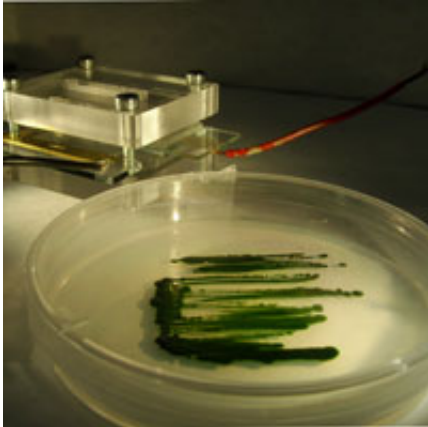


Green energy from algae

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(PhysOrg.com) -- Visitors to this year's UK Royal Society Summer Exhibition will have a chance to discover how scientists from the University of Cambridge are studying ways to harness algae as a renewable energy source.

Part of the Cambridge team - which includes plant scientists, biochemists, mathematicians, and chemical engineers - is developing a biophotovoltaic device to produce green electricity by tapping into the ability of algae to harness solar [energy](#).

This is the first time that whole cells of algae have been used to power an electrical device. Although the technology is at least 5-10 years away from market the team has already succeeded in hooking up thin films of

algae to power an electronic clock.

According to Paolo Bombelli, a member of the Cambridge team which invented the original concept: "Compared with silicon-based [photovoltaic cells](#), a solar cell that uses biological material to capture light energy would be cheaper to produce, self-repairing, self-replicating, biodegradable and much more sustainable - real [green energy](#)."

Algae, like other green plants, use photosynthesis to take electrons from water using energy from the sun. The challenge for the Cambridge team is to find the best way of harvesting some of those electrons.

The Cambridge exhibit - Meet the Algae - features other ways in which algae could be exploited, including for production of biodiesel and high-value products such as vitamins. Algae - often thought of as just pond slime - are a fantastically diverse group of photosynthetic organisms. They can be found everywhere - from glaciers, to hot springs and moist soil, to the open ocean. The exhibit will provide hands-on demonstrations illustrating the role of algae in natural ecosystems, their extraordinary beauty and diversity, and aspects of their movement and how they harvest sunlight.

"Algae offer considerable potential as a source of bioenergy. By studying fundamentals of their metabolism and [molecular biology](#) and by understanding the fantastic natural variation in the different types of [algae](#) we can harness this potential for energy production," says Professor Sir David Baulcombe, Head of Department of Plant Sciences.

More information: The Royal Society Summer Science Exhibition takes place at the Royal Festival Hall, Southbank Centre, London from Friday 25 June to Sunday 4 July 2010. Open Friday 25 June 6pm - 8.30pm, then daily 10am - 8.30pm.

Provided by University of Cambridge

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