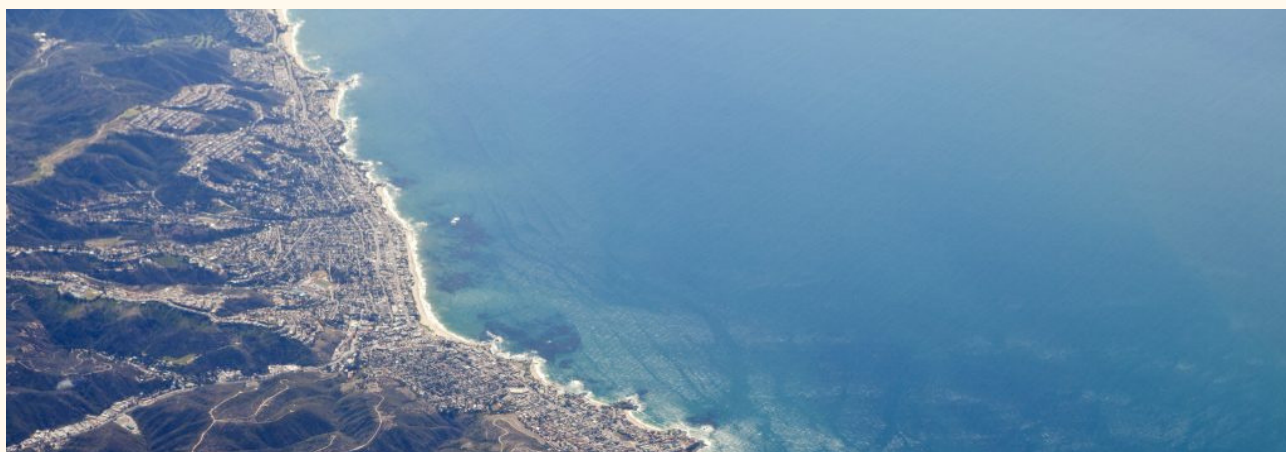


A SIP OF SUMMER

OFFICIAL NEWSLETTER OF RIDGE 2 REEF



Spring Quarter in Review

The 2019 Spring Quarter featured major events supported by our faculty, staff, and trainees. Our first step in the path towards excellence this past quarter was the creation of our social media sites and launch of our new and updated website.

From there, principal investigator Dr. Steven Allison participated in the 25th Annual Coalition for National Science Funding (CNSF) Capitol Hill Exhibition on April 30th, where he interacted with legislators in order to relay the results of his lab's research as well as R2R's training program and success thus far.

In May, we co-sponsored UCI's first Wikipedia Edit-A-Thon, aimed at improving diversity for women. While only 17% of biographies are about women, there are many female visionaries and scholars that demand fair attention, especially in STEM.

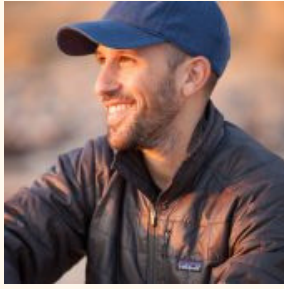


R2R Research Training Seminar Highlights

Guided by trainee Nikki Fiore, first-year R2R trainees participated in a two-quarter seminar aimed at building connections with career professionals.

- From Dr. Sherri Hunt (of EPA) our trainees learned that one of the communication tools they must master in order to continue promoting change is the ability to connect the dots for their readers while emphasizing the legibility of content, references, and citations.
- Ken Schiff (of Southern California Coastal Water Research Project) posited four questions for our trainees aimed at helping them decide on a career path:
 - What are the pay and benefits?
 - How much freedom do you have to do what you want to do?
 - Can you market? You have to market your job to receive adequate funding to do it.
 - How does your research matter to the general populous and fit into other people's research?
- From Lauren Lyon (of UCI), trainees learned that the best approach to crafting a resume and CV is to stick with the classics. By adhering to typical formatting, hiring committees are able to find the information they need to value an application appropriately.

Research Highlights



Recent R2R MS graduate Amos Zerah shared the results of his capstone project in his abstract:

I investigated the impact of two climate-change type droughts (2000-2003, 2011-2014) on the piñon-juniper woodland in Cedar Mesa, UT. In addition to its intrinsic and functional significance, this ecosystem provides essential wood fuel for Native American communities for cooking and heating.

To assess woodland productivity and recovery rates, I used remote sensing vegetation indexes of NDVI and LAI which were collected between 2000-2019 by MODIS (NASA) satellite. Next, I used field surveys and observations to create a heat map of harvest intensity and tested it with remote sensing data of different areas across Cedar Mesa as a way to detect human activity (firewood harvest) and its impact on the woodland. Results showed fast recovery of woodland NDVI after drought events and no significant decline over time. Also, although limited, the preliminary results suggest a possible positive relationship between human activity and forest productivity.



Recent graduate Marcus Gonçalves shared his abstract for the upcoming Cal-IPC Symposium in October:

A major challenge in managing invasive sea lavender is that we do not currently know the extent of its distribution nor which environmental characteristics favor invasion. Understanding these factors is critical for site prioritization and for developing an effective Bay-wide approach for monitoring and management.

Here we present the results from recent survey and treatment campaigns of invasive sea lavender along with the methods used to survey known and new populations, detect recent infestations and to monitor the treatment progress of invasive plant removal treatments. We will discuss the monitoring plan developed to support UNB land managers in their efforts to control invasive sea lavender. Included will be guidelines for prioritizing sites for treatment based on the degree of infestation, potential for dispersal and threat to endangered wildlife and plant species in UNB.



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Microbiomes and Global Change:

2019 Summer Institute

This year's Summer Institute aimed at not only improving attendees' scientific communication skills, but advancing the emerging field of microbiomes and global change.

Professor Naomi Levine from USC taught the value and benefits of understanding and modeling multi-stressor changes in marine ecosystems. An afternoon workshop explored coding and model analysis techniques using Matlab.

NAU's Professor Bruce Hungate explained challenges in scaling from microbes to ecosystems to Earth. Trainees worked in teams to evaluate assumptions and test their scientific instincts using datasets.

Professor Aimée Classen, UVM Ecosystem ecologist, engaged with attendees on how scientific teams are figuring out how microbes and ecosystems respond to global change. Classen also led an activity during which trainees delved into the scientific literature to uncover patterns in ecosystem responses to global change manipulations.

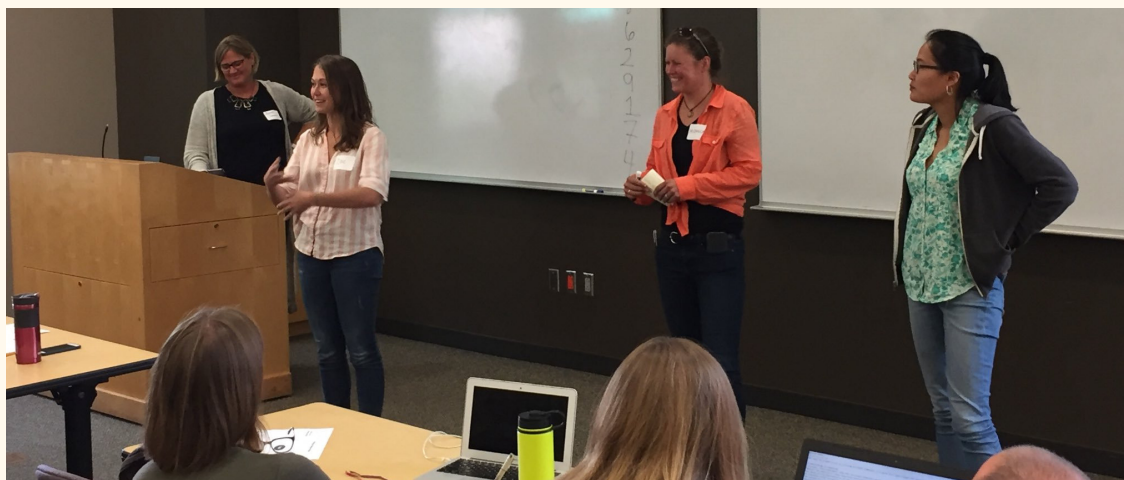
UCSB Professor Alyson Santoro narrowed in on microbes and nitrogen cycling in a changing ocean. In her lab, Santoro cultures deep-sea microbes and even commands a marine "robot army" to study nutrients that support the ocean food chain.

During a workshop by Claire Horner-Devine of Counterspace Consulting, participants enjoyed discussing how to advance diversity and equity in STEM: "Diversity, equity, and inclusion are the pathway to excellence in academic research."



Attendees participated in various activities, such as a workshop on team science and collaboration skills from Professor Maritza Salazar Campo as well as a communication skills workshop by Bri McWhorter (above).

Towards the end of the week, attendees gave grant proposal pitches to integrate microbes and global change while practicing their scientific communication skills (below).



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