Around 1900 electro-magnetism was fairly well understood. However, physicists struggled to explain the energy spectrum of the electro-magnetic radiation emitted by a black body.

Max Planck could explain the measured spectrum under the assumption that energy can only be observed in small packages called an energy quantum

\[ E_n = nh\nu \quad (n=\text{quantum number}) \]

\( h \) is now called Planck’s constant and is a fundamental constant of nature

\[ h = 6.63 \times 10^{-34} \text{ Js} \]

Albert Einstein pushed the quantum idea one step further and concluded that light is also quantized, made up of little packages of electro-magnetic energy called photons. Each photon carries the energy

\[ E_\gamma = hf \]