Directed cell migration is usually thought to depend on the presence of long-range gradients of either chemoattractants or physical properties such as stiffness or adhesion. However, in vivo, chemical or mechanical gradients have not systematically been observed. In the group (Caballero et al., 2014; Comelles et al., 2014), we have shown in vitro that local cues can bias motility, a phenomenon coined ratchetaxis (Caballero et al., 2015). The internship will consist in preparing micro-contact printed surfaces, plate cells, acquire cell motion over time using microscopy, analyse trajectories and compare the measurements with a model. The stay will involve Microfabrication, Cell Biology and Physics.

References: