

Abstract Submitted  
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**Separating motile and immotile bacteria through confined chemotaxis** ENKELEIDA LUSHI, New Jersey Inst of Tech, FRANCESCA ZUMPANO, The College of New Jersey, SHANG-HUAN CHIU, New Jersey Inst of Tech — The majority of bacteria move in complex porous materials, such as tissues or soil, yet their motion and chemotaxis in confinement is not yet completely understood. We will present a model that couples individual tun-and-tumble bacterial motion to the chemical gradient while the entire colony is inside a simple circular confinement. We will discuss the states observed for various parameters, and also the phase separation in an initially random mixture of motile and immotile bacteria.

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