## Spatial interactions in bacterial colonies

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THE structure of the environment spatially confines bacteria inside groups where they live and evolve with their siblings. This population structure not only selects for individual abilities but also for group properties that eventually enhance the fitness of the colony. In media low in nutrients, we might think that maximizing the contact with the environment would maximize the fitness of individual cells. However, in media low in iron, we have shown that cell-cell contacts promote the use of secreted siderophores required to get iron from the environment. To further understand what set the degree of cellular contacts in micro-colonies attached to solid substrate, we recently developed experimental tools to measure the adhesion and the forces at play during the morphogenesis of bacterial micro-colonies.