

Helpful Hints for Mentors

Akamai Internship Program

Thank you very much for agreeing to mentor an intern this year! We know your time is limited, and we hope this is a valuable experience for you, your workplace, and the intern. Here we offer some general tips and information, and we welcome you to apply what works in your situation.

Please be sure to see the attached list of important dates for mentors and supervisors.

Mentoring

The well-defined part of mentoring is supervising interns on a specific project – helping them improve their skills and master the material, and tutoring them on their performance. The less-well-defined parts of mentoring are equally important: providing intellectual, emotional, even logistical support; modeling success and constructive participation in the enterprises of science and engineering; and sharing your experience to help with their career and educational choices.

Preparation for the mentor role:

You might find it helpful to reflect on your own experience as an undergraduate:

- Did you have a mentor that made a difference in your career? (Or do you wish you had?)
- What was positive or negative about that mentor's style?
- What kind of help would you have liked as you got started on projects?
- What was the most effective way for you to get work done?

These questions might serve as a starting point to get you thinking about mentoring college students. But keep in mind that what worked (or didn't work) for you may not apply to all students – try to reflect on other strategies as well.

The intern's project:

In general, the intern's project may involve answering a question, solving a problem, designing a program, system, or apparatus, or it may involve the completion of several smaller projects. As you work out an appropriate project, these questions might be helpful: **Will the project...**

- help the intern learn about defining or clarifying a question or problem?
- give opportunities to design one's own experiment, or devise one's own methods?
- be complete-able, or at least achieve an appropriate stopping point, within 7 weeks?
- help the intern learn to use data (or other evidence) to develop a scientific explanation, or to justify a solution to a problem?
- provide opportunities for the intern to grapple with alternative solutions or explanations?
- provide the intern with an opportunity to think and work like a scientist or engineer?

There are several ways you might go about assigning the intern to a project:

- Have several projects in mind, and let the intern pick.
- Review the intern's skills, experience, etc., in consultation with the Akamai Internship Program, and design a project for that student. Or consult the intern directly for his/her skills and interests.
- Assign a suitable undergraduate project directly to the student.

In your first meetings with your intern please discuss any questions the intern has, and plan out...

- how frequently you will meet
- what the checkpoints on progress will be
- whether you (the mentor) will be away at any point in the summer, and who will look after the intern and project during those times

It's likely that meetings/check-ins will be more frequent (daily or more!) at the beginning of the project, and become less frequent as the intern gains self-sufficiency. (But please still keep an eye on progress!).

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“Teachable moments”

Please remember that the internship is not just about completing the project – it is a valuable learning experience for the intern, to learn ways of reasoning, ways of working, and ways of communicating. There will be times when progress on the project will be slow because the intern is learning, fumbling, or stuck. Sometimes the point at which an intern is stuck is not so important, or really just has to get done quickly – then it might be necessary to correct the intern or give the right answer. But often the intern will learn the most if you *let them struggle just a bit*, and then *guide them through the process of making progress*. Sometimes saying, “Can you show me how you do the measurement, and let’s look at it step-by-step” is just what is needed, instead of, “That’s not right, let me show you how to do it.”

The “big picture” on mentoring

To make the intern’s experience even more valuable, you might consider the following:

- Help them network – if you can’t provide something they need, suggest other people at the workplace who might be able to help. Make introductions.
- Invite them to work-related events and gatherings; make them feel included in the group.
- Take advantage of informal down time to ask about their career/educational path; if you feel comfortable, share a bit about your own.
- Take an interest in their personal goals.
- Share your learning experiences, particularly what you learned from hard or negative times.
- Help them to identify their own strengths and interests, and how they relate to various career paths. There might be some aspect of their project that they really enjoy, but don’t know how it could fit into a career.
- Provide constructive and supportive feedback on overall career issues in addition to the project.
- Listen. It’s easy to fill the time with your own talking, especially with quiet students. But with a little patience, and a clear interest on your part, most students will open up.

What the Akamai Internship Program provides and requires of the interns

During the Akamai Internship Short Course, we will go over information and strategies to help prepare them for their placements. We offer ongoing support throughout the summer (and beyond).

In parallel with their internship projects, Akamai Interns also complete a course in science/engineering communication. During the internship, the Akamai Program education staff will hold weekly meetings, where interns come together as a class by telecon or videocon. **Please help your intern to attend – if possible, help reserve videocon or telecon time at your institution.** (See the dates/calendar for info.) At each meeting, the interns get assignments, such as writing an abstract of their project, working on their resume and personal statements for applications, and preparing technical posters and presentations of their project for symposia and conferences.

At the “mini-talks”, assigned just before halfway in the internship, the interns prepare a short powerpoint on the background and early progress on their project. This assignment helps them research and clarify the project’s background and motivation; it starts them documenting their progress in a presentable form; and it provides an important opportunity for practice and feedback on their presentation skills. Since every intern gives a formal project presentation at the symposium, we intend the mini-talk as the core or “draft 0” of that final presentation; we hope it helps them make incremental progress. The mini-talks are first delivered at a special weekly meeting, where their peers and the Akamai Program staff provide feedback. Next, your intern will schedule a time to present to you, and get your feedback as well.

The interns are asked to get their supervisors’ approval (as well as any institutional approvals needed) before submitting final versions of abstracts, posters, and presentations. Please provide constructive feedback to your intern on these matters, in a timely manner – a delay in responding to their work can hinder their progress. If you feel at any time that the student needs more support than you are able to give, please notify the Akamai Internship Program staff; we are happy to offer more assistance with science communication skills.

Akamai Internship Program – Hawaii Island

Important Dates and Times (all times in Hawaii timezone):

- Sunday, June 1 – Friday, June 6: Akamai Internship Program Short Course, @ Hawaii CC, Mauna Kea, and Keck Observatory
- Tuesday, June 3 (**tentative**): Mentors and hosts have lunch with interns
- Monday, June 9: Interns' first day at internship sites
- Thursday, June 26 and Friday, June 27 (**tentative**): Akamai Staff visit interns @ sites
- End of June / Beginning of July: Interns present their “mini-talks” to mentors
- Wednesday, July 23: Interns' last day at internship sites
- Friday, July 25: Akamai Internship Program Symposium (**tentatively @ IfA**): Formal intern presentations! **Time TBD.**

Science/Engineering Communication Curriculum weekly course meetings (WM)
All are by videocon/telecon, except the mini-talks and the symposium meetings.

- Thursday, June 12, 9 – 11 AM, WM#1
- Thursday, June 19, 9 – 11 AM, WM#2
- Thursday, June 26, 3 – 6 PM, WM#3 (tentatively @ IfA), Mini-Talks
- Thursday, July 3, 9 – 11 AM, WM #4
- Thursday, July 10, 9 – 11 AM, WM #5
- Thursday, July 17, 9 – 11 AM, WM #6
- Thursday, July 24, all day: Practice presentations for symposium, tentatively @ IfA.
- Friday, July 25, time/place TBD (probably IfA): Akamai Symposium.

Akamai Internship Program Contact Information:

<p>Sarah Anderson Akamai Internship Coordinator, Big Island CfAO Education & Workforce Development & Keck Observatory anderson@keck.hawaii.edu 808-881-3839 <i>Sarah is the local contact for the Big Island program, coordinating logistics, maintaining partnerships, and keeping her eye on the interns.</i></p>	<p>Lynne Raschke Postdoctoral Researcher CfAO, Education & Workforce Development lynne@ucolick.org 831-459-3009 <i>Lynne is the science/engineering communication instructor for the Big Island program, working closely with each intern and providing backup mentoring and technical expertise.</i></p>
<p>Scott Seagroves Academic Coordinator CfAO, Education & Workforce Development scott@ucolick.org 831-459-4688 <i>Scott co-develops the communication curriculum with Lynne, coordinates intern selection and placement, and keeps Maui and Big Island programs aligned.</i></p>	<p>Lisa Hunter Director, Akamai Workforce Initiative Institute for Astronomy & Center for Adaptive Optics hunter@maile.ifa.hawaii.edu 808-573-9542 <i>Lisa provides overall direction and vision for the program and partnerships.</i></p>