

# International Day of Light (IDL): Background, Legacy, and Upcoming Workshop by Zaheer Science Foundation

## Background

Light and light-based technologies have transformed modern society and profoundly influenced nearly every aspect of human life. Their applications span healthcare, communications, education, entertainment, industry, culture, and scientific research. Entire sectors of the global economy are driven by optical and photonic technologies. Without light-based innovations, there would be no solar panels, LED lighting, computer and mobile displays, digital cameras, projectors, magnetic resonance imaging (MRI), X-ray systems, optical fibre communications, or the Internet as we know it today.

Advances in light-based technologies continue to generate innovative products and processes that improve access to information, strengthen healthcare systems, enhance energy efficiency, and enrich our daily lives. These technologies also play a vital role in addressing global challenges and advancing sustainable development in areas such as energy, education, agriculture, environmental protection, and healthcare. Consequently, there is a growing need to raise public awareness of the importance of light and its applications in science, technology, and society.

Recognizing this significance, the United Nations proclaimed **2015 as the International Year of Light and Light-based Technologies (IYL 2015)**. The initiative achieved remarkable global success, with more than 13,000 activities organized across 147 countries and attended by millions of people worldwide.

Building upon this success, the General Conference of UNESCO established the **International Day of Light (IDL)** as an annual observance beginning in 2018. Celebrated each year on **16 May**, the date commemorates the first successful operation of a laser by the American physicist and engineer **Theodore H. Maiman** on 16 May 1960. Over the past six decades, laser technology has revolutionized medicine, communications, manufacturing, scientific research, and information technology, becoming one of the most influential innovations of the modern era.

Since its inception in 2018, the International Day of Light has been celebrated annually with great enthusiasm across the globe. Typically, around 60–70 countries participate each year through hundreds of lectures, exhibitions, workshops, outreach activities, and public engagement programmes. For **IDL 2026**, UNESCO has selected the theme:

**“Light for a Sustainable Future.”**

## International Day of Light Celebrations 2022 – 2025 by Zaheer Science Foundation (ZSF), New Delhi

Since 2022, the **Zaheer Science Foundation (ZSF), New Delhi**, has been actively organising International Day of Light events through lectures, exhibitions, workshops, and public outreach programmes, either independently or in collaboration with other institutions.

The following International Day of Light (IDL) events were organized by the Zaheer Science Foundation during 2022–2025:

| Year | Event                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| 2022 | Online Workshop on <b>“Disruption of Education during Covid-19 Pandemic”</b> (30 August 2022).                                                                                                                                                                                                                                                                                                                                    |
| 2023 | <b>Launch of Monthly Newsletter on “Science &amp; Society in Media”</b> as part of the IDL 2023 celebrations (17 July 2023).                                                                                                                                                                                                                                                                                                      |
| 2024 | <ul style="list-style-type: none"><li>• <b>“Reflection on Light and Its Significance in Our Lives”</b> – Lecture delivered by Dr. Zahid H. Khan as part of UNESCO International Day of Light celebrations (16 May 2024).</li><li>• Exhibition and Panel Discussions on <b>“Illuminating Traditions: A Journey Through Light in Indian Culture and Heritage”</b> by Abu Sufiyan, Tales of City, New Delhi (16 May 2024).</li></ul> |
| 2025 | <ul style="list-style-type: none"><li>• Workshop on <b>“Familiarization with Quantum Science &amp; Technology”</b> - Part 1 (26 June 2025) – in collaboration with India International Centre, New Delhi.</li><li>• Workshop on <b>“Familiarization with Quantum Science &amp; Technology”</b> - Part 2 (26 August 2025) – in collaboration with Faculty of Natural Sciences, Jamia Millia Islamia, New Delhi.</li></ul>          |

The IDL 2025 workshops were organised with the valuable support from **Shanti Foundation International** and **Virtual Studio**. Both the workshops were well attended and received enthusiastic participation from students, teachers, researchers, and science enthusiasts. The keynote addresses at both the events were delivered by **John M. Dudley**, Professor at the University of Franche-Comté, France, and Chair of the International Day of Light Steering Committee through his recorded lectures, followed by interactive Q&A sessions.

## **Forthcoming IDL 2026 Workshop by Zaheer Science Foundation**

The theme of the **International Day of Light 2026** is **“Light for a Sustainable Future.”**

To mark this occasion, the **Zaheer Science Foundation, New Delhi**, will organize a special event entitled:

### **“Fascinating Light and Colour Phenomena in Nature”**

The event has already received approval from the UNESCO International Day of Light programme and is scheduled to be held on **4 August 2026**.

Through this programme, participants will explore a variety of captivating optical phenomena observed in nature, gaining a deeper appreciation of the science of light and its relevance to our understanding of the natural world. The event is expected to engage students, educators, researchers, and members of the general public, thereby furthering the objectives of the International Day of Light and promoting scientific awareness in society.

The programme will cover a range of natural optical phenomena including: changes in the colour of the Sun from dawn to dusk, the blue colour of the sky, the silver lining of clouds, rainbows, the blue colour of the sea, mirages, and the colours of flowers and vegetation. The scientific principles underlying these observations will be explained in an accessible manner. In alignment with the Light for Sustainability theme of IDL 2026, the appreciation and understanding of light in nature will be highlighted as an essential step towards deeper environmental awareness. The initiative is intended to engage audiences across age groups, from childhood to adulthood, with the aim of fostering curiosity and a lasting sense of wonder about the natural world.

### **Keynote Address by Professor John M. Dudley**

On our request, Professor John M. Dudley, Professor at the University of Franche-Comté, France, and International Day of Light 2026 Steering Committee Chair has very kindly agreed to deliver his recorded Keynote Address on the topic, **“The key enabling technology of photonics - a two-way street of basic research and innovation”**. It is to mention that Photonics is a key enabling technology that drives innovation across multiple areas of societal importance including communications, healthcare, agriculture, and energy. The potential of photonics in achieving the UN Sustainable Development Goals is recognized internationally through the annual UNESCO International Day of Light which is held on 16 May, a date commemorating the first demonstration of the laser in 1960. A significant factor in the selection of this date is because the story of the laser illustrates how both basic and applied research have successfully worked together to yield genuine disruptive

applications. This talk will present a general overview of the interplay between basic science and innovation, with examples of how curiosity-driven research has enabled truly transformative technologies, and equally how practical challenges have in turn stimulated fundamental scientific insights. We will also consider some different funding approaches used internationally that attempt to support the full spectrum of research from open-ended discovery to industrial application.

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