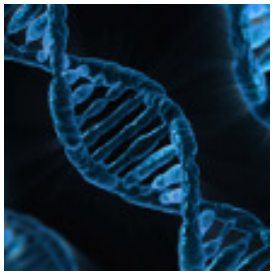

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KEYNOTE 13 - Improving the accessibility of time-resolved structural biology: new photochemical tools and data collection strategies

Wednesday, 6 June 2018 11:10 (40)

Proteins have evolved into complex nanomachines able to couple dynamics over many orders of magnitude in time to precisely and exquisitely control chemical reactions and processes such as signal transfer and the generation of mechanical force. To understand how they are able to achieve this requires not only the determination of their structure, but also study of their dynamics. Time-resolved structural biology is one route towards such understanding, providing both high-resolution global structural information and insight into dynamics. However, its application to a broad range of proteins has been hampered by challenges in both reaction initiation and access to high-brilliance sources with the needed photon flux for fast time-resolved experiments. I will present our progress towards tackling both these challenges by the development of new photocaging tools and the use of multiplexing data collection strategies that enable fast time-resolved experiments on weak photon sources with slow detectors.

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