The NCSLI Twin Cities Section met at the New Brighton Community Center in (you guessed it!) New Brighton, Minnesota. The event was sponsored by Fox Valley Metrology, a longtime supporter of NCSLI and the local chapter.

The meeting began with the introduction of the section steering committee members. This is the team that makes our meetings so successful! Currently, we have 12 members from multiple industries and businesses.

After the introduction, Fox Valley Metrology provided the host presentation and featured laboratory presentation. You can visit them at www.foxvalleymetrology.com. Fox Metrology is an ISO/IEC 17025 accredited laboratory providing full calibration and metrology services. They also provide onsite calibration service.

The tutorial was given by Dilip Shah, principal of E=mc3 Solutions. Dilip has over 35 years of industry experience in metrology, electronics, instrumentation, and statistics in the quality assurance areas. Dilip has presented many times at Twin Cities NCSLI meetings and he accepted our invitation to provide a (nearly) full day tutorial on measurement uncertainty (MU). We've had many presentations on MU, but this time we wanted more hands-on activities.

Measurement Uncertainty Workshop summary
To provide a understanding and application of measurement uncertainty for both consumers, and suppliers of calibration services. After participating in this workshop, you will be able to understand, calculate and report the measurement uncertainty for a customer. In addition, accredited laboratories shall learn useful techniques to comply with ILAC P14 requirements. Participants will be provided with worksheets to perform the exercise as Dilip facilitates the workshop.

The learning objectives for this workshop are:
- Understanding the requirement for MU and its relationship to measurement traceability.
- Identifying and selecting the MU contributors for an electrical and dimensional parameter.
- Assigning the appropriate statistical distributions to uncertainty contributors and convert to standard uncertainty.
- Identify methods for calculating Type A and B uncertainty data.
- Developing the MU budget.
- Identifying the major contributors of MU.
- Develop some “real thinking” for scrutinizing MU budgets.

In this tutorial we demonstrated electrical calibration done with a Fluke 5520A utilizing the Fluke MetCal software:
- Utilize a unit under test (customer’s equipment) such as a Fluke 23, or a Fluke 289 and run it via the RS-232 connector for more of an automated calibration.
- Upon completion of the calibration, print out a calibration certificate without the MU.
- Demonstrate calculating the UUT’s MU utilizing the process defined in the GUM.

Dimensional calibration of a six inch caliper utilizing gage blocks:
- Utilize the gage blocks as a standard.
- Engage the audience to perform Gage R&R study (have fun and be ready to brag about who has the best repeatability)
- Have the audience participate in calculating the MU.

We also used Lego blocks to show the operator variation and its impact on MU. We had a lot of audience participation and many, many questions. Overall feedback is that the workshop was a success!

Our final presentation of the day was by Walter Nowocin, Senior Manager at Medtronic. Walter is also the NCSLI 151 Healthcare Committee Chair. Walter provided two multimeters for door prizes! Woo hoo! Walter’s presentation was on the benefits of NCSLI membership. He described the benefits of being a business group member as well as individual membership. Of particular interest were some of the future benefits of membership as the NCSLI board of directors make improvements. We’re looking forward to them!

Kevin Rust, former section coordinator, presented Harry Spinks (me!) with the 2012 NCSLI Section Coordinator of the Year Award! It is certainly and honor and privilege to serve the NCSLI organization, the metrology community, and the Twin Cities Section Steering Committee. Together we make an amazing team! Thank you all.

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