It’s early August as I write this—the latter part of a very, very hot summer in the Washington, DC, area. But the lab where I work is air conditioned and, more important for me, has just completed another period that I think of as a kind of “inverse” academic term.

Student interns arrive here at the end of one academic year and leave at the beginning of the next one. As always, I’m delighted to work with these enthusiastic young people and, in some cases, I’m deeply impressed by the speed at which they learn and the amount they’re able to accomplish in a couple of months.

I serve as one of the administrators of our Summer Undergraduate Research Fellowship program, and the running joke among those of us who do this is that if we’re lucky enough to mentor the right SURF student, there’s a good chance that when August arrives, a significant fraction of next year’s research will be underway. Ideas that have been gestating for months come to life when every day starts with a barrage of good questions from a very bright student.

I’ve found that the students act as catalysts for me. Because they’re with me asking questions, I’m forced to think about topics that I thought I already understood, and I’m forced to evaluate and re-evaluate what I’m doing daily. And even though my organization is concerned with information technology in all of its aspects, I find that I still learn new and exciting things from the students. This year, for example, I found out about how versatile and artistic GUIs have become and how the right interface can make a product.

CiSE Welcomes New Board Members

Nargess Memarsadeghi is a computer engineer in NASA Goddard’s Science Data Processing branch, where she designs and develops algorithms for processing large scientific datasets with applications in remote sensing, computational optics, and astrophysics, and leads the Educational NASA Computational and Scientific Studies (enCompass) project. Her research interests include computational optics and geometry, and the clustering, interpolation, and data fusion of large scientific datasets. Memarsadeghi will serve as coeditor of CiSE’s Your Homework Assignment department (see page 76). She has a PhD in computer science from the University of Maryland, College Park. Contact her at nargess.memarsadeghi@nasa.gov and www.nargess.com.

Angel Sánchez is an associate professor in the Department of Computing at Rey Juan Carlos University, Madrid. His research interests include computer vision applications, pattern recognition, biometrics, and soft computing techniques. He has published more than 30 papers in international journals and participated in more than 20 research projects and contracts supported by the European Commission, the Spanish Government, and various private companies. Sánchez has a PhD in computer science from the Technical University of Madrid. He is a member of IEEE Computer Society and the Spanish Association of Pattern Recognition and Image Analysis. Contact him at angel.sanchez@urjc.es.
Many experts appear to agree that US education at the high-school level is in bad shape, at least when judged by test scores. However, each year we see another group of college student interns in my lab. One possibility is that at some point between high school and college, magic occurs. I doubt that this is what’s happening. More reasonable is that the students who show up in our summer program are a self-selected group of motivated individuals who have been stimulated by good teachers and challenging courses.

The word “challenge” is important. Computational science in particular is a challenging subject requiring knowledge of several disciplines, imagination, and lots of thinking. I believe firmly that learning takes effort and when one is challenged, one learns more. In some quarters, it’s thought that challenging students might lower their self-esteem. But I believe just the opposite. A sense of accomplishment raises self-esteem and if every now and then you can’t meet an intellectual challenge, well, that’s instructive, too. And schools and teachers can never teach everything. So much is learned by reading books (and reading CiSE!), learning from peers (especially groups of friends), and just trying and doing. Just trying goes a long way.

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