

Information for Prospective SEALs

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1. About SEAL

The Sensors, Energy, and Automation Laboratory (SEAL), uwseal.org, provides ample opportunities and resources to acquire work experience and letters of recommendation, to establish connections with alumni, and to grow your social network. Once you become a successful associate, you might transfer to a paid position, launch a startup, get into a top graduate school, or pursue a modeling career - SEAL has many scenarios. Our alumni have become professors, technology millionaires, patent attorneys, medical doctors, military leaders, and the list goes on.

No matter where you are located, you will have access to tools and opportunities to foster your academic and professional growth. In return, you need to display independence, initiative, and perseverance. You are expected to go through the training materials, find projects of interest and reach out to project leaders for roles on your own. We have multiple modes to facilitate virtual collaboration (Slack, Zoom), so be sure to utilize them to stay connected with the lab.

SEAL has over one hundred participants. We have students from engineering, computer science, mechanical engineering, business, graphics design, arts, English majors, biology, and more. Not everyone is a student: SEAL also has advisors - professors, industry leaders, and recent alumni. SEAL members' ages vary from 16 years old (high school interns) to over 70 years old (affiliates).

A word of caution. Several times, we ask you to stop and think - are you ready for this? As a starting Associate, you will be expected to spend at least 10 hours per week working on lab tasks. Many students oversubscribe to courses, low-grade jobs, or hobbies and fail to commit enough time. It is a very frequent situation. When you do not carry your weight, it negatively affects other team members. If you find yourself in this situation - please inform your team leader and take a break from the lab - or leave permanently, but on good terms. You can return to the lab when and if you have enough time for this endeavor. If you just quit paying attention to your share of tasks, letting down your team, you would still have to leave the lab, but then you will not be invited back.

A word of encouragement. You don't have to have experience. This lab consists of students, who are constantly trying new things. We have training sequences, mentorship, advising, and group support. Prior knowledge is not an important prerequisite for being successful in SEAL - but consistent effort is.

2. Frequently Asked Questions

2.1. Q: What is SEAL?

A: The Sensors, Energy, and Automation Laboratory (SEAL) of the Department of Electrical & Computer Engineering is directed by Professor Alexander Mamishev. SEAL conducts research in a variety of areas, including medical device design, consumer products, energy efficiency, security applications, non-destructive testing, and transportation. SEAL is a distributed matrix organization and uses principles of Scrum and JIT.

2.2. Q: What is the application deadline for each quarter?

A: You can apply any time, and you do not have to connect to quarters. Optimally, apply about three weeks before you plan to start. In those three weeks, you will go through the Applicant Challenge.

2.3. Q: What is the expected time commitment?

A: For an undergrad, graduate PMP student, or graduate student in the trial mode: 10 to 15 hours per week on the average. For a regular daytime program RA graduate student: 20 to 30 hours per week. Lesser involvement is not worth the student's time with training, interacting, or project completion. Working hours are generally flexible, although students are expected to meet all deadlines. If you are unable to meet deadlines, you should let your team leader know immediately and with enough advance notice. The number of credits is somewhat disconnected for the number of hours. If you are involved less than 10 hours a week, you will simply not achieve anything valuable.

2.4. Q: Can I have a paid position?

A: Most student commitments do not start out as paid positions. However, based on performance, available funding, and lab longevity, strong students who are with us for several quarters often transition into paid positions, depending on available funding.

As seals, we prioritize the **"We Eat What We Catch"** principle: Although we cannot guarantee funding at the entrance point, there are many opportunities for students to earn funding through our projects. The more active and harder students work, the more likely they will end up in paid positions.

Initially, most SEAL commitments offers students:

- * Course credit (optional),
- * Research experience,
- * Training,
- * Flexible schedules,
- * Mentorship,
- * Telecommute options,
- * Opportunities for publications,
- * Strong research projects to leverage for scholarships, and
- * Pathways to commercializing our technologies via small businesses.

Students are expected to assist in grant applications and to apply for scholarships, awards, and business contests to expand their professional portfolio. We will actively guide this process and assist as needed.

We no longer invite graduate student applicants into funded positions. We have a sufficient feed of existing lab associates who create their funded opportunities and join the lab. These associates include undergraduate students from the University of Washington as well as students from other locations who joined our lab in search of better opportunities, and then co-developed papers and grant proposals that fund their subsequent studies. Since most of our work is remote, potential students from other locations can join as volunteers (but note that they will be held to the same high standards of the lab).

We hope that students take these opportunities to get the most out of their career. We have many techniques, tools, and resources available to help our students improve their portfolio, secure funding, and become successful.

2.5. Q: How can I access the SEAL Training Program?

You will get access after you are accepted to the lab.

2.6. Q: How many research credits should I take?

A: For ECE, ME, and CSE students, the university allows 2 to 5 research credits, such as 299, 399, 499. Register for what is best for you; you can follow the process in the training program and fill out the appropriate forms. We guide you through this process.

For other departments (e.g., Business Students/English Majors), you may need to contact your undergraduate adviser, who will explain the process for getting credits for internships in your department. If you need a signature of a faculty member in your corresponding department, we have contacts in most departments to provide such signatures. Once you know how many credits you need, work with your group leader to complete the paperwork.

Please note that the minimum expected time commitment is 10 hours per week. Registering for less credits does not equate to less time commitment.

2.7. Q: When are lab meetings?

A: We prefer teleconferences, as our students, faculty, staff, and other collaborators have busy schedules and time commitments. However, we hold twice-a-week tech sessions where the whole lab is urged to progress on their individual tasks at the same time. Team leaders attend these sessions, where they are available to answer questions or provide guidance. These sessions occur on Tuesdays and Thursdays, but we are very flexible. People contribute to the lab on weekdays, weekends, mornings, evenings, etc.

2.8. Q: Can we meet so that I can get your signature (e.g., for key access or credit registration)?

A: A signature for electronic key access or course credit registration does not warrant a face-to-face meeting. Follow the instructions in the SEAL Training Program (Reference Number 1.5.0) for more information on how to get your forms signed. **Note:** If you have a miscellaneous document that requires Prof. Mamishev's signature, contact your group leader via Slack, and they will coordinate this process with you. Alternatively, you may be able to leave the document in the Inbox on Prof. Mamishev's door (in Room 215K) or in Prof. Mamishev's mailbox (in the EE central office). However, Prof. Mamishev is frequently out of town for business meetings, so receiving an in-person signature may sometimes take days (or even weeks).

2.9. Q: Where is the lab roster?

A: The website usually lags behind and typically captures about half of the lab associates, those who spent a substantial time in SEAL. The entire lab roster is kept in two locations: on slack and in the SEAL Clan Life spreadsheet.

2.10. Q: Where is the lab located?

A: The lab facilities are distributed among ECE building, ME building, Nano building, and Bowman building. The main office room is also an office room 215L. We are also using a variety of other resources and labs on campus, as needed by the projects.

2.11. Q: Why is there so much writing?

A: This is a research lab, our final product is proposals, papers, and reports. Of course, to produce those, we need to make devices work and code to run while every step needs to be documented for the lab and outside world. If the work is not published, it is as if it was never done. If the proposal is not submitted, there will be no funding for the project.

2.12. Q: How do I get scholarships based on my research efforts?

A: Watch the webinar *Small Game Hunting* located in the SEAL Training Program.

2.13. Q: How do I get involved in the business plan competitions?

A: We encourage our students to participate in business plan competitions based on their work in the lab. Such an effort should be coordinated with the lab director and team leader.

2.14. Q: How can I get published?

A: The overall process is quite easy—select a target journal or conference and write a paper for it. The devil is in the details. Refer to corresponding levels in the SEAL Training Program.

2.15. Q: How can I assist with the grant writing process?

A: We constantly prepare and submit grant proposals. You can contact a direction leader about your desire to participate, and we will set you up.

2.16. Q: Do I get to choose my own projects/focus, or will assignments be given to me?

A: It is a mixed bag. We go through the matching process, trying to match projects to your interests. Sometimes, there is an urgent project where anyone available needs to pitch in. Other times, there are no projects available that match your interests. Once you are integrated into the lab, you will have a chance to chart your course.

**2.17. Q: What if I am out of tasks and I want to be productive?
What should I do?**

A: Let your leaders know. Also, pay attention to announcements on the #general and #seal-active channels. We encourage being proactive.

2.18. Q: I changed my mind and want to leave the lab. What should I do?

A: Feel free to leave anytime, but coordinate your exit. If you leave early in the quarter, drop the research credits; if you leave late, make sure you have had a decent contribution to date to keep the credits. In any case, before you leave, be sure that all of the work you have done for SEAL is thoroughly reported in a final report so that other students can continue where you left off.

2.19. Q: Can I have a face-to-face meeting or one-on-one Zoom session with Prof. Mamishev?

A: It is possible, but the situation must be right. All general questions are answered in the orientation sheet and SEAL Training Program; topics that are discussed in these materials should not be repeated in a personal meeting. Similarly, project-related questions should be processed via Slack, during teleconferences, and/or sent to team leaders. However, there may be legitimate questions that require a personal meeting with Prof. Mamishev; you can bring these questions up and approve the meeting agenda prior to the in-person meeting.

2.20. Q: How do I participate in teleconferences?

A: You will get an invitation to aZoom. The teleconferences are in a computer screen sharing mode. You do not need a video camera. Make sure you are in a quiet environment and use a high-quality headset – not a speakerphone or a built-in computer microphone. Keep yourself muted when not talking. When necessary, the teleconference will be recorded, you can then go over the recording as many times as you need to catch complex details.

2.21. Q: How do I communicate with group members?

A:

Communicating with Prof. Mamishev:

Ongoing business – via Slack while choosing the appropriate level (e.g., private messages, group channels, general channel). Complex issues requiring dialog – via phone. Face-to-face meetings are during in-person sessions, usually there are two or three per week.

Communicating with other lab members: Use your judgment, everyone is different. For internal communication, Slack is the first choice. For external communication, email is the first choice.

2.22. Q: What if I cannot participate in next week's teleconference because I am traveling?

A: Ninety percent of the time you are still connected by your cell phone. You can read updates on Slack, call in, and get screen share with most cell phones. Most telecons are one hour minutes. We record our zoom sessions for those who cannot attend.

2.23. Q: How to request recommendation letters:

A: To request recommendation letters, you must be in Green (Good) status as a Lab Associate, or be an Affiliate/Alumni who departed after spending at least two quarters in SEAL. To request a recommendation letter, follow the process linked in the SEAL Training Program. Be as honest

and thorough with this process as possible and provide as much information as you can (especially provide a comprehensive bullet point list explaining your strengths and achievements specific to the lab). The more information you provide, the easier it is for us to provide you with a strong, personalized letter.

2.24. Q: Under what conditions are you advised not to join research?

A: The most frequent failure scenarios in research is improper time management between research, courses, and/or outside work. If reducing course load/working hours is not an option, focus on classes, as less damage is done to the research project and you will receive higher grades. Lack of focus or communication can result in failure in research, so be sure to discuss with mentors and experienced students while allocating enough time for the project. Finally, lack of discipline will result in immediate removal of students.

2.25. Q: I live far away from campus; can I work remotely?

A: In many cases, yes. It is possible that—after some initial meetings to establish the project—you would be able to telecommute. Some projects are amenable to this remote work, while others are not. For example, certain types of projects require you to be in the lab frequently. Most groups have their meetings in the evening (or on the weekends) to avoid schedule conflicts, with the expectation that most project tasks can be worked on at any time. Note that this flexibility is not an excuse to avoid working or to evade your hour commitments. If you are able to work from home without distraction, and the nature of the work does not prohibit it, then it is okay to do so.

2.25. Q: What exactly are my next steps?

A: Initial Steps

- These steps must be completed before an in-person interview or a first-contact via Slack.
- **Step 1)** Read this FAQs Sheet (all pages).
- **Step 2)** Visit the SEAL Website to get a sense of the projects and the general theme of the lab: <http://uwseal.org/>.
- **Step 3)** Decide if you are interested in joining SEAL You do not need prior approval. The will be an Applicant Challenge as part of your application process.
- **Step 4)** Follow the instructions located at <http://uwseal.com/index.php/apply/> to apply.

Direct link to this document: <https://tinyurl.com/SEALFAQs>