
Contributions of structural biology to our understanding of photosynthesis

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Photosynthesis is the basis of life on Earth as we know it. The primary event in photosynthesis is the conversion of the energy of a photon into electrochemical energy. Our understanding of this event was greatly promoted by the determination of the three-dimensional structures of photosynthetic reaction centers, which are protein-pigment complexes that catalyze this conversion.

In my lecture I will describe the determination of the 3D structure of the reaction center from the purple bacterium *Rhodospseudomonas viridis* (now called *Blastochloris viridis*), which was the first high resolution structure of an integral membrane protein. I will then cover functional aspects of reaction centers. Finally, I will give an overview of subsequent reaction center structures, and of current views of the evolution of these macromolecular complexes.