



Helena Solo-Gabriele, PhD

Professor, Environmental Engineering

**NSF NIEHS Oceans & Human Health Center Role: Co-PI Recreational
Microbes**

University of Miami
Dept. of Civil, Arch., and Environmental Engineering
P.O. Box 248294
Coral Gables, FL 33124-0630

Tel: (305) 284-3489
Fax:(305) 284-3492
Email: hmsolo@miami.edu

Education

- B.S. (1987) Civil Engineering, University of Miami, Coral Gables, FL
- M.S. (1988) Civil Engineering (Environmental Emphasis), University of Miami, Coral Gables, FL
- Ph.D. (1995) Civil and Environmental Engineering, Massachusetts Institute of Technology, Cambridge, MA.

Research Interests

My research areas are diverse and include: 1) microbes in water, 2) water flows within the Everglades watershed, and 3) metals in pressure treated wood. The common thread among my research lines is environmental measurements. Most

of my projects involve the collection of data from either the field or laboratory, or preferably both. Two of my research lines (microbes and treated wood) are strongly tied to public health issues and the third is indirectly tied to public health given that the Everglades serves as the ultimate source of drinking water for large urban communities.

My team's work in the area of microbes in water has shown that there are flaws in conventional thinking concerning the use of microbial indicators. There are microbes in the environment that are more persistent (such as *Cryptosporidium*) than the traditional microbial indicators. So drinking water outbreaks can occur even though the microbial indicators used to test those waters indicate that the water is safe. Another important finding is that the microbial indicators (e.g. *E. coli* and enterococci) are not necessarily indicators of fecal contamination and will multiply under certain environmental conditions thereby artificially elevating the microbial indicator concentrations above that from fecal impacts alone. Under these conditions, water bodies may be unnecessarily closed for recreational use. Further research is needed to determine whether pathogens also multiply in the environment and to identify alternative methods for assessing the microbiological safety of water.

Representative Publications

Shibata, T., Solo-Gabriele, H.M., Fleming, L., Elmir, S., 2004. Monitoring Marine Recreational Water Quality Using Multiple Microbial Indicators in an Urban Tropical Environment. *Water Research*, 38: 3119-3131.

Desmarais, T.R., Solo-Gabriele, H.M., and Palmer, C.J., 2002. Influence of Soil on Fecal Indicator Organisms in a Tidally Influenced Subtropical Environment. *Applied and Environmental Microbiology*, 68(3): 1165-1172.

Solo-Gabriele, H., Wolfert, M, and Palmer, C., 2000. Sources of *E.coli* to a Sub-Tropical Coastal Environment. *Applied and Environmental Microbiology*, 66(1): 230-237.

Solo-Gabriele, H.M., Neumeister, S.M., Dubon, J.M., and Palmer, C.J., 1998. Occurrence of *Cryptosporidium* Oocysts and *Giardia* Cysts in Water Supplies of San Pedro Sula, Honduras. *Pan American Journal of Public Health*, 4(6): 398-400.

More Info:

http://www.miami.edu/UMH/CDA/UMH_Main/1,1770,6489-1;6806-3,00.html