

# PRESS RELEASE

## International conference in photosynthesis

**Abundant renewable energy sources are needed to match the energy requirements of the future. The world must find a way to replace fossil fuels. Fuel that we can produce directly from the energy of the sun, through natural or artificial photosynthesis. The goal is a fossil free energy system.**

**From June 25<sup>th</sup> to June 28<sup>th</sup> there will be a conference on natural and artificial photosynthesis in Uppsala, Sweden: The first European Congress for Photosynthesis Research – A Marcus Wallenberg symposium.**

Four billion years ago, when the first life was formed, there were many energy-rich molecules in water and air that were formed with the help from energy created by lightning. The first living organisms that developed on earth could feed on those energy-rich molecules, but with time they were depleted – life got a serious energy problem.

The solution to the problem came about 3 billion years ago: new bacteria learned how to use solar energy to continue living, they invented photosynthesis. Particularly successful were cyanobacteria – the predecessors of today's plants. Cyanobacteria developed the ability to decompose water using the solar energy. By extracting electrons and protons from water and using them to convert carbon dioxide into carbohydrates, cyanobacteria managed to cope with the energy crisis, and create the energy-rich molecules by themselves.

Cyanobacteria revolutionized the evolution of life on earth. They made the atmosphere rich in oxygen and made the development of plants and animals possible. When we now face a similar energy problem – how we can keep living and develop our world without fossil fuels – we turn to the natural photosynthesis and its secrets.

The richest renewable energy source we have is solar energy, each hour the earth is hit by as much energy as the entire earth's population use during one year. Natural photosynthesis has for billions of years mastered the art to store solar energy in fuel and other energy-rich substances. If we could invent a way to transform the solar energy into storable fuel, even more efficiently than photosynthesis, the battle would be largely won.

The Consortium for Artificial Photosynthesis, has its base at the Ångström Laboratory in Uppsala, has been researching natural and artificial photosynthesis since 1994. They combine biochemical studies of plants and cyanobacteria with synthetic chemistry, laser spectroscopy, and ultrafast femtochemistry. The consortium has achieved significant successes with its targeted research both nationally and internationally.

Now they arrange an international conference in natural and artificial photosynthesis at the end of June. The purpose with the conference is to gather top scientists within the field of research. The focus is on European research but the conference has invited speakers from all over the world. The subject is very broad: It stretches from studies of photosynthesis's smallest components to research on forests and field crops, as well as the latest on artificial photosynthesis and solar fuels.

The conference “First European Congress for Photosynthesis Research – A Marcus Wallenberg Symposium” will be held at The Swedish Agricultural University, Ultuna in Uppsala, Sweden between 25-28<sup>th</sup> of June 2018.

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Further information:

The conference webpage: <http://www.eps1.org/>