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**Rheotaxy induced localisation of E-coli in Poiseuille flow**<sup>1</sup> HAROLD AURADOU, MATIAS LOPEZ, Lab FAST, Univ Paris-Sud, CNRS, CARINE DOUARCHE, Laboratoire de Physique des Solides, Univ. Paris-Sud, CNRS, ERIC CLMENT, PMMH (ESPCI /CNRS /Univ. P.M. Curie /Univ. Paris-Diderot), POROUS MEDIA TEAM, SOBIO TEAM, GRANULAR MEDIA GROUP TEAM — The transport of bacteria in Poiseuille flow is crucial in many situations in particular those involving flow in porous media. By counting the number of bacteria as function of the distance from the center of a capillary tube, we show that the bacteria are not equally spread over the section. Using different strains of E-coli bacteria and bacteria with different swimming velocity, we bright evidence that bacteria depletes (at low shear rate) or accumulates (at high shear rate) in the vicinity of the wall. We finally show that this phenomena comes from rheotaxy.

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