Scott Keely, Ph.D., Research Biologist, in EPA's National Exposure Research Laboratory

Systems Exposure Division
Mailing Address

keely.scott@epa.gov

Area of Expertise: Next-generation DNA/RNA deep sequencing and molecular detection technologies focusing on human and environmental microbiomes as well as human microbial pathogens (e.g., *Cryptosporidium* species, *Giardia* species, *Toxoplasma gondii*, *Pneumocystis* species and respiratory/enteric viruses). Research topics include US EPA National Aquatic Resource Surveys (NARS) of rivers and streams microbiomes; development and application of novel water reuse treatment bacteria/bacteriophage indicators; 16S and metagenomic analysis of bacteria present in water reuse systems; single nucleotide polymorphism (SNP) analysis of *Cryptosporidium* species; single-cell genomics; data science and computational biology.

Select Publications:

Staggs SE, Keely SP, Ware MW, Schable N, See MJ, Gregorio D, Su C, Dubey JP, Villegas EN. Using blue mussels (*Mytilus* spp.) as biosentinels of *Cryptosporidium* spp. and *Toxoplasma gondii* contamination in marine aquatic environments. Parasitol Res. 2015 Dec;114(12):4655-67. doi: 10.1007/s00436-015-4711-9.

Alum A, Villegas EN, Keely SP, Bright K, Abbaszadegan M. Detection of protozoa and amoeba in surface and finished waters. In: Manual of Environmental Microbiology 4th ed. ASM, Washington, DC Ed: Hurst, Crawford, Lipton, Mills, and Stetzenbach (In Press).

Keely SP, Brinkman NE, Zimmerman BD, Wendell D, Wiles K, De Long S, Sharvelle S, Garland JL. The relative importance of human - and infrastructure -associated bacteria in graywater. J Appl Microbiol. 2015 Jul;119(1):289-301. doi: 10.1111/jam.12835.

Zimmerman BD, Ashbolt NJ, Garland JL, Keely SP, Wendell D. Human mitochondrial DNA and endogenous bacterial surrogates for risk assessment of graywater reuse. Environ Sci Technol. 2014 Jul 15;48(14):7993-8002. doi: 10.1021/es501659r.

Ware MW, Keely SP, Villegas EN. 2013. Development and evaluation of an off-the-slide genotyping technique for identifying Giardia cysts and Cryptosporidium oocysts directly from US EPA Method 1623 slides. J Appl Microbiol. 2013 Jul;115(1):298-309. doi: 10.1111/jam.12223.

Staggs SE, Beckman EM, Keely SP, Mackwan R, Ware MW, Moyer AP, Feretti JA, Sayed A, Xiao L, Villegas EN. 2013. The applicability of TaqMan-based quantitative real-time PCR assays for detecting and enumerating Cryptosporidium spp. oocysts in the environment. PLoS One. 2013 Jun 21;8(6): e66562.

View more research publications by Keely Scott.

Education:

- Ph.D. Molecular Genetics, Biochemistry and Microbiology, College of Medicine, University of Cincinnati
- B.S. Biology & B.A. Chemistry, Glenville State College

Professional Experience:

Honors and Awards:

- U.S. EPA Special Achievement Award: Exceptional Support to NERL Research
- U.S. EPA Outstanding Technical Assistance, ORD Honor Award