



**29 April 2021**  
**from 18:00 to 19:30 (CEST)**

# **Daylight Insights**

**- So you want to  
measure daylight?**

**Daylight measurement is of great importance in many different disciplines, ranging from human health to architectural design. However all too often there is little cross-talk between disciplines, and we lost a vital opportunity to learn from each other and improve our understanding and effectiveness of our daylight measurements. In this webinar we bring together four speakers from different fields to share their knowledge on daylight measurement, how they do it and why.**

**Speakers:**

**Manuel Spitschan**  
(University of Oxford)

**Brian Norton**  
(TU Dublin)

**Ann Webb**  
(University of Manchester)

**Phil Butlin**  
(University of Edinburgh)

**Register  
here**



<https://bit.ly/3e9cSQA>

**Moderated by:**

**Paul O'Mahoney**  
(University of Dundee)

**The discovery of the Antarctic ozone hole in 1985 led to sudden interest in measurements of solar ultraviolet (UV) radiation, due to the potential for enhanced UV radiation at the surface and its attendant impacts on numerous forms of life, including human health. As measurements systems were deployed around the world it soon became apparent that there was potential for large disparities between data from different systems. This is the story of how those disparities were reduced.**

**Professor  
Ann R. Webb**

Ann is a Professor of Atmospheric Radiation at University of Manchester. Her research work is at the interface between disciplines with radiation measurement, particularly at UV wavelengths, and (sun)light as a central theme. She specialises in vitamin D synthesis by the skin after exposure to (solar) UV radiation, while other work explores, for example, the scattering of radiation by ice crystals. The multidisciplinary nature of Ann's work is also apparent in the external

positions she has held. In addition to several past and current roles at the World Meteorological Organisation, she is a previous President of CIE (Commission Internationale de l'Eclairage), and a current commissioner of the International Radiation Commission.



**Measuring daylight involves weighting an incident measured solar spectrum over a particular wavelength range corresponding to visual and non-visual responses. This presentation will discuss factors that can affect this seemingly simple process and the validity of the use of particular daylight data outside its original measurement context . It will invite discussion on whether there are aspects of daylight and the wider environment that also need to be concurrently measured to fully understand causes and effects.**

**Professor  
Brian Norton**

Professor Brian Norton DSc MRIA is Head of Energy Research at Tyndall National Institute, Cork, Ireland, Professor of Solar Energy Applications at Technological University Ireland and a Research Professor at University College Cork. His fields of research are experimental and theoretical studies of the thermal, photovoltaic and daylighting applications of solar energy, the

interaction of buildings and building systems with climates and post-harvest technologies. Currently he working on spectral modification combined with projection of daylight into buildings to promote occupant health.



**Light exposure profoundly affects human physiology and behaviour. With the non-visual effects of light being a key area of investigation in chronobiology, sleep medicine and beyond, an understanding of natural light and the physiological signal it generates can inform research in this area. Here, I will discuss (1) our understanding of the regular properties of daylight and (2) ways and methods to measure and characterise daylight from a visual and circadian perspective.**

### **Dr Manuel Spitschan**

Dr Manuel Spitschan is a University Research Lecturer and Sir Henry Wellcome Fellow at the Department of Experimental Psychology, University of Oxford. After reading psychology at the University of St Andrews (2012) and completing his PhD at the University of Pennsylvania (2016), he completed a postdoctoral fellowship in Psychiatry and Behavioral Sciences at Stanford University. He is also a Visiting Fellow at the Centre for

Chronobiology in Basel. His research focuses on the effects of light and lighting on human physiology, behaviour, health and wellbeing, with a specific interest in integrating knowledge from visual and circadian neuroscience. In addition to his research, he is active in the CIE (Member of TC 1-98), the Daylight Academy and the Optical Society Color Technical Group.



**As photosynthetic organisms, plants depend on light for normal growth. However, beyond its utilisation in energy production, light also provides important cues to plants which inform them about their location both in space and time. In response to these signals, plants are able to plastically alter the course of their development to best suit their environment. In this talk, I will discuss a classic example of one such plastic response that is studied in the Halliday Lab, known as the 'shade avoidance syndrome'. I will focus on how plants determine when to initiate such responses, how they are shaped by variations in their light environment, and why our understanding of spectra in different ecological habitats is important.**

### **Phil Butlin**

I am a PhD student, funded by the BBSRC as part of the EASTBIO DTP and based at the University of Edinburgh, where I work in the lab of Prof. Karen Halliday. Our group focuses on studying how plants sense and respond to external light cues, but I am particularly interested in understanding the ecological relevance of the 'shade avoidance syndrome' in plants. This includes investigating what information plants can infer from shade sig-

nals at different times of day and year, the impact this information has on plant development, and how these processes are coordinated at the molecular level. A key component of my work is trying to determine when and where the optimum shade-sensing conditions occur in nature and trying to replicate these in the lab.

