

Instabilities in growing cultures of *Dictyostelium discoideum*

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Although, we now have good knowledge about the molecular inventory, the mechanisms involved in patterning biological systems are still not fully understood. In particular, the role of mechanics for pattern formation remains to be explored. Here, we consider the growth of *Dictyostelium discoideum* cultures. When placed on a solid medium, a drop of culture develops wavy structures at the boundaries when growing in size. We present here a setup to quantify the formation of this pattern. In our setup growth conditions for *D. discoideum* are optimised by controlling temperature and by preparing a homogenous carpet of bacteria the culture grows on. In this context, we present possible ways of reducing irregularities in bacterial growth. We observe the growing culture in bright field as well as in dark field. We present different examples of growing cultures to identify the optimal conditions for our setup to obtain reproducible results.