

Long Term Ecological Research: Advancing Ecological Theory

Syllabus for fall semester of 2016

Time. The class will be held on Friday 4-5:30 pm Eastern Time. The first day of class will be August 26 and the last day December 2.

Contacts. The course is being organized by Evelyn Gaiser (gaisere@fiu.edu) and John Kominoski (jkominos@fiu.edu) at Florida International University. The course is being offered for credit at Florida International University and at the following additional institutions. Enrolling in these courses may involve additional course work beyond the weekly internet lecture. See the bottom of the syllabus for instructions about logging in and taking the course for credit.

Please add your institution, course numbers and instructors here

Institution	Course	Instructor/Email
Florida International University	BSC 6926	Evelyn Gaiser (gaisere@fiu.edu) John Kominoski (kominos@fiu.edu)
Brigham Young University	BIO 599	Byron Adams (bjadams@byu.edu)
University of Houston	BIOL 6197	Steven Pennings (spennin@Centra.UH.EDU)
Oregon State University	GEOG 599	Julia Jones (geojulia@comcast.net)

Course content. As the Long Term Ecological Research (LTER) Network enters into its 35th year, the opportunity for long-term data to address critical questions that advance general ecological theory and understanding has never been more informed. Course objectives are to identify important, general ecological questions that a) derive from key theories, b) are motivated by the analysis of long-term data, and c) require additional, long-term data collection to be answered by hearing from key ecologists who have been informing ecological theory through their long term research. We will: 1) discuss the importance of long term investigations for enhancing forecasts of future ecological patterns, 2) discuss the essential components of a successful integrated framework for long term core datasets, and 3) outline important general ecological questions and theories that are only tenable through continued long-term data collection and analysis.

SCHEDULE AND READINGS

Invited Speakers/Discussion Leaders:

Aug 26: *Ecological Stoichiometric Theory.* **Bob Sterner**, Professor and Director, Large Lakes Observatory, University of Minnesota, Duluth.

Sept 2: *Big Ecology & LTER.* **Dave Coleman**, Professor Emeritus, Odum School of Ecology, University of Georgia

Sept 9: *Metabolic Theory*. **Jim Brown**, Distinguished Professor, Department of Biology, University of New Mexico

Sept 16: *Resource Ratio Theory*. **Eric Seabloom**, Associate Professor, Dept. Ecology, Evolution and Behavior, University of Minnesota

Sept 23: *Disturbance Ecology*. **Jess Zimmerman**, Professor, Institute for Tropical Ecosystem Studies, University of Puerto Rico

Sept. 30: *Biodiversity-Ecosystem Functioning Theory*. **David Hooper**, Professor, Department of Biology, Western Washington University

Oct 7: *Integrating Ecological and Evolutionary Theory*. **Gabriel Yvon-Durocher**, Senior Lecturer in Natural Environment, University of Exeter

Oct 14: *Evolutionary Ecology*. **David Reznik**, Professor of Biology, University of California, Riverside.

Oct 21: *Niche & Neutral Theories of Ecology*. **Stephen Hubbell**, Distinguished Professor of Ecology and Evolutionary Biology, University of California, Los Angeles

Oct 28: *Ecosystem Subsidies*. **Mary Power**, Professor, Department of Integrative Biology, University of California

Nov 4: *Mass Balance in Watershed Science*. **Gene Likens**, Founding Director, Cary Institute of Ecosystem Studies

Nov 11: *Top-down versus bottom-up controls: the long and the short*. **Mike Pace**, Professor, Department of Environmental Sciences, University of Virginia

Nov 18: *Urban Past, Present, & Future*. **Nancy Grimm**, Professor of Ecology and Senior Sustainability Scientist, School of Life Sciences and Global Institute of Sustainability, Arizona State University

Dec 2: *Ecosystem Connectivity*. **Catherine Pringle**, Distinguished Professor, Odum School of Ecology, University of Georgia

How to participate. If you wish to take this course for credit, you need to enroll in one of the courses listed on the first page or arrange a “special topics” course with a willing instructor at your home institution. If you simply wish to sit in on the lectures, you are welcome to do so without formally enrolling. In either case, please email the course organizers, Evelyn Gaiser (gaisere@fiu.edu) and John Kominoski (jkominos@fiu.edu), so that they can add you to the email list for course-related announcements. All you’ll need is a computer with a high-speed connection to the internet.

Please use the following link to log in: <http://connect.fiu.edu/ecological-theory/>. You need a good internet connection. Ethernet is better than wireless. The first time you log in, you may need to download a flash plugin. This takes only a couple seconds. Sign in as “guest”, but enter a name so that we can identify you as an individual. Evelyn and John will then allow you to enter the meeting. This may take a couple minutes if a lot of people are entering at the same time. The software has a chat function where you can type comments and icons that you can click to “raise your hand” to ask a question. We will enable video for some participants only as needed to save bandwidth. We will enable your microphone when you are recognized to ask a question.