



## President's Column

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### **"Students: LEOS' Crown Jewels"**

*"It's not what is poured into a student that counts, but what is planted."*

Linda Conway.

OK. So it's no surprise that I would devote one of my columns to LEOS' students. I'll assume that we all agree that nurturing our young is good for LEOS' long-term health and is wonderfully altruistic. Now what?

If the students are LEOS' customers, then we must understand their motivations. High on their list are jobs, jobs, and jobs. They can be quite anxious about their future and might need some gentle hand-holding through uncertain times. What else do they want? Like all of us, they are motivated by intellectual stimulation, recognition, appreciation, respect, fairness, and a vision forward. Can LEOS help and mentor them? Without a doubt! We can: (a) help them build a high-quality resume with publications in prestigious journals and conferences, (b) give them access at our conferences to technology leaders and hiring opportunities, (c) keep them abreast of hot topics, emerging fields and rising stars, and (d) provide valuable and prestigious fellowships and awards. Engineers hate uncertainty, and it is our responsibility to help them through their period of trepidation.

I want to approach the issue of mentoring students by addressing each major category of relevant individuals: avuncular elder statespeople, mid-career engineers, staff, recent graduates, and, finally, our crown jewels - the students themselves.

#### **To the Avuncular Elder Statespeople**

You are the rock stars of a student's world. Wisdom, perspective, sincerity, humor, advice – these all come naturally to you.

- a. You have traveled the path, attained "immortality" through your accomplishments, and believe that it was a rewarding journey. You have seen the great times and the turbulent periods. What was it like?
- b. How were the great research results achieved by you and other people? Memories of the day-to-day science that might seem trivial to you may be of great value to a student, and you can confidently state that most great achievements required much perseverance and patience.
- c. You have met numerous people throughout your career, thus enabling you to direct students to people who might be able to hire them or collaborate with them. Your rolodex over-floweth, and students would love to pick your brain.

Nobody is better at gentle guiding and hand-holding than you.

#### **To the Mid-Career Engineers**

*"Setting an example is not the main means of influencing another, it is the only means."*

Albert Einstein.

Students see in us (me included) their own path forward. We have the ability to influence students towards or away from our field. Frankly, we are the embodiment of their future. If they don't like what they see, then why should they stay with us?

If we inspire students, then they will keep our field vibrant even when we are beyond the point of doing the "heavy-lifting" ourselves. (Note: A field that is composed of only senior people and no youth has the "smell of death.") Moreover, students will long remember when someone was helpful to them when they were in need.

One way we can be good role models for students is by behaving like we are still students ourselves. Do we seek advice from and show respect to our avuncular elder statespeople? Do we go to seminars and read journals, or are we too busy? Are we too busy to chat with an eager student but have all the time in the world for a potential funding agent? Are we trustworthy and fair? Do we nominate students and senior folk for awards? It is a given that students will emulate our priorities.

We can't just "talk-the-talk," but it is critical to also "walk-the-walk."

#### **To the LEOS Staff**

When students publish papers in our journals and conference, they tend to have a fair amount of direct contact with you. You provide insightful information that is well beyond explaining the mechanics of submitting a paper. How does the conference really work? How are papers reviewed? Which positions are the most influential? What is the rejection ratio? What is the best way to connect with a company that is recruiting at the conference? What usually happens when a review says "major revisions"? Who on the committee should be spoken to and how can they be contacted? All important and all readily answerable by a caring staff person. LEOS staff are extremely professional and wear warm smiles. You know better than anyone that poor management and a surly attitude can turn a student away from a field just as certainly as can a pompous and gratuitously-critical technical paper review. Today's students are tomorrow's volunteer leaders. When I see LEOS staff showing respect to students, I know that you are training young people to be respectful of colleagues and staff for years to come.

### To the Recent Graduates

You have substantial influence on students. You have been formed during one of the strangest "bubble-&-bust" periods in engineering. You can be a source of encouragement, or you can scare the daylights out of them. Was the experience of looking for a job exciting or painful? Did people help you or did they ignore you? Is there a bright future in our field, or is it dying? I hope the answers are positive.

I want to emphasize that you can use your still-fresh connections to your advantage since you have easier access to students than do the older people. For example, you can easily recommend them for positions within your new company. In so doing, you will build strong and lasting alliances.

There is a challenge: Be diligent not to feel threatened by your soon-to-be competitors. Instead, build relationships that will last your whole career. The saying goes that "blood is thicker than water" when describing people from the same family. You will always be part of the academic "family" that you came from, and they can be your biggest allies.

Older siblings can be sources of great comfort.

To our Students

Your professional life is full of promise and opportunity. Many people want to help you, but they can only be of assistance if you reach out to them. A few points of advice:

- a. Uncertainty in our field is fact of life, but it is not nearly as bad as most other types of work.
- b. The majority of positions are never advertised and are filled by "someone who knew someone on the inside." Therefore, get to know as many people as possible and let them know when you are looking for a job.
- c. Your background and problem-solving skills can be applied to many different disciplines, even if that means switching subfields. (I and many others did it!) Therefore, prepare in "fundamentals."
- d. Don't be embarrassed to "stand on the shoulders of giants."
- e. Give credit whenever credit is due, and be generous throughout your lives. You never lose respect when you share credit, you only gain.
- f. Evaluate your career path and set professional goals periodically. Be pro-active, not passive.
- g. The Internet is a wonderful tool, but it doesn't take the place of personal contact. Doing great work coupled with a face-to-face interaction will help achieve your long-term goals.

My hope for you is that you will become the wonderful, avuncular elder statespeople of LEOS in about 40-50 years!!

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