# **NCSLI Education and Training**

# Has a New Name!

by Georgia Harris

CSLI committees and activities associated with "Education and Training" have focused for many years on efforts well beyond just education and training. Seeking a more informative name, we considered the idea that "Learning" encompasses all education and training activities. Both of "education" and "training" has specific connotations in the workplace. "Education" generally refers to gaining knowledge from accredited schools and universities, or gaining an understanding of underlying concepts and theory. "Training" typically refers to the application of knowledge to skills, or simply learning skills; it includes everything from classroom instruction, multimedia resources, and on-the-job instruction and mentoring. This explanation is quite an oversimplification, but reflects how the two terms are generally understood.

In making the name change, we also considered that learning occurs in many ways within organizations and among individuals when they gain an understanding of educational and training materials, and then use that knowledge in context within the workplace. Learning also includes what individuals read and study on their own, as well as what they acquire through non-traditional and nonformal methods (e.g., experience gained from participating in technical committees, talking to experts, or even watching pod casts). Learning encompasses the entire scope of formal and informal methods of gaining an understanding of theoretical concepts, then applying that practical information to developing skills and expertise.

NCSLI's "Education and Training" committees also conducted such activities as professional development and workplace development that are traditionally relegated to the HR (human resources, or personnel) function. Professional development refers to integrating learning into the workplace, updating skills and knowledge, and enhancing one's career

and employability, including certification. Workplace development refers to such activities as ensuring that current job descriptions and salary data are available for personnel offices and labor departments. Again, these efforts go well beyond the traditional usage of "education" and "training."

Over the past year, we have seen our Metrology Outreach activities expand dramatically to interest young people in metrology careers. We hope now to move toward Executive Outreach to impart the importance of metrology and the learning and development requirements to corporate levels and to share "the case for metrology." Documenting and presenting a case for metrology would help to explain the importance and impact of calibration, standards, as well as a good understanding of measurement science. Outreach efforts are also not just "education" or "training."

The strategic framework and the eleven key areas that were developed as a part of the 2005 Strategic Roadmap are shown in Table 1. We have been organizing our activities and have reorganized the committee structure based on the strategic framework. However, you will note only two categories that dealt solely with education or training.

Eight of the categories are highlighted in green, showing that we have commit-

tees in place and are working on activities in these areas. Collaboration is highlighted in yellow, indicating that numerous activities are occurring world wide; none of the activities are formalized within a committee structure at this time. The two items in red are issues that have been identified as critical, but where little has been organized or funded to date. Identifying new technologies and determining what education and training will be required to support them in the metrology and calibration world is a critical function that we have not yet addressed. Capturing the incredible amount of knowledge from retiring personnel is another vital task for which we have no supporting system or infrastructure at this time.

The following list of activities shows how our efforts went beyond education and training over the past few years:

- Job description survey, analysis, and interaction with the U.S. Department of Labor and Office of Personnel Management (with the Measurement Quality Division (MQD) of the American Society of Quality (ASQ)), as a part of the previous 163.1 subcommittee.
- Guide to Personnel Qualifications, published by the 163 committee when it was Personnel Training and Qualifications. This guide was the result of a

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Human Resources	Education Training
Infrastructure	Knowledge Management
	Technology Trend Analysis
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Table 1. Strategic Framework.

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- DACUM (Developing a Curriculum) study begun in the 1990's at Aurora Community College, CO.
- Recommended Practice, RP 17, Documenting Metrology Education, Training, and On-the-Job Training, published by the 163 committee in 2007 (see the Committee News article in this issue by Committee chair Gloria Neely).
- Scholarships to schools with metrology programs and partial sponsorship of the Joe D. Simmons Memorial Scholarship (with Measurement Science Conference and ASQ-MOD).
- Addition of Outreach subcommittee to target teachers and students to get them interested in and excited about metrology careers.
- Accreditation Body, Assessor Survey to get initial insight on "training needs" in accredited laboratories.
- Past conference sessions on Job Descriptions, Personnel Certification, and Documenting Training.
- At the 2008 conference you will see sessions on: Training and Succession Plans, Professional Development, Student and Educator Perspectives, Workplace Development, Mentoring - International and E&T, Learning and Development Financial Resources.

It is easy to see that the efforts described above are much more than "education and training." As a group of committees seeking to meet many workforce challenges, we want to deal with the whole scope of issues related to human capital.

You can see that these efforts go well beyond working with educators, providing scholarships, and making training resources available through a directory and member library. All of the committees in Learning and Development now have updated charters based on the name changes and based on the strategic roadmap effort that we established back in 2005. We changed the charters to highlight proposed outcomes of our efforts and our long-term objectives, as opposed to specific tasks and projects – to allow the committees an opportunity to consider new products and services that may not have been considered in the past.

Highlighted activities from the 2008 Strategic Plan are noted in the following section with each committee. We don't often communicate our strategic goals widely enough; with the major changes to these committees, we wanted to give you an idea of what we're up to and an opportunity to participate! Each year we will consider what activities will best help us meet workforce challenges. So, if you have ideas that you think will build on those stated here, please feel free to contact any of the committee chairs.

## 161: Training Resources

Chair: Helga Alexander (halexander@keithley.com) Co-Chair: Matthew Denslow (matthew.denslow@afmetcal.af.mil)

Charter: Ensure that information, resources, and opportunities for metrology learning are of high quality and are widely and readily available, and that needs and solution providers are identified where gaps exist. Ensure a high level of awareness of learning resources throughout the metrology community. Ensure development, implementation, and recognition of real-time (fast-response) metrology learning opportunities. Ensure development of a complete infrastructure to support metrology

courses which result in accredited continuing education units (CEUs), and/or college credit, and/or ongoing instructor development and qualification.

#### 2008 Activities

- Develop a new Regional Training program in conjunction with region/section coordinators that will provide options for education and training opportunities in half-day to multi-day segments.
- Obtain IACET (International Association for Continuing Education and Training) assessment to become an Authorized Provider for Continuing Education Units.
- Perform major revisions/updates of current resources in the NCSLI Training Library, Training Directory, and website in support of member training opportunities.
- Conduct (contract) a formal needs assessment study of education and training requirements (pending resources).

# 162: Financial Resources Chair: Mark Lapinskes (mark.lapinskes@sypris.com)

Charter: Ensure that adequate resources are available to support metrology education, training, and metrology outreach through solicitation and oversight of grants and charitable contributions in the NCSLI Education Development Fund (EDF), the management of scholarships, and the oversight of awarded grants and contracts that are associated with strategically selected metrology education, training, and outreach projects.

### 2008 Activities

- Manage NCSLI Scholarship Resources, investigate new/international scholarship opportunities, and administer the NCSLI Education and Training award.
- Pursue new opportunities to obtain resources for education and training activities including Combined Federal Campaign, United Way, planned giving, and open solicitation from members and others.
- Implement and promote opportunities to support the NCSLI EDF. You may have seen the press release announcing this new program in May 2007 or the end-of-year request that highlighted a number of projects that we can only do if we obtain funds outside of the usual NCSLI budgeting process. You can contribute online by going directly to the Educational Development Fund in the NCSLI Store.
- Develop and implement the financial infrastructure needed to manage solicitations, income, grants, and contracts through the EDF, and institute an ongoing process to identify and select projects that have the greatest opportunity for impact. Write and disseminate requests for project proposals and information. Evaluate project proposals.

Primary projects requiring funding include:

- Multimedia DVD and Website Products for use in outreach to teachers, students, and career counselors (a request for proposals is being developed);
- Needs Assessment Study to determine current courses that are available, to identify what courses are needed, and present a gap analysis to allow the metrology community to focus training efforts;

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- Sponsor 5000 copies of the American Society for Engineering Education "Engineering Go For It!" handout that can be used as an outreach tool to generate interest in metrology and engineering;
- Virtual Physical Laboratory an interactive software tool for outreach to teachers and students and for use in secondary and university classrooms;
- Educational Measurement Kits hands on demonstration tools for Outreach Ambassadors to use in classrooms; and
- Enhanced scholarship resources.

# 163: Workplace and Professional Development Chair: Gloria Neely (gloria.neely@navy.mil)

Ensure that appropriate methods or systems are available in the workplace to provide appropriate recognition, qualification, credibility, and remuneration for the metrology professions. Ensure ongoing professional development in metrology and calibration careers by providing guidance, resources, and best practices to metrology and standards organizations, human resources offices, unions, and professional staff. Ensure that clear career paths are identified, communicated, and tracked as widely as possible and ensure that metrology and calibration careers are adequately recognized in the world-wide marketplace.

### 2008 Activities

- Create a new Recommended Practice on "How to Develop Training and Succession Plans" to support Workplace Development. A session on this topic will be held at the 2008 NCSLI conference.
- Develop a new standard "HR Package" that incorporates resources from the 2006-2007 Job Description Initiative and the 2007 NCSLI Benchmarking Study. This package will be available to disseminate to human resource offices in support of metrology/calibration positions. We will also continue our efforts with the U.S. Department of Labor and the U.S. Office of Personnel Management to integrate metrology/calibration job descriptions and labor statistics into publications and processes.

### 164: Education Liaison and Outreach Chair: Chris Grachanen (chris.grachanen@hp.com) Co-Chair: Phil Smith (psmith@a2la.org)

Provide multiple forums for educators to interact on topics related to metrology learning and development, to encourage sharing of ideas and resources, and to help ensure that metrology stakeholder educational needs are met. Ensure awareness of metrology, measurement sciences, and needs for calibration and standards in such a way that it is readily recognized by educators, students, related professional organizations, and the general public. Develop and support initiatives and programs enabling world-wide Metrology Learning and Development.

### 2008 Activities

- Develop and provide resources, training, and encouragement to facilitate:
  - educator and student involvement in NCSLI Sections, and
  - 2) section/member outreach to schools (K-12) and universities as Metrology Ambassadors (see article in January 2008 me trologist).

- Distribute NCSLI resources to students and teachers through section events, science fairs, teacher institutes, and other conferences.
- Identify and pursue strategic collaborations with related professional organizations to foster metrology outreach and STEM outreach efforts as champions step forward. Expand internationally as opportunities are identified.

  For example: NMI outreach (such as NIST, NRC, CENAM, SIM, EUROMET), American Society for Quality Measurement Quality Division, Measurement Science Conference, Instrument Society of American, Institute for Electronic and Electrical Engineering, American Society for Engineering Education, American Society for Training and Development, National Science Teachers Association, American Association of Physics Teachers, Science Technology Engineering Program (STEP) with the U.S. Navy, International Conference on Education for Standardization, etc..
- See additional items listed under the 162 committee that are pending resources!

### 164.1: Marketing Liaison Chair: Dilip Shah (emc3solu@aol.com)

Work with the Learning and Development Committees and the Marketing team to promote Learning and Development products and services and to incorporate education and training, professional development, and workforce development topics into general NCSLI literature and resources whenever applicable.

### 2008 Activities

- Work with the Marketing team to promote Education and Training efforts and products.
- Will include all Outreach efforts, Regional Training, training Library and Directory through a publication and training catalog; promote use of NCSLI Training Center, EDF Solicitations, and Press Releases (inside and outside normal channels).

# 164.2: Communications Chair: Chris Grachanen (chris.grachanen@hp.com)

Work to increase world-wide awareness of metrology through ongoing and widespread communications efforts using multiple media. This primarily relates to metrology education and training, professional development, and workforce development topics.

#### 2008 Activities

- Work to communicate with outside organizations to increase world-wide awareness of metrology.
- Help our members with information and resources to assist personal and section outreach efforts.
- Help communicate EDF to raise money for metrology Education and Training projects.
- Develop articles in publications such as measure journal, me-trolo-gist, Cal Lab, Prism (ASEE), Standardization News (ASTM), The Standard (ASQ-MQD), press releases, flyers, international publications, and Website pieces.

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