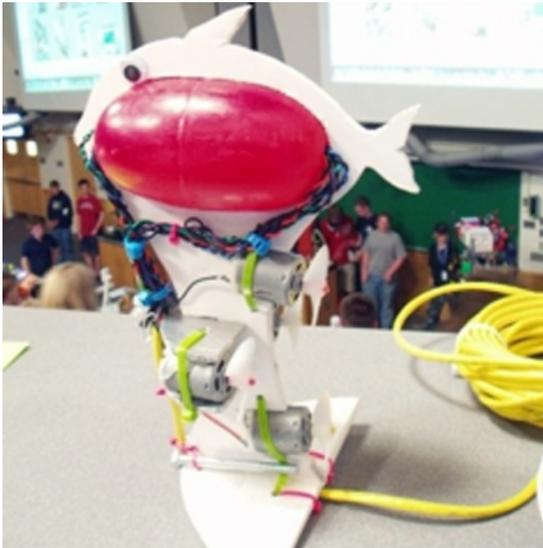


MIT News

ON CAMPUS AND AROUND THE WORLD



Pregnant Guppy, the ROV that Sara Falcone and her team built

Photo courtesy of Sara Falcone

From Anchorage, Alaska, to 77 Massachusetts Avenue

Exposure to engineering as a teen steers freshman Sara Falcone to MIT

Camilla Brinkman | Edgerton Center
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The failure of a particular web page to load was, in part, responsible for freshman Sara Falcone's passion for engineering. Urged by her parents, Joseph Falcone '77 and MaryBeth Falcone to apply for the Alaska Summer Research Academy (ASRA) — an intensive two-week Science, Technology, Engineering, and Mathematics (STEM) program for seventh- through 12th-graders run by the University of Alaska, Fairbanks — she reluctantly checked out the website. "Radical Math" looked like the best route, Falcone thought, but the page that described that program failed to load. She would have to choose something else. The Anchorage, Alaska, native chose the hands-on engineering workshop, and that choice has made all the difference.

In the hands-on, project-based sessions taught by MIT Edgerton Center Instructor Ed Moriarty '76 and his son, Peter, Falcone learned how to build remotely operated underwater vehicles (ROV), solder light-emitting diodes (LED), and launch a weather balloon with a camera mounted on it. "When I got back to my dorm room after the first day, I had a bunch of wires in my hands and had just made these LEDs and I thought that this was the most awesome thing ever," Falcone said.

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Working 16-hour days for two weeks, Falcone and her teammates built their ROV and took it back to their dorm room to play with in the bathtub. “I had never been in an environment where I could explore what I wanted and ask questions and build things and have Ed and his son, Peter, help me. Ed [Moriarty] has a way of making you figure out the solutions to the problems for yourself without telling you anything,” Falcone said.

The collaboration between Moriarty and ASRA began in 2005 when ASRA Director Jeff Drake '75, SB '79 recruited his friend and former roommate to teach the engineering component. Since then, Moriarty has traveled to Alaska each summer to work with teenagers in the program. Moriarty was impressed with Falcone’s determination to dig right in and take the initiative.

Asked about the future, Falcone said she is deeply committed to returning to Alaska and fulfilling her dream of building rescue and communication devices for the native populations who live in the Bush — the large stretches of land that are not connected to the highway system. While working at a fishing camp one summer, Falcone observed first hand the issues that come with lack of access to doctors. One co-worker had burned his arm and because of a lack of prescription antibiotic ointment developed a staph infection that required a year of ongoing treatment.

Before Falcone can make an impact on the issues she sees in Alaska, she is now immersed in her studies at MIT. Enrolled in the Experimental Study Group (ESG), a freshman learning community in which students are actively involved in their education, Falcone says she likes “being able to ask questions while new material is being presented and to have a center where most of my classes and recitations and friends all are studying and hanging out,” she says. Holly Sweet, ESG’s associate director, describes Falcone as a go-getter.

“As a freshman, new to ESG as of two weeks, she took it on herself to organize a trip for the ESG freshmen to George’s Island,” Sweet said.

For Falcone, her first year at MIT has presented her with “a flood of opportunities, is a bit hectic, and a lot of fun.” She is still learning from Moriarty in his Freshman Advising Seminar (EC.A790 Engineering, Art, and Science) taught through the Edgerton Center. The seminar includes an introduction to electronics, physics, programming, materials, aesthetics, graphic design and whatever else Falcone will need to know to make fun and engaging devices.

“With the Edgerton Center, the Hobby Shop, MITERS (MIT Electronics Research Society) and all the other labs on campus I can do anything,” she says.

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