

## Biophotovoltaics in 3D: Simplifying Concepts

**Authors :** Mary Booth

**Abstract :** Biophotovoltaics is a method of green energy generation derived from exposing plants to lights. Its vast potential is hampered by the public's relative ignorance of its existence. This work aims to formalize the principles of the physical processes of biophotovoltaics into a comprehensible visual software model, thus amplifying the human thought process. The methods used involve initially crafting a scale model of a working biophotovoltaic system from household materials inspired by the work of Paolo Bombelli. The scale model is then programmed into a system-level simulation, wherein a 3D animation dissects the system and its general energy generation process. The completed 3D system-level simulation ultimately creates a simplified visual understanding of the complex principles of the biophotovoltaic system.

**Keywords :** 3D, biophotovoltaics, render

**Conference Title :** ICDATVR 2022 : International Conference on Digital Art, Technology and Virtual Reality

**Conference Location :** San Francisco, United States

**Conference Dates :** November 03-04, 2022