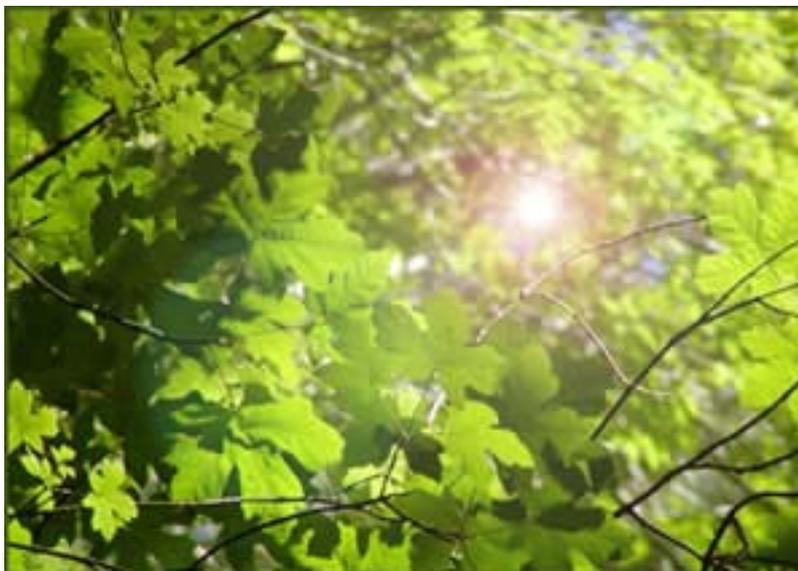


Artificial Photosynthesis and Quantum Entanglement .(1)

Notes by: Paolo Manzelli - pmanzelli.lre@gmail.com ; www.edscuola.it/lre.html ; www.wbabin.net

At the **Quantum Bionet workshop** (2) we will explore the quantum entanglement as a system that permits to understand some contemporary challenges as for instance the working function of the chlorophyll molecules in light-harvesting photosynthesis in green plants.

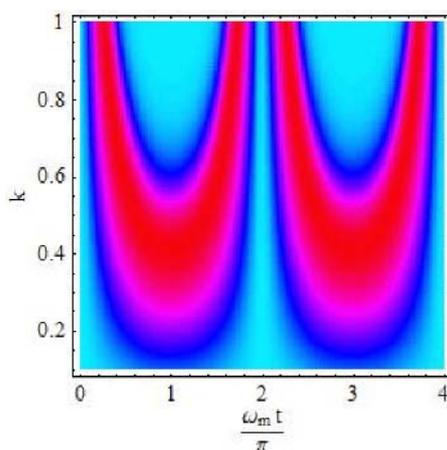


It is well known that through photosynthesis green plants and cyanobacteria (also called blue-green-algae) are able to capture energy from sunlight and convert it into bio-chemical energy.

To day the entanglement studies are advanced in exploiting quantum mechanical effects during the plants transfer energy from sunlight . In fact it is well established that green plants and certain bacteria are able to transfer the energy harvested from sunlight through pigment-protein complexes; the last are working as energy information antennas for improving simultaneity on exchange of information energy as it is made the chlorophyll complex that acts as reaction catalytic centre giving as result nearly 100-percent efficiency to energy conversion.

Entanglement (3) is a quantum interconnection based on the overposition of two or more objects like photons, electrons, or atoms that before are separated in physical space. So that entanglement quantum effect can be seen as the responsible to obtain also the photosynthetic phenomena in plants, particularly through the pigment molecules, or chromophores that works as “**Antenna Pigments**” .

One of the most recent scientific observation characterizes the **Entanglement** as a generalized critical quantum physical phenomenon till now hidden in the photosynthetic effect as some recent experimental contributions demonstrates with a confirmed reproducibility (4) .



Light and Mirror Entanglement : <http://physicsworld.com/cws/article/news/24285>

As a matter of facts when two quantum-sized particles, for example a pair of electrons, are “**entangled**,” any change to one will be instantly reflected in the other, in the field dimension of Information Energy .

Therefore the future of **Green Economy** can be based on a clean green solar power production organizing an artificial photosynthesis mimicing the process by which green plants convert sunlight into electrochemical energy.

So that at the **3° Quantimbionet Workshop** we will stimulate the undersyanding contemporary challenges as the the development of advanced study of photosynthetic energy transfer, that consists on the understanding of the working function of **ANTENNA PIGMENTS**, in order to get the ability to fully comprehend how the energy-transfer system in artificial photosynthesis can works for improving future **Green Economy** .

BIBLIO ON LINE

- (1)- P.Manzelli: <http://www.wbabin.net/science/manzelli8.pdf>
- (2)- Workshop : http://www.edscuola.it/archivio/lre/3rd_Quantumbionet_Workshop.pdf
- (3) – Visible entanglement : <http://www.edscuola.it/archivio/lre/sole.pdf>
- (4) <http://newscenter.lbl.gov/feature-stories/2010/05/10/untangling-quantum-entanglement/> ;
<http://www.hplusmagazine.com/editors-blog/every-tree-quantum-mechanic> ;
http://apps1.eere.energy.gov/news/news_detail.cfm/news_id=16025

PS. INVITATION to help to Undersyanding contemporary challenges.

Change the world will become possible only by changing the mechanicistic ideas that are the intellectual cause to do so high devastation of the natural world during the industrial epoch.

Developments on cognitive change and implementation of no mechanic ideas, as are necessary in order to promote the conceptual framework for renewal of **Green Economy**, will be discussed during the workshop that will be held in the ancient A. Volta classroom at the University of Pavia on 24 SETT/10.

You are invited to attend.See :

http://www.edscuola.it/archivio/lre/3rd_Quantumbionet_Workshop.pdf

see also the explanatory memorandum in: <http://www.wbabin.net/science/manzelli85.pdf>



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