Institutional Research, Planning, and Grants
Competitive Grant Impact Report

Project Title: **Expanding Educational Opportunities for Secondary and Post-Secondary Educators and Students in the Technology and Applications of Unmanned Aircraft Systems**

Project Lead: Dr. Wing Cheung, Co-Principal Investigator, Professor, Earth, Space, and Environmental Sciences
Performance Period: 07/01/2022-06/30/2025; Award Amount: $82,074
Funding Source: National Science Foundation, Advanced Technological Education

Project Goal: Expand Unmanned Aircraft System (UAS) education and career pathways for secondary and postsecondary students by delivering current, work-based curriculum, providing educator professional development, and operating summer academies that connect students to UAS applications and careers.

Goals and Achievements

- Developed and implemented a UAS summer academy across the Pacific Islands and the San Diego region for high school students with refreshed curriculum.
- Delivered professional development across the performance period to 70 educators.
- Expanded access by securing authorizations from Pacific Island Departments of Education to offer the online prerequisite drone classes (Marshall Islands, Northern Mariana Islands, American Samoa, Micronesia, Palau).

Student Impact

- 85 participants served: 24 students in 2022-23, 26 students in 2023–24, 35 students in 2024-25.
- Increased knowledge/capacity in UAS applications including civil engineering & flood-hazard modeling, photogrammetry/3D modeling, public safety, and environmental monitoring.

Partnerships & Collaborations

- Deepened relationship with lead institution (Southwestern Community College District).
- Collaborated with Palau Community College, American Samoan agencies/utilities, the Oceania Learning Center, University of Hawai'I and UC Irvine to deliver cross-site UAS summer academies and educator professional development.
- Chaired national FAA UAS-CTI workgroup meetings. Conducted community outreach events to recruit and raise awareness.
- Engaged San Diego K–12 partners - Vista High School, Eastlake High School, Launch Virtual Academy, and the San Diego County Office of Education.

Institutional and Community Impact

- Enhanced cross-regional capacity by instituting a hybrid delivery model and updating curriculum to better align with real-world UAS use cases.
- Strengthened the STEM pipeline through educator professional development and dissemination via the NSF ATE PI Conference and ATE Central, AUVSI Xponential, plus ongoing regional events.

What's Next?

Build on work to date by leveraging new NSF ATE funding to launch a joint Southwestern Community College District/Palomar College Summer Geomatics Academy focused on UAS photogrammetry, mapping, and surveying; connect participants to aligned certificate/degree pathways at both colleges.