M. Beman, C. Duarte, M. Fine, J. Fosså, J. Hall-Spencer, P. Hallock-Muller, T. Hurst, D. Iglesias-Rodriguez, P. Knorr, H. Kurihara, **J. Lisle**, C. Manno, S. McCoy, F. Melzner, P. Munday, H. Pörtner, J. Ries, D. Robert, J. Runge, D. Scott, H. Skjoldal, K. Suzuki, F. Thingstad, T. Wootton (2013). Biological responses to ocean acidification. Chp. 3, pp. 37-54. In: AMAP Assessment 2013: Arctic Ocean Acidification. Arctic Monitoring and Assessment Programme, Oslo, Norway. pp. 99.

Forman, C., Cory, R., Morris, C., SanClements, M., Smith, H., Lisle, J., Miller, P., Chin, Y. and McKnight, D. (2013). Microbial growth under humic-free conditions in a supraglacial stream system on the Cotton Glacier, Antarctica. *Environmental Research Letters* 8(3): 1-11.

Robbins, L., Wynn, J., Lisle, J., Yates, K., Knorr, P., Byrne, R., Liu, X., Patsavas, M., Azetsu-Scott, K. and Takahashi, T. (2013). Baseline monitoring of the western Arctic Ocean estimates 20% of Canadian Basin surface waters are under saturated with respect to aragonite. *PLoS ONE* 8(9): e73796. (doi:10.1371/journal.pone.0073796)

Dieser, M., Foreman, C., Jaros, C., Lisle, J., Greenwood, M., Laybourn-Parry, J., Miller, P., Chin, Y. and McKnight, D. (2013). Physicochemical and biological dynamics in a coastal Antarctic lake as it transitions from frozen to open water. *Antarctic Science* 25(5): 663-675.

Lisle, J. (2011). A Survey of alterations in microbial community diversity in marine sediments in response to oil from the Deepwater Horizon spill: northern Gulf of Mexico shoreline, Texas to Florida: a preliminary report to the U.S. Coast Guard, Part 1. USGS Open-File Report 2011-1059, pp 28.

Lisle, J. and Stellick, S. (2011). A Survey of Microbial Community Diversity in Marine Sediments Impacted by Petroleum Hydrocarbons from the Gulf of Mexico and Atlantic Shorelines, Texas to Florida: A Preliminary Report to the U.S. Coast Guard, Part 2. USGS Open-File Report 2011-1151, pp 23.

Lisle, J. and Comer, N. (2011). Characterization of Sediments from the Gulf of Mexico and Atlantic Shorelines, Texas to Florida. USGS Open-File Report 2011-1199, pp 82.

Foreman, C., Dieser, M., Greenwood, M., Cory, R., Laybourn-Parry, J., Lisle, J., Jaros, C., Miller, P., Chin, Y., McKnight, D. (2011). When a habitat freezes solid: microbes over-winter within the ice column of a coastal Antarctic lake. *FEMS Microbial Ecology*, 76(3): 401-412.

Lisle, J., Harvey, R., Aiken, G. and Metge, D. (2010). Microbial and Geochemical Investigations of Dissolved Organic Carbon and Microbial Ecology of Native Waters from the Biscayne and Upper Floridan Aquifers. USGS Open-File Report 2010-1021, pp 40. (<http://pubs.usgs.gov/of/2010/1021>)

Kellogg, C., Lisle, J. and Galkiewicz, J. (2009). Culture-independent characterization of bacterial communities associated with the cold-water coral *Lophelia pertusa* in the northeastern Gulf of Mexico. *Applied & Environmental Microbiology* 75:2294-2303.

Morgan-Kiss, R., Ivanov, A., Modla, S., Czymmek, K., Huner, N., Priscu, J., Lisle, J. and Hanson, T. (2008). Identity and physiology of a new psychrophilic eukaryotic green alga, *Chlorella* cold. Sp. isolated from a transitory pond near Bratina, Island, Antarctica. *Extremophiles* 12(5):701-711.

Sävström, C., Lisle, J., Anesio, A., Priscu, J. and Laybourn-Parry, J. (2008). Bacteriophages in polar inland waters. *Extremophiles* 12:167-175.

Blatchley, E., Gong, W., Alleman, J., Rose, J., Huffman, D., Otaki, M. and Lisle, J. (2007). Effects of wastewater disinfection on waterborne bacteria and viruses. *Water Environment Research*. 79:81-92.

Lisle, J. (2007). The effects of mixing treated recharge and native ground waters on the microbial ecology of native bacterial communities. In: *Arsenic mobilization in two Suwannee Limestone Aquifer storage recovery systems*. Ed. J. Powers, pp 17. CH₂M Hill, Tampa, FL.

Lisle, J. (2006). The Central Florida Aquifer Recharge Enhancement Phase 1 (CFARE1) project: analyses of microbial and related data from the Festival Park and Lake Orienta study sites. pp. 18.

Lisle, J. (2006). Microbial ecology for aquifer storage and recovery systems: leaching studies. pp. 37.

Lisle, J. and Reich, C. (2006). Microbial productivity and its relevance to coral reef productivity. US Geological Survey. FS 2006-3052.

Kellogg, C. and Lisle, J. (2006). Microbiology and public beach safety: integrated science for the protection of public health. US Geological Survey. FS 2006-3045.

Blatchley, E., Gong, W., Rose, J., Huffman, D., Otake, M. and Lisle, J. (2005). Effects of wastewater disinfection on human health. Report 99-HHE-1, pp. 247. Water Environment Research Foundation, London, UK.

Lisle, J. (2005). Characterization of the native microbial communities in Floridan aquifer waters targeted for aquifer storage and recovery (ASR) applications, south central Florida. pp. 29. US Geological Survey. OFR 2005-1036.

Lisle, J. (2005). Microbially induced changes in metal mobility and toxicity in groundwater: a literature review. US Geological Survey. OFR 2005-1432.

Kellogg, C. and Lisle, J. (2005). Coral microbial ecology. US Geological Survey. OFR 2005-3029.

Lisle, J., Edwards, D., Smith, J. and McFeters, G. (2004). The occurrence of indicators of human fecal pollution and *C. perfringens* in the waters, sediments and Weddell seal populations of McMurdo Sound, Antarctica. *Applied & Environmental Microbiology* 70:7269-7276.

Lisle, J. and Priscu, J. (2004). The occurrence of lysogenic bacteria and microbial aggregates in the lakes of the McMurdo Dry Valleys, Antarctica. *Microbial Ecology* 47:427-439.

Lisle, J., Willse, A., Hamilton, M. and McFeters, G. (2004). Comparison of traditional microscopic and solid phase cytometry techniques for the counting of bacteria in water. *Applied & Environmental Microbiology* 70:5343-5348.

Lisle, J. (2004). Significance of native microbial populations in ASR storage zones. In: *Aquifer Storage and Recovery IV: Science, Technology, Management and Policy*. Florida Geological Survey Special Publication 54: 1-34.

Griffin, D., Kellogg, C., Garrison, V., Lisle, J., Borden, T. and Shinn, E. (2003). Atmospheric microbiology in the northern Caribbean during African dust events. *Aerobiologia* 19:143-157.

Grasby, S., Allen, C., Longazo, T. and Lisle, J., Griffin, D. and Beauchamp, B. (2003). Supra-glacial sulphur springs and associated biological activity in the Canadian high arctic – signs of life beneath the ice. *Astrobiology* 3:583-596.

Allen, C., Grasby, S., Longazo, T., Lisle, J. and Beauchamp, B. (2002). Life beneath the ice – Earth (!) Mars (?) Europa (?). *Lunar and Planetary Science XXXIII* 1134:1-2.

Lisle, J. (2000). Drinking Water Treatment and Regulations in the United States. *Lab. Med.* 31:492-496.

McFeters, G., Pyle, B., Lisle, J. and Broadaway, S. (1999). Rapid direct methods for enumeration of specific, active bacteria in water and biofilms. *J. Appl. Microbiol.* 85:193-200.

Lisle, J., Pyle, B. and McFeters, G. (1999). The Use of Multiple Indices of Physiological Activity to Assess Viability in Chlorine Disinfected *Escherichia coli* O157:H7. *Lett. Appl. Microbiol.* 29:42-47.

Lisle, J., Pyle, B. and McFeters, G. (1998). The effects of starvation on physiological activity and disinfection resistance in *E. coli* O157:H7. *Appl. Environ. Microbiol.* 64: 4658-4662.

Pyle, B., Lisle, J., Broadaway, S. and McFeters, G. (1998). Rapid Enumeration of Active Bacteria in Water After Disinfection. *SAE Technical Paper Series. #981761: 1-4.*

Lisle, J. (1996). Natural transformation in drinking water and biofilms. Doctoral dissertation. pp. 215.

Lisle, J. and Rose, J. (1995). *Cryptosporidium* in Water in the United States and United Kingdom: a mini-review. *J. Water SRT-Aqua.* 44:103-117.

Lisle, J. and Rose, J. (1995). Gene exchange in drinking water by natural transformation. *Wat. Sci. Tech.* 31:41-46.

Lisle, J. (1989). Using Lotus 123 to generate quality control charts. *Benchsheet.* 1:1-3.

Books and Book Chapters

Browman, H., Dupont, S., Havenhand, J., Robbins, L., Beman, M., Duarte, C., Fine, M., Fosså, J., Hall-Spencer, J., Hallock-Muller, P., Hurst, T., Iglesias-Rodriguez, D., Knorr, P., Kurihara, H., Lisle, J., Manno, C., McCoy, S., Melzner, F., Munday, P., Pörtner, H., Ries, J., Robert, D., Runge, J., Scott, J., Skjoldal, H., Suzuki, K., Thingstad, F. and Wootton, T. (2013). Biological responses to ocean acidification. In: *Arctic Monitoring and Assessment Programme Assessment 2013: Arctic Ocean Acidification*. Chp. 3. pp. 37-54. AMAP, Oslo, Norway.

Lisle, J. (2005). Total direct count methods for biofilm bacteria. In: *Manual of Biofilm Methods*. Center for Biofilm Engineering, Montana State University, MT. (solicited).

Priscu, J., Adams, E., Paerl, H., Fritsen, C., Dore, J., Lisle, J., Wolf, C. & Mikucki, J. (2005). Perennial Antarctic lake ice: a refuge for cyanobacteria in an extreme environment. Chp. 3. pp. 22-49. In: *Life In Ancient Ice*, S. Rogers & J. Castello (eds.) Princeton Press, NJ.

Lisle, J., Stewart, P. and McFeters, G. (1999). Fluorescent probes applied to the physiological and structural characterization of bacterial biofilms. In: Methods in Enzymology (Biofilms), R. Doyle (ed.). Vol. 310, pp. 166-178. Academic Press, San Diego.

Rose, J., Lisle, J. and LeChevallier, M. (1997). Waterborne cryptosporidiosis: incidence, outbreaks and treatment strategies. In: Cryptosporidium and Cryptosporidiosis, R. Fayer (ed.). pp. 93-109. CRC Press, Boca Raton.

Rose, J., Lisle, J. and Haas, C. (1996). Role of pathogen monitoring in microbial infection risk assessment. In: Modeling Disease Transmission and It's Prevention by Disinfection, C. Hurst (ed.). pp. 75-98. Cambridge University Press, UK.

Rose, J., Lisle, J. and Haas, C. (1995). Risk assessment for Cryptosporidium and Giardia in contaminated water. In: Protozoan Parasites and Water, W. Betts, D. Casemore, C. Fricker, H. Smith and J. Watkins (eds.). pp. 238-242. The Royal Society of Chemistry, Cambridge, UK.

Lisle, J., MacLeod, B. and Simpson, M. (1995). Actinomycetes. In: Problem Organisms in Water: Identification and Treatment. (2nd ed). pp. 1-6. American Water Works Association, Denver, CO.

Lisle, J. (1994). Bacteriology for Drinking Water Operators. American Water Works Association, Denver, CO.

Position Papers

Lisle & Griffin (2016) Sewage discharges into Tampa Bay. Submitted to ??????

Lisle, J. (2012). The development of a groundwater ecosystem assessment program: a paradigm shift in how the federal government manages groundwater resources. Submitted to the USGS Southeast Area Science Coordination Team and program managers.

Yates, K. and Lisle, J. (2011). Development of offshore oil wells in Cuba and potential spill impacts: scoping paper. Submitted to USGS Coastal Marine Program directors.

Publications and Abstracts in Conference Proceedings

Lisle, J., Dunigan, D., A. Esmael and A. Sutherlin. (2018) Abundances of Bacteria, VLP and Lysogens in 17,000 to 25,000 Year Old Groundwater of The Floridan Aquifer System Under Central and South Florida. International Aquatic Virus Workshop 9. University of Nebraska, Lincoln, NE.

Lisle, J. (2016) *E. coli* Inactivation in the Floridan Aquifer. American Ground Water Trust's Annual Aquifer Conference. Orlando, FL. (Invited oral presentation)

Lisle, J. and Dunigan, D. (2015) Inactivation of *E. coli* During *in situ* Exposure to Groundwater. High Plains Aquifer: Sustainability for Food Protection and Water Supply. Lincoln, NE.

Lisle, J. (2014). The inactivation of *E. coli* and *P. aruginosa* in anaerobic and reduced groundwater targeted for aquifer storage and recovery. 9th International Symposium on Subsurface Microbiology, Pacific Grove, CA.

- Lisle, J. (2014). Bacteria are no match for deep Floridan Aquifer: the fate of coliform bacteria in recharged water. American Ground Water Trust Annual Meeting: Managing Florida's Aquifers, Orlando, FL.
- Harvey, R., Underwood, J., Lisle, J., Metge, D., Aiken, G. (2014). Role of surface-water DOC in the survival, growth, and transport of *Escherichia coli* in a deep limestone aquifer in south Florida. USGS Karst Interest Group meeting, Carlsbad, NM.
- Lisle, J., Underwood, J., Metge, D., Aiken, G., Harvey, R. (2012). Growth and survival of indigenous and non-native bacteria in a deep limestone aquifer in south Florida. 34th International Geological Congress Conference, Brisbane, Australia.
- Lisle, J. (2011). The survival of fecal bacteria in the Floridan aquifer. In: Aquifer Recharge Conference: Status of Projects, Issues and Solutions. Orlando, FL. American Ground Water Trust (CD/Video).
- Harvey, R., Metge, D., and Lisle, J. (2011). Use of down-well filtration chambers to assess aquifer carrying capacity for indigenous bacteria and survival of non-indigenous bacteria in two disparate drinking-water aquifers. International Society of Subsurface Microbiology Annual Meeting, Garmisch-Partenkirchen, Germany
- Underwood, J., Metge, D., Harvey, R., Aiken, G., Butler, K., Lisle, J., Renken, R. (2010). Effect of Lake Okeechobee hydrophobic organic acids on bacterial attachment in karst limestone from the Upper Floridan aquifer. Geological Society of America Annual Meeting, Denver, CO
- Bugs In the Water: Microbial Ecology Studies in the Upper Floridan and Biscayne Aquifers (2009). In: Aquifer Storage and Recovery in the U.S.: National Status of Projects, Issues and Solutions. Orlando, FL. American Ground Water Trust (CD/Video)
- Microbial and Geochemical Investigations of the Influence of Dissolved Organic Carbon on the Microbial Ecology of Native and Blended Waters from the Upper Floridan and Biscayne Aquifers (2008). Florida Department of Environmental Protection Annual Wastewater and Underground Injection Control Meeting, Orlando, FL. (CD)
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- Lisle, J., Gordon, K., and Harwood, V. (2005). *Vibrio* spp. within Coral Mucous Provide Protective Activity Against Potential Coral Disease Pathogens. In: American Society for Microbiology 104th General Meeting, ASM, Washington, DC
- Lisle, J., Dawes, C., and Swarzenski, P. (2005). Seagrass Productivity and Establishment: Geochemical and Microbiological Considerations. In: Proceedings of the Tampa Bay Project Annual Science Meeting. US Geological Survey, Gulf Port, FL.
- Lisle, J. and Reich, C. (2005). Bacterial Productivity and Diversity in Pore Waters and Sediments of Tampa Bay. In: Proceedings of the Tampa Bay Project Annual Science Meeting. US Geological Survey, Gulf Port, FL.
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Lisle, J. and Songer, G. (2004). Clostridium perfringens Toxin Gene Occurrence in Weddell Seals in McMurdo Sound, Antarctica. In: American Society for Microbiology 103rd General Meeting, ASM, Washington, DC.

Lisle, J. and Priscu, J. (2003). Lysogenic Bacteria Occurrence and Activity in Perennially Ice Covered Lakes of the McMurdo Dry Valleys, Antarctica. In: American Society for Microbiology 102nd General Meeting, ASM, Washington, DC

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Lisle, J. and Priscu, J. (2001). Detection and enumeration of microbial life in the perennially ice covered lakes of the McMurdo Dry Valleys. In: NASA Astrobiology Institute General Meeting. Carnegie Institute, Washington, D.C.

Lisle, J., Ellis, B., Camper, A. and McFeters, G. (1999). The effects of chlorine disinfection on assimilable organic carbon on bacterial culturability and physiological activity in biofilms. In: American Water Works Association's Water Quality Technology Conference. American Water Works Association, Denver.

Lisle, J. and McFeters, G. (1999). Rapid assessment of bacterial activity in spacecraft water systems. In: Space Biomedical Investigator's Conference. Universities Space Research Association, Houston.

Lisle, J., Broadaway, S., Pyle, B. and McFeters, G. (1998). Rapid enumeration of physiologically active bacteria following drinking water-related stress. In: American Water Works Association's Water Quality Technology Conference. American Water Works Association, Denver.

Lisle, J., Pyle, B., Broadaway, S. and McFeters, G. (1998). Assessment of physiological activity and disinfection resistance in E. coli O157:H7 during starvation. In: American Society for Microbiology 98th General Meeting Abstracts, ASM, Washington, DC.

Pyle, B., Lisle, J., Broadaway, S. and McFeters, G. (1998). Rapid enumeration of active bacteria in water after disinfection. In: International Conference on Environmental Systems. SAE, Inc. , Warrendale, PA.

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Lisle, J. and Rose, J. (1995). Plasmid transfer by natural transformation in low nutrient biofilms. pp.395-396. In: International Association on Water Quality's International Conference Workshop on Biofilm Structure, Growth and Dynamics: Need for New Concepts?, Noodwijkerhout, The Netherlands. Delft University, Delft.

Jackson, R., Allen, M., Lisle, J., LeChevallier, M., Hall, N., Moyer, N., Mak, J., Lewis, C., Smith, D. and Edberg, S. (1990). Comparison of *Escherichia coli* and the fecal coliform group as indicators under the new coliform rule. pp. 728-741. In: American Water Works Association's Water Quality Technology Conference. American Water Works Association, Denver.

Lisle, J. (1989). The evaluation and justification of a flushing program. pp. 85-89. In: Proceedings of AWWA Distribution System Symposium. American Water Works Association, Denver.

Lisle, J. (1988). The use of HPC data to evaluate distribution system operational efficiency. pp. 499-507. In: Proceedings of AWWA Water Quality Technology Conference. American Water Works Assoc., Denver.

Lisle, J. (1986). Comparison of standard media and a new media with respect to recovery of stressed bacteria. pp. 71-86. In: Proceedings of AWWA Water Quality Technology Conference. American Water Works Assoc., Denver.

Invited Presentations

Recharge Water Quality Improvement During ASR Storage Phase in the Upper Floridan Aquifer (2019). South Florida Water Management District, West Palm Beach, FL.

Nutrient Removal During ASR Storage Phase by Suspended & Biofilm Bacterial Communities in the Upper Floridan Aquifer (2019). American Water Works Association/Florida Section Regional Summer Seminar Series. Tampa, FL

Microbial Inactivation & Nutrient Cycling in Aquifer Zones Targeted for ASR (2018). South Florida Water Management District, West Palm Beach, FL. (State wide webinar)

Inactivation of *E. coli* During Aquifer Storage and the Relevance to Log-Reduction Estimates (2017). American Water Works Association Contaminants Committee. (National webinar)

The Interface of Hydrology and Microbiology (2017). USGS Caribbean-Florida Water Science Center-Studies Section Annual Meeting, Archbold Biological Station, Venus, FL.

Nutrient Cycling and Reduction in Recharged Water During Storage in the Floridan Aquifer; The Role of Microbes (2016). South Florida Water Management District's Comprehensive Everglades Restoration Plan and Environmental Monitoring Review Teams Annual Meeting, Palm Beach, FL.

Microbial Inactivation and Nutrient Cycling and Reduction in Aquifer Zones Targeted for ASR (2016). South Florida Water Management District's Environmental Monitoring Review Team Annual Meeting, Palm Beach, FL.

E. coli Inactivation in the Floridan Aquifer (2016). American Ground Water Trust's Annual Aquifer Conference. Orlando, FL.

The inactivation of *E. coli* and *P. aruginosa* in anaerobic and reduced groundwater targeted for aquifer storage and recovery (2014). 9th International Symposium on Subsurface Microbiology, Pacific Grove, CA. (Presenter: Jennifer Underwood, USGS).

Bacteria no match for deep Floridan Aquifer: the fate of coliform bacteria in recharged water (2014). American Ground Water Trust Annual Meeting: Managing Florida's Aquifers, Orlando, FL.

Role of surface-water DOC in the survival, growth, and transport of *Escherichia coli* in a deep limestone aquifer in south Florida (2014). USGS Karst Interest Group meeting, Carlsbad, NM. (Presenter: Ron Harvey; J. Lisle co-author)

Biogeochemical characterization of groundwater ecosystems targeted for aquifer storage and recovery (2012). USGS Water Science Center hosted webinar, Austin, TX.

Chemical evolution of artificially recharged water: Orange County ASR facility (2012). Co-presenter. Florida Department of Environmental Protection and Florida Geological Survey hosted webinar, Tallahassee, FL.

Characterization of native microbial communities and survival of microbial indicators in the Upper Floridan Aquifer using existing Comprehensive Everglades Restoration Plan (CERP) wells: Project data review (2012). USGS hosted webinar, St. Petersburg, FL.

Natural Bacterial Inhabitants of Groundwater Systems: Their Roles in Changing the Geochemistry of Natural and Injected Waters (2012). Broward County Technical Advisory Committee. Ft. Lauderdale, FL

The Influence of Native Microbial Communities on Changes in the Geochemistry of Injected Waters During Storage in the Upper Floridan Aquifer (2012). USGS Water Science Center hosted webinar, Ft. Lauderdale, FL.

Biogeochemical characterization of groundwater systems targeted for aquifer storage and recovery (2012). USGS National Groundwater Workshop session: Advances in Understanding of Groundwater Biogeochemistry. Denver, CO

The survival of fecal bacteria in the Floridan aquifer (2011). American Ground Water Trust Annual Meeting: Aquifer Recharge Conference: Status of Projects, Issues and Solutions. Orlando, FL.

Bugs In the Water: Microbial Ecology Studies in the Upper Floridan and Biscayne Aquifers (2009). Aquifer Storage and Recovery in the U.S.: National Status of Projects, Issues and Solutions. Orlando, FL.

Significance of Bacteria, Viruses and Ciliates in the Upper Floridan Aquifer (2009). Broward County Water Advisory Board, Natural Resources Planning and Management Division Technical Advisory Committee Meeting. Plantation, FL.

Microbial and Geochemical Investigations of the Influence of Dissolved Organic Carbon on the Microbial Ecology of Native and Blended Waters from the Upper Floridan and Biscayne Aquifers (2008). Florida Department of Environmental Protection Annual Wastewater and Underground Injection Control Meeting, Orlando, FL.

Persistence and Survival of Indicator Bacteria in Water and Sediments (2006). Florida Environmental Health Association Annual Conference, Sarasota, FL.

Microbial Approaches for Assessing the Impact of ASR Injectate on Native Bacterial Populations (2005). University of South Florida Department of Geology Colloquium, Tampa, FL.

Microbial Indicators and Environmental Health: From Antarctica to Florida's Coral Reefs (2005). NOAA Great Lakes Environmental Research Laboratory (GERL) Great Lakes Seminar Series, Ann Arbor, MI.

Coral Mucous and Indigenous Bacteria: A Possible First-Line Defense Against Coral Disease Pathogens (2005). 30th Annual Eastern Fish Health Workshop/Special Topic Session on Coral Reef Health, Sheperdstown, WV.

The Occurrence of Indicator Microorganisms in the Sediments of McMurdo Sound, Antarctica (2005). Major Accomplishments and Future Directions in Public Health Microbiology Workshop. Columbus, OH.

Significance of Native Microbial Populations in Aquifer Storage and Recovery Storage Zones (2004). Aquifer Storage Recovery IV, Tampa, FL.

Microbial Ecology of Aquifer Storage and Recovery (ASR) Systems (2003). Coastal Zone Management Workshop on Aquifer Storage and Recovery. Rookery Bay National Estuarine Research Reserve's Coastal Institute, Naples, FL.

Workshop on Indicators for Pathogens in Wastewater, Stormwater & Biosolids. Water Environment Research Foundation (2003). San Antonio, TX

Lysogenic bacteria occurrence and activity in perennially ice covered lakes of McMurdo Dry Valleys, Antarctica (2002). American Society for Microbiology Florida Branch Annual Meeting, St. Petersburg, FL.

The occurrence of lysogenic bacteria and microbial aggregates in the lakes of the McMurdo Dry Valleys, Antarctica (2002). American Society for Microbiology Southeastern Branch Annual Meeting, Gainesville, FL.

Determination of physiologically active bacteria under stress in water (1998). American Society for Microbiology 98th General Meeting symposium: Solid Phase Cytometry: A Novel Real Time Analytical Technique.

The use of fluorescent stains and probes for assessment of bacterial viability (1998). American Society for Microbiology Florida Branch Annual Meeting, Coco Beach, FL.

Use of immunofluorescent assays and vital stains for examining the risks of stressed pathogens associated with water, food and biofilms (1997). American Society for Microbiology 97th General Meeting workshop

W16: Assessing the Risks of Microbial Contaminants in Water and Food.

Awards and Recognition

Star Award (2009) Recognition of outstanding performance on a research team that developed a proposal to determine the possible role that shallow retention pond systems may in carbon sequestration. Kenneth Rice, Florida Integrated Science Center, Gainesville, FL.

Star Award (2009) Recognition of outstanding performance on the project *Microbial & Geochemical Investigations of Dissolved Organic Carbon & Microbial Ecology of Native Waters from the Upper Floridan & Biscayne Aquifers* for the Miami-Dade Water & Sewer Department, Miami, FL. The research allowed the department to complete a Florida Department of Environmental Protection consent order, which was the first time this had been accomplished. The report of this research was also presented at the national level during an EPA sponsored Expert Workshop on aquifer storage and recovery technology and was highlighted as being a state-of-the-art approach for assessing microbial activities in deep groundwater systems. Robert Renken, Florida Integrated Science Center, Ft. Lauderdale, FL.

Editorial Boards and Manuscript & Grant Reviews

Journal editor: Journal of Applied Microbiology
Letters in Applied Microbiology
Microbiology Spectrum

Journal editorial board: Applied & Environmental Microbiology

Manuscript reviewer: Applied & Environmental Microbiology
Journal of Microbiological Methods
Environmental Science & Technology
FEMS Microbiology Letters
Biogeosciences
Journal of Applied Microbiology
Letters in Applied Microbiology
PLOS ONE
Journal of Environmental Management
Wetlands Ecology and Management
International Journal of Environmental Health Research
Brazilian Journal of Oceanography
Food Microbiology

Grant reviewer: USGS/BRD Global Change Research Program
Comprehensive Everglades Restoration Project
NSF/Office of Polar Programs
NSF/Ecology Program
USDA Small Business Innovation Research (SBIR) Program
Natural Environment Research Council (UK)
NASA/Astrobiology