

UH Hilo physics and astronomy students show their star power

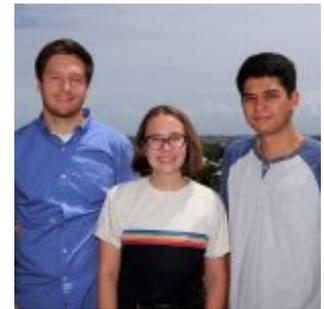
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By Staff

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Six students from the Department of Physics and Astronomy at UH Hilo were awarded prestigious research positions to do projects over the past year. They now have a substantial body of work added to their résumés, something rare for undergraduates.

By Leah Sherwood.



Six students from the Department of Physics and Astronomy at UH Hilo were awarded competitive research positions. (Left to right) Tino Wells, Kyle Steckler, Chantelle Kiessner, Austin Jennings and Kenji Emerson. Missing: Seneca Cox (photo below). Photo by John Coney/Dept of Astronomy & Physics, click to enlarge.

This is the first in a series on projects done by UH Hilo physics and astronomy students awarded research positions. This first post describes the awards in general; subsequent posts will profile each student and their research.

Six students from the Department of Physics and Astronomy at the University of Hawai'i at Hilo who were awarded competitive research positions during the 2017-2018 year now have a

substantial body of work added to their résumés. This is impressive for undergraduates but not unusual for the high caliber of students studying astronomy and physics at UH Hilo.

The students are **Seneca Cox, Kenji Emerson, Austin Jennings, Chantelle Kiessner, Kyle Steckler, and Tino Wells.**

The research was funded through three programs.

The Akamai Internship Program is an eight-week summer program that offers college students from Hawai'i an opportunity to gain a summer work experience at an organization, observatory, or scientific or technical facility in Hawai'i and is funded by a large group of organizations and agencies. The Research Experiences for Undergraduates (REU) program, also done over the summer, supports active research participation by undergraduate students and is funded by the National Science Foundation.



Seneca Cox. Photo by John Coney.

Several students were invited to do research over the course of the 2017-2018 academic year as fellows or trainees with the Hawai'i Space Grant Consortium (HSGC). The consortium trains the space scientists, space settlers, and aerospace engineers of the future and is part of NASA's National Space Grant College and Fellowship Program.

"These [summer] positions typically go to students between their junior and senior years," says **Kathy Cooksey**, an associate professor of physics and astronomy. "We only have maybe a dozen such students so to have what seems like half of them in these competitive programs is huge." She says the REU positions are the most competitive.

Currently there are about 45 students at UH Hilo majoring in physics, astronomy, or both subjects, and there are even fewer students eligible to apply for such awards, which usually are open only to upper level students. Typically, students who conduct research at their home institutions first are the ones most likely to be awarded a competitive summer research position.

For a relatively small department, it demonstrates the dedication that faculty within the department have to mentoring their undergraduates, including involving them in research projects from the start of their academic career.

In addition, faculty make sure the students hear about the various funding opportunities available to them in their freshman year and encourage them to apply, even when the students are skeptical of their chances.

“For reference, for the 2017 Akamai program, there were about 30 positions and up to 120 applicants,” says Cooksey. Two of those Akamai internship positions were awarded to UH Hilo physics and astronomy students.

The REU, Akamai and HSGC programs are valuable to both the students and the university. From the undergraduates’ perspective, the programs involve them in current research in their field, create networking opportunities with experts and peers, and prepare them for graduate level study. From the university’s perspective, the programs help foster a culture of discovery while publicizing UH Hilo’s intellectually rigorous physics and astronomy department to the larger academic community.

“I think it gets our university name out there,” Cooksey says. “[P]eople may not recognize that UH Hilo has an astronomy program. The students in these programs act like ambassadors who go out and help build our reputation in the academic community.”



Kathy Cooksey. Courtesy photo.

Chantelle Kiessner, a senior, says the REU opportunity exposed her to new technology and new people in her field that she would not have been exposed to otherwise.

“I feel lucky that I was able to participate in this NSF REU,” she explains. “This project not only gave me valuable experience with coding in Interactive Data Language and Python, but it gave me connections with people in the solar physics community that will help me further my career in graduate school.”

The students

- **Seneca Cox**, physics major; REU, summer 2018.
- **Kenji Emerson**, physics and astronomy major; Akamai Intern, summer 2018, and HSGC Fellow, 2017–2018 academic year.
- **Austin Jennings**, astronomy major with a physics minor; Akamai Intern, summer 2018.
- **Chantelle Kiessner**, physics and astronomy major; REU, summer 2018, and HSGC Trainee, fall 2017.
- **Kyle Steckler**, physics and astronomy major; REU, summer 2017, and HSGC Fellow, 2017–2018 academic year.
- **Tino Wells**, physics and astronomy major; REU, summer 2017, and HSGC Fellow, 2017–2018 academic year.

Watch *UH Hilo Stories* for upcoming profiles on each of the students and their research.

At Prof. Cooksey’s request, this post was updated on Sept. 13 to clarify that the Akamai and REU are summer programs and that REU is the most competitive. Also, Prof. Cooksey asked to add that students who conduct research at their home institutions first are the ones most

likely to be awarded a competitive summer research position.

About the author of this story: Leah Sherwood is a graduate student in the tropical conservation biology and environmental science program at UH Hilo. She currently serves as an intern in the Office of the Chancellor. She received her bachelor of science in biology and bachelor of arts in English from Boise State University.