

Summer Work Experience Program 2018 Report



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Coordinated by

UC Global Health Institute Planetary Health Center of Expertise

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The Summer Work Experience Program coordinated by the UCGHI Planetary Health Center of Expertise (PHCOE) is partnered with the University of California's Division of Agriculture and Natural Resources (UC ANR) UC Cooperative Extension (UCCE), the California Department of Conservation (DOC), and the California Department of Public Health (CDPH). In Summer 2017, two summer fellows were supported, and in Summer 2018 the program was expanded to match ten students with summer work experience program mentors and activities. These students gained hands-on experience working in programs involved in conservation, natural resources, agriculture, policy, and health. Listed below are the summer fellows, the primary mentor, and a summary of program feedback received from summer fellows.

Advisors and Mentors

Kathi Baxter, UC Cooperative Extension, Elkus Ranch

Mark Bell, UC Division of Agriculture and Natural Resources

Whitney Brim-DeForest, UC Cooperative Extension, Yuba City

David Bunn, California Department of Conservation

Jeremy James, UC Cooperative Extension, Sierra Foothill Research & Extension Center

David Haviland, UC Cooperative Extension, Kern County Entomology Farm

Meredith Milet, California Department of Public Health, Office of Health Equity

Jeff Onsted, California Department of Conservation

Martin Smith, UC Cooperative Extension, UC Davis Campus

Woutrina Smith, Planetary Health Center of Expertise, One Health Institute

Sam Sandoval Solis, UC Cooperative Extension, UC Davis Campus

Jason Vargo, California Department of Public Health, Climate Change and Equity Program

Summer Fellows

Holly Beitch, UC Davis & CDPH; Climate change and health vulnerability indicators

Serena Bhagirath, UC Davis & UCCE; Rice farming practices and resource utilization

Kyle Cheung, UC Davis & UCCE; Evaluation of wireless mesh sensor network for rangeland

Marisa Donnelly, UC Davis & CDPH; Health risks associated with extreme weather events

Anna Grotjahn, UC Davis & UCCE; Summer youth education programs addressing foodwebs

Hannah Lepsch, UC Davis & UCCE; Rice producer survey and healthy soils outreach

Eryn McKinney, UC Davis & UCCE; Integrated pest management to benefit agriculture

Christina Murillo-Barrick, UC Davis & DOC; CA land conservation and easement programs

Erica Orcutt, UC Davis & DOC; Land use mapping and planning for conservation in California

Landon Smith, UC Davis & UCCE; Fire and emergency preparedness for community resilience

Holly Beitch



Major: Public Health

Department: Public Health

Level of study: Masters Degree

Campus: UC Davis

Host site and mentor: California Department of Public Health, Office of Health Equity; Meredith Milet

At the California Department of Public Health, Holly assisted with calculating updated climate change and health vulnerability indicators. Her interest in planetary health began when she took a series of classes in her Master's curriculum highlighting how the health of the environment is inextricably linked to the health of humans and animals. Holly is interested in the effects of developed environments on human health and the relationships between climate change and health equity.

Serena Bhagirath



Major: Public Health

Department: Public Health

Level of study: Masters Degree

Campus: UC Davis

Host site and mentor: UC Cooperative Extension, Yuba City; Whitney Brim-DeForest

After completing coursework for a Masters Degree in Public Health, Serena realized how aspects of science, public policy, and social services can be integrated to solve local and global health problems. As a Yuba City native, Serena returned to her hometown this summer to work with the UC Cooperative Extension field program. She designed and implemented a survey to gather data and provide the extension service with an assessment of the resource utilization and different farming practices used by rice growers in Northern California.

Kyle Cheung



Major: Biological Systems Engineering

Department: Biological and Agricultural Engineering

Level of study: Bachelors Degree

Campus: UC Davis

Host site and mentor: Sierra Foothill Research & Extension Center; Dr. Jeremy James

In Summer 2018, Kyle assisted in the design and implementation of a wireless mesh sensor network and automation of field equipment at the Sierra Foothill Research and Extension Center (SFREC) in Browns Valley, CA. Kyle's research focused on overcoming the challenges posed by the hilly terrain at the center that decreases the functionality of field equipment. His research also focused on automation techniques that reduce maintenance for field equipment placed in difficult to access locations.

Marisa Donnelly



Major: Epidemiology

Department: Epidemiology Graduate Group

Level of study: PhD Degree

Campus: UC Davis

Host site and mentor: California Department of Public Health (CDPH), Climate Change and Equity Program; Jason Vargo

Applying her background in statistical and epidemiological modeling, Marisa investigated the human morbidity and mortality burden attributed to ambient temperature and extreme heat and cold events in California. Her work focused on future scenarios of excess temperature-related morbidity and mortality in California populations using climate change scenarios and general circulation models.

Anna Grotjahn



Major: Wildlife and Conservation Biology

Department: Wildlife, Fish and Conservation Biology

Level of study: Bachelors Degree

Campus: UC Davis

Host site and mentor: Elkus Ranch, Kathi Baxter

Anna was stationed at UCCE Elkus Ranch Environmental Education Center where she assisted with their science summer camp program. Anna is interested in conservation science and ecology, and was involved in adapting and implementing youth summer camp education modules to enhance the diversity of curriculum offerings related to food web dynamics and climate change topics in a watershed context.

Hannah Lepsch



Major: International Agricultural Development
Department: Soils and Biogeochemistry Graduate Group
Level of study: Masters Degree
Campus: UC Davis
Host site and mentor: UCANR: Yuba City; Whitney Brim-Deforest

Hannah conducted a rice farm survey and supported farmer outreach and education events at the Yuba City UC Agriculture and Natural Resources (ANR) division. Hannah is particularly interested in farmer outreach as it relates to soil health and communicating the value of healthy soil for environmental, biological, human and agroecosystem health.

Eryn McKinney



Major: Entomology and Nematology
Department: Entomology and Nematology
Level of study: Bachelors Degree
Campus: UC Davis
Host site and mentor: Kern County Entomology Farm; David Haviland

Eryn collected data from pesticide research trials that use pesticides to combat common agricultural pests, including spider mites, grapevine mealy bugs, and sugarcane aphids. Eryn enjoys working in this area because she benefits from laboratory and field experiences and also learns first-hand how integrated pest management can benefit the producer and the environment. Eryn is interested in environmentally friendly pesticide practices and their impacts on fauna and hopes to enter the apiarian industry.

Christina Murillo



Major: Community Development and Geography
Department: Human Ecology
Level of study: Masters Degree
Campus: UC Davis
Host site and mentor: California Department of Conservation; Dr. Jeff Onsted

Through her summer fellowship, Cristina focused on examining land conservation and easement programs in California. She researched and analyzed Department of Conservation programs

focusing on community engagement, empowerment and environmental justice. Cristina's graduate research focuses on conservation and community engagement in Central America. She has experience working with the US government, international conservation NGOs, and National Parks in the US and Costa Rica.

Erica Orcutt



Major: Geography

Department: Geography Graduate Group

Level of study: PhD Degree

Campus: UC Davis

Host site and mentor: California Department of Conservation; Dr. Jeff Onsted

During her summer work experience with California Department of Conservation, Erica spent time in Sacramento working on the Sustainable Agricultural Lands Conservation Program, assisting with land use planning and mapping. As a native Californian, Erica has made it her mission to contribute to resource conservation in the state. Her PhD research includes habitat mapping and analysis for the Mohave Ground Squirrel, a California listed species.

Landon Smith



Major: International Political Economics

Department: International Political Economics

Level of study: Bachelors Degree

Campus: University of Puget Sound

Host site and mentor: Planetary Health Center of Expertise, One Health Institute, UC Davis; Woutrina Smith

Landon's summer fellowship focused on the recent wildfires in Sonoma County and the effects they had on wineries. He worked with UC Cooperative Extension Specialists to research farming practices of the wineries and how they implement worker safety to protect them from future extreme weather. Landon hopes that this research will help raise awareness on the dangers of outdoor laborers during extreme weather events, and will help to identify what interventions or practices can be implemented to increase worker safety. Interestingly, both direct infrastructure and indirect operational factors were recognized as barriers to community resilience when talking with the winegrowing industry.

Student evaluations of the Summer Work Experience Program

All fellows were requested to share perspectives and feedback on their summer fellowship experience through a written evaluation at the end of the summer. Overall, fellows rated their experience as excellent (median rating of 3 (on a scale of 0 = needs improvement to 3 = excellent); Table 1) with the highest rankings for mentorship received, knowledge and skills gained that will benefit them in their career development, and meeting other professionals in the field who contributed to their professional growth. Fellows also indicated a very high likelihood of recommending the fellowship to a fellow student (median rating of 4.7 (on a scale of 1 = not at all, 5 = highly; Table 2)).

When asked what they liked most about their experience, fellows responded that they appreciated the participatory learning through real-world experience, networking, and independent research. Fellows indicated the fellowship highly contributed to their career goals (median = 4.5 (on a scale of 1 = not at all, 5 = highly; Table 2). When asked about their contributions during the fellowship, fellows indicated they made substantial contributions through data collection, product design, outreach and education, and research to improve public policy. Fellows suggested that the experience could be improved in future years by providing more details regarding the expectations of the fellows (the commute for some fellows was a concern), more student 'check-ins' by the Planetary Health Center of Expertise staff, and streamlining the administrative processes for stipend compensation.

Table 1. Summary of responses from the ten 2018 Summer Work Experience Fellows regarding their work experience during their fellowship. Fellows were asked to rank their experience according to a scale of: Needs improvement = 0, Satisfactory=1, Above Average=2, Excellent=3).

Questions: Please evaluate your work experience using the following rating scale: ((Needs Improvement=0, Satisfactory=1, Above Average=2, Excellent=3)	Median: (Needs Improvement=0, Satisfactory=1, Above Average=2, Excellent=3)
Mentorship received	3.0
Level of responsibility	2.5
Workload assigned	2.0
Overall rating of work experience	3.0
Gained knowledge that will benefit your career development	3.0
Improved skills that will benefit your career development	3.0
Increased your access to professional development opportunities	2.5

Met other professionals who contributed to my professional growth	3.0
Facilitated connections with mentors or collaborators working in your field	3.0
Overall rating of professional development and learning experience	3.0

Table 2: Summary of responses from 2018 Planetary Health Center of Expertise Summer Fellows regarding their fellowship experience. For the quantitative responses, fellows were asked to rank their experience according to a scale of 1-5: (1 = not at all, 5 = highly).

Questions	Summarized themes and responses from Fellows
What did you like most about your fellowship program?	The fellowship program provided participatory learning through real-world experience, networking and independent research.
What did you like the least about your fellowship program?	The fellowship program would benefit from a mentoring plan to guide fellows and mentors. The commute was a challenge for many fellows.
What do you think was the greatest impact/contribution of your participation in the fellowship program?	Fellows thought that their greatest contribution was data collection, literature, product design, outreach and education, and research to improve public policy.
How likely are you to recommend the fellowship to a fellow student? On a scale of 1-5 (1 = not at all, 5 = highly)	4.7
How well did the fellowship contribute to your career goals? On a scale of 1-5 (1 = not at all, 5 = highly)	4.5
Do you have any other comments and/or suggestions to improve the fellowship program?	The fellowship could be improved by providing detailed expectations of the fellows, more student 'check-ins', and streamlining the administrative processes for stipend compensation.

Mentor evaluations of the Summer Work Experience Program

Mentors were also requested to share feedback on the summer fellowship program. When asked whether the fellowship experience met their goals for the program, all of the mentors indicated the program was successful in achieving the objectives and in some cases, exceeded expectations with regard to the fellow's contributions. Specific feedback from the mentors on what worked well for the program included the interest, enthusiasm, and skills brought to the

programs by the fellows as well as the helpful coordination by the PHCoE to match fellows with programs and mentors based on interests and experience. Suggestions for how to improve the program for 2019 included extending the length of the program to allow fellows and mentors more time to work together and more extensive advertising of the fellowship on campus as there were some graduate students (e.g., plant science graduate students) who were interested in applying, but did not receive information about the program.

Next steps

- Continue Summer Work Experience Program in 2019 coordinating with existing UC Division of Agriculture and Natural Resources Cooperative Extension, California Department of Conservation, California Department of Public Health partners with additional new partners included as opportunities and interest develop.
- Work across multiple UC campuses to reach diverse student and mentor audiences.
- Further develop the spring course on science education and outreach as a recommended preparatory step for students engaging in the summer work experience program.
- Diversify sources of funding to support students' placement in the program.