

October 20, 2015

## A Solid-State Lighting Workshop That's Not to Be Missed

Next month — November 17–18, to be exact — DOE will host its [tenth annual SSL Technology Development Workshop](#) in Portland, OR. We hold these workshops because, despite all the advances, solid-state lighting is still at a relatively early stage, and much of its potential remains untapped. The advent of SSL has created growing recognition that lighting can fulfill a multiplicity of functions beyond its historically static and unchanging role, and many in the industry are exploring new product designs and uses that extend beyond simply lighting a space — and that offer potential benefits related to health, communications, and data exchange as well as the promise of even greater energy savings. The Portland workshop will consider how we get there from here.

The keynote address will be given by Tessa Pocock of Rensselaer Polytechnic Institute's Smart Lighting Engineering Research Center. The ability to tune the spectrum of LED light sources has opened up new possibilities for horticultural lighting to improve indoor plant production and associated energy use as well as plant nutrient and pharmaceutical value, and Tessa will share research findings to examine what we know about the effects of different portions of the spectrum on plant growth, and where future research will focus.

Tuning the spectrum can also affect humans, and an increasing number of LED products are coming to market with the promise of health and behavioral benefits. A panel featuring George Brainard of Thomas Jefferson University's Sidney Kimmel Medical College and Stephan Völker of Germany's Technische Universität Berlin will explore the science behind such claims of productivity and circadian support, separating myth from fact and identifying future research needs.

In keeping with the theme “the best is yet to come,” DOE's Jim Brodrick will discuss why it's important to continue making improvements to SSL efficacy, and will review a range of resulting benefits — from reducing materials use to lowering product costs. Morgan Pattison of SSLS, Inc. will present a crash course on current research directions to break down the barriers — such as droop and the green gap — that stand in the way of making further efficacy improvements. Giana Phelan of OLEDWorks will consider where OLEDs fit in, offering an update on the

status of OLED technology advances, products on the market, and how intelligent design of spaces might include both LED and OLED technology for optimal energy savings.

Michael Poplawski of Pacific Northwest National Laboratory (PNNL) and Kelly Sanders of the Northwest Energy Efficiency Alliance will talk about how connected lighting systems can reap even deeper energy savings, as they lead a recap of the discussions that take place at the November 16 [Connected Lighting Systems Meeting](#), which precedes the workshop and brings together technologists from the lighting, semiconductor, and IT industries. And a panel discussion of how systems thinking can improve lighting quality and increase energy savings will feature Gabe Arnold of the DesignLights Consortium™, Nate Mitten of Kimco Realty Corporation, and Dane Sanders of Clanton & Associates offering perspectives from the energy efficiency, property management, and lighting design fields.

Bruce Kinzey of PNNL and Glenn Heinmiller of Lam Partners will share updates on the challenges facing cities and utilities today as they transition to LED street lighting, while PNNL's Naomi Miller and Philips Lighting's Jim Gaines will offer practical advice on how and when to use the IEEE Standard 1789, a new recommended practice for LED flicker that offers guidance to help manufacturers design or select drivers for their products that minimize possible flicker-associated health and productivity effects. PNNL's Michael Royer will provide a hands-on demonstration of how to use IES TM-30 — a new system for evaluating color rendition — to get a more complete picture of color rendition and make better choices with LED lighting.

Chips Chipalkatti of Dr. Chips Consulting, Heather Dillon of the University of Portland, and Rachel Dzombak of the University of California, Berkeley, will discuss LED life cycle and sustainability, providing an update on DOE's 2013 LED Life Cycle Assessment report and challenging both materials science and life-cycle strategic thinking to further shrink the environmental footprint of SSL. In a separate presentation on LED market adoption, Mary Yamada of Navigant will review findings from a recent DOE national report, while Rob Carmichael of Cadeo will share details from a regional analysis done in the Pacific Northwest. Together, their two perspectives will provide a picture of the current LED market and how quickly it's changing

A panel on how changing technology and business practices — such as new color-tuning, variable distribution, and power over Ethernet — are going to affect the lighting industry will feature Chris Bailey of Hubbell Lighting, Dave Bisbee of Sacramento Municipal Utility District, Lori Brock of OSRAM Sylvania, Edward Clark of ZGF Architects, Rob Fallow of Fortis Construction, Yan Rodriguez of Acuity Brands, Chip Israel of the Lighting Design Alliance, and Gary Trott of Cree. From their varied perspectives, they'll address SSL luminaires that are already delivering change and discuss how this may lead to, or be affected by, larger changes in design and construction in the near future.

As you can see, in bringing together manufacturers, specifiers, and end users, the Portland workshop will offer a mix of perspectives that's hard to match. More than that, though, DOE's SSL workshops are far from being one-way affairs of the "we talk, you listen" variety. Rather — as you can readily see from [this video](#) of last year's Technology Development Workshop — they're open, participatory meetings in which every attendee is encouraged to participate, and everyone's contribution is valued. That's the only way to get a true dialogue going — which is the only way this ship we're all sailing will arrive at its intended destination.

To register for the SSL Technology Development Workshop, or for more information, visit the [DOE website](#).

As always, if you have questions or comments, you can reach us at [postings@akoyaonline.com](mailto:postings@akoyaonline.com).