

Propagating Undersea Vehicle Expertise

APL-UW Scientists and Engineers Mentor UW ROV Team

Narrator: The challenge — to design and build an ROV.

Trevor Uptain: An ROV is a remotely operated vehicle. In essence, it's a tethered submarine.

Narrator: Trevor Uptain is captain of the UW ROV team — undergraduates dedicated to creating a working ROV in about three months.

Uptain: The ROV will be capable of diving to 150 meters. It'll have an electrically powered gripper and arm system so that we can retrieve objects from under the water. We'll also be able to top mount sonar systems on it. It's a floating platform capable of diverse tasks.

Narrator: The Applied Physics Laboratory at the University of Washington has devised, built, and deployed undersea vehicles for decades.

Trina Litchendorf: Andy Stewart and I are working with the ROV team. I never mentored an ROV team, so I thought I could build a coalition of young engineers at the Lab with a diverse set of skills in order to support the team as best we can. So we just offer guidance. It's not our role to tell them what to do but to answer questions for the team and model engineering behavior for them.

Andy Stewart: I'm helping out by trying to stay out of the way when they're making progress. I worked on an autonomous underwater vehicle as an undergraduate and got in big trouble doing it, because it turned into a career for me. I think that's gonna happen to a lot of these students.

Uptain: The Applied Physics Lab is absolutely crucial to what we do. They're always there with guidance.

Narrator: But the primary power sources propelling the UW ROV team are the students.

Litchendorf: They're computer science majors, aeronautical engineering majors, mechanical engineers, electrical engineers. So it's a very intelligent group of students who are very self-motivated, which is very important.

Derek Martin: I have been in charge of the design of the ROV. I'm a mechanical engineering student. So it's a lot of fun getting to work on the sort of stuff that I'll be pursuing as a career.

Matt Bolte: The ROV team got me an internship this summer. It's taught me a lot of hands-on stuff that I just don't think you get in school.

Narrator: The UW ROV team's new vehicle will compete in the Marine Advanced Technology Education (MATE) Center's international competition to be held in Federal Way, Washington in June.

Uptain: Our goal is to do research. Our goal is to create something that's helpful not only for ourselves and our own missions, but for the university as a whole. It's awesome. It's awesome just how into it people get. There's something magical about mixing water and electronics — making a robot that goes in the water.

This is APL The Applied Physics Laboratory at the University of Washington in Seattle.