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# BIOE 594.01B: Seminar - Soil Ecology - Opening the Black Box

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## Opening the Black Box – What can Founding Papers in Ecology Teach Us about Soil Microbial Interactions?

Time: Thur 3.40 – 5.00pm. Stone 113  
Instructor: Dr. Ylva Lekberg (ylekberg@mpgranch.com)

- 28 Aug. Introduction to Soil Ecology
- 4 Sept. The Ecological Niche  
Founding paper: Connell JH. 1961. Influence of interspecific competition and other factors on the distribution of the barnacle *Chtamalus stellatus*. Ecology 42:710-723
- 11 Sept. The Neutral model for species distributions  
Founding paper: Rosindell et al. 2012. The case for ecological neutral theory. TRENDS 27: 203-208
- 18 Sept. Life-history strategies  
Founding paper: Pianka 1970. On r and K selection. The American Naturalist 104:592-597
- 25 Sept. Succession  
Founding paper:  
Connell and Slatyer 1977. Mechanisms of succession in natural communities and their role in community stability and organization. The American Naturalist 111:1119-1144
- 2 Oct. Drivers of Diversity  
Founding paper: Hutchinson. 1959. Homage to Santa Rosalia or Why are there so many kinds of animals? The American Naturalist 93:145-159.
- 9 Oct. Island Biogeography  
Founding paper: Simberloff and Wilson. 1969. Experimental zoogeography of islands: The colonization of empty islands. Ecology 50: 278-296
- 16 Oct. Food webs – energy transfer, complexity and stability  
Founding paper: Lindeman . 1942. The trophic-dynamic aspect of ecology. Ecology 23: 399-417.
- 23 Oct. Trophic cascades

Founding paper: Hairston et al. 1960. Community structure, population control, and competition. *The American Naturalist* 94: 421-425

- 30 Oct. Climate change: What do we know about responses by soil biota?
- 6 Nov. Methodological advances: What tools are available in soil ecology?
- 13 Nov. Statistical issues and experimental design
- 20 Nov. Invasion: Are there invasive soil microbes and are they behaving like invasive plants and animals?
- 4 Dec. Micro to Macro: How is soil ecology reshaping ecological theory?