

Poster

Structural dynamics of a B12-dependent photoreceptor**Giorgio Schirò***CNRS/IBS, Grenoble, France**giorgio.schiro@ibs.ff*

Photoreceptor proteins regulate adaptation of living organisms to light. A class recently discovered uses a vitamin B12 derivative to sense green light and regulate the biosynthesis of carotenoids, which protect against photo-oxidative damage. CarH is a prototype of this class. We provide a molecular description of CarH gene regulation mechanism in real time by using time resolved X-ray techniques at both synchrotrons and free electron lasers. The results uncover the structural basis of light-dependent regulation of one of nature's most complex metallo-cofactors.