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High schoolers bring curiosity, open minds to Stanford internships

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With school out for high schools across the Bay Area, students turn toward Stanford labs to find internships. These internships are providing valuable work experience, as well as the opportunity for students to discover their passions.

August 1, 2014 - By Alex Murray

High school students seeking a way to further their academic interests during summer vacation are increasingly looking to the labs and departments at Stanford to find internships.

Palo Alto High School student Catherine Yu, for example, is interning in the immunology and pathology lab at the [Stanford Blood Center](#). She described her task as gathering data to help her supervisor's research project.

“Every intern is assigned to a supervisor who is working on an experiment, which will hopefully be turned into a paper submitted for a journal,” said Yu,



Maya Ben-Efraim focuses on how e-cigarette manufacturers target teens as part of her summer internship with Stanford Research into the Impact of Tobacco Advertising.

who will be a senior in September. “My work consists of separating blood into T cells, monocytes, dendritic cells, and then culturing them together; it’s very neat.”

L.A. Cicero/Stanford News Service

Yu said being the only high school student in her lab presents her with a series of challenges. “It’s definitely a different dynamic where they expect you to learn a lot of information at a very fast pace,” Yu said. “I have to stay on my toes so I don’t fall behind.”

Delving into tobacco ads

Maya Ben-Efraim, who will also be a senior at Palo Alto High School, is interning with Stanford Research Into the Impact of Tobacco Advertising, a research group led by [Robert Jackler](#), MD, professor and chair of otolaryngology. Ben-Efraim discovered her interest in the research after attending one of Jackler’s lectures.



Catherine Yu is spending the summer between her junior and senior years at Palo Alto High School as an intern at the Stanford Blood Center’s immunology and pathology lab.

L.A. Cicero/Stanford News Service

“I was looking for a position in a lab, so I interviewed with Dr. Jackler from the Department of Otolaryngology, but he did not have any,” Ben-Efraim said. “Then we started talking about his organization, SRITA, and I went to his lecture about electronic cigarette advertising and teens. I found it very interesting and relevant.”

Ben-Efraim’s research focuses on how electronic cigarette companies target teens in their advertising by marketing e-cigarettes in a variety of appealing flavors.

Supervisors on campus say they recruit teenagers for their open minds and work ethic. David Mucciarone, a lab manager in the Environmental Earth System Science Department, has recruited a number of teenagers to work in his lab.

“High school students bring enthusiasm to the lab and their willingness to learn,” Mucciarone said. “We open our doors to eager young minds.”

“From there we do our best to be good mentors and provide the best introduction to science. They mostly work with an appointed graduate student so they have a good one-on-one experience.”

Learning life skills

Amanda Fein, who is SRITA director and also Ben-Efraim's supervisor, understands both intern and mentor roles. Fein was the first intern to work for SRITA, joining the organization in 2008. She eventually earned a permanent position. Fein said she hopes that Ben-Efraim learns the skills that will make her successful in her future endeavors.

"One of my main things is that I want everyone to have their own project, manage their time, manage their learning process, work independently and work together," Fein said.

Fein said she also hopes that Ben-Efraim will begin to discover her true passions and apply them to a future career.



We open our doors to eager young minds.

"She has a lot of skills and she has a lot of potential, but I want to refine those skills," Fein said of Ben-Efraim.

She added, "I want her to pick and choose what she really wants to do because she is good at a lot of things, but I feel like the exposure and more in-depth process of her work will show her more of where she wants to go."

Ben-Efraim said her research job is a great fit. "A big part of SRITA is understanding the complexities of social media outlets and predicting teen reactions to advertisements, and as a teenager, I have just the right perspective."

Yu said she believes that her curiosity and interest in her research help her succeed. "I try to ask a lot of questions and hopefully I also bring a fresh set of eyes."

Ben-Efraim's work has exposed her to other ideas and research. "I am surrounded by endless incredible people and resources," she said. "I have been introduced to doctors from different departments and even other universities and hospitals, so I have become familiar with a large range of research in tobacco very quickly."

Better prepared for finishing high school

Both Yu and Ben-Efraim said they are gaining valuable experience they hope to take back to their academic lives at high school.

"I'm gaining a lot of professional experience by working with PhD candidates and post-docs," Yu said. "I found out really quickly that the things I learned in class barely compare to the things I learned in the lab."

"I am gaining experience in researching, presenting, communicating, and all sorts of other work-related skills," Ben-Efraim said. "The fact that I am in high school does not affect the way I am treated, so I am expected to learn, act and understand the same as any other college student, graduate or doctor on the team."

Yu and Ben-Efraim said they regard their time in the labs at Stanford as a valuable educational experience that will help them further their scientific careers both in college and beyond.

“Working at SRITA is more than preparing me for the working world,” Ben-Efraim said. “This is the first time I have been given lots of real responsibility and it is forcing me to grow in a great way.”

Alex Murray

Alex Murray is a high school intern for the Stanford News Service.

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