Mercredi 19 Novembre 2025 à 16h00 // Wednesday 19th November @ 16h00

Ecole Polytechnique @ IPParis

Amphi Monge

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Sense and switch across the scales - photoswitchable proteins for super-resolution and whole animal imaging - focus on Bacteriophytochromes.

Photoswitching proteins of the green fluorescent protein (GFP)-like family have found applications in super-resolution fluorescence imaging and beyond. In recent years, native photoswitching Bacteriophytochromes (BPhPs) have gained attention as labels in photo- / optoacoustic imaging. The development of BphPs likely follows a similar trajectory as their GFP-like counterparts, involving engineering their capabilities for imaging or constructing genetically encoded sensors. In all cases, a tight interplay of directed-evolution strategies and structural and mechanistic understanding is crucial. I will present our recent advancements in BphP engineering and understanding, as well as their applications in imaging.