Biomimetic Photodetectors or Bioinspired Buildingblocks in Photonic Applications

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Biomimetic systems are currently studied across a broad range of sciences, motivated by the desire to improve the performance of man-made devices through nature-inspired design. The common basis is to study the design of biological systems, which have been optimized over centuries of evolution to perform specific tasks, and to transfer the ideas generated to artificial systems. In this talk, I aim to demonstrate the elegance of this biomimetic approach, through a detailed discussion of a number of examples. In particular, I will focus on the use of biomaterials, such as photoactive proteins, to effect light-to-energy conversion for optical communication applications.