

Building CfAO Collaborations and Partnerships in Hawaii

Lisa Hunter

Associate Director, Education & Human Resources
Center for Adaptive Optics

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Why Hawaii?



- **Relevance:**
 - CfAO, and broader scientific community, rely on Hawaiian resources for advances in research and technology. Mauna Kea (Big Island) and Haleakala (Maui) are extremely important astronomical sites.
- **Broad Needs:**
 - **Increased participation of Native Hawaiians** in the technical and scientific workforce of Hawaii, especially related to the state's many astronomical observatories.
 - **Support from the community** for astronomical research, through a better understanding of research and technology that occurs on Hawaii.

Partnership Beginnings: ALU LIKE/LLNL Traineeship



- Two Native Hawaiians are trained in optical technician skills, each year, at LLNL.
- Follow-up counseling and assistance with job placement.
- Involves ExAO and MCAO team members
- Claire Max is PI on project. Initiated the expansion of CfAO role to an institutional level.



Partnerships: Relevant Educational Institutions



- **University of Hawaii, Hilo (Big Island):**
 - Developing new Engineering Technology degree program, with a focus on optics. Provides technical background relevant for observatories.
- **Maui Community College (Maui):**
 - Will offer courses that articulate with UH Hilo courses, providing a community college transfer option for students.
 - Expanding to become a UH campus. Will offer 2-year and 4-year degrees. Initially two 4-year degrees.

Partnerships: Important Research and technology stakeholders



- **Big Island astronomical observatories: Keck, Gemini, others**
- **Air Force Research Laboratory (AFRL) and Air Force Office of Scientific Research (AFOSR) on Maui**
 - **Maui Space Surveillance System (MSSS also known as AMOS), housing the AEOS telescope, which has an adaptive optics system**
 - **Maui High Performance Computing Center (MHPCC)**
 - **Federal contractors (Boeing, others)**

Air Force (and contractors) has a growing workforce need; Maui Community very receptive → Focus on Maui

Strategies for developing collaborations



Identify:

- Needs
- Potential matches between needs and CfAO expertise
- Barriers
- Key individuals

Work with:

- **Politics**
- **Culture**
- **Community**
- **Stakeholders**
- **Institutional differences**

Implement elements to gain interest and working relationship

Design and plan more significant efforts as a team

Build a collaboration that has many “hubs”

Partnerships: Elements to build on



- CfAO Professional Development Workshop for CfAO grad. Students and postdocs:
 - 2001: Kona, Big Island
 - 2002: Maui
 - 2003: Maui
- Maui High Tech Industry Education Exchange



Partnership: Elements to build on



- **CfAO Akamai Internships: Summer 2003**
 - Maui students at Maui sites
- **CfAO Short Course: May, 2003**
 - Co-developed and Co-taught by CfAO and MCC faculty (Sheinis, Hoffman, CfAO members)
 - Credit offered by MCC
 - Prepares interns for summer work
 - Builds on model created for CfAO Internship Orientation
- **Student Session at AMOS Technical Conference (new in 2003)**



Maui Akamai Internships: new in 2003



| | | | |
|---|--|---|--|
| Preparation: “Short Course” at MCC | Independent Experience: Industry | Technical Presentation: AMOS Conference | Community Presentation: In development |
| Supplemental & Extended Support: Meetings, Workshops, Training Sessions | | | |

Internships an excellent starting point

Now the backbone for many other efforts

Hawaii Internship Positions



- **Boeing**
- **Trex**
- **Maui High Performance Computing Center (MHPCC)**
- **Oceanit**
- **Akimeka**
- **Keck**

CfAO Hawaii Partnerships Goals



- **Goals:**
 - Increase participation of Native Hawaiians in CfAO activities, and in related science and technology in general.
 - Increase the educational capacity of Maui Community College in content areas that utilize the expertise of the CfAO and contribute to Maui community needs.
 - Increase the technical and scientific exchange between the CfAO and the Maui community.

Developing an authentic partnership: Role of a national center



- **Integrates research and education at multiple levels:**
 - theme leaders to graduate students involved
 - directly involves our research and technology
 - addresses local workforce needs (training students & recruitment opportunities for Maui high tech)
- **Uses center resources to bridge two communities. Air Force is major technology stakeholder on Maui, but education is not part of their formal mission.**
- **Partnership fully uses center mechanism (scope, duration, change, duration, high risk, resources, leverage)**

Future Interests



- **Short courses**, connecting local technology to Hawaii higher education programs. Facilitate involvement of more technical partners.
- Expand **internships** on Big Island. What matches this community? How can CfAO infrastructure be used?
- Expand **professional development and community interactions** between CfAO and Hawaii, via annual conference.
- **Community Presentations by students/interns**. Tried in Santa Cruz in 1999 (“Leading with Research”) - very successful in engaging community.

Today: Maui High Tech Industry Education Exchange (MHTIEE)



- **Goals of MHTIEE:**
 1. To inform Hawaii technical, scientific and educational community about the CfAO
 2. To provide an opportunity for CfAO members to be involved in developing collaboration and partnerships and gain insight into the process and strategies
 3. To stimulate collaboration, and expand the network between the CfAO and Hawaii technical, scientific, and educational communities.

Goals of MHTIEE (continued)



- To identify needs and opportunities relevant to future development of educational activities:
 - What are the local workforce needs that overlap with CfAO, at all educational levels?
 - Where/how are CfAO undergraduate interns involved in local organizations?
 - Are there additional ways that the CfAO could contribute expertise to Hawaii colleges/universities?
 - Are there potential Mini-Grant opportunities for CfAO graduates/postdocs?
 - Are there individuals who could contribute expertise to CfAO Summer School (instructors)?

Schedule



- 12:00 lunch at Outrigger (site for 2004?)
- 1:00 Poster set-up
- 2:00 Welcome/Overview (Lisa)
- 2:30 - 3:00 Preparation for introductions (keep notes for CfAO)
- 3:00 - 4:00 Introductions
- 4:00 - 5:00 Poster Session A
- 5:00 - 6:00 Poster Session B
- 6:00 Dinner with community

Introductions



- CfAO Lead Member introduces an organization and the individuals
- Community Representative introduces your poster and sub-group
- You have been matched with community
- 1 minute introductions (we will move around room)
- Preparation:
 - It is essential that you take the lead!
 - 30 minutes to develop both introductions
 - Start at the simplest possible introduction, go more in depth only if the community representative is comfortable

Poster Session



- **12 posters/hour**
- **Get a 2 minute summary together**
- **After your 2 minute summary, give the attendee a chance to ask a question and move on**
- **Go ahead with more detail if they take the lead**
- **Comments from 2002 presenters**

What will we have at the end of the day?



- Ideas, connections to people
- May feel like nothing concrete has come out of this
- 2002 community session has led to internship, short course, new partners
- It takes time to build collaboration
- Please give me your notes - follow-up on anything and keep us in the loop