

California State University, Fresno, Department of Biology Friday Seminar Series Presents Dr. Alija B. Mujic



Dr. Alija Mujic earned a Ph.D. degree from Oregon State University and a B.S. and B.A. degrees from the University of California, Santa Cruz. After graduate study he served for for three years as a postdoctoral researcher at the University of Florida and prior to graduate study he worked as a native plant restoration ecologist in California's central coast. He is currently an assistant professor in the department of Biology at California State University, Fresno. Dr. Mujic's primary research tools are molecular genetic analyses and his research is broadly involved in the systematics, evolutionary biology, and ecology of fungi with special attention to symbiotic relationships between fungi and plants. Specifically, he is fascinated by mutualistic ectomycorrhizal symbioses and their influence upon plant establishment, forest community structure, and ecosystem stability. Dr. Mujic has a broad training in biology, but is also cross trained in computer science, with a B.S. in computer science. This expands the breadth of his research through incorporation of computational methods of data analysis.

Investigating the Ectomycorrhizal Ecology of California Native Plants

Mycorrhizal fungi occur in the soil, where they grow symbiotically with a wide variety of plants. In a complex form of mutualism, mycorrhizal fungi facilitate the absorption of water and minerals for their host plants by essentially serving as very fine, hair-like extensions of the roots. In exchange, the plants provide the mycorrhizal fungi growing in/on their roots with photosynthetically derived sugars. 80% of plant species on Earth engage in this mycorrhizal symbiosis. A mycoheterotroph (MH) is a plant that cannot photosynthesize and instead depends on mycorrhizal fungi in order to obtain carbon. MH plants essentially intercept the flow of nutrients between plants and fungi via the mycorrhizal network. Because they are non-photosynthetic and thus unable to contribute photosynthetically-derived sugars to the network, MH plants are referred to as parasites throughout the modern scientific literature. However, no studies have been conducted that show a net fitness cost incurred upon either the plant or fungal hosts involved in any MH symbiosis.

If you need a disability-related accommodation or wheelchair access, please contact Lindasue Garner at the Department of Biology at 278-2001 or e-mail lgarner@csufresno.edu (at least one week prior to event).