Mentoring a SOARS Student by Rebecca Haacker-Santos

Many scientific careers eventually involve guiding the research of others - either leading a group of scientists or guiding graduate students. But it can be hard to get practice doing either of those things ahead of time. Russ Schumacher, former ASP postdoc and current professor, summed it up this way “Although I had informally mentored younger graduate students while in graduate school, that isn’t the same as being responsible for designing a research project, helping a student learn about how research is conducted, and so on.”

SOARS, which invites diverse undergraduate students to NCAR to do research with NCAR scientists, provides an opportunity for postdocs to practice mentoring.

“I would highly recommend mentoring a SOARS protégé for any postdocs who are considering faculty positions (and the experience is probably helpful for those interested in working at NCAR or a research lab as well),” Russ says. Being a mentor for Graylen Boone, who just graduated from North Carolina State University, he adds “gave me reason to start thinking about how I might want to mentor my future graduate students and what sorts of projects they could work on.”

One thing that may work particularly well is inviting a more experienced scientist as a co-scientific mentor, which is how Russ approached it by teaming up with Chris Davis. “We had a good arrangement where I was the primary mentor, but when I needed help (or my protégé and I just wanted an additional perspective on things), there was someone else to call on. Another benefit is that the protégé is exposed to both a younger scientist, who tends to have more available time and youthful enthusiasm for research, as well as the expertise and perspective of an established scientist.”

“You'll also learn a lot from the SOARS protégés! They get such great training as they go through the summer, not only in scientific research, but also in career planning, communication, graduate school preparation, and much more, that you're bound to learn something you didn't know before, or to think about something in a new way. Having attended the AMS annual meet-
SOARS (continued)

ing recently, it was great to see the many SOARS protégés that I met during my summer as a mentor as they grow in their careers and as people.

If you are interested in mentoring, or just want to learn more, please contact the SOARS program. SOARS is dedicated to broadening participation in the atmospheric and related sciences. Each year, 20 to 25 students spend their summers at UCAR collaborating with their mentors to conduct original research.

SOARS welcomes prospective mentors from any division or scientific institution, and encourages participation from all levels. You do not need to be nominated or have previous experience as a mentor—just be available and approachable, willing to work with students, able to communicate, and have a desire to learn through mentoring.

- Science mentor: helps protégés contribute to a current research project and provides instruction and coaching to the protégé during the research project.
- Scientific writing mentor: coaches protégés in written and oral communication.
- Computing mentor: helps the protégé learn the computing skills necessary to complete their project. Mentoring includes providing one-on-one tutoring, recommending resources and helping debug or troubleshoot code.

To learn more and to sign up as a mentor, download a Mentor Information Form from our website www.soars.ucar.edu/mentorfaq.php

For more information, contact Moira Kennedy at ext. 8622, moira@ucar.edu, or visit www.soars.edu.

Clark Evans on SOARS

My experience as a research mentor in the SOARS program during the summer of 2010 was both a rewarding and humbling one. It was rewarding in the sense that I could see my student grow in her knowledge of hurricanes and severe storms as well as her skill in writing and communicating that information, the combination of which led to her having an enhanced confidence in her abilities. However, it was humbling from the standpoint in that it showed me that mentoring and advising students is a lot harder than it may seem on the outside. Beyond the science, it requires an ability to understand how the student learns best and patience through many trials and errors. That said, working through the humbling experiences was very rewarding for me personally and will hopefully bear fruit as a professor in the years ahead.
Editor’s Note: Vanessa Schweizer attended the Financial Planning workshop for postdocs offered by the Postdoctoral Association of Colorado (PAC) and offers this summary.

You have probably heard the adage, “Pay yourself first,” but do you feel that you follow this advice well enough? Do you have a strategy? In case you feel like you don’t, here are some handy tips that were presented at the personal financial planning workshop hosted by the Postdoctoral Association of Colorado last week.

Know your net worth. To develop a financial strategy, you first need to know where you are. Even if your net worth is currently negative due to student loans, a mortgage, credit cards, or whatever else, identify your net worth and monitor its changes at least once a year. Tax time is a good time to do this. Your goal is to see your net worth increase over time.

TIAA-CREF provides a workbook to get you started at http://www.tiaa-cref.org.

Luna Rodriguez on SOARS

I participated in the SOARS program during the summers of 2005-2008. I cannot tell you how rewarding it is to be a Science, Writing, or Community Mentor in the SOARS program. However, I can give you the perspective of a former protégé who is now employed at NCAR while finishing my PhD remotely from The Pennsylvania State University.

My PhD journey hasn’t happened linearly. For considerable financial reasons, I knew that after graduating high school the only way I could study Meteorology was to have my continuing education paid for via academic assistantships. I lived at home during my time as an undergraduate, where I received a BS in Physics; there was no atmospheric science program at my university. The summers at SOARS afforded me opportunities to conduct research and explore various areas of the Atmospheric Sciences that were not provided by my university. Though I had always considered graduate school, it wasn’t until I was in the SOARS program that I was convinced I could be successful in graduate school. The process of gaining research experience, attending the numerous scientific writing workshops and conferences, and interacting with so many amazing mentors was truly the catalyst I needed to give me the confidence to succeed in graduate school.

Though my story doesn’t give the SOARS program the justice it deserves, I hope you will consider being a mentor. I worked hard to be in the position I am and I attribute the SOARS program for giving me the opportunity to succeed. I look forward to being a mentor and giving back to this wonderful program.

Natalia Calvo Fernandex on SOARS

I have been a SOARS mentor at NCAR the last two summers. The first time, it was almost by chance: one of my colleagues whom I worked with convinced me to be a science co-mentor. I had some similar experiences before in my former department in Spain, where I taught and co-mentored some students to get their final project for their masters degree, so I thought I knew what to expect. I was not disappointed. I think it is a good opportunity for us to help students who are starting in their scientific career and provide them a new perspective on science. The students are also very grateful to work with you, a young scientist, and they do not feel so overwhelmed as they might feel sometimes with well known senior scientists. They feel closer to us, and for us, it was not so long ago when we were in their place, so we remember quite well how they might feel. During my PhD I was always happy to engage with the postdocs in my group and I must say I actually learned a lot from them, about both science and life.

For my second year as a SOARS mentor I decided to be a community mentor. This time, it was my choice. As a foreigner in Boulder, I thought it would be easy for me to show places or activities in Boulder which are new to people as they were once new to me. Sometimes, the students just need to find someone different from their supervisors to chat about how work is going, and other times, they simply want to know a cool place for a hike over the weekend. When I was new in Boulder, I found many people who helped me get settled. I felt I owed this to the Community and wanted to give it back.

Now I am fully mentoring PhD students in the Department of Earth Physics in University Complutense in Madrid. It is very challenging. I appreciate the previous experience I received from mentoring at SOARS. For those interested in an academic career where mentoring is an important part of it, SOARS is a good place to start, and you can learn a lot about whether you really like it. For those not so interested in academia, it is a good way to help the Community and give back what others gave you.
Allocate your money into four "buckets". Patrick Seal, a financial advisor with Elevations Credit Union, suggests that you think of your money across four categories: monies for immediate use, emergency funds, managed debt, and long-term assets and liabilities (e.g. monies for retirement, home mortgage). He likes to refer to each category as a bucket.

**Bucket 1: Monies for use.** The residence time of money in this bucket is less than 12 months. When you’re just getting started, much of your attention might be spent here. This bucket corresponds to financial services with high liquidity like checking, savings, and money market accounts. Once you have enough in this bucket to meet your regular expenses, start filling bucket 2.

**Bucket 2: Emergency funds.** The residence time of money in this bucket is 1-3 years. Even if you feel like you don’t have much money, it is worth establishing a habit of siphoning some money to emergency funds. $20 per week is a decent start. To get the best return on money that is supposed to sit around, compare banks’ interest rates on certificates of deposit (CDs) and money market accounts to rates for 3-year US Treasury bonds. Emergency funds should cover at least 3-6 months of your gross salary – possibly more if job security is a concern. Once you fill this bucket, establish an investment strategy for bucket 3.

**Bucket 3: Managed debt.** Patrick noted that some of the most financially successful people he met hardly ever borrowed money. He recommended that money be borrowed only under three circumstances: Furthering one’s education, buying a house, or starting a business. He strongly advised against ever carrying a balance on credit cards. To avoid debt traps, larger expenses like furniture, vacations, cars, etc. should be saved for in advance rather than charged to a card. If you have credit card debts, car loans, or other consumer debts, aim to be free of them in 3-7 years. The higher the interest rate on a balance, the faster it should be paid down. Conversely, if you would like to have money for a large purchase, invest in 3-7 years. Appropriate financial products would be CDs, bonds, mutual funds, and for money that will be invested for at least 5 years, stocks.

**Bucket 4: Long-term assets and liabilities.** The residence time of money in this bucket is greater than 7 years. Student loans and mortgages are examples of liabilities that would be in this bucket. Other financial products include IRAs, 401k/403b plans, municipal bonds, stocks, real estate, and annuities. For retirement, it’s important to remember that it pays to save early, since time compounding is on your side. According to TIAA-CREF, a 25-year old who saves a total of $40,000 until she’s 35, then stops, could end up with $312,500 by 65; however, if she were to wait until she were 45 to start saving, and she were to save at the same rate ($40,000 per decade), by 65, she would have only $152,000 despite saving twice as much money ($80,000).

**Ready, set, save!** Although Patrick presented this financial management strategy in a sequential fashion, it seems prudent to allocate funds to all buckets simultaneously. As our salaries and financial priorities change over time, the size of our buckets and how quickly we fill them will fluctuate. If you would like to learn more about investing, there are many resources on the Internet as well as books. You could also talk with someone about your financial goals at your bank or TIAA-CREF.