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Synthetic networks in microbial communities

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While bacteria are single celled organisms, they predominantly reside in structured communities known as biofilms. Cells in biofilms are encapsulated and protected by the extracellular matrix (ECM), which also confines cells in space. During biofilm development, microbial cells are organized in space and over time. Little is known regarding the processes that drive the spatio-temporal organization of microbial communities. Here I will present our latest efforts that utilize synthetic biology approaches to uncover the organizational principles that drive biofilm development. I will also discuss the possible implications of our recent findings in terms of the cost and benefit to biofilm cells.