Molecular methods in biological systems

McMahon K.D., Gu A.Z., Nerenberg R., Sturm B.M.

Departments of Civil and Environmental Engineering, and Bacteriology, University of Wisconsin-Madison, 1415 Engineering Drive, Madison, WI 53706, United States; Department of Civil and Environmental Engineering, Northeastern University, Boston, MA, United States; Department of Civil Engineering and Geological Sciences, University of Notre Dame, United States; Department of Civil, Environmental, and Architectural Engineering, University of Kansas, Lawrence, KS, United States

Abstract: In 2008, molecular methods continue to be mainstream in environmental engineering research. Fingerprinting techniques such as denaturing gradient gel electrophoresis (DGGE) and terminal restriction fragment length polymorphism (T-RFLP) analysis continue to be popular tools to track differences in microbial community composition over time and space. Fluorescent in situ hybridization (FISH) of whole cells was also commonly employed. Real time quantitative PCR methods appear to have become much more mainstream and were used to conduct comparative analyses of communities in different systems and over time. In this review we chose to focus on new or significantly revised methods, novel applications of existing methods, and a few high quality reviews published in 2008, since the body of literature using molecular methods in environmental engineering has become very large.

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Authors with affiliations:

1. McMahon, K.D., Departments of Civil and Environmental Engineering, and Bacteriology, University of Wisconsin-Madison, 1415 Engineering Drive, Madison, WI 53706, United States
2. Gu, A.Z., Department of Civil and Environmental Engineering, Northeastern University, Boston, MA, United States
3. Nerenberg, R., Department of Civil Engineering and Geological Sciences, University of Notre Dame, United States
4. Sturm, B.M., Department of Civil, Environmental, and Architectural Engineering, University of Kansas, Lawrence, KS, United States