Reading List for SSI
* denotes required reading

Living soils and microbial diversity (intro)

*Falkowski, P. G., T. Fenchel, and E. F. Delong. 2008. The microbial engines that drive Earth's biogeochemical cycles. Science **320**:1034-1039.
*Torsvik, V., L. Øvreås, and T.F. Thingstad. 2002. Prokaryotic diversity – Magnitude, dynamics and controlling factors. Nature 296:1064-1066.
Fierer, N., A. S. Grandy, J. Six, and E. A. Paul. 2009. Searching for unifying principles in soil ecology. Soil Biology and Biochemistry **41**:2249-2256.

Microbial Biogeography and and physiology

De Wit, R., and T. Bouvier. 2006. 'Everything is everywhere, but, the environment selects'; what did Baas Becking and Beijerinck really say? Environmental Microbiology 8:755-758.
Green, J. L., B. J. M. Bohannan, and R. J. Whitaker. 2008. Microbial biogeography: From taxonomy to traits. Science 320:1039-1043.
*Fierer, N., and R.B. Jackson. 2006. The diversity and biogeography of soil bacterial communities. PNAS 103:626-631.
*Schimel, J., T. C. Balser, and M. Wallenstein. 2007. Microbial stress-response physiology and its implications for ecosystem function. Ecology **88**:1386-1394.
Fierer, N., M. A. Bradford, and R. B. Jackson. 2007. TOWARD AN ECOLOGICAL CLASSIFICATION OF SOIL BACTERIA. Ecology **88**:1354-1364.
*Or, D., B. F. Smets, J. M. Wraith, A. Dechesne, and S. P. Friedman. 2007. Physical constraints affecting bacterial habitats and activity in unsaturated porous media - a review. Advances in Water Resources **30**:1505-1527.

Molecular techniques

*Hirsch, P. R., T. H. Mauchline, and I. M. Clark. 2010. Culture-independent molecular techniques for soil microbial ecology. Soil Biology and Biochemistry **42**:878-887.
Yergeau, E., S. A. Schoondermark-Stolk, E. L. Brodie, S. Dejean, T. Z. DeSantis, O. Goncalves, Y. M. Piceno, G. L. Andersen, and G. A. Kowalchuk. 2009. Environmental microarray analyses of Antarctic soil microbial communities. Isme Journal **3**:340-351.
Wilmes, P. and P. L. Bond. 2009. Microbial community proteomics: elucidating the catalysts and metabolic mechanisms that drive the Earth's biogeochemical cycles. Current Opinion In Microbiology **12**:310-317.
Lauber, C. L., M. Hamady, R. Knight, and N. Fierer. 2009. Pyrosequencing-Based Assessment of Soil pH as a Predictor of Soil Bacterial Community Structure at the Continental Scale. Appl. Environ. Microbiol. **75**:5111-5120.
Keller, M. and R. Hettich. 2009. Environmental Proteomics: a Paradigm Shift in Characterizing Microbial Activities at the Molecular Level. Microbiology and Molecular Biology Reviews **73**:62-+.
Neufeld, J. D., M. Wagner, and J. C. Murrell. 2007. Who eats what, where and when? Isotope-labelling experiments are coming of age. Isme Journal **1**:103-110.

*Zak, D.R., C.B. Blackwood, and M.P. Waldrop. 2006. A molecular dawn for biochemistry. Trends in Ecology and Evolution 21:288-295.

Decomposition and Enzymes

*Baldrian, P. 2009. Microbial enzyme-catalyzed processes in soils and their analysis. Plant Soil and Environment **55**:370-378.

*Wallenstein, M. D. and M. N. Weintraub. 2008. Emerging tools for measuring and modeling the in situ activity of soil extracellular enzymes. Soil Biology and Biochemistry **40**:2098-2106.

Bradford, M. A., B. W. Watts, and C. A. Davies. 2010. Thermal adaptation of heterotrophic soil respiration in laboratory microcosms. Global Change Biology **16**:1576-1588.

Allison, S. D., M. D. Wallenstein, and M. A. Bradford. 2010. Soil-carbon response to warming dependent on microbial physiology. Nature Geosci **3**:336-340.

Ayres, E., H. Steltzer, B. L. Simmons, R. T. Simpson, J. M. Steinweg, M. D. Wallenstein, N. Mellor, W. J. Parton, J. C. Moore, and D. H. Wall. 2009. Home-field advantage accelerates leaf litter decomposition in forests. Soil Biology & Biochemistry **41**:606-610.