

## TAILORING INDOOR LIGHTING REQUIREMENTS TO MEET USERS' NEEDS

### Abstract

Effective indoor lighting design requires interdisciplinary knowledge that extends beyond technical expertise. Lighting ensures safe usability, supports performance, and enhances visual comfort and well-being. Beyond functionality, it shapes the appearance of spaces, highlights details, and guides interpretation and use. A holistic approach is essential, integrating space, function, users, technology, and materials. Defining lighting requirements is a crucial step, balancing various influencing factors. While guidelines and standards offer criteria based on typical conditions, actual lighting needs may vary due to task-specific, personal, or contextual factors. This workshop explores a new decision-making framework for determining indoor lighting requirements. It will discuss an approach that goes beyond activity type, incorporating key influencing variables such as visual task characteristics, individual differences, and environmental context.

### Convenor

PELLEGRINO, Anna, Politecnico di Torino (*confirmed*)

This workshop is organized by CIE Division 3, Technical Committee 3-63 "Decision scheme to determine lighting requirements for indoor environments".

### Speakers

BERNECKER, Craig, Parson School of Design (*confirmed*); DE VRIES, Adrie, Signify N.V. (*confirmed*); WENINGER, Johannes, Bartenbach GmbH (*confirmed*).

### Workshop description

Several factors contribute to determining the lighting needs for visual comfort, performance, and well-being of people in indoor spaces. However, how to account for these aspects to define lighting criteria and requirements can be challenging.

While standards for indoor lighting specify requirements for various types of activities, they also recommend increasing or decreasing the required values, particularly the value of the maintained illuminance, based on some context modifiers. These modifiers may include task characteristics, individuals' visual capabilities, psycho-physiological aspects, spatial attributes, visual ergonomics, etc. Yet, the process of determining when, how and to what extent these modifiers should be considered, combined, and how to weight them to establish the final design requirements, remains not well defined.

Based on these premises, the workshop aims to foster critical reflection and debate on the processes lighting professionals use to define indoor lighting criteria and requirements and on the opportunity to simplify and support this process using specifically developed decision-making frameworks.

Presentations by experts from various sectors of the lighting field will provide insights and serve as a starting point to frame the discussion. The session will include a moderated open discussion, during which participants will be encouraged to share their insights and suggestions on improving the process of tailoring lighting requirements to meet users' needs.

The outcomes of the discussion session will be collected and will contribute to guiding the ongoing work of Division 3 Technical Committee TC 3-63, which is working on developing a decision scheme to determine lighting requirements for indoor environments.