

Abstract Submitted
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(How) do biofilms control their morphology? AGNESE SEMINARA, NAVEEN SINHA, JAMES WILKING, DAVID WEITZ, MICHAEL BRENNER, Harvard SEAS — Bacterial biofilms are organized communities of cells living in association with surfaces. The hallmark of biofilm formation is a well defined spatio-temporal pattern of gene expression, leading to differentiation and a complex morphology. While this process resembles the development of a multicellular organism, biofilms are only transiently multicellular. More importantly the functions associated to the biofilm phenotype are largely unknown. Here we discuss aspects of biofilm physiology connected to motility and nutrient uptake. We develop a connection between patterns of gene expression and morphology and finally we propose a framework to understand how these gene expression patterns may be generated and possibly controlled.

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