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Photolyases & Cryptochromes: A Superfamily for Light-driven DNA-repair & Signaling

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Sala Riunioni del DST

Via F. de Sanctis, Benevento

ABSTRACT

Members of the ancient and ubiquitously occurring photolyase-cryptochrome superfamily act in efficient light-driven repair of UV-lesions within DNA, blue-light dependent signaling, e. g. for controlling flowering or gene expression, and the enigmatic magnetoreception of migratory animals. All of these photoreceptors share a common architecture and depend on a unique, U-shaped FAD chromophore for catalysis and light absorption. In this talk I will present the biochemical, biophysical and structural base how photolyases & cryptochromes can perform all these different functions.