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# Educational Outreach:

- Caltech faculty, researchers and students onsite at local schools
- Off-campus events for K-12 teachers and students
- K-12 students and teachers on the Caltech campus







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# Local Public School Demographics

## **Pasadena Unified School District**

Hispanic 60.2%

African American 15.3%

Caucasian 15.1%

Asian 5.9%

**67.5% Qualify for Free or Reduced Lunch**

## **Los Angeles Unified School District**

Latino 74.0%

African American 8.4%

White 9.8%

Asian 6.0%

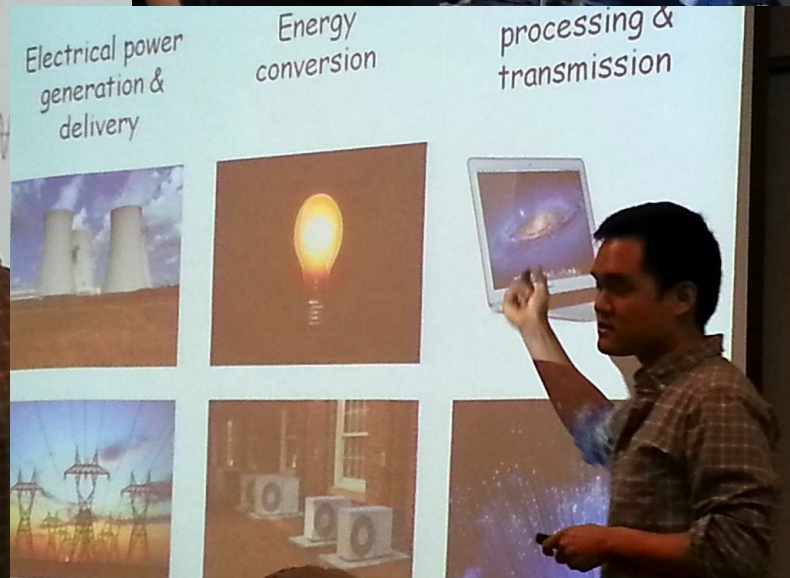
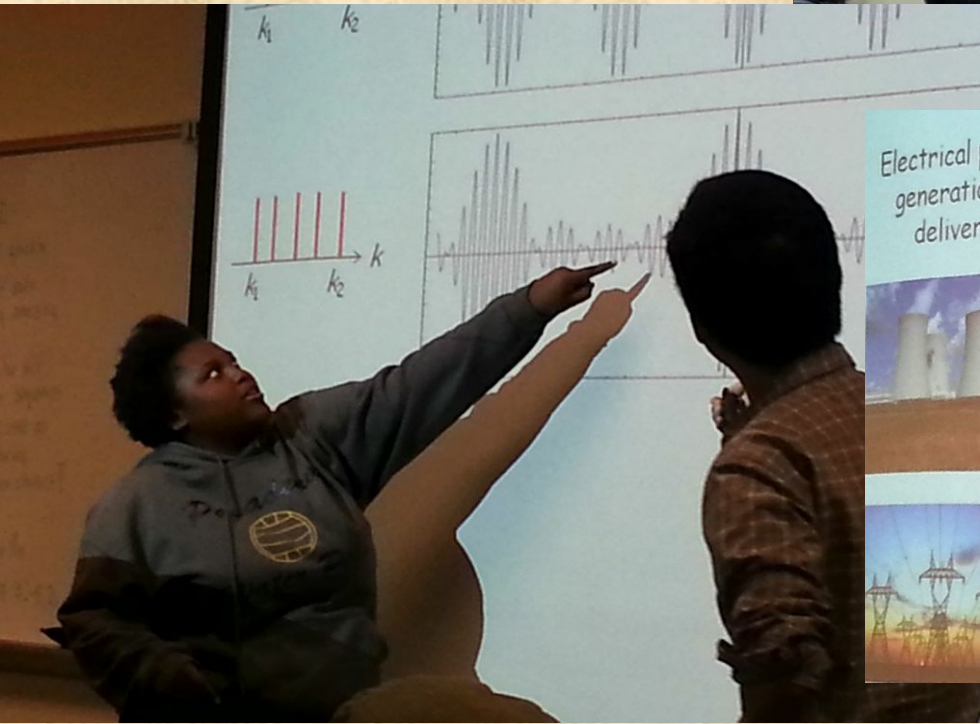
Pacific Islander 0.4%

American Indian/Alaskan Native 0.2%

**75.7% Qualify for Free or Reduced Lunch**

# APP ACADEMY

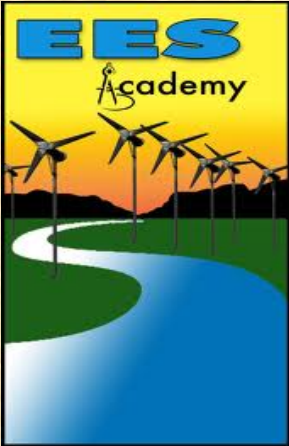
Mobile, Web and Game  
Development



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# Muir High School Engineering and Environmental Science Academy



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**BLAIR HIGH SCHOOL**  
*Home of the Vikings*

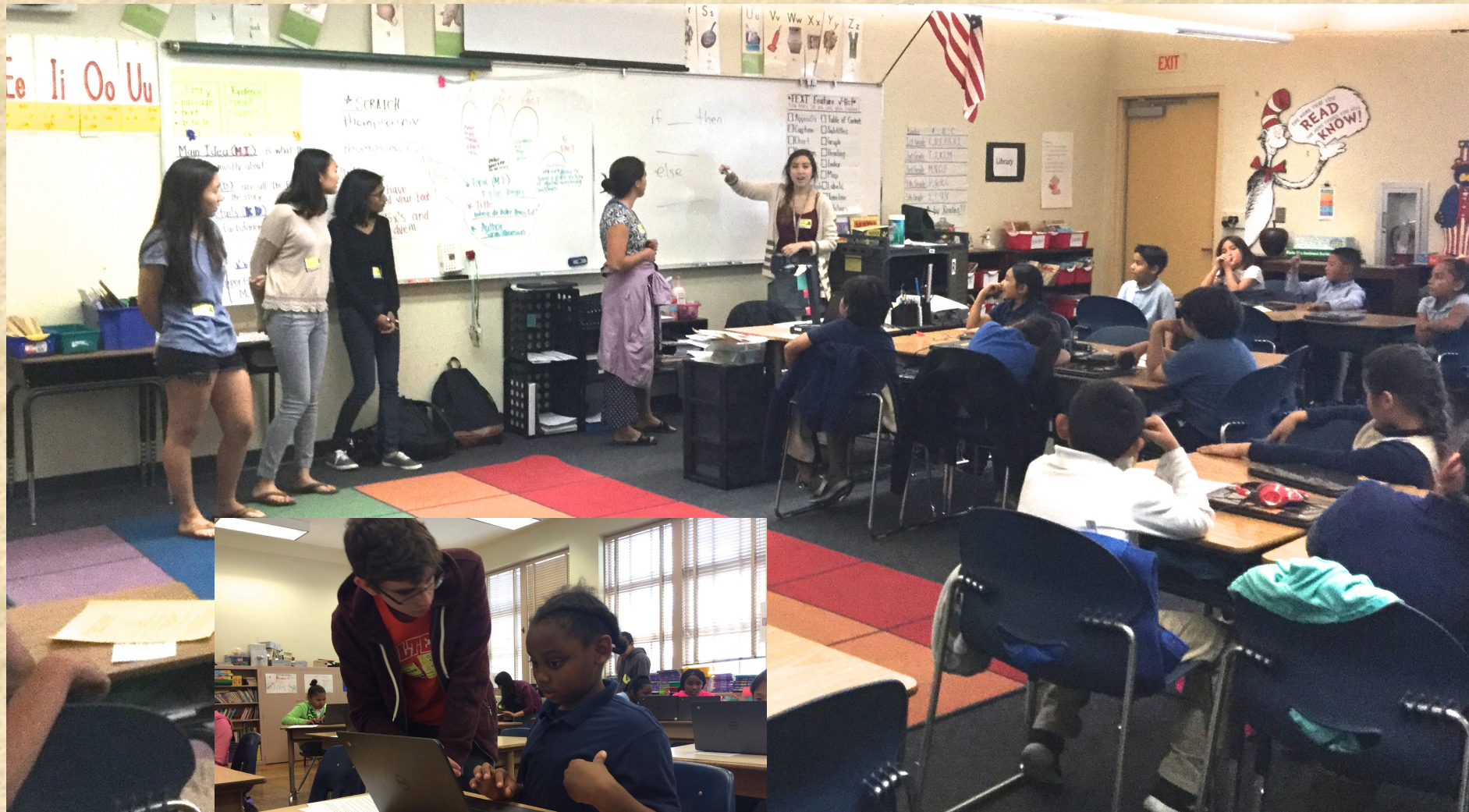
## Health Careers Academy



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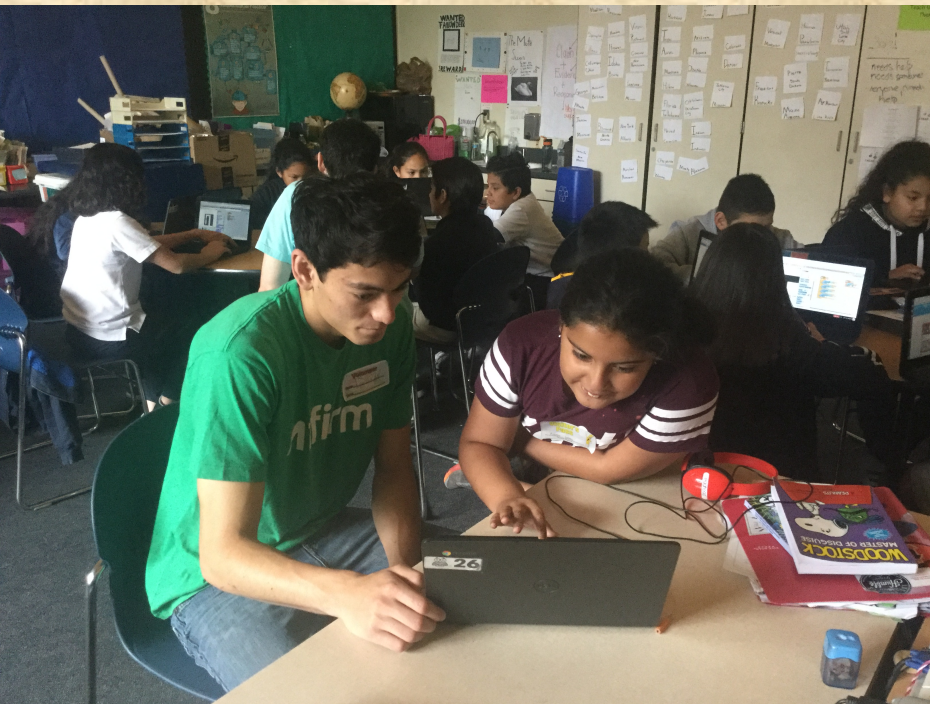
# Coding in the Classroom



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# Coding in the Classroom



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# Visiting Scientists



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# Visiting Scientists



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**SUMMER!**



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# 50+ High School Students



Community Science Academy

HOME | CALTECH HOME

Workshops Summer program Lessons Instruments Caltech PCC People Announcements

## Community Science Academy

The Community Science Academy @ Caltech (CSA@Caltech) is a professional teaching learning community and science teaching center promoting research in areas relevant to community needs, e.g. agriculture, environment, urban planning, etc. Toward this end, we work with schools and universities to teach core science and engineering skills, and to guide students and other citizens in relevant research. We collaborate with Caltech researchers to translate their work into educational opportunities and experiences.

We develop custom instrumentation, assays, software, and curriculum; perform outreach, teacher training, and professional development; work on community science and educational research projects; and teach at all levels.

CSA@Caltech is supported by the Provost's Office and the Betschtel Foundation, who has



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07/28/2015

### Science for the Community

On the grounds of San Marino's Huntington Library, Art Collections, and Botanical Gardens—to the north of the Chinese Gardens, in the private, half-acre Huntington Ranch area—nearly two dozen middle- and high-school students have been spending this summer measuring the pH in the soils around them to help the gardeners determine whether its soil is up to the challenge of growing a garden.

This research experience is part of the Community Science Academy (CSA), which is affiliated with Caltech's Center for Community Science and Outreach (CTLO). The 23 first-timers in what we call the CSA 1 program are studying biological systems at the ranch; a similar group of students, in CSA 2, are studying engineering and building their own scientific instruments.

The program runs three days a week for six weeks. For CSA 1, students began on June 15 with soil sampling; by July 24, when they have designed and performed their own experiments.

This is the program's second year. It initially was funded with a grant from the National Institutes of Health Director's Pioneer Award to the Director of Biology Bruce Hay. In addition, the Pasadena-based Betschtel Foundation and the Siemens Foundation currently provide scholarships that allow all students from the Huntington Ranch School District to attend the program free of charge.

Each day begins with lectures by members of the faculty. Each student is issued an iPad and keyboard for note-taking. This technology allows the lectures to become interactive using software that allows constant communication between teacher and student. They spend much of their

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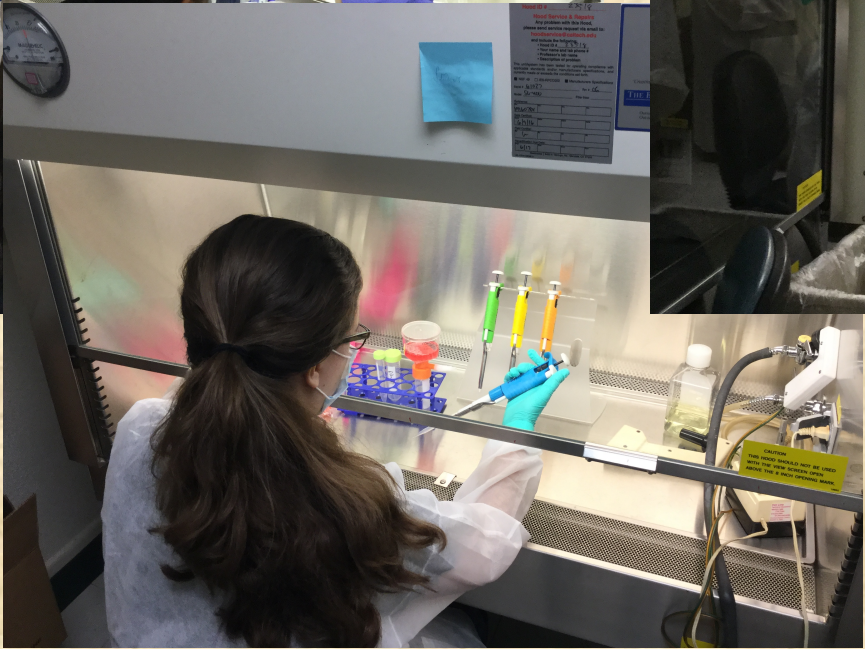
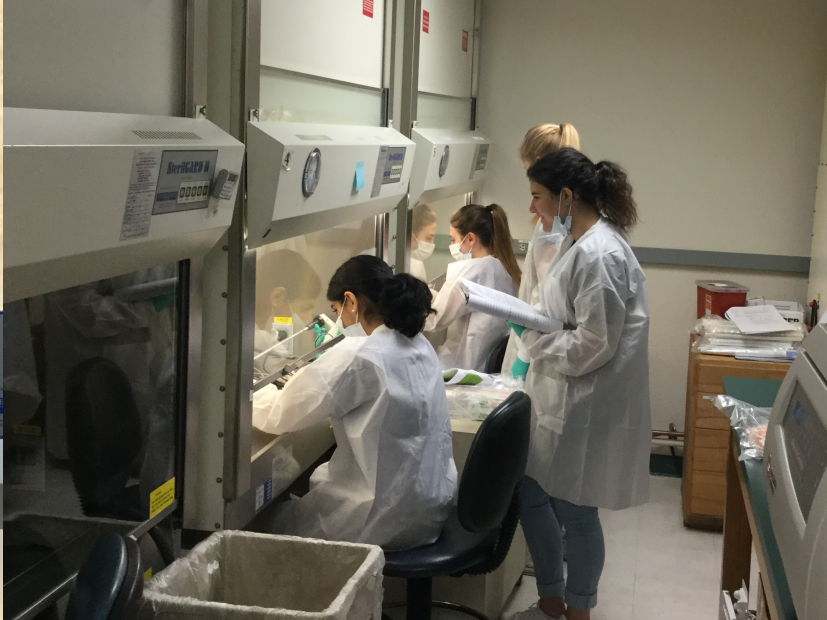
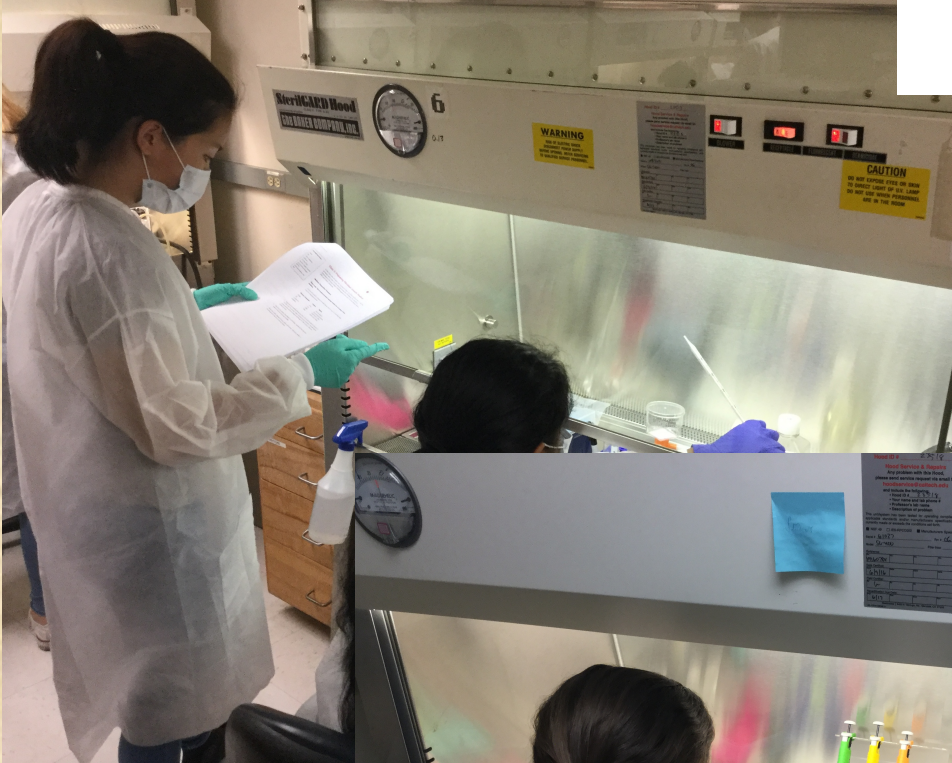
(Pictured from left to right): Kate Samaniego and James Maloney (Caltech)  
Credit: Lance Hayashida/Caltech

A photograph showing two students sitting on the ground in a grassy field, looking at something in their hands.

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# 6 High School Students

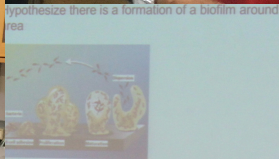
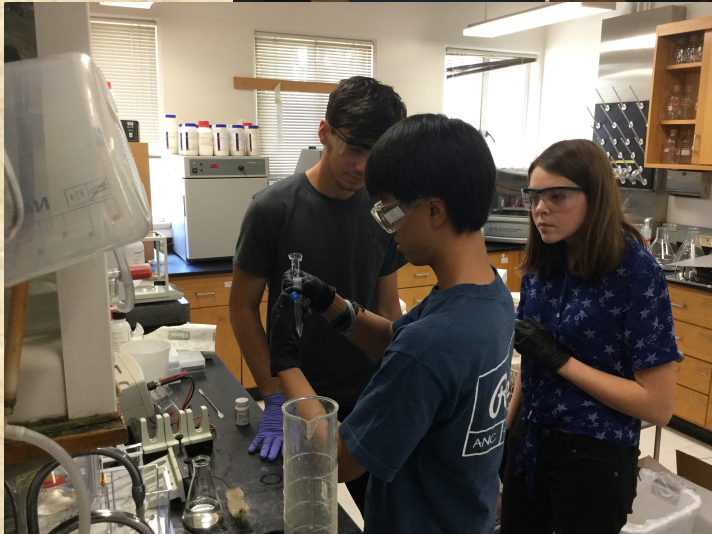
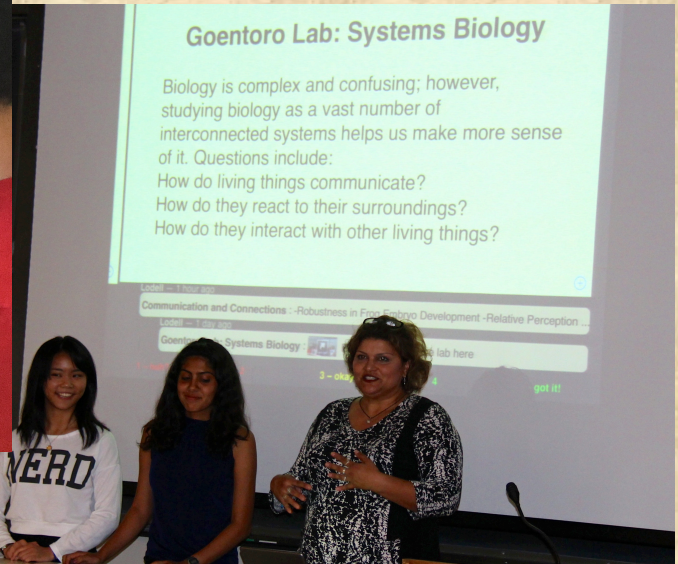
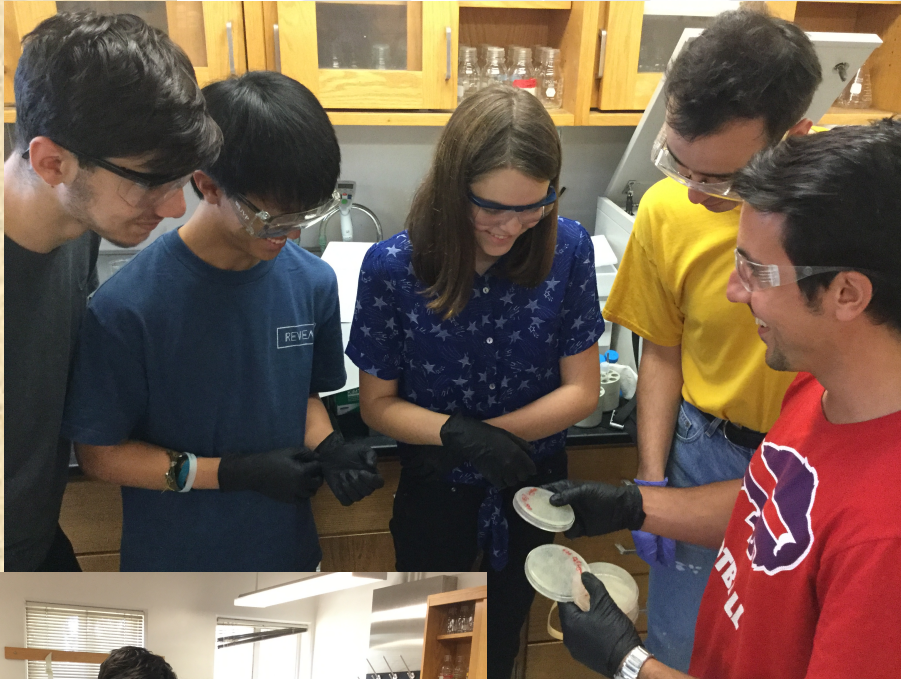
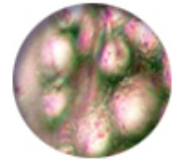
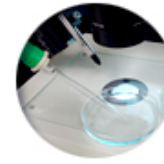


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# 20+ High School Students 5 Teachers

Summer Research Connection  
CALIFORNIA INSTITUTE OF TECHNOLOGY



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