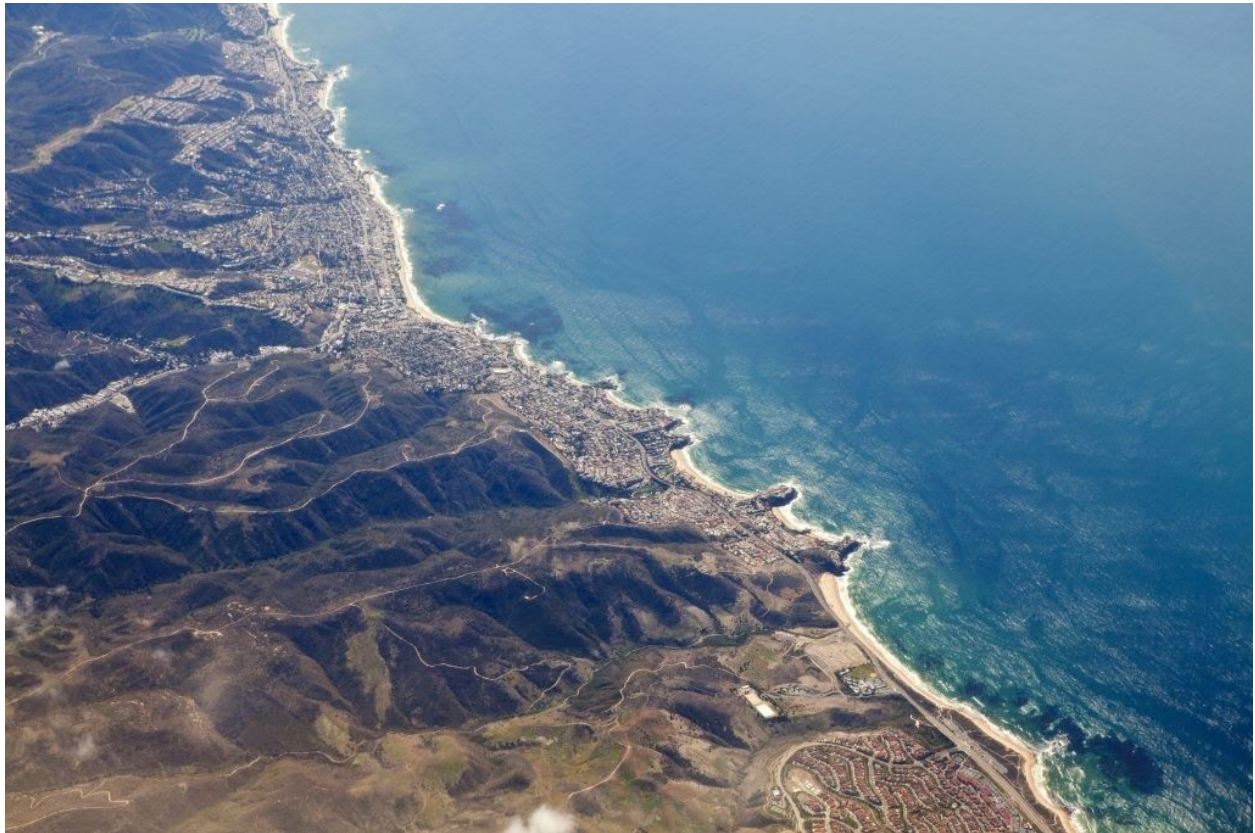


# RIDGE 2 REEF TRAINING PROGRAM HANDBOOK



THE UNIVERSITY OF CALIFORNIA, IRVINE  
2019–2020

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## THE TRAINING PROGRAM

Welcome to the R2R Graduate Training Program. This handbook contains important information on academic requirements, optional resources, opportunities, and program policies. Please refer to this handbook throughout your years with us.

## PROGRAM SUMMARY

There is a national need for science-based environmental management in urban complexes like southern California where large human populations interact with valuable natural resources. A parallel workforce need exists for graduates trained with the skills to inform or become practitioners who implement management solutions. The UCI Ridge 2 Reef (R2R) training program aims to help meet these national needs.

R2R will train graduate students in the process of convergent science whereby engineers, scientists, and practitioners co-develop research priorities to solve common problems. The R2R curriculum focuses on interdisciplinary knowledge, professional development, and communication skills.

Trainees who complete program requirements and an internship will receive a Certificate in Urban Ecosystem Management to facilitate career placement. Outstanding PhD trainees may receive a one year R2R Fellowship that includes tuition and stipend support.

## PARTICIPATING DEPARTMENTS

- Ecology and Evolutionary Biology
- Earth System Science
- Civil and Environmental Engineering
- Chemistry
- History

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## TRAINING OUTLINE

Included below are sample programs for both PhD and Masters students participating in R2R. PhD students are admitted to R2R until graduation. The first two years in the program are structured, whereas subsequent years are more flexible and customized for each trainee.

### FALL ORIENTATION

All trainees must attend the fall orientation each year in which they are in the program, in order to facilitate familiarity with the program, fellow cohort members, and faculty and staff.

### Individual Development Plan (IDP)

During the beginning of the Fall Quarter, trainees must meet with their department academic advisor in order to create an Individual Development Plan (IDP). The IDP needs to be uploaded to the trainee's Google Drive folder. The Academic Coordinator will share the Google Drive folder with each trainee.

Students must upload their home department IDP to their Google Drive folder by Nov. 1st of each year. Throughout the year, IDPs must be updated with student accomplishments. Everyone should have access to their google folder; if you do not, please let the Academic Coordinator know.

If your home department IDP does not already ask for it, then please make sure to add the following information to your IDP:

- 1) List Professional Development Activities (List any talks, outreach presentations, workshops, mentoring etc, that you will participate in. Include dates, titles, locations, and sponsors as appropriate)
- 2) List any products that you are a part of (Papers, abstracts, posters, presentations, etc. Include all authors, dates, titles, and citation information)
- 3) List any proposals/grants you are writing or have received (Include collaborators, project title, your role, funding source, submission and/or start dates)

## YEARS 1-2

### MASTERS AND PHD STUDENTS

The training outcomes for year one are an improvement in knowledge and research, data analysis, interdisciplinary collaboration, and communication skills. The training outcomes for year two are leadership skills, research products, career development, public engagement, professional certification, and career placement. These goals are aimed at preparing students for independent research, internships, and careers after their graduation, whether that be in the business sector, independent research, or continuing academic study.

<b>Year 1</b>	<b>Training</b>
Fall	Communication skills (ECO EVO 203A)
Winter	R2R research training seminar
Spring	R2R research training seminar
Summer	Summer Institute (optional)

<b>Year 2</b>	<b>Training</b>
Fall	Environmental solutions practicum (ESP)
Winter	ESP
Spring	ESP
Summer	Summer Institute (optional)

## YEARS 3+ FOR PHD STUDENTS

Training outcomes beyond year 2 in the program include: progress toward scientific discovery, advancement to candidacy, partnership/internship experience, research products, career development, public engagement, professional certification, and career placement. R2R training activities in years 3 and beyond will be determined by individual trainee needs identified through IDPs and met through workshops, the summer institute, or other targeted activities.

### *Partnership/Internship Experience*

Trainees are expected to develop partnerships that help put conceptual knowledge into practice. To achieve this goal, trainees should work with advisors and program staff to develop a partnership or internship experience related to the trainee's research and career goals. Partnerships and internships can take various forms according to the professional needs of the trainees and partners involved. For example, trainees might develop a partnership with a land management agency to collaborate on a management plan or data analysis project. Other trainees might pursue more traditional internship experiences with private industry or public agencies to develop specific skills or complete particular projects. The partnership/internship experience should be tailored to the individual trainee and partner needs in terms of timing and structure.

The R2R program has resources to support partnerships/internships. The first and second year curriculum, especially the ESP, are designed to give trainees the tools needed to navigate partnerships effectively. If internships or partner projects are unpaid, trainees may apply for R2R fellowships to cover salary during the partnership/internship experience. In addition, there are program funds available to cover certain non-salary expenses related to internships.

## **COURSE SPECIFICATIONS**

First year trainees will engage in two courses to supplement their education: ECO EVO 203A and ECO EVO 203B. Second year trainees must enroll in the Environmental Solutions Practicum, a year of skill-building classes that are subject to change each year.

### **COMMUNICATIONS SKILLS COURSE (ECO EVO 203A)**

This course trains students to communicate with non-specialist audiences about climate and environmental change issues. The course features a series of workshops led by experts on the technical, presentation, and contextual skills required for effective communication. Students will be prepared to convey messages across a range of media types and increase their competitiveness for career positions.

By the end of this course, students will be able to:

- Communicate their research interests to a broad audience
- Craft messages to target specific audiences
- Design and present visual media about environmental issues
- Address environmental issues from an interdisciplinary perspective
- Prepare for job interviews in a range of disciplines

### **R2R RESEARCH TRAINING SEMINAR (ECO EVO 203B)**

The yearly, mandatory seminar for first-year R2R trainees is listed under the Department of Ecology and Evolutionary Biology as a 2 unit course. This course will train graduate students on professional development skills and on how to build partnerships with groups outside of academia. The seminar is devoted to the application of scientific principles to the understanding and resolution of environmental problems of both local and global nature. Current problems are approached through a combination of readings, group discussions, and visiting speakers.

### **ENVIRONMENTAL SOLUTIONS PRACTICUM**

An environmental solutions practicum (ESP) will take place during the trainee's 2nd year. During the ESP each trainee will take a year of skill building classes. This year of skill building classes will be focused on Team Science, Project Management, and other topics designed to facilitate partnerships and collaboration.



## **PUBLISHING GUIDELINES**

As an NSF-funded program, R2R must follow specific guidelines when publishing research. Once research is complete, refer to this section for requirements specific to the program.

## **UPLOADING REQUIREMENTS**

Ridge to Reef staff must upload ALL research articles/book chapters to NSF's publicly-available database. Therefore, you must provide a non-copyrighted version of your paper in PDF/A format. If your paper is open-access, you can upload the published version of your article to your Google Drive folder. If it's not, you must provide an author version of the article, such as the manuscript after it was accepted but before it was formatted by the publisher.

## **FUNDING ACKNOWLEDGMENT**

If you are a trainee in the program (regardless of funding status), you must acknowledge the NRT program in any papers or products you generate.

Please use the following language:

This work was supported by the Ridge to Reef NSF Research Traineeship, award DGE-1735040.

## LEADERSHIP OPPORTUNITIES

As a program devoted to improving soft and hard skills, we offer several opportunities for leadership experience and community involvement. Students may apply to be representatives on our Executive Committee, or to co-lead the program's student leadership council.

### THE EXECUTIVE COMMITTEE

R2R's Executive Committee, made up of faculty and other administrators, has created the opportunity for two trainees to join the committee in order to provide feedback on the trainee experience thus far, for all cohorts involved in the program. Student committee members are asked to serve for a 2 year commitment. Nomination for this role occurs during the R2R seminar when a position opens. The choice of student committee members is based on student consensus on willing volunteers that are best suited for the position. Students interested in this position that are not in the seminar may contact the Academic Coordinator for further information.

2019-2020 trainee members of the Executive Committee:

- Raisha Lovindeer (2018-2020)
- Cindy Li (2019-2021)

### STUDENT LEADERSHIP COUNCIL

A R2R leadership council was formed in Fall 2018 as a way to allow students to gain additional leadership experience within R2R and facilitate more student-led activities within the program. The council will meet weekly/biweekly as necessary to complete tasks.

The goals of the R2R leadership council are to:

- Increase student input and involvement in the program and its planning
- Represent the student voice in important decisions
- Improve atmosphere and retention through increased trainee representation in the program
- To make the program align more strongly with student needs and goals

The quarterly objectives of the council are to:

- Represent the voice of each cohort and vote in R2R formal decisions
- Assist in the planning and organization of the Winter/Spring seminar course
- Plan at least 1 skill-based workshop per quarter, with the topic identified from student surveys
- Plan at least 1 social event per quarter to improve inter-cohort relations and program atmosphere
- Assist in recruitment in Spring quarter

## R2R FELLOWSHIPS

As an NSF-funded program, R2R offers a select number of unique, competitive fellowships to its trainees. Outstanding PhD trainees who have completed their first year in R2R may receive a one year R2R Fellowship that includes tuition and stipend support.

In the spring quarter of each year, the Academic Coordinator will reach out to all R2R trainees via email with the application process for the fellowship. Common requirements include the submission of a project proposal, letters of support, and statement of current and future research.

### Criteria for Applying:

- Working toward completing all program requirements.
- Must be a PhD trainee in the R2R program.
- Working across disciplines to address environmental challenges.
- Able to accept fellowship support for a 12-month consecutive period.
- Fellowship recipients must present their research results at an R2R event or symposium.
- All applicants should address in the statement of interest how funding will be used to help translate trainee research to the community outside of academia.

## TRAVEL FUNDS

Travel funds of around \$500 are available to trainees for travel to workshops or conferences related to your R2R research. There is no formal application for travel funds. If you are interested in attending a R2R-related course or workshop please send your travel plans and anticipated expenses to the Academic Coordinator, Courtney Hunt, [cchunt@uci.edu](mailto:cchunt@uci.edu). Please keep all of your receipts for reimbursements.

## THE SUMMER INSTITUTE

Each year, R2R hosts a themed Summer Institute that will provide a unique venue for training, research, integration, and interdisciplinary interaction while disseminating R2R advances in research and graduate education. The goals for each institute are to:

- Develop trainees' identities as researchers
- Increase disciplinary domain knowledge
- Improve skills to engage in research
- Promote knowledge acquisition strategies
- Increase the ability to identify knowledge gaps in the field
- Enhance ability to interact and collaborate with disciplines trainees will face as professionals

By mid-May, all prospective attendees (including R2R trainees) must submit an application with a CV and a letter of interest outlining reasons for applying to the institute and how their research will benefit from attending the summer institute, and a letter from a faculty adviser.

Information regarding past and upcoming institutes can be found on the R2R website and using the following links:

- 2018 Institute on Climate and Life, <https://r2r.bio.uci.edu/training/summer-institute-2018/>
- 2019 Institute on Microbes and Global Change, <https://r2r.bio.uci.edu/training/summer-institute-2019>

## ON-CAMPUS RESOURCES

In addition to our strong degree programs, we will leverage UCI centers of excellence to accomplish our goals in research, training, and institutionalization. Relevant centers and programs include the following:

The **Sustainability Initiative** is a platform for interdisciplinary, community-engaged education and research with two full-time and three part-time staff members. The initiative funds the UCI Climate Action Training Program, directed by Allison, which aims to prepare graduate students from all disciplines for careers related to climate challenges.

The **Center for Environmental Biology (CEB)** facilitates research, education, and outreach to develop innovative solutions to environmental problems. Staff include a full-time translational ecologist and public outreach, education, and assessment specialist. The CEB received a \$1M foundation grant to integrate UCI research with local resource management needs and establish an internship program for undergraduates and Master's students that R2R will extend to PhD trainees. A recent survey of the 27 former interns from this program garnered 17 respondents with 14 currently employed at organizations engaged in management practice.

**Water UCI** is an interdisciplinary initiative focused on grand challenges in freshwater science, technology, management, and policy. Directed by UCI Professor David Feldman, this initiative has established Team Water UCI, a transdisciplinary research group of graduate students collaborating with UCI faculty, community leaders in Borrego Springs, CA, and NASA scientists working with satellite data.

The **School of Engineering** hosts the NSF-funded **UCI Water-PIRE** that focuses on international collaboration to develop sustainable urban water systems with an emphasis on water treatment and conservation. This center is pioneering convergence between natural scientists and engineers.

**UCI OCEANS** is a collaborative that is developing new UCI community-engaged research and education programs on coastal water quality and marine ecosystems.

The **Data Science Initiative** provides research support and training expertise in Big Data science. This initiative has supported skills training by developing innovative short courses. Since 2016, the initiative is running UCI's first NRT focused on team science and Big Data in the physical sciences.

**Handshake** is the **Division of Career Pathways'** comprehensive online career services platform. Students use Handshake to: discover internship options through searching by major; search for internships on and off-campus targeted to UCI students; connect with employers and students who previously worked for those companies through the comment function on postings and information sessions; prepare for a successful search by viewing and enrolling in upcoming workshops and career labs. Current students already have an account that can be accessed with the student's existing UCINetID and password.

The **Disability Services Center** aims to promote a culture of inclusion and equal opportunity for students with disabilities is a campus wide responsibility and commitment. UCI demonstrates its core values of individual growth, development, civility, and diversity by recognizing students with disabilities as an important part of its student body.

UCI supports its students at all levels with the **Counseling Center**. The center provides a broad range of mental health services. This includes individual, couples, family, group counseling, and psychotherapy for registered undergraduate, graduate, and professional school students. They also provide urgent care, crisis response, consultation, and outreach programs for the university community.

Additional student resources can be found through UCI at: <https://eee.uci.edu/resources/students> and <https://grad.uci.edu/services/grc/index.php>