

SSL Postings

U.S. DEPARTMENT OF ENERGY

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A Not-to-Be-Missed Chance to Connect, Discuss, and Learn

With all of the progress that's been made in solid-state lighting to date, it's easy to forget that the technology itself is still at an early stage, and that the lighting revolution facilitated by SSL is just getting started. As industry innovators continue to explore the untapped potential of LED lighting, new opportunities to manipulate and control the spectrum, intensity, and distribution of light have created gaps in understanding and communicating lighting performance, including relevant metrics. At the same time, emerging new and nontraditional lighting applications are raising important questions that need to be addressed.

I can think of no better way to keep up with SSL's ever-advancing cutting edge and stay in front of the revolution that promises to transform lighting than by joining DOE in Portland, OR, for our SSL Technology R&D Workshop on November 8, followed on November 9 by the Next Generation Lighting Industry Alliance (NGLIA) SSL Technology Trends Workshop. Together, these two gatherings add up to an [event](#) that's not to be missed — brimming with face-to-face interactions, deep-dive discussions, no-holds-barred Q&A, and networking opportunities.

These two back-to-back workshops will be preceded by an optional pre-workshop tour of DOE's [Connected Lighting Test Bed](#) on November 7, which will offer an inside look at that facility, with experts on hand to answer all your questions about what DOE has learned so far from test bed setups to characterize [energy reporting](#) accuracy and [interoperability](#) challenges, plus collaborative efforts to develop the capability to test for [cybersecurity vulnerabilities](#). The tour will also include an inside look at DOE's testing room for color rendition experiments, conducted in the same space.



The Technology R&D Workshop will examine the latest SSL technology advances and research questions, and provide updates on various DOE early-stage research efforts that will serve as a foundation for future SSL technological developments.

Kevin Dowling of Kaarta will offer a look (both forward and back) at digital lighting, offering insights as a lighting pioneer, scientist, and inventor with a unique perspective on the development of multiple industry-first technologies – from the early days of SSL at Color Kinetics to wearable electronics, robotics, and 3D digital modeling. Nick Klase of Fluence will reveal how a technology developer is addressing the challenges of horticultural lighting – which has different priorities than general lighting – and will provide some technology projections for the future.

A panel discussion will feature the principal investigators for two new [DOE-funded research projects](#) — one (at Virginia Tech Transportation Institute) that seeks to provide key experimental data on the health effects of roadway lighting, and one (at the University of California, San Diego) that will study circadian health effects of light on night workers in an emergency-room setting. The panel will also review results from recent [GATEWAY](#) projects, which highlight the need for foundational research to inform our understanding of the human impacts of light.

Michael Royer of Pacific Northwest National Laboratory (PNNL) will expand on the pre-workshop tour to present key findings from two DOE studies examining the interaction of [color rendition](#), CCT, and D_{uv} . His PNNL colleague Bruce Kinzey will review the results from a recent DOE [study](#) on the impacts of LED street lighting on sky glow, and will also preview a new sky-glow calculation tool that's in development.

Two expert panels will examine technology tradeoffs with LED lighting and offer diverse perspectives — from technology developers, energy efficiency organizations, lighting specifiers, and of course DOE — on the challenges of pursuing the technology's full efficacy potential.

The Technology Trends Workshop, hosted by NGLIA, will share lessons learned from indoor and outdoor connected lighting installations, results from DOE connected lighting test bed studies, and perspectives on lighting trends that may influence future SSL technology advances.

To kick off the discussions on connected lighting, Danielle DuMerer of the City of Chicago will present the latest — including lessons learned — on her city's smart street lighting project, which is poised to become one of the largest municipal lighting modernization programs in the country and features conversion of the incumbent high-pressure sodium system to a fully connected LED system. Ruth Taylor of PNNL and Craig Bernecker of The New School's Parsons School of Design will discuss what's been learned so far from ongoing evaluations of the seven different connected lighting systems that have been installed in classrooms as part of the latest [Next Generation Lighting Systems Competition](#).

PNNL's Michael Poplawski will expand on the pre-workshop tour to provide a snapshot of various studies underway in the DOE [connected lighting](#) test bed, highlighting current energy reporting capabilities of [Power over Ethernet](#) and other connected lighting systems, how application programming interfaces (APIs) are (or aren't) currently facilitating interoperability, the development of test methods for cybersecurity vulnerabilities, and much more.

There will also be discussions around emerging trends, such as lighting as a service and the impact of LED lighting systems on daylighting design.

These are just some of the topics that will be covered in Portland at the DOE and NGLIA workshops. They make it clear that there's still much to be done, and to be learned, so I hope to see many of you there. For more information, or to register, visit the [DOE website](#).

Best regards,
Jim Brodrick

As always, if you have questions or comments, you can reach us at postings@akoyaonline.com.