

# You Can Be a Metrology Ambassador!

by Christopher L. Grachanen

A question often posed in Metrology circles concerning the dwindling number of young adults entering engineering / science disciplines is 'What can you do to help reverse this trend?' The answer is typically along the lines of 'get involved', but how does one do that? We, as Metrology practitioners, have a responsibility to help advance the Metrology profession as well as promote the profession to those not familiar with what we do. Congruent with promoting the profession is encouraging prospective candidates to consider Metrology as an occupation. Some of the avenues that can play an important role in becoming a good Metrology ambassador are described here.

When we speak of encounters we are talking about chance as well as planned opportunities to talk with individuals and groups about the Metrology profession. I am reminded of a business exercise often referred to as the 'elevator speech' where given the chance encounter of riding an elevator with an executive from your company you have all of 20 to 30 seconds to give a brief synopsis of your department and how your department's contributions enable your company to reach its goals and objectives. Not the easiest of tasks given the time restraint but one can easily see the value of promoting one's department to upper management at a moments notice. Chance encounters with individuals and groups allows one to plant 'gold nuggets' even if only to enlighten folks that Metrology practitioners do not predict the weather (name recognition is an important first step in helping folks become better aware of the profession). A planned encounter on the other hand allows one to prepare for their intended audience. An example of this would be career day at a local school where you may be speaking to 4th graders on up to seniors. On a planned encounter you have prior knowledge of the intended audience so you can tailor your presentation to coincide with the

audience's interests, education level, etc. The NCSLI Outreach committee has developed a template PowerPoint presentation that you can download and use (or modify as needed for the audience). See: [www.ncsli.org/training/index.cfm](http://www.ncsli.org/training/index.cfm)



## Mentoring

All calibration practitioners have an implicit obligation to pass on knowledge and skills to other practitioners. This is especially true for those more senior in the Metrology profession. Mentoring helps reinforce ones own knowledge and skills and encourages others to also pass on their knowledge and experience. Mentoring involves not only those already in the Metrology profession but also prospective candidates contemplating entry into the profession. Individuals that show an interest and an aptitude should be encouraged and provided guidance / direction on becoming a calibration practitioner. Supervisors and managers ought to consider creating internship positions so that perspective candidates can gain experience and insight as to the

real workings of a Metrology laboratory. Internships, while helping reduce a laboratory's workload, allows employers to directly evaluate a candidate for possible permanent hire. Note: The NCSLI Job board website provides the means to post internship opportunities.

## Participating

One of the most potent ways of promoting the Metrology profession is by getting involved on a committee and/or working group. For those with an interest in Metrology education and training, the first step in getting involved is as simple as sending an e-mail to one of the following committee chairs requesting to be put on their emailing list:

### Training Resources (161)

Chair: Helga Alexander  
[halexander@keithley.com](mailto:halexander@keithley.com)

### Education and Training Financial Resources (162)

Chair: Mark Lapinskes  
[mark.lapinskes@sypris.com](mailto:mark.lapinskes@sypris.com)

### Personnel Training and Qualifications (163)

Chair: Gloria Neely  
[gloria.neely@navy.mil](mailto:gloria.neely@navy.mil)

### Education System Liaison and Outreach (164)

Chair: Philip Smith  
[psmith@a2la.org](mailto:psmith@a2la.org)  
Co-Chair: Chris Grachanen  
[chris.grachanen@hp.com](mailto:chris.grachanen@hp.com)

### Marketing (164.1)

Chair: Dilip Shah  
[Emc3solu@aol.com](mailto:Emc3solu@aol.com)

### Communications (164.2)

Chair: Chris Grachanen  
[chris.grachanen@hp.com](mailto:chris.grachanen@hp.com)

The NCSLI website has a wealth of information on education and training as well as information about other Metrology committees. In addition, items from the NCSLI business office can be used / distributed to increase Metrology awareness: Metrology posters, calendars, Joe Simmons Scholarship posters....

## Ways you can be a Metrology Ambassador:

**Inviting** science teachers and students in Metrology curriculums to attend NCSLI region and section meetings (with sponsored attendance when registration fees are charged)

**Disseminating** NCSLI's 'Careers in Metrology' flyer (see flyer in this publication) to educators, councilors and applicable student groups

**Volunteering** to present at 'Career Days' at a local school. The Metrology Education and Training Outreach committee is in the process of evaluating education kits<sup>1</sup> which can be checked out from NCSLI headquarters and used in classrooms to demonstrate measurements / Metrology principles (look for a review of the kits in the next Metrologist.)

**Coordinating** student tours of your laboratory (schedule around special events like World Metrology Day, new or updated services on display with a subsequent press release highlighting the new service and the participation of teachers and students)

**Hosting** a laboratory 'open house' for other groups in your company / organization

**Identifying** idle test equipment in your laboratory which can be donated to colleges and universities with Metrology curriculums; establish an ongoing relationship with the colleges and universities by providing speakers, tours, internships

**Increasing** Metrology awareness by writing articles for trade journals and other applicable publications

**Passing on** information about professional organizations education and training outreach activities to one of the aforementioned committee chairs so that 'best in practice' initiatives may be identified and adapted as makes sense

Taking advantage of 'liaison' opportunities for disseminating information about Metrology and Metrology careers at professional organization conferences and meetings<sup>2</sup>

**Contacting** educators to learn about opportunities for promoting and enhancing their Metrology programs; expand on partnership opportunities

**Selectively attending** meetings and assisting with quality audits to help facilitate a better understanding and appreciation for Metrology throughout your company/organization

**Organizing** something special on May 20th for World Metrology Day such as open houses, region/section meetings, press releases

Opportunities abound for Metrology Ambassadors to really make a difference. Please consider how you can help promote the Metrology field and encourage prospective candidates in becoming calibration practitioners.

### American Society for Engineering Education (ASEE)

**Champions:** Christopher Grachanen, Georgia Harris, Herb O'Neil

Founded in 1893, the American Society for Engineering Education is a nonprofit organization of individuals and institutions committed to furthering education in engineering and engineering technology. We have submitted abstracts to present a metrology session at the 2008 conference in Pittsburgh, June 22 to 25. [www.asee.org/conferences/annual/2008/index.cfm](http://www.asee.org/conferences/annual/2008/index.cfm)



### Project Lead the Way (PLTW)

**Champions:** Christopher Grachanen, Georgia Harris, Herb O'Neil

PLTW is about building strategic partnerships among middle schools, high schools, colleges and universities, and business and industry to provide students with the rigorous, relevant, reality-based knowledge necessary to pursue engineering or engineering technology programs in college. [www.pltw.org/index.cfm](http://www.pltw.org/index.cfm)

### National Science Foundation (NSF)

**Champions:** Christopher Grachanen, Georgia Harris, Herb O'Neil

The National Science Foundation (NSF) is an independent federal agency created by Congress in 1950 "to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense. [www.nsf.gov](http://www.nsf.gov)

### American Association of Physics Teachers (AAPT)

**Champion:** Ed Morse

AAPT was established in 1930 with the fundamental goal of ensuring the "dissemination of knowledge of physics, particularly by way of teaching." [www.aapt.org](http://www.aapt.org)

### National Science Teachers Association (NSTA)

**Champion:** Tom Weidmyer

The National Science Teachers Association (NSTA), founded in 1944 and headquartered in Arlington, Virginia, is the largest organization in the world committed to promoting excellence and innovation in science teaching and learning for all. [www.nsta.org](http://www.nsta.org)

### American Society for Testing and Materials (ASTM)

**Champion:** TBD

ASTM International is one of the largest voluntary standards development organizations in the world—a trusted source for technical standards for materials, products, systems, and services. [www.astm.org](http://www.astm.org)

### American National Standards Institute (ANSI)

**Champion:** TBD

As the voice of the U.S. standards and conformity assessment system, the American National Standards Institute (ANSI) empowers its members and constituents to strengthen the U.S. marketplace position in the global economy while helping to assure the safety and health of consumers and the protection of the environment. [www.ansi.org](http://www.ansi.org)

<sup>1</sup> Dilip Shah will be evaluating a middle school science kit that uses a Texas Instrument (TI) calculator as the controller / data acquisition unit for various measurement transducers such as motion detectors, temperature probes, gas pressure sensors, magnetic field sensors, etc. A lab book provides for 'Complete student experiments with materials list, step-by-step instructions, data tables, and questions ... specifically for students in grades 6-8. It contains 37 experiments in earth science, life science, and physical science, making use of the middle school sensors.' Dilip will be reporting his evaluation results in a future issue of The Metrologist.

<sup>2</sup> NCSLI's Metrology Education and Training Outreach committee has identified the following professional organizations for establishing liaison contacts (the list included champions who have volunteered to act as liaisons on behalf of the committee). If you are interest in becoming a liaison or working with the liaisons please contact Phil Smith at [psmith@a2la.org](mailto:psmith@a2la.org) or Christopher Grachanen at [chris.grachanen@hp.com](mailto:chris.grachanen@hp.com)

Continued on page 24

### **Institute of Electrical and Electronics Engineers (IEEE)**

**Champions: Ed Morse, David Braudaway**

A non-profit organization, IEEE is the world's leading professional association for the advancement of technology. Through its global membership, IEEE is a leading authority on areas ranging from aerospace systems, computers and telecommunications to biomedical engineering, electric power and consumer electronics among others. [www.ieee.org](http://www.ieee.org)

### **Instrumentation Society of America (ISA)**

**Champions: Herb O'Neil, Mike Suraci**

Founded in 1945, ISA is a leading, global, nonprofit organization that is setting the standard for automation by helping over 30,000 worldwide members and other professionals solve difficult technical problems, while enhancing their leadership and personal career capabilities. [www.isa.org/](http://www.isa.org/)

### **Science and Technology Education Partnership (STEP)**

**Champion: Doug Sugg**

The Science and Technology Education Partnership (STEP) helps students, teachers, and professional scientists work together to make science and math fun and exciting. [www.myscienceeducation.com](http://www.myscienceeducation.com)

### **American Society of Mechanical Engineers (ASME)**

**Champion: Michelle Focannon**

Founded in 1880 as the American Society of Mechanical Engineers, today's ASME promotes the art, science and practice of mechanical and multidisciplinary engineering and allied sciences around the globe. [www.asme.org](http://www.asme.org)

### **Society of Women Engineers (SWE)**

**Champion: Michelle Focannon**

The Society of Women Engineers (SWE), founded in 1950, is a not-for-profit educational and service organization. SWE is the driving force that establishes engineering as a highly desirable career aspiration for

women. Empowers women to succeed and advance in those aspirations and be recognized for their life-changing contributions and achievements as engineers and leaders. [www.swe.org](http://www.swe.org)

### **Society for Advancement of Chicanos and Native Americans in Science (SACNAS)**

**Champion: TBD**

The mission of SACNAS is to encourage Chicano/Latino and Native American students to pursue graduate education and obtain the advanced degrees necessary for science research, leadership, and teaching careers at all levels. [www.sacnas.org](http://www.sacnas.org)

### **U.S. Science Olympiad Champion: TBD**

Science Olympiad is a primarily American elementary, middle school, or high school team competition that requires knowledge of various science topics and engineering ability. Over 14,000 teams from 45 U.S. states and Canada compete each year. [www.soinc.org](http://www.soinc.org)

## The **JOE D. SIMMONS**

### **MEMORIAL SCHOLARSHIP**

Founded in the memory of Joe Simmons to support the study of metrology and metrology-related quality topics.

**Outstanding students are encouraged to apply for the \$3000 scholarship.**

**Completed applications are due March 1.**

For application forms or more information contact your advisor, student aid office, or the Scholarship itself at

[Simmons\\_Scholar@comcast.net](mailto:Simmons_Scholar@comcast.net)

[www.simmons-scholarship.com](http://www.simmons-scholarship.com)

or write to: Simmons Scholarship  
7413 Mill Run Drive, Derwood, MD 20855-1156



**PROMOTING ACADEMIC EXCELLENCE IN METROLOGY**

ASQ Measurement Quality Division • NCSL International • Measurement Science Conference