ARCS Foundation scholarships benefit EE students, alumni

Recipients share how awards helped them finance their career dreams

Pursuing a dream can take time, commitment and ambition—and more importantly, a lot of money.

Since 1975, the Phoenix Chapter of the ARCS Foundation (Achievement Rewards for College Scientists) has been helping academically exceptional students meet their goals by providing scholarships. The foundation focuses on students who are pursuing degrees in the fields of natural science, medicine, and engineering, including electrical engineering.

“Many educators and employers say the U.S. is lagging in performance in jobs, research, and innovation,” said Irene Douglas, president of the ARCS Phoenix Chapter. "ARCS provides a way corporate and civic organizations and individuals in the community can combine their resources and efforts to support American scholars, helping to insure a better future for all.”

Nationally, the ARCS Foundation started in 1958. The founders wanted to support the education of scientists to help further advance technology. The ARCS Foundation in Phoenix supports students at ASU, University of Arizona and Northern Arizona University.

The Phoenix chapter has 94 members and has awarded more than $2 million in scholarships. Each ARCS scholar receives $6,000 in scholarship monies annually.

Throughout the years, the foundation has sponsored 11 EE students at ASU who were able to pursue graduate degrees with its scholarship awards. Now those students are living their dreams. Here are where some of those students are now.

Scott Balster, 1996-1997

Scott Balster is currently a process platform manager for an advanced analog CMOS process in Texas Instruments Mixed Technology Development organization. He recently finished a five-year EXPAT assignment in Munich, Germany, where he worked as a process integration engineer for Texas Instruments. The process, which is now in production, is the world’s first complementary Silicon Germanium (SiGe) NPN and SiGe PNP BiCMOS process.

Balster received his Ph.D., as well as his bachelor’s and master’s degrees, from ASU. His primary areas of interest are device physics and materials, in particular the integration of...
ARCS helps students give more time, energy to research, career goals

SiGe and SOI into mainstream processes. For him, the ARCS scholarship was extremely beneficial in allowing him to finish his Ph.D.

“Funding for my project ended one year prior to my graduation, and the ARCS scholarship provided the funds that allowed me to complete my research,” he said. “I found it motivating to know there was an organization of independent citizens who believe enough about research programs being conducted at universities, that they were willing to dedicate their personal time and resources.”

Balster plans to continue his work in semiconductor process development, focusing on niche applications that require high performance and as a result require alternative device structures or materials.

Eric Langlois, 2001-2002

Eric Langlois is a post-doctoral researcher at the National Institutes of Standards and Technology (NIST) in the electromagnetics division. He received a B.S.E. in engineering physics from the University of Arizona and an M.S. in electrical engineering from Rensselaer Polytechnic Institute in Troy, NY.

At NIST he is currently developing a MEMS MRI microscope on a chip for imaging spin density tomography of magnetic particles. His interests include semiconductor device physics, MEMS, optoelectronics, and the optical, electronic and magnetic properties of materials, and developing devices for alternative energy generation.

“My ARCS scholarship helped in covering some of my living expenses as a graduate research assistantship alone goes only so far,” he said.

Langlois hopes to work at a government or industrial research lab developing MEMS-related devices, and in the future, becoming a CTO at a start-up company developing commercial MEMS devices.

Deana Delp, 2002-2003

Deana Delp graduated ASU last year with an electrical engineering Ph.D. and received her B.S. and M.S. degrees in electrical engineering from the University of Kansas. She is currently lecturing in the EE Department, teaching a section of EEE 303. She said that the ARCS scholarship gave her the opportunity to spend more time with her Ph.D. research and help her efficiently finish her degree.

“It also gave me more opportunities to attend and present at various conferences – even one in Munich, Germany – during the year I was an ARCS scholar;” Delp added.

Delp said she has since kept in touch with her ARCS sponsor, Bob Templin. Beyond ASU, she plans to continue her career in academia. Her research interests are control systems in manufacturing, focusing on semiconductor manufacturing.

Stephen Ramey, 2002-2003

Stephen Ramey is a senior reliability engineer at Intel. He received his Ph.D. in electrical engineering from ASU and graduated with a M.S. from UNLV and a B.S. in physics from Carnegie Mellon. For Ramey, the scholarship greatly helped with his degree.

“The scholarship served as a tremendous validation of all the hard work I had put in;” he said, “which helped motivate me to finish the degree.”

Ramey hopes to continue working in R&D in the microelectronic/optoelectronic industry. His research interests include microelectronics, optoelectronics, quantum effects in devices, metrology and reliability.

Jason Ayubi-Moak, 2003-2005

Jason Ayubi-Moak is a current electrical engineering Ph.D. student and received his master’s degree at ASU as well. He is pursuing a concentration in solid-state electronics, specifically in computational electronics. This is his second year as an ARCS scholar.

“It helps tremendously and lets me put my energy into my work,” he said. “It takes a huge load off.”

Ayubi-Moak has had the same sponsor for past two years, Bob Templin, and is grateful of his continued support. For his Ph.D. research, he is writing software that will help other engineers design next-generation devices, such as medical imaging tools. He says this research is unique because it bridges two interests in electrical engineering – solid-state electronics and physics.

Jennifer (Desai) Kitchen, 2004-2005

Jennifer Kitchen is a graduate research assistant in the EE Department. Her main goal is to obtain a successful career no matter where she ends up – academia or private industry.

“By successful, I mean never being bored – always loving what I do and waking-up in the morning eager to go to work,” she said.

Kitchen’s research interest is radio-frequency (RF) analog circuit design for power management as well as power amplifiers for the transmitters in wireless handsets. The ARCS scholarship also gave Kitchen a positive outlook and extra confidence in her research.

“It is wonderful to know that people care about what I am doing,” Kitchen said. “The ARCS members all show an enthusiasm to know how technology is improving. I think that many forget that technology is a major contribution to the standard of living and a benefit to society.”

Alumni share their favorite department memories, career aspirations

Mohamed Elhassan
Ph.D., 2004
Process Engineer
Intel Corporation

I am grateful to the staff and faculty of the ASU department of electrical engineering for their help in getting me to where I am now. The staff of the Center for Solid State Electronics Research was also instrumental in helping me to do my research.

I am currently working with the lithography/etch development group at Intel, developing their next generation of lithography techniques. I plan on remaining within the research and development group, and moving more towards research management.

My time at ASU would have been far less useful had it not been for my involvement with the various student organizations at the Fulton School, such as the Engineering and Applied Sciences Graduate Student Association. Their programs enhanced my graduate education immensely. It was a very beneficial experience and I hope that the departments will continue to support them and their activities.

Meisong Tong
Ph.D., 2004
Research Associate
University of Illinois, Urbana-Champaign

I am currently a postdoctoral research associate at the Center for Computational Electromagnetics and Electromagnetics Laboratory (CCEML) at University of Illinois at Urbana-Champaign (UIUC).

I hope to become a faculty member in a research-oriented university to continue my research work in the future.

I really enjoyed the studying life at ASU during the past four years. The EE department provided students with high-level faculty members, leading courses and excellent research conditions which gave me the opportunity to substantially strengthen my knowledge and capacity in scientific research.

Also, I am so thankful for the financial aid the EE department continuously provided with me. This made possible my pursuance of a Ph.D. degree at ASU.

I won’t forget EE department and ASU in my lifetime.

David W. Wolfert Jr.
M.S., 2001
RF Designer
RF Power Devices

After graduating from ASU, I started working at Motorola SPS in the Engineering Rotation Program in the valley. After my rotations, I was placed in the Radio Products Division Power Amp Module group as an RF design engineer. My team’s project was a huge success and if you buy a Motorola phone in the next couple years, you will be using my power amp. My design was also named “Design of the Month” in RF Design Magazine.

I left Freescale (formerly Motorola) at the end of November 2004 and joined a start-up company in the valley called RF Power Devices. There I am working as an RF designer on a new power transistor that uses a novel, patent pending technology.

Needless to say, I am doing remarkably well thanks to the wonderful teaching and guidance I received from the EE department. Please tell everyone (especially CSSER folks) that I said ‘hi’.

Alumnus awarded for achievement in wireless communications technology

ASU electrical engineering alumnus Bruce Fette, Ph.D., was honored recently for his achievement in wireless communications technology.

For his work, he received the Contributor Award from The Software Defined Radio (SDR) Forum, which he helped cofound.

"My goals for the SDR Forum are aligned with many of the leaders of the wireless industry," Fette said. "We hope the forum will be the leader in new wireless applications, and their interaction with hardware, software, systems, with the international regulatory community, and to demonstrate the value of these capabilities in the commercial marketplace."

The SDR Forum has more than 100 commercial, defense and civil government organizations, including major wireless industries from Asia, Europe and North America.

Fette is the chief scientist in General Dynamics C4 Systems’ communications networks. He has worked there for 33 years, specializing in advanced signal processing technology and systems for telephone and radio frequency communications.

According to the forum, with 35 patents to his credit, Fette has been responsible for many of the enabling technologies leading to today’s advanced communication products and systems. He earned his B.S.E.E. from the University of Cincinnati in 1969, and his M.S.E.E. and doctorate from ASU in 1974 and 1981 respectively.

Fette said his education at ASU in computer architecture and signal processing are fundamental to his work at General Dynamics. "In a technical sense, there were several professors whose insight and mentoring into artificial intelligence, automata, assembler and compiler design, computer architecture, bioengineering, and signal processing were foundational to the work I do today," he said.

For more information about the SDR Forum, visit http://www.sdrforum.org.

EE Department News

Fulton continues his challenge to alumni

Ira A. Fulton challenged that if alumni raised $500,000 by the end of 2004, he would match donations and continue the challenge.

Alumni met the fundraising goal by the end of 2004. The fundraising goal raised $500,000 by the end of 2004.

If you make an annual gift this year to any area of the department or school, Fulton will match your gift up to $5,000. Those who have not given in more than five years will have their gifts matched two to one.

For more information about the challenge, visit www.fulton.asu.edu/fulton/challenge.

EE annual report now online

Learn about department research, news and awards in our recent annual report at www.fulton.asu.edu/~eee/AnnualReport/index.html.

Alumni golf tournament

The Fulton School will host its annual Alumni Golf Tournament on Friday, April 15. To find out more information about the event and to register, visit www.fulton.asu.edu/fulton/alumni/index.php.
In our next issue of EE Connections, we would like to feature alumni who have been instrumental in founding new companies.

If you would like to share your story, please e-mail your contact and bio information to eeinfo@asu.edu.