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Martin F. Polz

Professor

MIT
Parsons Laboratory
Room 48-415/417
15 Vassar Street
Cambridge, MA, 02139

Telephone: 617.253.7128

Email: mpolz@mit.edu

Research Website: <http://polzlab.mit.edu/>

Assistant: Darlene Strother / strother@mit.edu

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Education

- Mag. rer. nat. 1991, University of Vienna
- A.M. 1995, Harvard University
- Ph.D. 1997, Harvard University

[Curriculum vitae \(pdf\)](#)

Research Interests

Professor Polz studies environmental microbiology, looking at the dynamics that govern microbes' interactions and evolution to learn the role of individual populations within the community, the range of genomic similarity that defines a functional unit, and what mechanisms govern diversification of microbial populations in the environment. His research group addresses these questions using a combination of quantitative molecular approaches, genomics, physiology and modeling. The group is also exploring environmental and evolutionary mechanisms that trigger the emergence of pathogenic variants among microbes.

Teaching Interests

- Environmental Microbiology

Selected Publications

1. Acinas, S.G., Marcelino, L., Klepac-Ceraj, V., Polz, M.F. (2004). Divergence and redundancy of 16S rRNA sequences in genomes with multiple rrn operons. *J. Bacteriol.* 186(9): 2629-2635.
2. Sarma-Rupavtarm, R.B., Ge, Z., Schauer, D.B., Fox, J.G., Polz, M.F. (2004). Spatial distribution and stability of the eight microbial species of the Altered Schaedler Flora in the gastrointestinal tract of mice. *Appl. Environ. Microbiol.* 70(5):2791-2800.

3. Acinas, S.G., Klepac-Ceraj, V., Hunt, D.E., Pharino, C., Ceraj, I., Distel, D.L., Polz, M.F. (2004). Fine-scale phylogenetic architecture of a complex bacterial community. *Nature*. 430:551-554.
4. Thompson, J.R., Pacocha, S., Pharino, C., Klepac-Ceraj, V., Hunt, D.E., Benoit, J., Sarma-Rupavtarm, R., Distel, D.L., Polz, M.F. (2005). Genotypic diversity within a natural coastal bacterioplankton community. *Science*. 307:1311-1313.
5. Marcelino, L., Backman, V., Donaldson, A., Steadman, C., Thompson, J.R., Pacocha-Preheim, S., Lien, C., Lim, E., Veneziano, D., Polz, M.F. (2006). Accurately quantifying low-abundant targets amid similar sequences by revealing hidden correlations in oligonucleotide microarray data. *Proc. Natl. Acad. Sci. USA*103(37): 13629-13634.

Please refer to [Polz Lab Research site](#) for complete publications list.



Massachusetts Institute of Technology Department of Civil and Environmental Engineering
77 Massachusetts Avenue, Room 1-290 ■ Cambridge, MA 02139-4307 ■ (617) 253-7101

