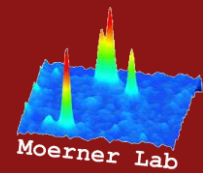
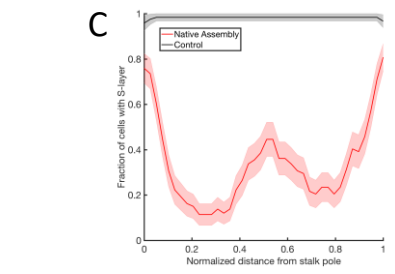
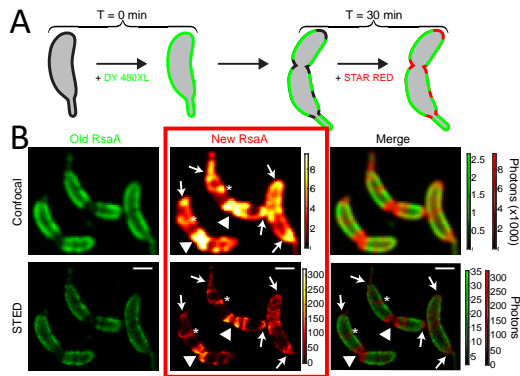




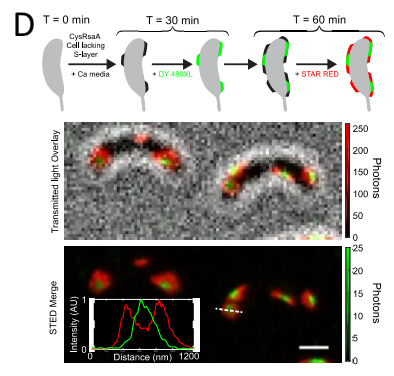
# Topologically-guided continuous protein crystallization controls bacterial S-layer self-assembly



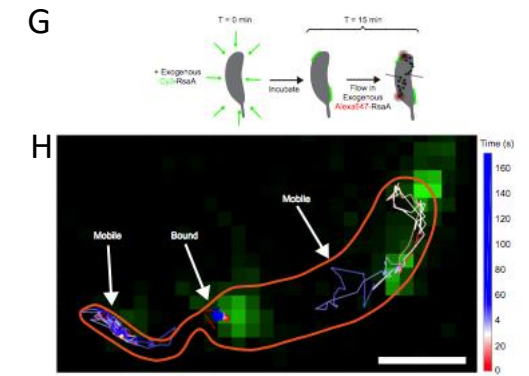
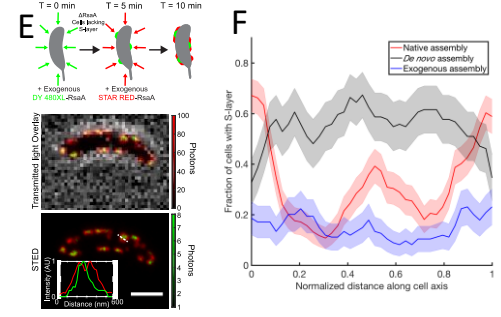
The surface layer is the outermost crystalline protein surface of many bacteria and most archaea.



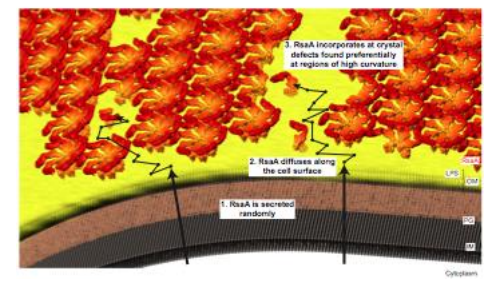
Super-resolution microscopy shows the S-layer assembles at cell poles (arrow), division plane (triangle), and crack-like features (asterisk).



In the absence of an existing S-layer, crystals nucleate randomly along the cell body.



Single particle tracking shows monomers are mobile on the cell surface and bind to the edges of growing crystal patches.



## The S-layer self-assembles at crystal defects formed preferentially at regions of high curvature.