Scott Shermer, age 26, is a physics graduate student at San Francisco State University who hopes to earn his Ph.D. in physics someday and then to pursue teaching. His mathematical studies on super-symmetry offer new insights into quantum mechanics and quantum field theory.

SF State grad student Steven Li, 29, uses the mathematics of harmonic analysis to sort sounds based on frequency and content. Li plans to become a statistician after earning a Ph.D. in statistics.

Cassidy Kelly, 30, is developing algorithms that allow computers to make decisions based on experimental data. After completing his Master’s in computer science from SF State, he hopes to continue Ph.D. work in that field and become a high-tech entrepreneur.

Shermer, Li, and Kelly have significantly different academic interests, but they share two things in common: All are graduate students in SF State’s College of Science and Engineering (COSE), and all have received $10,000 ARCS Foundation Scholar Awards. Through COSE students like these, the prestigious grant program has advanced its identified aim: helping promising science students to offset educational costs so they can dedicate more time to their studies. The same process is also helping deserving scholars Shermer, Li, and Kelly to reach personal goals that will ultimately benefit society.
The Northern California chapter of ARCS Foundation (ARCS Foundation NCC) gives money to five local schools in addition to SF State: Stanford University, UC Berkeley, UC Davis, UC San Francisco, and UC Santa Cruz. At each of the five schools, the $10,000 grants go to Ph.D. students. SF State is exceptional in that here, Master’s candidates receive the large stipends. Since its founding in 1970, the ARCS Northern California chapter has raised $15.2 million for 2,210 graduate students at local universities. Since first partnering with SF State 20 years ago, the Foundation has granted millions to COSE scholars. In 2011 alone, the chapter raised $679,000. It awarded six $10,000 grants to COSE students that year—individual stipends that are among the largest SF State science students receive. SF State’s focus and priority on supporting and encouraging research by faculty members and Master’s candidates has distinguished it to the ARCS Foundation. It illustrates the “many parallels” between SF State’s mission and the ARCS Foundation’s own. “They’ve figured out their audience,” she says, “and recognized that in a community with a wealth of world class Ph.D. programs, they have a unique niche where they can concentrate on doing an exceptional job at what they do: producing first class Master’s degree students. SF State University also provides an opportunity in the life of those who are very serious about the field they are pursuing. Their focus is on doing what they do, and they’re doing it right. That’s what makes them unique and that is why we continue to fund at San Francisco State.”

Sheldon Axler, Dean of the College of Science and Engineering, applauds the work of the ARCS Foundation and its benefits to SF State recipients. “The real advantage to students is, if you get a $10,000 scholarship you can probably reduce the other work that you’re doing. So really what it buys you is time. It’s the most important thing when you’re a graduate student… you can devote yourself 100% to your studies, your schoolwork and to your thesis work instead of to a job that is going to take time and energy. That, to me is really what it buys: time for students to concentrate on their academics. And that’s a huge advantage.”

Steven Li echoes this view, explaining how receiving the ARCS Foundation Award has greatly reduced his workload. “When I first started my research,” he says, “I was teaching and taking classes. So, I was very busy and was here kind of late at night because I had all these other responsibilities as well. With the award, I didn’t have to teach here at SF State anymore. So that freed me up, which was good because I got more time to focus on my research. I definitely have invested a lot of time on this because it’s an extremely difficult topic.” Li is currently working with biology professor Edward Connor at the interface between biology and mathematics, employing harmonic analysis to locate and identify birds by their calls. Li believes that, in addition to the financial benefit, ARCS recognition will help further his educational goals. “It definitely helps in a monetary aspect,” he says, “and it’s a prestigious prize that looks good on resumes and applications for other things.”

Scott Shermer continues, “I’m really happy that I received the grant because it’s going to really boost my curricula vitae,” he says. In addition, the grant itself could be “an ongoing thing. There’s opportunity in the future for me to continue to be supported by ARCS Foundation,” as he furthers his education elsewhere. “I want to get my Ph.D. and then just hopefully teach and do research” he says. “In terms of getting into a Ph.D. program, getting the award is only going to help me.”

Cassidy Kelly is an example of a two-time ARCS Foundation Award recipient. “Getting the award took the financial motive out of work decisions and helped me to devote more time to research,” he says. Each time, after receiving the grant, he was able to scale back his work hours as an SAT tutor, although he continued to teach at SF State for experience. “Teaching is a good way to solidify and fortify your own knowledge,” he adds, “and having teaching experience is a good opportunity for your CV.”

California scholars have been receiving ARCS Foundation funding for over 50 years. Los Angeles socialites Florence Malouf, Irene Slagel, Alice Tyler, and Helene Wooldridge founded the first chapter in 1958. In reaction to Russia’s launch of Sputnik in 1957, this group of women felt compelled to help the United States stay competitive in the areas of science and technology. After meeting with Caltech President Lee DuBridge, they decided that the best...
way to bolster American competitiveness in the sciences would be to raise awareness of the need for more scientists and to amass funding to support them. As a result, the ARCS Foundation started a unique partnership between society and science in which the founders used their status and connections to increase awareness and to fund scholars.

Today, ARCS Foundation remains a volunteer-based organization run by women, and it has expanded to 1,600 members in 17 chapters across the United States. Collectively, the women provide scholar awards to 53 institutions. Development teams in each of the ARCS Foundation chapters raise funds for the ARCS awards by collecting donations from ARCS Foundation members, from individual non-member donors, and from foundations and corporations. In the half-century since its founding, ARCS Foundation has awarded nearly $79 million nationally throughout its chapters to more than 13,650 scholars. Last year alone, ARCS Foundation awarded more than $3.7 million to scholars across the country.

"The women on the development team, I hold in such high esteem," Haueter comments. "It's a wonderful group of women–I applaud them because of the tenacity of their pursuit. If they didn't do what they do, we wouldn't be able to happily be writing checks at the end of the year."

Haueter, originally from the Peninsula, was president of the Northern California chapter for two years. Along with the many women volunteers in other ARCS chapters, she helped to further the organization’s dual missions of advancing U.S. science and supporting top graduate students. Explains Haueter, “We would rather have our funding concentrated on somebody who is already committed and has already bought into being in that pipeline of concentrating on doing research, and of giving something back. This is about recognizing somebody and allowing them to continue on to their path [toward] doing something great.” The work is “philanthropic investment,” she continues. “It’s about putting your money with a student who you know will go on. And the rewards that will be realized will be for not just the individual but for our whole community.”

ARCS Foundation recipients must meet specific criteria: They must be United States citizens, have a minimum 3.5 GPA, have financial need, and be in an approved scientific program or department. The ARCS Foundation NCC awards mostly Ph.D. candidates because they are already invested in their field and are therefore more likely to work as professionals or academics in science and technology. "Not everyone is going to knock the cover off the ball,” Haueter says. "But this Award provides an opportunity for them to continue on and concentrate on their research. You never know where the greatness is going to come from, but it's all about investing in our community and in our country.” She adds, “The students coming out of SF State seem to have an incredible loyalty to the Bay Area, often returning to work or teach in this area. So we feel, almost doubly so, that they are an incredible investment to our local community, as well as providing potential contributions to our national community.”

Although she led the Northern California chapter from 2010-2012, Haueter spent many years working in ARCS Foundation’s University Relations Committee. There, she interacted closely with top science students. “I worked in University Relations for probably six or eight years,” she says, “and really developed wonderful relationships on the campuses. For me it’s about the students.” Haueter’s warm, enthusiastic disposition comes across most clearly when she recalls the students she has worked with. “I run into them and I feel like I’m a mom. I’ve got all these kids that are my kids and you get invested. You want them to succeed.” This dedication to the organization’s mission and her genuine interest in helping students has both kept Haueter involved in ARCS Foundation and earned her the leadership role.

“I am passionate about it!” she exclaims. While some members “can write a check, I can’t write the check. But I can spend the time. For me,” she adds, “these are personal reasons why I am a huge supporter. I love not only what they do and how they do it but the fact that it is a total way of fertilizing the science community in this area–because our scholars come back. They bring back so much scientific wealth. It is the epitome of investment philanthropy.”