

Supplementary Material

Supplementary Table 1. Glossary

Terms	Definition
Bioimaging	Visualisation and analysis of biological structures and processes
Bioluminescence	Form of chemiluminescence. The production and emission of light by organisms
Circadian clock	Internal oscillator in organisms that cycles with a stable phase and is synchronised with solar time
Ecological photobiology	Study of ecological interactions between light and organisms
Fluorescence	A form of photoluminescence. Emission of light by a substance that has absorbed light or other electromagnetic radiation. It ceases immediately after the excitation source is removed
Light pollution	Presence of anthropogenic artificial light in otherwise dark conditions
Luminescence	Spontaneous emission of radiation from an electronically excited species. When this results from the absorption of photons: Photoluminescence
Optical imaging	Type of bioimaging that uses light and fluorescent markers
Optogenetics	Technique for controlling the activity of cells with light via light-sensitive proteins
Phosphorescence	Form of photoluminescence: Persistent emission of light after the excitation has ceased (see fluorescence)
Photobiology	The study of the biological effects of light
Photobiomodulation	Light therapy using non-ionising forms of light sources, including lasers, LEDs and broadband light, in the visible and near-infrared spectrum
Photochemistry	The study of chemical reactions caused by the absorption of light
Photodynamic therapy	Treatment of certain skin conditions using light and a photosensitiser
Photomedicine	Interdisciplinary branch of medicine concerned with the study and use of light with in relation to health and disease
Photomorphogenesis	Response of growth patterns to light
Photomovement	Light-induced motility of an organism or parts of it
Photoreception	Mechanism of light detection
Photosensitiser	Photosensitizers are molecules that absorb light and transfer the energy to another nearby molecule
Photoperiodism	Response of an organism to variations in light duration

Photophysics	The physics of light, in particular of the interaction of light with matter
Photosynthesis	Conversion of light into biochemical energy to drive cellular processes
Photosystem	Multi-protein-pigment complex in which light absorption, charge separation and electron transport take place
Quenching	Certain molecules (“quenchers“) can prevent the emission of light (fluorescence or phosphorescence) from other molecules in an excited state
Ultraviolet light therapy	Treatment of certain skin diseases with UV-B light
Vision	Ability to detect light patterns and interpret them into images