

Light and daylight: how to effectively impact building occupants' health and well-being

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ABSTRACT

By directly affecting the internal timing mechanisms of the brain, light regulates human physiology and behaviour, perhaps most notably the sleep–wake cycle. Disruption of circadian rhythms resulting from irregular or insufficient light exposures has been linked to maladies and disease. Humans spend over 90% of their waking hours indoors, yet light in the built environment is not designed to maximally affect our circadian rhythms. This talk will discuss how to effectively use light to promote circadian entrainment and, as a result, improve building occupants' health and well-being.

BIOGRAPHY

Mariana G. Figueiro, Ph.D., is Director of the Lighting Research Center (LRC) and Professor of Architecture at Rensselaer Polytechnic Institute. She has also served as Light and Health Program Director at the LRC since 1999. Dr. Figueiro is well known for her research on the effects of light on human health, circadian photobiology, and lighting for older adults. She holds a bachelor's in architectural engineering from the Federal University of Minas Gerais, Brazil, and a master's in lighting and a doctorate in multidisciplinary science from Rensselaer. Her master's and Ph.D. dissertation research focused on the human circadian response to light. Figueiro is the recipient of the 2007 NYSTAR James D. Watson Award, the 2008 Office of Naval Research Young Investigator Award, and the 2010 Rensselaer James M. Tien '66 Early Career Award. In 2013 she was elected Fellow of the Illuminating Engineering Society. She is the author of more than 80 scientific articles in her field of research, along with the AARP-sponsored publication, *Lighting the Way: a Key to Independence*, which provides guidelines for the design of lighting to meet the needs of older adults. Her research is regularly featured in national media including *The New York Times*, *The Wall Street Journal*, and *Scientific American*. Dr. Figueiro has also brought attention to the significance of light and health as a topic of public interest through her recent TEDMED talk.