



UROOP Newsletter

Official Newsletter of the Undergraduate Research Opportunities
Program at the University of Hawai'i at Mānoa

Office Information

- Location: Hawai'i Hall 127
- Office hours:
10:00 am - 3:00 pm, M-F
- To schedule an appointment, please email us 24 hours in advance
- Student desks and meeting spaces available during office hours

In this issue:

Page	Article
3	Federal Work Study Program: An overlooked resource for job-seeking students and faculty employers
4	Student Opportunity Center
4	Calling for Opportunities
5	Student and Faculty Spotlight
6	Opportunities in the Biomedical Sciences
7	Highlighted Opportunities

Blazing new trails

Resources to help you begin your research and creative work journey

Welcome to a new academic year at the University of Hawai'i at Mānoa (UHM)! The beginning of the semester provides a fresh start and opportunities for students to get involved in faculty-mentored research and creative work. In this edition, the Undergraduate Research Opportunities Program (UROOP) highlights several resources that can benefit both students and faculty mentors. Learn how these resources can help you blaze a new trail on your research and creative work journey!

Student Opportunity Center (SOC): UROOP is excited to unveil the SOC, a centralized, online database housing >6,000 student opportunities such as research and creative work positions, internships, co-ops, and more (**p. 4**). The SOC allows users to search thousands of listings at once. It also allows faculty to generate their own listings to advertise to undergraduate students.

Programs in the biomedical sciences: Many well-established programs in the biomedical sciences provide recurring opportunities for undergraduate students to engage in faculty-mentored research. Some examples include, but are not limited to the UH Cancer Center Summer Internship, Minority Health International Research Training (MHIRT), and Idea Networks of Biomedical Research Excellence (INBRE) (**p. 6**).

Project and presentation funding: UROOP provides >\$500,000 in project and presentation funding each year (**p. 7**). The fall project funding application cycle is open now through 10/10. Presentation funding application cycles are open monthly, with deadlines on the 1st of each month. To learn more, visit **Hawaii Hall 127**, call **(808) 956-3212**, or explore manoa.hawaii.edu/undergrad/urop.

Ekomo mai, Hyang!

Hyang joined the UROP team in May 2019 as our graduate Program Assistant. She earned her B.S. at the University of Hawai'i at Mānoa in Global Environmental Science and is a current graduate student studying Physical Oceanography and Educational Administration in Higher Education. In her spare time she enjoys photography and cooking. She has quickly settled into her position and is a welcome addition to the team.



Hyang Yoon

Douglas S. Yamamura Scholarship

UROP is honored to present the Douglas S. Yamamura Scholarship to outstanding undergraduate students engaged in research or creative work in any discipline. The scholarship was established with a generous endowment from the estate of Paul T. Yamamura to support scholarly research at the University of Hawai'i at Mānoa.

Each semester, UROP considers all project funding applicants for this prestigious scholarship and selects the best STEM, and the best non-STEM student or student group to receive the scholarship. In an effort to support continued education of local students, strong preference is shown to undergraduate students who have graduated from a high school in Hawai'i.

2019 Scholarship Recipient: Jennifer Yokoyama

The Spring 2019 Douglas S. Yamamura Scholarship recipient for a STEM project is Jennifer Yokoyama. Her project, "The effect of coffee on adipocytokines in relation to Type 2 Diabetes," explores the relationship between coffee and adipocytokines, chemical signals created by adipose

(fat) tissue. In recent studies, coffee has been linked to decreased risk of Type 2 diabetes, but the mechanism in which it works is unknown.

Jennifer studies Biology and is mentored by Dr. Pratibha Nerurkar. Jennifer is a graduate of Kealakehe High School on Hawai'i Island.

"Regulating levels of adipocytokines in the body may be a possible way coffee decreases Type 2 diabetes risk, and if this is true, it may serve as a preventative method for Type 2 diabetes." – Jennifer



Jennifer Yokoyama

A message from the UROP Director

Dr. Creighton M. Litton

Aloha mai kākou! It has only been ~4 months since the last UROP newsletter, but a lot has happened over that short time period that we are excited to share with our campus community. For those students, staff and faculty not aware of the Federal Work Study Program, or the fact that you can utilize this program to apply for or hire undergraduate students to work on research or creative work projects, see **p.3**. This is an underutilized program in the research community at UH Mānoa with large upside for students and faculty alike. The first annual Summer Undergraduate Research Experience (SURE) was a huge success, with 48 students participating in the summer-long program and 65 students presenting at the end-of-summer SURE symposium (**p. 3**). This is, to our knowledge, the first ever campus and discipline-wide summer program for undergraduate students to conduct faculty-mentored research and creative work projects in the 112 year history of the Mānoa campus. We are also very happy to rollout access to the Student Opportunity Center for all students, staff and faculty on campus, a one-stop-shop to search for and post opportunities in undergraduate research and creative work (**p. 4**). For faculty, in particular, we need your help populating this database with as many local opportunities as possible. Finally, we highlight a number of opportunities for undergraduate students at UH Mānoa to get involved in biomedical research, from academic year and summer programs to presentation venues (**p. 6**). We hope that everyone is off to a great start in the new academic year. Do not hesitate to reach out with questions, or to request an information session on UROP for your students, academic advisors, faculty, or entire unit.



Dr. Creighton M. Litton

Federal Work Study Program: An overlooked resource for job-seeking students and faculty employers

You may have seen "Federal Work Study (FWS)" on your Free Application for Federal Student Aid (FAFSA) award summary, or perhaps listed as a hiring code on the Student Employment and Cooperative Education (SECE) job website - but what is FWS?



Above: Photography equipment in a photo studio; Photography Lab Assistant is one example of a creative work student job currently listed on the SECE website

FWS is a type of need-based, federal financial aid that allows qualifying students to earn the award through part-time employment. Only specific employers are able to hire through FWS, including the University of Hawai'i, non-profit community service agencies, and the FWS America Reads Program.

Benefit to Employers

FWS is extremely beneficial to employers looking to leverage their existing funds. Employers hiring a FWS employee pay only 25% of the student's gross earnings. The FWS program pays the remaining 75% of the student's maximum awarded amount (i.e., the FWS award equals 100% of earnings).

Benefit to Students

Many positions listed on the SECE job website are available only to FWS-eligible students. Many employers may also prioritize FWS applicants over non-FWS applicants. This allows a greater number of job opportunities for students who are eligible. Additionally, FWS earnings are not calculated as income on the

FAFSA. Students can, therefore, earn money without it counting against their eligibility for future federal financial aid.

Faculty Encouraged to Hire FWS Students on Research and Creative Projects

Many faculty seek skilled students to assist with research or creative projects, but are often unable to due to the cost of hiring. They are unaware that they can recruit FWS students, therefore reducing the cost of hiring by 75%. UROP encourages faculty to hire through FWS in order to increase the number of undergraduate research and creative work opportunities at UHM. Federal Work Study is both a cost-reducing resource and a recruitment tool to target students with increased financial need.

Faculty, learn how to hire a FWS student at:

manoa.hawaii.edu/careercenter/fws-supervisor-orientation/

Students, learn about FWS at:

manoa.hawaii.edu/careercenter/students/student-jobs-2/federal-work-study/

First-ever Summer Undergraduate Research Experience a success!

In Summer 2019 UROP launched the first full-scale Summer Undergraduate Research Experience (SURE). The free 9-week, cohort-based program provided infrastructure for faculty mentors and undergraduate students conducting research and creative work during the summer. The program offered professional development modules once every 2 weeks on topics such as how to explore and apply to graduate school, how to prepare for oral and poster presentations, and a community engagement trip. UROP provided \$75,000 in Faculty Mentor Grants to boost participation in summer research and creative work activity. Fifteen faculty received grant funds to support 20 UHM undergraduate students. The program closed with the 2nd annual SURE Symposium on August 2. A total of 83 undergraduate students representing 44 majors participated in the 2019 SURE cohort. We look forward to growing the program in Summer 2020!



Top: 2019 SURE participants remove invasive plants at Lyon Arboretum (photo by Scott Nishi, UH Foundation); **Bottom:** Students present posters to a crowded room at the 2019 SURE Symposium



Student Opportunity Center

Use the National Database to search:

6,000+ Opportunity listings

Use the UHM Database to:

Search UHM opportunities

List UHM opportunities

Learn more at: go.hawaii.edu/GCg

HOW DO I LIST OPPORTUNITIES?

1. Visit StudentOpportunityCenter.com
 2. Create an account with a valid @hawaii.edu email address
 3. Email urop@hawaii.edu to request "Admin" permission - once granted, you can create an opportunity listing directly on the website
- OR
1. Fill out the form at go.hawaii.edu/AeG and UROP staff will post for you

UROP is excited to introduce UHM's new one-stop shop to post and search for undergraduate research and creative work opportunities online

UROP is happy to announce that the Student Opportunity Center (SOC) is fully functioning and available to all undergraduate students, faculty, and staff on the UHM campus!

The SOC is a third party website that curates a national database of thousands of opportunity listings, including: undergraduate research and creative work opportunities, internships and co-ops, conferences, seminars, publication outlets, and more. Listings cover a diversity of fields, and cater to students at any stage of their research and creative work endeavors.

The SOC also hosts a UHM database where faculty can post their own opportunities. This is an ideal place to recruit undergraduate students to work in labs, creative spaces, or elsewhere.

HOW DO I SEARCH?

1. Visit www.StudentOpportunityCenter.com
2. Create an account with a valid @hawaii.edu email address
3. Enter keywords into the search bar and start searching!

Attention faculty: Calling for opportunities!

Faculty, do you have open positions in your lab or creative space? Are you looking for student help with field work or film production?

Visit: go.hawaii.edu/AeG

Post your opportunities online now on UHM's new opportunity database, the Student Opportunity Center (SOC). UROP has subscribed to the SOC to provide a centralized place for faculty and staff to advertise research and creative work listings to undergraduate students. SOC also serves as a one-stop-shop

where students can better search for opportunities in their field of interest.

Let UROP know about your experience using SOC! Email urop@hawaii.edu to tell us if you recruited students successfully. We are here to help!

Student and faculty spotlight

A segment featuring undergraduate student researchers and their faculty mentors

Amanda Wong and Dr. Kasey Barton

Amanda Wong is a Spring 2018 UROP project funding recipient, and 2-time UROP presentation funding recipient. She conducted research on the effect of the interaction between two key plants in Hawai'i, the endemic 'ōhi'a and the invasive strawberry guava, on plant survival and growth. Amanda received presentation funding to present at two different Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) National Diversity in STEM Conferences. At the 2017 event in Salt Lake City, Utah, she presented her research on the effect of restored forests on the temperature under plants and below their leaves on the forest floor. This project stemmed from her Pacific Internship Programs for Exploring Science (PIPES) internship at the University of Hawai'i at Hilo. At the 2018 event in San Antonio, Texas, she presented research on novel methods for early detection of an aquatic weed. This project was based on her Ecological Society of America SEEDS fellowship at Cornell University. Amanda will present her most recent research at her 3rd SACNAS National Diversity in STEM Conference this October in Honolulu, Hawai'i. Research was a fundamental element of Amanda's undergraduate journey that was facilitated by faculty encouragement, internship programs, UROP support, and intriguing science.



"Research provided me with the opportunity to explore my interests in science, strengthen my passion for nature, share what I learned through research, expand my professional and friend network, and learn about new places through my travels. Most importantly, undergraduate research has provided me with the stepping stones for my next journey in life as a scientist."
- Amanda Wong



"Mentoring undergraduate research is one of the best parts of being a university professor." - Dr. Kasey Barton

Kasey: Science is inherently hands-on, and it benefits from the space to be creative and learn to problem-solve, which students rarely get in the classroom. Working with students on their research projects reminds me of the challenges of learning how to do science, which can be very daunting to students who are used to learning science by memorizing facts. It also gives me a chance to learn from my students who come from such a fantastic diversity of experiences, and helps us to develop new collaborations and conversations about what it means to be a scientist. Although much of the research in my lab is aimed at understanding evolved variation among plants in their tolerance to stressors, such as drought or herbivory damage, through interactions with my students, I have gained a greater appreciation for applications of our research for conservation and restoration of Hawaiian plants. Amanda Wong's UROP project is a great example of how student research can be enlightening both in terms of the evolution of plants, but also for managing native plants threatened by invasive species.

Top: Amanda Wong poses with a banana tree while conducting field work

Bottom: Dr. Kasey Barton with Amanda Wong at the School of Ocean and Earth Science and Technology reception in August 2019

OPPORTUNITIES IN THE

Biomedical Sciences

Numerous undergraduate internship and research opportunities exist in the biomedical sciences in JABSOM, the UH Cancer Center, and other units across campus.

Students work with esteemed doctors and faculty mentors on projects with real-world implications. See below for information on a number of these opportunities.

MINORITY HEALTH INTERNATIONAL RESEARCH TRAINING (MHIRT)

Department of Tropical Medicine, Medical Microbiology & Pharmacology, John A. Burns School of Medicine (JABSOM)
manoa.hawaii.edu/tropicalmedicine/mhirt/

This program occurs throughout 1 academic year. During spring, students select a project, read relevant literature, discuss a research topic with their UH and foreign mentor, and prepare for the research experience abroad. Students earn \$3000 over the course of eight weeks conducting directed research in either Bangkok, Thailand, or Yaounde, Cameroon. The program grant has just been renewed for \$1.3 million, and will continue for an additional 5 years!

UH CANCER CENTER SUMMER INTERNSHIP

UH Cancer Center
uhcancercenter.org/education/students/undergraduate-student-opportunities?start=1

This intensive program provides research experience and mentorship for high school and undergraduate students interested in working in cancer research in a population-based setting or in a lab. Under the guidance of a faculty mentor, each student completes an independent research project and gives a poster presentation of their work and findings.

HAWAII PACIFIC NEUROSCIENCE SUMMER INTERNSHIP PROGRAM (HPN-SIP)

Hawaii Pacific Neuroscience
hawaiineuroscience.com/research-3/internship/

The Summer Research Program at Hawaii Pacific Neuroscience provides students the opportunity to spend 8 weeks working side-by-side with leading neuroscientists and researchers in Hawai'i in groundbreaking studies in Alzheimer's disease, Epilepsy, Parkinson's disease, Multiple Sclerosis and other neurodegenerative diseases.

HAWAII INBRE: IDEA NETWORKS OF BIOMEDICAL RESEARCH EXCELLENCE

University of Hawai'i, JABSOM
inbre.jabsom.hawaii.edu/

INBRE encourages undergraduate students to pursue a biomedical science career by providing them with research opportunities, mentoring workshops and workforce development, and enhances the caliber of scientific faculty by providing resource and mentorship opportunities to Junior and Pilot Investigators.

BIOMEDICAL SCIENCES AND HEALTH DISPARITIES SYMPOSIUM

University of Hawai'i, JABSOM
jabsom.hawaii.edu/events/66491/

Undergraduates, graduates, medical students, residents, post-doctoral students, research associates and faculty all are invited to apply to take part in the annual Symposium.

Highlighted Opportunities

UROP PROJECT FUNDING

manoa.hawaii.edu/undergrad/urop/about-project-funding/

- Funding available for UHM undergraduate students or student groups to work on research or creative work projects
- Create a graphic novel, write a play, or model climate change. Design your own project!
- Must be mentored by eligible UHM faculty
- Get funded up to:
 - \$5000 per individual
 - \$10,000 per group
- Application cycles:
 - Fall: 9/9 - 10/10
 - Spring: 2/2 - 3/3

UROP PRESENTATION FUNDING

manoa.hawaii.edu/undergrad/urop/presentation-funding/about-presentation-funding/

- Funding available for UHM undergraduate students or student groups to present ongoing or completed research or creative work at local, national, and international professional venues
- Must be accepted to present or perform at a professional venue
- Get funded up to:
 - \$2000 per individual
 - \$4000 per pair
 - \$5000 per group
- Deadline: 1st of each month by 5:00 pm

THE FUTURE OF SPACE FOOD

app.studentopportunitycenter.com/app/search/A0h5B3HCP8OEt8kSxg2I

app.studentopportunitycenter.com/app/search/KMFOJYDMiu44ZtXgfZCG

- Undergraduate research opportunities at UHM that focus on growing crops in space
- Choice of working in several research areas:
 - comparing effectiveness of different kinds of LED lighting
 - comparing effects of different simulated Martian soils
 - growing different kinds of crops
- Supervisor: Dr. Kent Kobayashi

UNDERGRADUATE SHOWCASE: FALL 2019 AND SPRING 2020

<http://manoa.hawaii.edu/undergrad/showcase/>

- Fall 2019 event: 12/13/19 @Sakamaki Hall:
 - Opportunity for students graduating Fall 2019 to present their research and creative work at UHM
 - Accepting abstracts for oral presentations
 - Deadline: 10/11/19 by 11:59 pm
- Spring 2020 event: 4/24/20 @East-West Ctr.
 - Present your research and creative work at most heavily-attended undergraduate student presentation venue at UHM
 - Gain valuable peer and faculty feedback
 - Free and open to all undergraduate students in any discipline at UHM

FIELD TECHNICIAN FOR ROOT COMPETITION STUDY

app.studentopportunitycenter.com/portal/opportunities/view/1j4OvkTxmPKbueCQDP9J

- Undergraduate research opportunity at UHM that focuses on underground competition between Pacific island plants
- Work includes taking root cores and measuring plant biomass
- Potential to assist in data analysis after field work is completed; to continue into Spring 2020
- Supervisor: Dr. Noa Lincoln
- Primary Contact: Maxwell Bendes

TO VIEW THESE OPPORTUNITIES AND MORE:

studentopportunitycenter.com

1. Visit the Student Opportunity Center website
2. Create an account with your valid @hawaii.edu email address
3. Search for opportunities, or click the links in the previous listings to navigate directly to an opportunity page

LEARN MORE ABOUT THE STUDENT OPPORTUNITY CENTER

go.hawaii.edu/GCg