I came to SSP without expectations of anything other than just a summer program, albeit one with incredibly talented people. However, I soon realized that it is so much more than that...

—JASON CHEN

Read on to see what Jason means. What is so special about SSP? Why should it expand?
## MILESTONES

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1959</td>
<td>First SSP year, with student research project in astronomy, operated by Caltech, Pomona College, Harvey Mudd College, Thacher School, and Hughes Aircraft.</td>
</tr>
<tr>
<td>2000</td>
<td>Operational responsibility taken on by an alumni-run, independent non-profit, with funding from Moore Foundation. Moved from Thacher, long-term effort to codify and institutionalize SSP’s unique design begun.</td>
</tr>
<tr>
<td>2003</td>
<td>Second campus for astronomy opened at New Mexico Institute of Technology, with substantial local financial support as first site partnership.</td>
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<tr>
<td>2008</td>
<td>50th Anniversary Celebration held, Endowment created, restructured as a Membership Organization with elected Trustees.</td>
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<tr>
<td>2013</td>
<td>Grant from Moore Foundation to develop and test new student research projects. Long Range Strategic Planning initiated, to include transition to new management structure.</td>
</tr>
<tr>
<td>2016</td>
<td>Pilot of Biochem project; search for new campuses, funding, and partners begun.</td>
</tr>
<tr>
<td>2017</td>
<td>First SSP in Biochemistry at Purdue University.</td>
</tr>
<tr>
<td>2019-?</td>
<td>Deployment to additional campuses, funding permitting.</td>
</tr>
</tbody>
</table>
THE EDUCATIONAL EXPERIENCE OF A LIFETIME

Today’s most promising high school students will be tomorrow’s scientists and engineers, doctors and entrepreneurs – the people who invent the future – but only if they realize their potential. Gifted teens have unique needs not often met in school: for role models, for intellectual challenge, and for the confidence to dream bigger dreams.

Each summer since 1959, highly gifted and motivated high school students have come to the Summer Science Program to immerse themselves in hands-on, experimental science, and to live and work with their intellectual peers for the first time. The experience changes their lives.

But we are forced to turn away hundreds of bright and motivated applicants each year. In response to this, SSP is committed to offering “the educational experience of a lifetime” to many more promising young scientists, by expanding to new research projects on additional campuses.
UNIQUE DESIGN

SSP’s design, evolved over six decades, is proven to accelerate the personal growth of each student at a pivotal moment in his or her life.

Until 2017, all participants’ research was in Astrophysics: near-earth asteroid orbit determination. We have developed new research projects, in biochemistry and metagenomics, that share the same unique design elements.

We admit a diverse community of rising high school seniors: about 30 U.S. and 6 international students per campus, selected for promise and motivation.

Students perform a complete, hands-on research project in experimental science.

They collaborate in informal groups and do their research in teams of three. Everyone teaches — and learns from — everyone else.

Each team studies a unique research target, collects its own data, performs its own analysis, writes its own report.

Students and faculty live and work together, immersed in the culture and values of science, including an Honor Code.

Extracurricular and social activities, including field trips and a guest lecture series, round out the packed 39-day schedule.
HIGH IMPACT ON YOUNG LIVES

Each summer we turn away 90% of our applicants, disappointing hundreds of promising young people. New partners and sponsors will create more opportunities on more campuses.

The combination of intellectual challenge - tempered by peer collaboration - has a profound motivating effect on gifted teenagers, who are rarely challenged in high school. They leave SSP supercharged with enthusiasm to continue achieving at SSP’s blistering pace, in college and beyond.
WHO COMES TO SSP?

GENDER
- Female
- Male

Since 2011, half have been women

ETHNICITY
- White
- Black
- Hispanic
- East Asian
- Indian
- Other

RESIDENCE
- CA
- MA
- TX
- NJ
- NY
- OH
- WA
- UT
- CO
- NM
- GA
- UT

TEST SCORES
- PSAT MATH: 750 OUT OF 760
- SAT MATH: 790 OUT OF 800
TEENAGERS TRANSFORMED

“Each day was a decade worth of lessons, each week a lifetime of wisdom from a community of friends you love. I am a better, more secure and confident version of myself than I was when I arrived. SSP is joy in making mistakes, stretching oneself to failure, and discovering the extent of humanity through STEM immersion.”

-PHOEBE YAO

“I entered an intense scientific community at SSP where I was pushed to my limits every day, and I loved every second of it. I learned that it’s fine to not know the “right answer” immediately; collaboration and problem-solving matter so much more than the eventual solution. SSP gave me the confidence that I really do have what it takes to be a scientist. After this incredible experience, I can’t wait to join the scientific world and pursue research in the future.”

-BRIN HARPER

“The moments when I felt like I could not keep up with the program were the ones which made me realize that I can do anything I set my mind to. I will never again doubt my abilities or give up.”

-MARIA MORENO

“There’s this little magic with tearing students apart to shreds and allowing them to build each other back up. They emerge as new and mature people with a stronger sense of self and an even stronger passion for science. I’m a better version of me.”

-STEVEN TRUONG
At GreatNonProfits.org, SSP has earned five stars from reviewers and Top-Rated Nonprofit status, every year.

## PROOF OF IMPACT

### ALUMNI

<table>
<thead>
<tr>
<th>SSP will, in the long run, probably have a significant impact on my life</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
</tr>
<tr>
<td>---</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>SSP helped me grow as a person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
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<td>---</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>SSP helped me understand the nature and value of collaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
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<td>---</td>
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</tbody>
</table>

Faculty conduct a sky orientation at twilight on the first day of SSP 2015. The bright “star” in the upper right is Venus.
In the past five years, over 70% of alumni have enrolled at MIT, Caltech, Stanford, or the Ivy League. Many alumni are leaders in their chosen professions – and cite SSP as a critical turning point in their lives.
Offering a first-class experience to these first-class students costs about $10,000 each. The program fee is subsidized for all, and those from lower income families can attend absolutely free. Net of aid, families cover only about half of SSP’s budget.

Annual donations from our generous alumni, parents, and friends (thank you!), plus returns from a modest endowment, keep this life-changing opportunity open to tomorrow’s leaders from all backgrounds.

### FINANCIAL FACTS

In 2018

- 47 participants received
- $266,950 in need-based aid grants
- 17 attended FREE

Since 2000

- over 1,000 alumni have donated
- $4 MILLION to fund financial aid and other program needs
A major challenge for humanity is feeding the world's growing population while arable farmland is shrinking. One answer is to better protect crops against diseases.

Concepts and methods span protein purification, in silico homology modeling of 3D structures, experimental characterization of kinetic parameters in relation to candidate inhibitory molecules, and hypothesis-driven modeling of structural mechanisms of inhibition.

Each team of three students isolates and characterizes an enzyme implicated in fungal infections of agriculturally important crops. They use specialized software to design small molecule inhibitors for their enzyme. Their research is accompanied by college-level instruction in biochemistry, enzyme structure and function, and the drug discovery process.

The Gordon & Betty Moore Foundation funded development and testing of this exciting new student research project, leading to the first SSP in Biochemistry at Purdue University in 2017.
DONATING TO THE SUMMER SCIENCE PROGRAM

ANNUAL FUND
Donations to the Annual Fund keep SSP affordable and ensure socioeconomic diversity.

ENDOWMENT
Investment returns from the SSP Endowment provide an annual financial cushion. “Named funds” within the endowment allow any donor or group of donors to honor a person or cause of their choice.

PLANNED GIFTS
Include SSP students in your estate planning.

For more information, visit summerscience.org/support or contact us at info@summerscience.org
Continuing to expand SSP further requires new partners – philanthropists, foundations, and corporations – to help us keep this unique program affordable for the most promising gifted students, regardless of family income.

Each new site will require research and classroom facilities, room and board, supplies, faculty salaries, and financial aid support to assure socioeconomic diversity.
At each SSP campus, 36 gifted high school students from around the world gather to do hands-on research, guided by seven resident faculty.

Each year we turn away hundreds of qualified applicants. Expanding the number of campuses will open SSP to more aspiring young scientists.

SSP was a truly life-changing experience for Philip. He has really grown, in so many positive ways, from his experience at SSP. He returned more confident and independent, and his love of physics, computer science, math, and astronomy were forever cemented in his heart and mind. Thank you for providing this truly great opportunity as he travels toward his goal of a career as a scientist. He is so proud and honored to be part of the SSP family.

-DIANE MCKENZIE, SSP Parent
VALUED SUPPORTERS

SSP is unique. It has been inspiring future leaders for over half a century. These gifted teenagers are so profoundly changed by the experience that many years later, they donate and volunteer to ensure that today’s students have the same opportunity they did.

All of us who serve on SSP’s volunteer, elected Board of Trustees are extremely excited to be working to increase SSP’s impact. New student research projects in Biochemistry and Metagenomics, and more, will open opportunities for more young scientists, a broader base of support, and new partnerships with colleges, foundations, corporations, and individuals who want to join this important effort.

I hope this report gives you a sense of what SSP does for these remarkable students ... and how you can help. Join us. I’d love to hear from you – you can reach me at info@ssp.org.

Best regards,

HENRY LICHSTEIN SSP ’60
Trustee, Chair Emeritus
SSP's mission is to inspire exceptionally talented and motivated high school students to accelerate their intellectual and social development. Our college-level, residential program immerses students in a challenging science curriculum with team-based, hands-on research to solve a central scientific problem. Since 1959, we have created a cultural environment of excellence, collaboration, and creativity, and we push our students beyond anything they have previously experienced. We measure our performance by the number of alumni who look back at SSP as a formative experience and support the program for future generations.

We seek new partners – philanthropists, foundations, universities, and corporations – to bring this unique, life-changing educational experience to more promising young people.

summerscience.org