SSP 2010 In Santa Barbara

The SSP Board of Trustees has voted to move the California campus next summer from Besant Hill School in Ojai to Westmont College in Santa Barbara. The decision was prompted by the expiration of SSP’s contract with Besant Hill, and Westmont’s offer of its first-class facilities, including a new 24” telescope.

An alumnus on the Westmont physics faculty, Warren Rogers ’76, played a key role in the decision. “I remember fondly my own SSP summer, so I’m gratified that I can do something to help future students have their own life-changing experience,” he said.

The move comes after ten years at Besant Hill. Although the program has been very successful there, a college campus offers better computer resources and other infrastructure, increasingly important to the curriculum.

“It’s been a strain to maintain two complex telescopes by ourselves,” commented Richard Bowdon’74, SSP’s Executive Director, “and our computing needs are greater than ever. Although we’ll miss the people and dark skies at BHS, our experience at New Mexico Tech has proven the advantages of (Continued on page 2)

Ojai Campus
by Ran Sivron

Half a century after the first SSP, the program is alive and well. The successful transition over the last few years to observing near earth asteroids (NEAs) can be the foundation for a program that thrives for the next 50 years. NEAs are great motivators; most teams calculated the time and distance of closest approach to earth of their asteroid.

Students come to the program increasingly well prepared in physics and calculus. That gives us more opportunities to cover some advanced topics that can help them get better orbital elements. For example, programming and error analysis got greater roles in this year’s program. These are rarely taught in high school and can give our students a significant head start in college.

In the first two weeks, students manually guided the Takahashi to take and (Continued on page 6)

Socorro Campus
by Don Davis

I am pleased to report that all 36 students completed the program in Socorro, despite problems getting good orbits for most of our NEAs this year. Tutoring sessions in differential calculus and vector algebra helped those with less preparation. And, our students were very well-behaved and polite … and healthy, without one trip to the ER. (True, one student brought a flash drive infected with a virus, but that was inadvertent, and Tech’s anti-virus software prevented it from spreading.)

There were two sources of OD problems. First, we relied on code from last year which contained an error. After a lot of effort some students were able to find and correct that error - they can do very impressive work! However, they were still getting very erratic results for some asteroids - even hyperbolic orbits. Unfortunately time ran out before anyone could crack this problem. Student Jack Ingalls emailed me about a (Continued on page 6)
When I came back home, my brain was overfunctioning.

–Ekin Ilseven

The most amazing aspect of SSP is probably learning new things and facing new challenges every single moment.

–Oprescu Miruna

I have become much more open to the idea of collaboration and cooperation because of SSP.

–Dylan Liu

I don’t know whether I want to be an astrophysicist or a neuroscientist, but I do know that whatever I do, I will work in a team, made up of people as quirky and diverse as those I spent six weeks with this summer.

–Anna Ho

SSP is life as it should be.

–Leah Weiss

more quotes at ssp.org

SSP 2010 in Santa Barbara

(Continued from page 1)

holding a college-like program at a college.”

Westmont is a small (1,200 students), private, liberal arts, undergraduate, non-denominational Christian college, with a strong science curriculum. SSP will lease facilities there, as has been standard practice since leaving Thacher in 2000.

Westmont recently installed a 24” DFM telescope, to which SSP will have access. However the weather and “seeing” will be inferior to Ojai. To supplement local images, student teams will be able to obtain observations on request from the PROMPT robotic telescopes in Chile.

Bowdon addressed potential alumni concerns about leaving Ojai. He noted that Westmont is a quiet, beautiful place where SSP can maintain social isolation. “Ten years after leaving Thacher, seven years after opening at New Mexico Tech, we understand the essential design elements that make SSP successful,” he said. “We know SSP can work outside of Ojai.”
The first-ever election of SSP Trustees was held this spring by online ballot, emailed to all 1,213 alumni and former faculty for whom we have email addresses [send yours to ssplum@ssp.org]. Results were announced in the Universal Times Email Edition for August. Razvan Ungureanu ’01, TA ’05-’07 was elected, along with incumbents Steve Cotler ’60 and Dan Seligson ’71.
The Etscorn Observatory is well
situated for SSP observational
programs, with three telescopes
available to us this year. Dr. Dan
Klinglesmith is willing to take calls
in the wee hours to answer ques-
tions. Other NMT campus person-
nel were also very supportive.

We had two “special” lectures in
Socorro this year, i.e., lectures
that were an integral part of the
curriculum, as distinct from the
guest lecture program. Dr. David
Tholen, who does NEA ODs for a
living, spoke via live video link
from the Institute for Astronomy
in Hawaii. Mr. Jason Speights, a
graduate student in astronomy at
NM Tech, gave an excellent talk
on galaxies, including his cutting
dge research on galactic spiral
structure formation.

Bill Andersen, who returned for
his second year as Associate AD,
is a real treasure. His passion for
teaching extends beyond the
regular classroom lectures to or-
ganizing special evening sessions
on topics ranging from remedial
vector algebra and differential
calculus to relativistic quantum
mechanics. Bill was a pillar of
strength, and his cheerful and
positive attitude make him a
pleasure to work with.

Site Director Leslie Clark was on
the front line in dealing with TA
and student issues this year; suf-
fice it to say that she was the
voice of experience in dealing
with these issues. While there are
lessons to be learned and applied
to future SSP programs, the en-
ergy and insights of Leslie were
needed to get through 2009 in
Socorro.

I also want to thank our excellent
TAs: Peter Combs ’03, Rebecca
Mickol, Michelle Krook, and Rachel
Paterno-Mahler ’02. Ojai faculty
Ran Sivron and Martin Mason
were willing to provide help and
share resources, much appreci-
ated by a new AD.
**DONATION FORM**

Next summer, you can help inspire 72 gifted teenagers to reach their potential. Return this form with your check, or donate online using a credit card at www.ssp.org/donate. Thank you!

$_____ □ $1000 □ $500 □ $250 □ $100 □ $50 □ $25

Credit to: ____________________ □ alumnus □ parent □ faculty □ friend

Allocate to: □ unrestricted support (or ____%) □ Endowment Scholarship Fund (or ____%)

Check mailing address on the other side of this form, and correct as necessary.

Return this form to:
SSP c/o Laura Kang Ward
436 Jackson Ave
Livermore, CA 94550

**Parents Say**

Getting to know other talented and highly motivated students inspired Helen to reach even higher.
—Jim Wang

Our son has grown up in rural Idaho with a passion for math and science. Peer interaction has been deeply lacking. SSP is the best thing that's ever happened to him.
—Carole Freund

Before SSP Kendall questioned if she could truly succeed in a college environment. Now, finally, she feels empowered. Going into the college application process, this is wonderful.
—Nikki Capshaw

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**INSPIRING GUEST SPEAKERS**

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<td><strong>Michael A. Weiss, MD ’74, Case Western Reserve Univ.</strong></td>
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<td><strong>Dr. Duncan Ryan, New Mexico Tech</strong></td>
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<td><strong>Dr. William Bottke, Southwest Research Inst.</strong></td>
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SSP Year 51 and counting! Another cohort of students successfully completed their analysis of (near-earth!) asteroids at the Ojai and Socorro campuses. Parents describe how the summer of science immersion has enhanced the academic confidence of their returning teenagers. And the faculty are distilling the summer’s experience into cogent recommendations for fine-tuning the observational program in summer #52.

The big news is our pending move from Ojai to Westmont College in Santa Barbara, with the assistance of Physics Dept. Chair Warren Rogers ’76. While we have enjoyed 10 years at Besant Hill School, our experience at New Mexico Tech since 2003 has made abundantly clear the many advantages of partnering with a college. Better equipment, more staff support, and campus faculty as potential speakers and collaborators are just a few of the benefits we anticipate from this new partnership.

Your Trustees and working committees will also continue pursuing issues related to supporting the more diverse cohort of students that we are welcoming to SSP. In order for SSP to be a leader in bringing gender, racial/ethnic, and socioeconomic diversity to science, it is not enough to invite a broader range of students to apply or attend. We must ensure that we are truly anticipating and meeting their needs, so that all who attend will have a successful experience.

Finally, we have completed the transition to a “membership” organization, in which all alumni and faculty are invited to vote for the Trustees who will chart the program’s future course. A younger alumnus, Razvan Ungureanu ’01, has been elected to the Board of Trustees in a rather close contest, heralding a new era of SSP leadership. While we always remain grateful to older alumni who generously donate time and funds, the program can only continue to flourish if the younger generations do likewise. Please step forward to help lead SSP into the future!

Dr. Simmons is Professor of Physics at Michigan State Univ. and Dean of its Lyman Briggs College

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“What fun it was to meet such a great group of young people, from all over the world. The international aspect of SSP is a wonderful evolution, not only for science but also as a new generation of ambassadors for peace in our troubled world.”

–Michael Weiss ’74, parent and guest speaker, ‘09

The Summer Science Program
Business Office:
108 Whiteberry Dr
Cary, NC 27519

LETTER FROM THE CHAIR

By Dr. Elizabeth Simmons ’80, Chair, SSP Board of Trustees

“Please step forward to help lead SSP into the future!”