

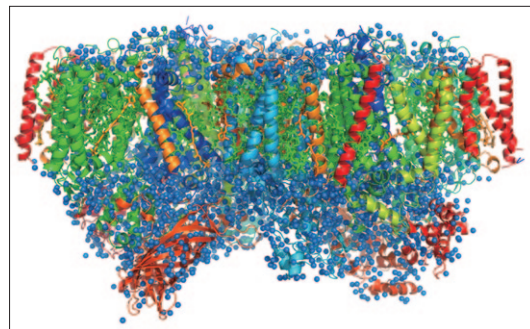
## ■ News

### **Professor Jian-Ren Shen's research clarifying the mechanism governing plant photosynthesis is chosen as one of the runners-up for 'Breakthrough of the Year' by AAAS Science for 2011.**

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Research on photosynthesis by Jian-Ren Shen of the Division of Bioscience and colleagues from Osaka City University published in *Nature* was selected by AAAS Science as one of the runners-up for 'Breakthroughs of the Year' for 2011.

In the paper entitled, "Crystal structure of oxygen-evolving photosystem II at a resolution of 1.9Å", the researchers clarified the reaction mechanism of 'water splitting' and formation of 'O-O bonds' when plants absorb sunlight, water and, carbon dioxide for their growth.



PSII whole structure

These findings may lead the realization of high efficiency artificial photosynthesis systems to resolve global energy and environmental problems.

"These results were the culmination of 21 years of my research," says Shen. "I am extremely happy for this recognition and hope that it will shed light on the importance of this research to a wider audience. I am grateful to my collaborators and students, without whom this research would not have been possible."

#### Reference:

1. Breakthrough of the year 2011: "Plant Life's Boxy Heart", 334, 1630, *Science*, 2011.
2. Yasufumi Umena, Keisuke Kawakami, Jian-Ren Shen, and Nobuo Kamiya, Crystal structure of oxygen-evolving photosystem II at a resolution of 1.9Å, *Nature* 473, 55, 2011.