

Summer Work Experience Program 2019 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) has 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 to support 2 fellows in 2017, 10 fellows in 2018, and 4 fellows in 2019. These students gained hands-on experience working in programs involved in conservation, natural resources, agriculture, policy, nutrition, and health. Listed below are the summer fellows, the primary mentors, and a summary of program feedback received from summer fellows.

Planetary Health Center of Expertise Summer Fellowship 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

Marissa Neelon, UC Cooperative Extension, Alameda County

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

Planetary Health Center of Expertise Summer Fellows

2017

Ivana Andrade, UC Riverside & DOC; Outreach and policy on natural resource conservation

Landon Smith, UC Davis & UCCE; Impacts of heat on agricultural workers and policies to protect agricultural workers

2018

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; California 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

2019

Elise Ellwood, UC Davis & DOC; Reporting requirements for Regional Forest and Fire Capacity Program

Khurshid Iranpur, UC Davis & UCCE; Poultry welfare curriculum development

Brittany Theilen, UC Santa Barbara & DOC; Mapping landslide hazards

Lucy Zheng, UC Davis & UCCE; Assessing impacts of the California Expanded Food and Nutrition Education Program

2019 Fellows

Elise Elwood



Major: Population Biology

Department: Population Biology Graduate Group /Evolution and Ecology Department

Level of study: PhD Degree

Campus: UC Davis

Host site and mentor: California Department of Conservation, Jeffery Onstead

At the California Department of Conservation, Elise drafted a report and presented recommendations to the Department of Conservation on reporting requirements during the grant cycle for the Regional Forest and Fire Capacity Program (RFFCP). states where there are high fuel loads creating fire risks that threaten humans and ecosystems alike. The RFFCP seeks to build regional capacity in order to treat forests and reduce this risk at an increased pace and scale across the state. She interviewed grant recipients through and conducted a literature review to identify successful initiatives for reporting for state grant programs.

Khurshid Iranpur



Major: Animal Science

Department: Animal Science

Level of study: Bachelor's Degree

Campus: UC Davis

Host site and mentor: UCANR UCCE, Martin Smith

Khurshid is an Animal Science student interested in veterinary public health and outreach. For her fellowship program Khurshid conducted research on poultry welfare and contributed to the development of a course module on poultry health and welfare for 4-H participants. This module is designed to provide youth with knowledge and skills associated with raising and caring for backyard poultry.

Brittany Theilen



Major: Environmental Science

Department: Environmental Studies

Level of study: Master's Degree

Campus: UC Santa Barbara

Host site and mentor: California Department of Conservation, Jeffery Onstead

Brittany applied her geological skills and interest in educating the public on climate change related hazards in her work with the California Department of Conservation where she mapped landslide hazards in the West Walker River Gorge. She contributed to research evaluating the implications of landslides that have the potential to dam the West Walker River.

Lucy Zheng



Major: Psychology

Department: Psychology

Level of study: PhD Degree

Campus: UC Davis

Host site and mentor: UCANR UCCE, Marissa Neelon

Lucy worked with UCANR to assist with data analyses aimed at evaluating the impacts of interventions in the California Expanded Food and Nutrition Education Program (EFNEP). The EFNEP assists limited-resource families gain the knowledge, skills, attitudes, and changed behavior necessary to choose nutritionally sound diets and improve their well-being.

2018 Fellows

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

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.

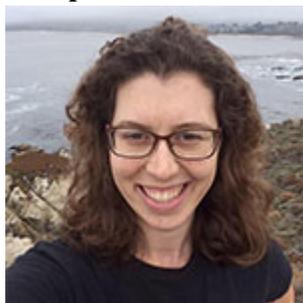
Eryn McKinney

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.

2019 Students' 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 5 (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 valued the opportunity to conduct applied research, networking with professions, develop new technical skills, and conduct outreach. Fellows indicated the fellowship highly contributed to their career goals (median = 5.0 (on a scale of 1 = not at all, 5 = highly; Table 2)). When asked about their contributions during the fellowship, fellows indicated they made contributions to curriculum development, recommendations for agency processes, improvements in landslide hazard awareness, and outreach and education. Fellows suggested that the experience could be improved in future years by offering a 1-credit class in the Spring Quarter to discuss topics relevant to scientific outreach and education and the fellowship experience and to facilitate interactions with other fellows.

Table 1. Summary of responses from the four 2019 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).

Please evaluate your experience for the following:	Median (Needs Improvement=0, Satisfactory=1, Above Average=2, Excellent=3, NA=Can't Judge)
Mentorship received	3.0
Level of responsibility	3.0
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	3.0
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 the four 2019 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).

	Summary
What did you like most about your fellowship program?	Fellows appreciated the opportunity to conduct applied research, networking with professions, develop new technical skills, and conduct outreach.
What did you like the least about your fellowship program?	The fellowship program would benefit from increased opportunities to connect with mentors and other fellows and improved clarity in the hiring process.
What do you think was the greatest impact/contribution of your participation in the fellowship program?	Fellows thought that their greatest contributions were contributions to curriculum development, recommendations for agency processes, improvements in landslide hazard awareness, and outreach and education.
How likely are you to recommend the fellowship to a fellow student? On a scale of 1-5 (1 = not at all, 5 = highly)	5.0
How well did the fellowship contribute to your career goals? On a scale of 1-5 (1 = not at all, 5 = highly)	5.0
Do you have any other comments and/or suggestions to improve the fellowship program?	Offer 1-credit class in the Spring Quarter to discuss topics relevant to scientific outreach and education and the fellowship experience and to facilitate interactions with other fellows.

2018 Students’ 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 the ten 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.

2018 Mentors' 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 2020 coordinating with existing 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.
- Offer multiple opportunities during the summer for fellows to connect with other mentors and each other.
- Diversify sources of funding to support students' placement in the program.