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You Can Help Develop the Next Generation of Engineers

Gary Breed
Editorial Director



There are many timely topics I could write about. Politics, economics, and government telecommunications policies provide plenty of material. New technologies and research breakthroughs are always fun. A look into the future or back to the past can be interesting as well.

But this month, I can't get kids off my mind. Even before I remembered that National Engineers Week is February 18-24, I had decided to remind you (and myself) that the next generation of engineers needs some inspiration. I admit that I've done relatively little promoting myself, but right now, I'm waiting to see if my help will be needed to judge an upcoming science fair. It's not something I have done before, so I hope the sponsors will need one more volunteer.

Another inspiration for this subject is the work of amateur radio operators, and NASA, who offer educational support to schools through the SAREX (Shuttle Amateur Radio Experiment) and ARISS (Amateur Radio on the International Space Station) programs. The programs let students talk with astronauts while they are orbiting the earth—talk about encouragement for future astronauts or space engineers! The program also gives the astronauts an interesting and rewarding activity to fill some of their off-duty time. By all accounts, this program is a great success, with the majority of astronauts obtaining their ham licenses so they can participate. I should also note that amateur radio-based activities were commonplace on the Russian MIR space station, and embraced enthusiastically by several Russian cosmonauts.

Personally, I would like to see more down-to-earth activities with the same student-professional connection. National Engineers Week is one opportunity. It is a growing event that includes many activities. Supporting organizations include the Society of Manufacturing Engineers, the National Society of Professional Engineers and the Society of Women Engineers. Check the event's Web site at www.eweek.org. Even if you don't get information in time to participate this year, plan ahead for next year, or use the ideas for your own engineering promotional efforts.

A major addition to the Engineers Week activities this year is the launch of a new PBS television show, "Design Squad," where teams work

to solve design challenges involving the various engineering disciplines. More info on this new series can be found online at: www.pbskids.org/designsquad/.

Arguably, the biggest event of the week is the National Academy of Engineers' annual banquet on February 20, which culminates with the presentation of the \$500,000 Charles Stark Draper Prize. This award is given to an engineer "whose accomplishment has significantly impacted society by improving the quality of life, providing the ability to live freely and comfortably, and/or permitting the access to information."

The 2007 Draper Prize winner is Sir Timothy Berners-Lee, the inventor of the Internet. Dr. Berners-Lee is responsible for the familiar Internet-related operational functions like URLs, HTTP and HTML.

Beyond Formal Programs

Getting kids involved in activities that raise awareness of engineering should not be limited to one special week each year. And don't worry about keeping things focused on a high frequency specialty, either. Just get kids thinking about "making things work." They will find their niche later.

Right now, there are some fascinating subjects that can get a youngster's attention. Wind and solar power are great topics that can include both technical and social discussions. Inexpensive hardware is available for simple experiments, and larger scale work is not unreasonably difficult.

I have also heard about some group activities that begin as social "mixers" at various gatherings, but end up as interesting lessons in communications methods and net-

work theory. I'd like to know more about these exercises if you know of any resources!

A final thought is that engineering is not limited to the so-called geeks. Sure, technology is a good creative outlet for kids with great math and science aptitude, but engineering involves more than sitting in a cubicle crunching numbers or at a lab bench building hardware. There is project and personnel management, academic or entrepreneurial fundraising, customer support, plus sales and marketing. There are even a few opportunities to stay involved through writing and publishing!

So get out there and help a few kids. Who knows, maybe some help with the local science fair or a little tutoring in math or physics will show a student how to be part of the next generation of engineers!