

Berkeley Emerging Research Scholars

SciTech Program

July 23 - August 4, 2017

*Explore Frontiers of
Science and Technology
at UC Berkeley*



Experience Science and Technology through Discovery

The College of Chemistry and the Berkeley Global Science Institute present SciTech, which will take place at UC Berkeley, July 23 – August 4, 2017. SciTech is for rising high school students (grades 9-12) from the United States and abroad.

You will enhance your understanding of the problems facing the world, learn about the relevance of science and technology in addressing such problems, and be inspired to pursue careers in science and technology that will ensure your contribution to positively impact the world.





SciTech is different from other summer programs in the following aspects:

1. DISTINCTION

Brought to you by an **INTERNATIONALLY TOP RANKED college in the world**. SciTech is administered and delivered by the College of Chemistry at UC Berkeley and it is led by globally recognized and highly influential faculty. The College's Department of Chemistry is ranked **NUMBER ONE** in the world.

2. DEPTH

Immerse yourself in SCIENCE AND TECHNOLOGY. As a participating emerging scholar, you will listen to compelling seminars from some of the world's best scientists and engineers. You will complement what you learn from them by gaining hands-on practical experience in various fields of science and technology. Every component of the program is tailored to maximize your scientific understanding of the world around you!

3. INSPIRATION

Combine general knowledge with cutting edge research. You will observe closely how cutting edge research is performed at a top institution. You will be inspired when the frontiers of science and technology are revealed to you.

4. ENGAGE

Provides invaluable insight about the college application process and college life. Students will have an interactive information session with UC Berkeley's Admissions Office to better understand the application process and admission requirements. Students will also have opportunities to mingle with current UC Berkeley students to solicit their advice on the college application process and to get a better sense of college life.



Berkeley By The Numbers

The facts and figures may be impressive, but visiting and experiencing the atmosphere on campus provides the real testament to the greatness of UC Berkeley.

- 1st Ranked Public University in the United States
- 3rd Ranked Public University in the World
- 7 Nobel Prizes by Current Faculty
- 29 Nobel Prizes by Alumni
- 33 Faculty MacArthur Fellows
- 3 Fields Medal Recipients
- 16 Elements Discovered and Placed on the Periodic Table
- 13 National Medals of Science Held by Current Faculty
- 77 Faculty Fulbright Scholars
- 144 Faculty Members of National Academy of Sciences

UC Berkeley Student Life



A major part of the program is to experience life as a UC Berkeley student. You will receive insider information into the student advising process and about earning a degree by the Associate Dean of Undergraduate Affairs, take part in a workshop that helps you explore the process of building a winning college application, and interact with current Cal undergraduate and graduate scientists to learn about life as a science major.

Additionally, there are scheduled tours of UC Berkeley, including the College of Chemistry, College of Engineering, and the departments of Molecular and Cell Biology, Mathematical and Physical Sciences. You will get to see the library and collections buildings (where UC Berkeley's Nobel Prizes are stored) as well as the historical Sather Tower and Gate.





San Francisco and the Bay Area: Built on Innovation

SciTech takes place in one of the most captivating areas in the world, the San Francisco Bay Area. This special place has played a major role in everything from leading the fight for positive social change to producing some of the most innovative technologies the world has ever seen. Located across the bay from San Francisco, UC Berkeley is an established leader in educating the

world's brightest minds, who all come to Berkeley to advance generations. Through this program, you will be able to explore not only UC Berkeley, but the city of San Francisco as well through organized excursions to Golden Gate Park, the Golden Gate Bridge, Fisherman's Wharf, and the Exploratorium. Be careful though, you may never want to leave!

Program Highlights: Science and Technology Topics

Inspirational Discoveries in Science and Technology: Nobel Prize Day

What inspires people to pursue a career (and life) of science? Listen to a panel discussion of science, technology, and engineering professors who tell you about the inspirational discoveries that inspired them. Later in the evening, you will also get to hear from and interact with a scientist whose discoveries led to a Nobel Prize!



Image: Matthew Beardsley



Image: Elena Zhukova

Nano-Berkeley

Hear from and engage with leading researchers on topics that explore the prospects for nanotechnology in society. Complement your understanding of nanotechnology with short lectures and hands-on experimentation to make nanoparticle-based stained glass windows.

Robo-Berkeley

Experience the stuff that you only see in movies: artificial intelligence, robots, and machine learning! We have exciting seminars planned that are brought to you by the pioneers in this field. You will also complement your learning and understanding of robotics through a site visit and workshop at the UC Berkeley Robot Learning Laboratory.

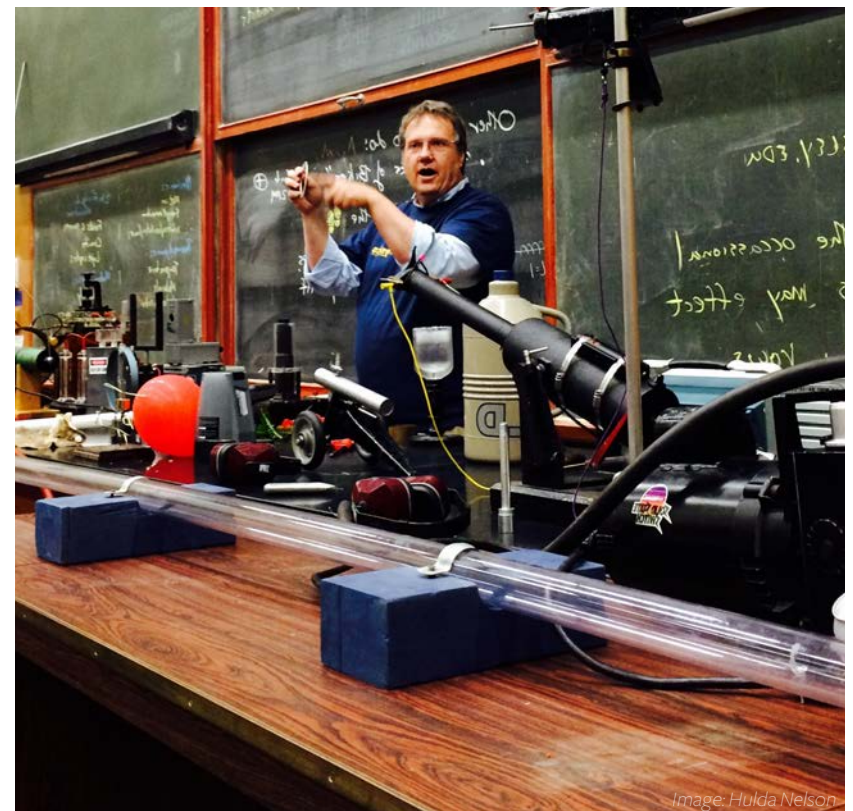


Image: Hilda Nelson

Reinventing Genetic Research through Genome Editing Technologies

How do we ensure a better quality of life for all people? A key issue to address is the prevalence of disease. You will hear from scholars that are actively seeking to address that problem through their research into genetics and genome editing. You will also take part in such research through mock laboratory exercises in bacterial transformation and microarray development.

Networking Society: Computers and Internet in the Information Age

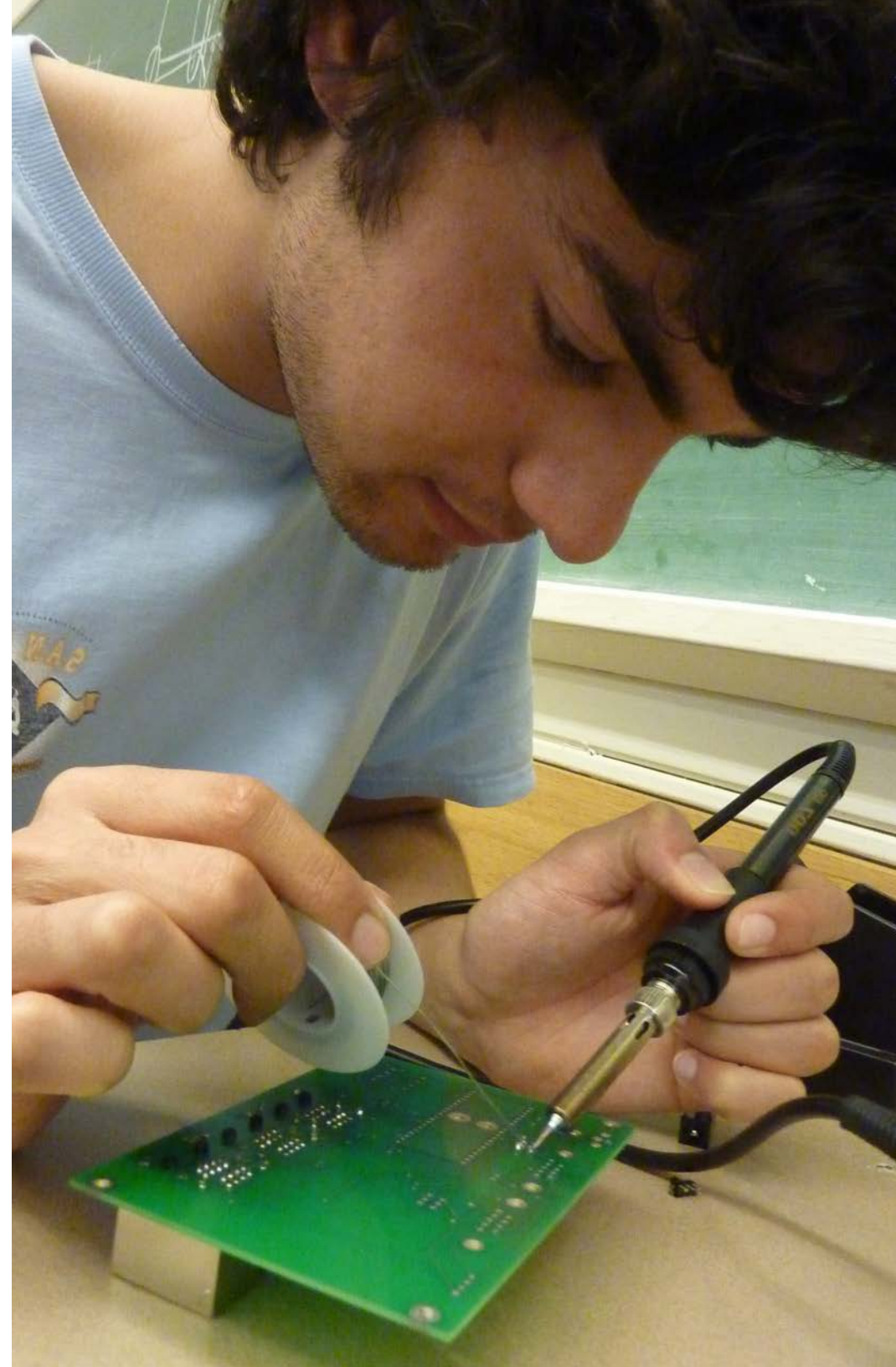
Have you ever dreamed about visiting Silicon Valley? You will take a trip down to the world-renown area that birthed the age of technology and innovative products. Site visits to the world's most famous company headquarters are planned for you to see a day-in-the-life of a technologist.

New Frontiers in Science and Technology

Take a tour of the Advanced Light Source Synchrotron, one of the world's brightest sources of ultraviolet and soft X-ray beams; and the Molecular Foundry, an international nanoscience research facility. Gain insight into the life of a national laboratory scientist and marvel at the Lawrence Hall of Science's public science museum and research center.

Clean and Renewable Energy for a Better Future

Join a discussion about how societal changes today will impact our future tomorrow. You will learn from pioneers that have dedicated their lives to developing new, clean and renewable energy. Additionally, you will take part in mock laboratory exercises to make and test photovoltaics, which you get to take home with you!





Featured Lecturers

SciTech features some of the **world's greatest scientists and engineers** as invited speakers. Simply put, this is an unprecedented opportunity for participating students to learn from, interact, and engage with those that are pushing the frontiers of science and technology. The distinguished scholars will share their knowledge, experience, and life stories to **inspire you** to pursue careers in science and technology and to **catalyze your exploration** of these fields.



Nobel Prize Laureate

18 Lecturers from 9 prominent universities

including UC Berkeley, Caltech, Stanford, UCLA, and Cornell



Over **200 years** of combined experience

Scientific experts



Chemistry
Materials Science
Genetics
Biology

Technology experts



Robotics
Nanotechnology
Computer Science
Engineering



Eligibility

Rising high school (grades 9-12) students from the United States and abroad are encouraged to apply and participate in the program. Those accepted must have a substantial command of the English language and be prepared for an intensive scientific program.

Course Details

SciTech will take place on the historic UC Berkeley campus. This program is held every summer for a two-week duration.

Program tuition includes: room and board, course materials, all meals, all excursions and social events, program souvenirs and other "swag," and official completion certificates signed by the dean of the College.

Admission is rolling with applications closing once 100 scholars are accepted into the program. For more information regarding dates, tuition fees, and the application process, please visit our website: **chemistry.berkeley.edu/bers/scitech**

Contact Us

For questions about SciTech, please contact us:

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Or visit our website at:

chemistry.berkeley.edu/bers/scitech

College of Chemistry and Berkeley Global Science Institute

Berkeley

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