



Illuminating Engineering Society District of Columbia (Capital Section)

Tour of NIST Spectrally Tunable Lighting Facility

When:

Thursday
February 18, 2010

Meet at Gate:
6.30PM

Tour followed by
Refreshments:
7:00 PM – 8:30PM

Where:

NIST
100 Bureau Drive
Gaithersburg, MD

Cost:

\$25 – per person
payable at the door
(cash or checks only)

Credits:

1.5 AIA LU's or
1.5 IES CEU's

NIST Spectrally Tunable Lighting Facility

The Vision Science Laboratory at the National Institute of Standards and Technology (NIST) has recently been outfitted with a pair of Spectrally Tunable Light Sources (STLSs). These sources are comprised of 22 narrowband light-emitting diode (LEDs) channels, spanning the entire visual spectrum. By differentially activating these channels, the STSL can create a wide variety of novel spectra. These spectra can simulate the output of red-green-blue (RGB) LEDs, red-green-blue-yellow (RGBY) LEDs, theoretical illuminants (e.g., daylight, blackbody radiators), and traditional light source technologies. Vision experiments can be conducted without the limitations set by commercially available light sources, such as chromaticity. The STLSs are suspended in the ceilings of two side-by-side experimental cubicles. Current experiments are addressing the evaluation of the color quality of light sources. The applications of this facility will be far-reaching, with future experiments investigating issues relevant to lighting, colorimetry, and basic vision science.

Learning objectives:

- Participants will directly experience different dimensions of light source quality in the NIST Spectrally Tunable Lighting Facility.
- Participants will learn about aspects of color quality that can be evaluated successfully by the Color Rendering Index (CRI), and other aspects the CRI fails to properly measure.
- Participants will learn about differences in color quality between traditional light sources and emerging light-emitting diode based light sources.

About our tour guide:

Wendy Davis is a Vision Scientist in the Optical Technology Division at the National Institute of Standards and Technology (NIST). She joined NIST soon after completing her Ph.D. in vision science at the University of California, Berkeley in 2004. Dr. Davis and her colleagues in colorimetry and photometry are currently establishing a permanent Vision Science Program at NIST. Her current main research focus is the development of a color quality metric, suitable for both solid-state lighting and traditional lamps.

Getting There:

- ◆ From northbound I-270 take Exit 10, Route 117 West, Clopper Road. Bear right at the first light onto Clopper Road/West Diamond Avenue. At the next light, turn left onto the NIST grounds.
- ◆ From southbound I-270 take Exit 11, Route 124, Montgomery Village Avenue/Quince Orchard Road. Bear right at the first light onto Route 124 West, Quince Orchard Road. After you merge onto Rt. 124, Quince Orchard Road, turn left at the second light onto Route 117, West Diamond Avenue. Turn right at the first light onto NIST grounds.
- ◆ It is crucial to be prompt at the gate since our meeting occurs "after hours" at this Federal facility.

RSVP

Call or Email RSVP to: Sarah Muros ~ (email) Sarah.Muros@holophane.com (tel) 703.867.9415
Including the following information:

Names: Company:

Tel: Fax: Email:

RSVP's must be received by 3PM on February 12th.

"NO Show's" will be expected to honor their financial commitment covering refreshments.

**Next Meeting: - Sustainable Lighting Controls for Residences and Commercial Building Commissioning – March 10, 2010
The Lutron Experience, Washington, DC**