



# Continuing Education Seminar

CEU 2018

AIA Course Number: BIOSCES101

## Biologically Focused Lighting - The Truth About Circadian Lighting

Learning Units: 1AIA LU/HSW // 1 WELL AP LU

Architectural lighting is no longer just for the visual system. With growing emphasis on healthy built environments, circadian lighting is a popular topic that many designers and end-users are being asked to explore.

Within the eye we each have non-visual photoreceptors which assist in regulating our circadian rhythms. Modern architectural lighting has been designed and calibrated to meet the needs of our visual system, however it provides insufficient stimulus for the human circadian system and does not allow our bodies to properly reinforce our natural biological signals.

The lack of proper circadian stimulus and the desynchronization of our activity with the solar day has been shown to lead to a state of Social Jet-lag which has been tied to many disfunctions, such as disrupted sleep cycles.

This seminar explores the science behind the circadian system and outlines how to integrate essential spectral content in architectural lighting that helps entrain and reinforce healthy circadian rhythms.

### Learning Objectives:

1. Understand the basic science of circadian rhythms and its interaction with light.
2. Describe the design considerations needed for implementing circadian lighting.
3. Understand how color tuning addresses circadian lighting needs.
4. Understand how light spectrum addresses circadian lighting needs.

### Presenter Robert Soler, VP Human Biological Research and Technology

Robert Soler is Vice President of Human Biological Technologies and Research at Biological Innovation and Optimization Systems (BIOS). Prior to his work with BIOS, his most prominent work was with the Kennedy Space Center, where he helped design and build the first LED light for use on the International Space Station (ISS) and collaborated with scientists to use LED light for photo biological purposes in space, including the circadian lighting system designed to synchronize circadian rhythms of astronauts aboard ISS. He holds a Master of Science degree from the Lighting Research Center at Rensselaer Polytechnic Institute and has begun a PhD in Behavioral Neuroscience at the University of California, San Diego where he received a fellowship from the National Science Foundation for investigation in circadian lighting paradigms. He currently serves on the light advisory committee for the International WELL Building Standard.

### Who Should Attend:

Architects, Interior Designers, Lighting Designers, Engineers, Design-Build Contractors, End-Users, Owners Representatives, Facilities Managers, Operations Managers.

Robert Soler at [rsoler@bioslighting.com](mailto:rsoler@bioslighting.com)



BIOS Lighting  
2796 Loker Avenue West, Suite 111  
Carlsbad, CA 92010  
Tel: 321.260.2467  
[www.bioslighting.com](http://www.bioslighting.com) / [info@bioslighting.com](mailto:info@bioslighting.com)