LUMINOUS SPEC

FALL 2014

“Lighting is a unique medium that has a magical power. It allows us to transform our environments and **CREATE NEW EXPERIENCES** for people”

Rory Meyers Children's Adventure Garden Discovery Center, Dallas, TX – Photo by Casey Dunn

FEATURED PROFILE

Barbara Horton – Creating Magical Experiences Through Light

Barbara Horton's infectious enthusiasm for lighting design was apparent as we sat down for a candid discussion about her experiences throughout her career. Over the last 30+ years Barbara has compiled a portfolio of notable projects and is known for her expertise in designing urban lighting for parks, streetscapes and monuments. Combining her passion for lighting with her inquisitive nature and visionary perspective, she uses a pragmatic approach to develop unique solutions for each project she takes on. As the President/CEO of Horton Lees Brogden Lighting Design in New York City, as well as the current President of the International Association of Lighting Designers (IALD), Barbara is focused on giving back and improving the industry for future generations of lighting designers.

Top: World War II Memorial, Washington, DC
Photo by Brett Drury Architectural Photography

Middle: Los Angeles International Airport, CTA Curbside
Photo courtesy of AECOM

Bottom: Vancouver Convention Center, Vancouver, BC
Photo by Bob Matheson

What makes you passionate about lighting design?

Lighting is a unique medium that has a magical power. It allows us to transform our environments and create new experiences for people. Every job is different and there's no cookie cutter solution. We're in an era where technology is leap-frogging, so we're constantly learning. You can't just pick an LED off of a piece of paper – you need to eat, breathe and sleep the products, and that's exciting! We're living in an evolving environment with constant new ideas, materials and sources of light that keep my interest and education going. It's stimulating to have new tools that allow us to apply things in innovative ways.

How do you use light to transform spaces?

Understanding how light impacts the end user is the tool we use to create lighting that transforms the space. Each time we take on a new project, regardless of the type, we need to spend time with the client to understand the program – what are the ultimate goals they are trying to accomplish – and then we define that in light. These are really collaborative conversations that look at how light can enhance experiences and the most important thing is the visual assessment – looking at the materials, playing with textures, mocking something up and testing – to determine where the light could be and how they want to see it. These are the things that engage the client in the decision making process and helps you understand what the "magic of light" can be.

How do you define the "magic of light?"

The "magic of light" is something you feel, rather than a visual thing. You step into an environment and somehow you are transformed in a subliminal way that creates a magical experience, which you may not even be aware of. That is what lighting is all about – creating a psychological environment or emotion that can do many things. I like the idea that lighting becomes experiential, and that to me is the magic!

What would you like to accomplish as the President of the International Association of Lighting Designers (IALD)?

I thought about this four years ago when I was serving on the board, well before I was selected as president. I would say that in this period of time, and now seeing it come to fruition several years later, the most important thing for me to follow through with during my presidency would be the credentialing for lighting designers worldwide. Approximately three years ago the IALD, along with a number of other organizations, threw the gauntlet down and decided to create something. To begin the process, we hired a professional psychometric consultant who helps organizations develop credentialing. We formed a very large task force of 30 people from various parts of the industry, including IES*, PLDA* and NCQLP*, to determine what we needed. Over the last three years this evolved into a smaller task force that focused on the feedback we received from people outside of the IALD. Based on results from questionnaires and an alpha-beta test, it's apparent that this has value and is something that we can't afford not to do! We are also partnering with other organizations in the Architecture, Engineering and Construction (AEC) industry around the world, such as the AIA*, ASID* and ASBAI*, which have had a voice in our conversations on what this is about and why it's necessary. The impact of the credentialing will be to raise the bar for what we – as lighting designers around the world – need to have in our toolkit, as well as the design excellence that we bring to the table.

* Illuminating Engineering Society (IES); The Professional Lighting Designers' Association (PLDA); National Council on Qualifications for the Lighting Professions (NCQLP); The American Institute of Architects (AIA); The American Society of Interior Designers (ASID); Brazilian Association of Allergy and Immunology (ASBAI).

What are the IALD's short- and long-term goals?

An important goal of mine is membership outreach. I see the benefit of me, or any president of IALD, engaging with people outside of our everyday life – they get to know a person and see the IALD as a community, and not just an organization. Suddenly you find camaraderie and realize that you're all in the same situation and have the same issues. Having the opportunity to connect with people is really important!

Another one of my short-term goals has to do with the implementation of credentialing. I am hoping that by the first quarter in 2015 we will have recognition from authorities around the world, whether it's the governing

> “The most important thing I’ve learned is to let go, give people opportunities, and make sure you’re a good mentor”

body or on the utilities side. Once the credentialing is in place we will need to do some training to make sure that our next generation is well-served by this process. Lighting is very complex and there are a lot of challenges that you need to be trained to address – from energy conservation to health and wellness to the psychology of light.

Based on the IALD’s strategic plan, one of the long-term goals focuses on expansion – outreach to chapters in different regions to make sure we have the networks, educational programs and connectivity amongst lighting designers. The industry is constantly changing so we need to have open dialog and get feedback in order to keep up with everything that is happening. The IALD has a very similar model to the IES, except we don’t have governing bodies in each of the locations. We recognize that we need someone who can be on the ground in various locations to facilitate communication so, although our central staff is in Chicago, we have other staff members in the UK, Japan, and we’re currently working on having someone in Europe by the end of this year.

What trends do you see in buildings and/or design impacting lighting?

The biggest trend I see in buildings is that the design software has transformed what the shapes of buildings can be and the available materials are being explored in completely different ways. Architects gravitate towards the coolest technologies, so this is definitely a big change in the built environment. The impact of that on lighting is that we are in an era where technology, especially LED, is constantly advancing on a continuous basis. This provides tremendous inspiration because every time I’m challenged by a new material, physical height, shape or technique that an architect wants to explore, we’re now saying that we think we can do it and want to try it – whereas with traditional sources we weren’t able to play in that arena. Lighting designers are now faced with the interesting challenge of incorporating all their expertise with the technology that’s out there in a way that they end up with an innovative, successful project. The world’s sensibility about shapes, materials, and light integration is transforming, and this will be the excitement for the future!

What are some important things you have learned through your experiences that can help others in the industry?

The things I’ve learned are not so much about the design side, but rather about running a business. As I took over as president of my firm I started to learn that you can’t do it all by yourself. We have amazing people on our team and are very fortunate to have eight principals in our firm—owners in the company who are running four offices, very successfully. The most important thing I’ve learned is to let go, give people opportunities, and make sure you’re a good mentor.

Is there any project that stands out as being your favorite or the most memorable?

The World War II Memorial in Washington, DC is really special to me and I was very glad to be a part of it. Learning about the history and observing people who had served when they were 16 years old come to the commemoration made quite a compelling story and was an amazing experience. As part of the process, not only did we have to read and understand the history, but we had to work with the artists carving the spectacular walls to know what content they would be using to commemorate what this war was about. I have a great deal of pride in what happened throughout that process and how it evolved into something magical where people interact with the light as they walk through the rampart walls and read the commemorative information – they’re engaged in that experience and light is a part of it.

One of the most exciting things about this project was working with a group of seven people who were all WWII veterans and had joined the army as volunteers. The project was politically challenging, due to high visibility with the public, and went through a lot of scrutiny. Lighting was always a part of that and not an after-thought; we had to consider what the experience would be like during the day, and what it would be like at night. There were also some environmental challenges we had to consider, and program challenges with what the client wanted to achieve with the memorial in the end. In addition, there were several technical challenges in the placement of fixtures into the architectural forms, so we had to work closely with the manufacturers to ensure longevity and the transcendence of time. Overcoming all these challenges made it a crowning moment when it finally opened, and I felt very proud to be one of the people influencing our capital.

Looking back at your career, what is your favorite part of being a lighting designer, business owner, and volunteer?

My favorite part of being a lighting designer is having the opportunity to create special environments or experiences for people. As a business owner, I’ve enjoyed the challenges of how business evolves and developing the core group of people that help define our culture and keep us moving forward operationally. It’s been very rewarding to see that evolution. On the volunteer side, I’ve learned that you give a little and you get a lot back through camaraderie with peers. Being part of the IALD and the IES has given me some career building skills and a sense of confidence in myself. It’s important to be a volunteer in any industry organization because it’s not just about paying your dues and getting a membership card, it’s about participating!

PROJECT SPOTLIGHT

DRAGON BRIDGE BREATHES LIFE INTO DA NANG, VIETNAM, ATTRACTING TOURISTS AND IMPROVING THEIR ECONOMY

Spanning 666 meters in length and 37.5 meters in width, the spectacular Dragon Bridge crosses the Hàn River, connecting Nguyen Van Linh with the Son Tra-Dien Ngoc highway and providing the shortest route from the Da Nang International Airport to the major roads in Da Nang City. In designing the bridge the city's government chose to symbolize the Vietnamese culture by building the structure in the shape of a 2000 ft. (610 m) long dragon rising from the water, making it an iconic structure for the city of Da Nang.

With a focus on sustainability, the city's government was looking for a lighting solution that would be energy efficient, while allowing the bridge to be illuminated in a way that accurately depicts the significance of the dragon for the Vietnamese people – a respected creature with the power of rulers and the strength of warriors that is revered for being a symbol of good luck and prosperity. When Philips Color Kinetics was chosen to illuminate the bridge, the team traveled to Da Nang to speak with the government on ways in which the LED lighting solutions could synchronize with the traditional values of good fortune, and then later met with the architect to understand the meaning of the structure and engage in the cultural background of the bridge. Partnering with Philips Vietnam, they collaborated with the locally contracted lighting designer to determine the best fixtures for the main structure of the bridge, as well as the best way to create a backdrop for the remarkable dragon. Approximately 2,500 Philips LED light points were used, including a combination of LED road lighting solutions, ColorBurst Powercore LED spotlights, and ColorReach Powercore LED floodlights, with strands of iColorFlex LMX LED nodes. Working closely with the government, all the lighting fixtures were each carefully aimed to ensure the intense light would not be a distraction to commuters. The result is an intelligent lighting solution that illuminates the dragon with a myriad of colors that can be controlled and changed to 5 different color schemes, customizable for any occasion, festival or holiday. In addition, every night at 9 p.m. the Dragon Bridge comes to life as the dragon breathes fire and life into the city. The impressive combination of architecture, innovative technology, and LED lighting has put the city of Da Nang on the map as being a gateway for Vietnam, attracting more tourists and helping local businesses to thrive. In addition, the Dragon Bridge project received a special citation at the 2014 IALD International Lighting Design Awards for creating a "whimsical, well-crafted multimedia experience communicating national and religious identity."

> "This unique and beautifully lit bridge is set to become Da Nang's new landmark, an ever changing functional artwork that puts Vietnam on the world map of lighting design"
>
> – Dr. Tran Van Thanh, Lighting Designer, ASA Studios

PRODUCT NEWS

Re-think the Ceiling

Philips **OneSpace** luminous ceiling integrates LED lighting technology with textile in order to create a white light ceiling surface, transforming interior spaces and providing homogenous glare-free light. Its minimalistic appearance provides a blank canvas of customization through a myriad of flexible design possibilities. Less than 5" thick, this ultra-thin panel is available in three color temperatures (4000K (standard), 3000K and 5000K), a variety of sizes and multiple mounting options (free-hanging, ceiling-mounted or recessed). With a CRI > 80 OneSpace delivers true color rendition with uniform, shadow-free illumination, making products look great and enhancing the customer experience.

Ease of Mind, Productivity and Control

The Philips Day-Brite/Philips CFI **RelaxView Healthcare Lighting Solution** is designed for use as a family in MRI suites and throughout a hospital. The innovative LED Graphic Ceiling (RVGC) and Wall (RVGW) Illuminators create a relaxing environment, helping patients feel more comfortable and calm during imaging experiences. General room illumination is achieved through the LED Ambient Ceiling Illuminator (RVAC) and LED Ambient Recessed Downlight (RVAD), while the Power Distribution Module (PDM) and the LED Intelligent Wall dimmer (IWD) provide healthcare professionals with total lighting control when performing specific tasks in the room.

Enjoy Flexibility and Savings with Quality Illumination

The Philips Day-Brite **LED High Bay FBX** is a compact and economical luminaire offering exceptional lighting – making it a perfect replacement for up to 750W HID sources in mid to high ceiling applications, including big box retail settings. With 7 lumen packages, 5 optical configurations, 3 lens choices and several mounting options available, FBX provides flexibility and quality illumination where it counts and offers energy savings through standard dimming and optional motion sensors. The 2' FBX is available in extruded and sheet metal construction with a choice of narrow or wide housings, while the 4' FBX is only available in the extruded construction with wide housing, providing better heat dissipation for higher ambient applications.

Real-time Site Management and Monitoring

Philips LED parking garage and site and area luminaires have been combined with **LimeLight** wireless controls to create a two-way network of communication, allowing for real-time site management and monitoring from any remote location. Using a customized Graphical User Interface (GUI), this web-based system provides reports on energy usage, occupancy rates and occupancy times, allowing you to design your own lighting schedule to maximize energy savings by automatically dimming the lights when 100% output is not required. The 24/7 monitoring capability ensures security for patron and owners, further streamlining facility management and maintenance, and reducing the total cost of ownership.

Experience the Balance of Function and Form

The Philips Day-Brite **LED High Bay HBX** is a durable, compact luminaire that offers modern style and appearance – making it a perfect replacement for up to 400W HID sources in mid to high ceiling applications, such as warehouses, open retail spaces, gymnasiums, and wet locations with ambient temperatures ranging from -40°C to 45°C. The combination of LEDs and high performance optical plates ensures outstanding illumination and excellent color rendering. With several lumen packages, optical distribution patterns and mounting choices available, along with standard dimming and an optional motion detector, HBX provides a nice balance of aesthetics with the functional needs for various environments.

Uniting Performance and Versatility

Philips Ledalite **VersaForm LED** luminaires elevate recessed LED lighting possibilities, providing flexible options for office, education and healthcare applications. As a high-performing, versatile solution with balanced brightness, it is available in 3 sizes, with 3 color temperatures, a variety of lumen packages, 2 CRI, 2 housing choices, 5 mounting possibilities, and optional integrated sensors and Airwave controls. Designed with subtle aesthetics, VersaForm LED transforms to suit the requirements of any space, and can be upgraded in the future as needs change. The separate Plug and Play light engine allows for easy access to the driver from below the ceiling, eliminating the need for an electrician and saving maintenance costs.

Classic Elegance and Modern Styling Meets Advanced Lighting Technology

As the latest additions to the outdoor urban product family, the Philips Lumec **MetroScape** and **UrbanScape** LED Pendant Luminaires use up to 96 high performance white LEDs and deliver over 20,000 lumens – the equivalent to 400W HID – to ensure maximum reliability and sense of security. The dedicated LED optics (types 2, 3, 4 and 5) provide high quality and uniform light distribution, while the Philips connected lighting gives you the power to make your city dynamic, intelligent and totally flexible. The innovative LED platform offers the flexibility of a modular approach, allowing for different LED configurations and enabling the systems to be tailored to a customer's unique needs.

MetroScape LED Pendant and Post-Top Luminaires are inspired by tradition and designed with a classic elegance, while UrbanScape LED Pendant and Post-Top Luminaires are designed with simplicity in mind and focus on modern styling. In addition, these complete IP66 rated luminaires protect the LEDs and electrical components from environmental pollutants, making them suitable for a wide range of applications, including parks and recreation, city streets and intersections, city centers, campuses and public areas.

Metroscape

Urbanscape

CONFERENCE & EVENT NEWS

EVENT: IALD ENLIGHTEN AMERICAS 2014 – LIGHT ECLECTIC

DATE: October 16–18, 2014

LOCATION: San Diego, CA

SYNOPSIS: In its fourteenth year, Enlighten Americas 2014 will inspire and educate architectural lighting designers, providing them with plenty of opportunities to attend seminars, while meeting and interacting with world-class and award-winning lighting design professionals.

This year's Keynote Speaker is Thomas D. Albright – Professor and Director at Conrad T. Prebys, Systems Neurobiology Laboratories, The Salk Institute for Biological Studies; President for the Academy of Neuroscience for Architecture.

As a proud sponsor of the 2014 Conference, Philips Lighting will be hosting the Saturday evening Closing Reception at the San Diego Wine and Culinary Event Center.

WEBSITE: **www.iald.org**

EVENT: IES ANNUAL CONFERENCE – A CONFLUENCE OF ART AND SCIENCE

DATE: November 2–4, 2014

LOCATION: Pittsburgh, PA

SYNOPSIS: In accordance with this year's theme, the IES will use inspiration from the "City of Bridges" to symbolize how excitement, energy, and change happen. Not only will professionals from diverse disciplines be able to explore, present, discuss and debate ideas related to the art and science of lighting, but they will also be able to exchange best practices and learn from their peers. In addition, IES will reveal which products are being included in the 2014 IES Progress Report, garnering recognition for over 100 new lighting products.

Philips is a sponsor of this year's conference, which will feature the following Keynote Speakers:

- Dr. Neil deGrasse Tyson – Director, Hayden Planetarium and Host of TV Series, Cosmos
- Paola Antonelli – Design Curator, New York Museum of Modern Art
- Julie Angus – Adventurer, Author and Scientist
- Kit Cuttle – Lighting Visionary and Futurist

WEBSITE: **www.ies.org/ac/**

OLED NEWS

When Inspiration Meets Reality

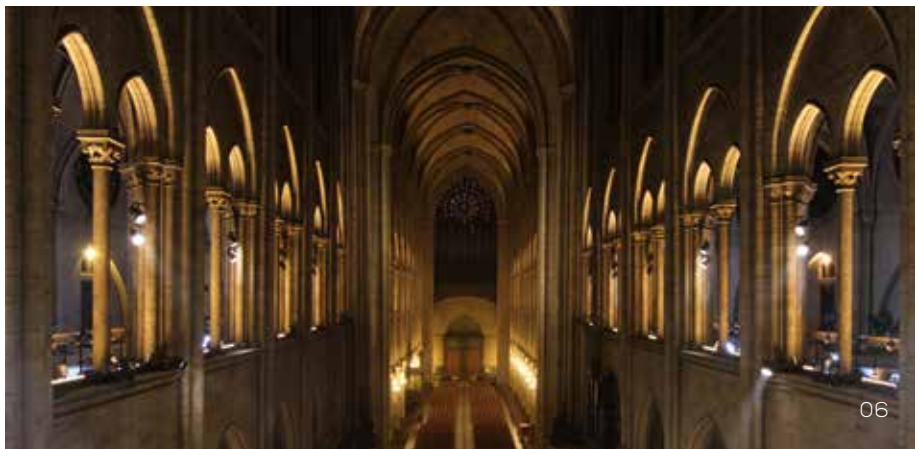
Pixelate, designed by Pablo Alvarez for Birot, was inspired by the shape and movement of a manta ray gliding through water. Movement and shape come alive through weaved layers of stainless steel, producing a random pattern of OLED light and metal pixels. This exquisite luminaire is available in three variations: four corners up, four corners down, or without any undulation. Ultra-flat and sleek, Pixelate uses the latest OLED technology (delivering 300lm per panel with the new Brite FL300), has a modern chrome finish and is DMX controllable, making it a unique and adaptable feature in any space.

AROUND THE WORLD

Notre Dame Cathedral Reduces Energy Consumption by 80%

The Notre Dame Cathedral in Paris, France has been retrofitted with more than 400 Philips LED luminaires, reducing the installed capacity from almost 140kW to only 30kW – an astounding 80% in energy savings! The flexibility of LED technology allows for emphasis to be placed on the extraordinary architecture of the Cathedral and the details of the renowned works of art throughout the space. In lighting the Notre Dame Cathedral consideration was given to keeping the LEDs inconspicuous, so it has been designed in a manner that the light appears to emanate from the stone. The dimmable warm light, which can be powerful in its own way, creates a reverent atmosphere for those that enter this place of worship.

The dynamic lighting has transformed the Notre Dame Cathedral and allows for the atmosphere to be adjusted depending on whether a religious or cultural activity is occurring. In addition, the installed LEDs have low maintenance requirements and, with 10 hours of lighting per day, they are expected to last for approximately 13 years.



INDUSTRY NEWS

IALD Raises over $375,000 USD for Lighting Education

The joint 2014 IALD Education Trust Benefit Dinner and 31st Annual IALD International Lighting Design Awards presentation was attended by 460 people (including lighting designers, students, educators, and manufacturers), and raised over $375,000 to further architectural lighting design education. In addition to the monies raised from the ticket sales and sponsorships, $10,000 in donations was collected throughout the evening, as well as a pledge from Doug Hagen of B-K Lighting + TEKA Illumination to donate $100,000 USD over five years in honor of the sudden passing of the IALD Education Trust President Ron Naus.

In order to continue with the road-map developed under the leadership of Ron Naus, the IALD Education Trust Board of Directors appointed Steven Rosen as president for the remainder of the 2014–2015 term. For more information about the IALD Education Trust, please visit www.ialdeducationtrust.org.

Photos by © International Association of Lighting Designers

Photo by Derek Porter, Parsons The New School for Design

Parsons Grad Receives Lighting Design Award

The Philips Learning Innovation Award recognizes a project that advances research, technology, and function in lighting design, and is part of the Luminous Talks partnership between Parsons The New School for Design and Philips that was formed in 2012. This year's winning project by Dagmara Nowak, a recent School of Constructed Environments (SCE) graduate, was selected for its futuristic application of light that not only illuminated space, but also offered the potential of defining the physicality of the space. Dagmara proposed using strategically placed light poles and manipulated photon molecules to create a functional and sustainable research station approximately 500 miles from the North Pole in Alert, Nunavut, Canada.

Gerard Blandina, Philips Lighting District Manager, presented Dagmara with a trophy to honor her accomplishment, as well as the $1500 prize. Now that she has graduated, Dagmara's passion for lighting will continue to flourish as she begins her career with Tillotson Design Associates, a lighting design consultancy based in New York City.

For more information on Parsons The New School for Design, visit www.newschool.edu/parsons.

LIGHTFAIR® International (LFI) Illuminates Las Vegas

Recognized in 2013 by the Trade Show News Network (TSNN) as one of the Top 250 Trade Shows to attend in the United States – as well as being one of the Top 25 Fastest-growing Trade Shows for Net Square Footage – LFI has continued to grow over the last 25 years, and this year was no exception! The 2014 LIGHTFAIR® International trade show/conference in Las Vegas, NV featured over 576 exhibitors visited by over 26,000 attendees from 74 countries across the globe. Attendees participated in educational seminars, viewed the latest products and technology and networked with other lighting professionals.

One of the highlights of LFI is the presentation of the LIGHTFAIR® Innovation Awards, which recognizes the lighting industry's most innovative technologies, products and designs. Philips was a proud winner of two awards: SlimStyle LED was the category winner for Conventional, Retrofit and Replacement LED Lamps and Philips Lumileds LUXEON CoB Crisp White was the category winner for LED/OLED, Chips and Modules. In addition, Philips was recognized at the LIGHTFAIR® 25th anniversary awards as one of the founding exhibitors of the show. For more information on Philips connected lighting solutions that were displayed at LFI, visit www.philips.com/Lightfair2014.

Extend Your Creative Vision with Lighting

CHICAIAGO!
2014 AIA CONVENTION EXHIBITOR

Almost 20,000 of the world's brightest architects, designers, innovators, and provocateurs joined approximately 800 exhibitors in Chicago for this year's AIA National Convention. The keynote speakers included Mayor Rahm Emanuel, Tony Hsieh (Zappos CEO), and Ed Mazria (one of the pioneers of the sustainable movement) who was joined by a panel of design resilience experts (Rachel Minnery, Ellen Dunham-Jones, Majora Carter, Robin Guenther, and moderator Frances Anderton).

Philips showcased some of the latest products and technologies for indoor and outdoor commercial spaces, which are ideal for applications such as offices, schools, retail spaces, and healthcare environments. For more information on the Philips lighting products that were displayed at AIA National Convention, visit www.usa.lighting.philips.com/connect/AIA2014/.

EDUCATION

Luminous Talks

Luminous Talks is a series of educational events to learn, connect, inspire and to be inspired! Developed three years ago as a collaboration between Philips and Parsons The New School for Design, it brings together architects, lighting designers, academics, industry leaders and others to discuss innovations and current topics in the lighting design industry.

This year's theme is The Changing Room. Renowned speakers will share their experiences to spark new ideas during a live webinar on September 23, as well as at the premiere New York event in November. Visit www.philips.com/luminoustalks for more details, or to register for these events.

Advanced Learning in Lighting

Philips Lighting University offers a variety of topics from experts that bring you up to speed on cutting-edge developments. Some of this year's topics included: Non-image forming light and lighting design; Light and circadian rhythms; Lighting innovation; Connected lighting and virtual natural lighting solutions. You can still check out these interesting webinars at www.philips.com/lightinguniversity, as well as dozens of quick tutorials on a variety of topics, from illuminance and luminance to lighting design and color temperature. Stay tuned to the website for the new series of webinars coming this fall!

Specifier Seminar Series – Lighting Trends & Technology Update

DECEMBER 2: Color Kinetics Showroom
New York, NY

DECEMBER 3–4: Philips Lighting Application Center
Somerset, NJ

SYNOPSIS: As part of an on-going Specifier Seminar series, the 2014 events have been expanded to include an optional day, kicking off the event at the Philips Color Kinetics showroom in NYC and focusing on lighting design with offerings from Philips Color Kinetics, as well as a presentation on Intelligent LED Lighting Systems and Controls. Not only will you earn an additional 1.0 AIA credit for participating, but you will also get to experience a special viewing of the Times Square Ball at the end of the day.

The remainder 2-day seminar will focus on lighting trends, as well as the latest technologies for both outdoor and indoor applications where an additional five and a half (5.5) hours of Continuing Educational Units (CEU) and AIA Learning Units will be provided in the following topics:

- Psychology & Physics of Light and Color
- LED Technology update
- Energy & Code updates

KEYNOTE SPEAKERS: Mark Roush, Principal of Experience Light; Dr. Jack Curran, President of LED Transformation, LLC, Charles K. Thompson, Principal of ARCHILLUME LIGHTING DESIGN.

OTHER TOPICS: Indoor Luminaires – Downlight, Accent & Decorative; Controls Update; Outdoor Site & Area Luminaires; LED Technologies (various applications); Indoor Luminaires – Architectural and Commercial; LED Lamp Technology Update

REGISTRATION: These are special offerings and cannot be found on the Lighting Application Center website. Please contact your local sales rep for registration information.

Lighting Application Center 2014 Education Calendar

Are you looking to improve your lighting knowledge? Whether you're new to the industry, or want to learn additional skills, we offer a variety of courses in the United States and Canada for all levels.

REGISTRATION: www.philips.com/lightingapplicationcenter

Somerset, NJ, USA

DATE: October 20–22
COURSE: Introduction to Outdoor Luminaires
SYNOPSIS: Introduces the principles of optical performance, mechanical and electrical construction, and application for the basic types of outdoor luminaires.

DATE: November 17–19
COURSE: Lighting for Industrial Application
SYNOPSIS: Builds on a basic understanding of lighting to address specific lighting solutions for industrial spaces..

DATE: December 8–10
COURSE: Advanced Topics in Lighting
SYNOPSIS: Addresses complex issues in lighting metrics, technology, and design with the goal of providing a deeper understanding of light and human interaction.

Toronto, ON, Canada

DATE: October 20–21
COURSE: Lighting Specialist Program
SYNOPSIS: Builds on a basic understanding of lighting to address the critical issues in the experience, measurement and assessment of lighting and lighting systems.

DATE: October 22–23
COURSE: Healthcare Application Workshop
SYNOPSIS: Addresses the principles and practicalities of integrated lighting solutions for healthcare applications.

DATE: November 10–13
COURSE: Lighting Essentials
SYNOPSIS: Offers a practical understanding of the principles of lighting and introduces today's lighting technologies.

DATE: November 24–25
COURSE: Outdoor Application Workshop
SYNOPSIS: Addresses the principles and practicalities of integrated lighting solutions for outdoor applications.

Markham, ON, Canada

DATE: November 14
COURSE: Lamp and Ballast Product Training
SYNOPSIS: Participants will acquire knowledge to choose the optimal light sources and lighting systems for all lighting application solutions.

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