

The Department of Environmental Studies at San José State University is pleased to present our second public research presentation for Fall 2021:

WEDNESDAY, September 29, 2021

12:30 PM – 1:45 PM

<https://sjsu.zoom.us/j/5858275843> password: ENVS@SJSU



Dr. Jessica Castillo Vardaro

Assistant Professor

Department of Biology

San José State University

One-stop shopping: what can fecal samples teach us about American pika population vulnerability?

Abstract: The American pika (*Ochotona princeps*) is a small, charismatic, climate-sensitive mammal that is restricted to the cool microclimates found within the crevices of fractured rock, such as talus slopes and lava flows. Although typically found within these specialized habitats, at high elevation, they may persist at lower elevations if they are able to behaviorally thermoregulate and avoid hot daytime temperatures. American pikas have received significant attention over the past decade due to documented local extinctions, particularly within the relatively hot, dry, and geographically isolated Great Basin ecoregion. Our current research focuses on the Sierra Nevada lineage (*O. p. schisticeps*), which includes populations in the Sierra Nevada Mountains and the Great Basin ranges of California, Nevada, and Oregon. We are investigating the interrelationships among pika population connectivity, genetic diversity, habitat quality, diet, and intestinal parasites, in order to better understand why some populations appear vulnerable while others are thriving. Our work integrates field ecology with molecular genetics approaches, using non-invasive collection of fecal material to identify plant and parasite species, and investigate pika population genetics, from a single DNA source..

Dr. Jessica Castillo Vardaro is an assistant professor of Ecology and Evolutionary Biology in the department of Biological Sciences at SJSU. Originally from Southern California, she completed her BS in Conservation and Resource Studies from UC Berkeley and a PhD in Wildlife Science from Oregon State University. Her dissertation investigated the landscape and population genetics of American pikas across the species range. Following her PhD, she completed a postdoc at Princeton University where she conducted a population genetics study and diet analysis of African termites. She joined the faculty at SJSU in January 2019. Her work on pikas integrates multiple field and molecular approaches to understanding the potential vulnerability of pikas to climate change. When not studying pikas, Dr. Castillo enjoys gardening and relaxing at the beach with her dog Zuko.



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