

Dynamical elasto-capillary self-assembly

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Centre national de la recherche scientifique (CNRS)

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Abstract:

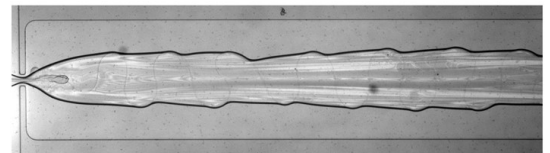
Elasto-capillarity is a powerful strategy of self-assembly, not only for your hair morphology after a shower but also to design critical industrial components at the microscale. While static elasto-capillary structures have been experimentally and theoretically well studied, the path towards equilibrium is less well understood and represent, in practice, a major stumbling block for complex self-assembly process. Yet a better understanding of the self-assembling dynamics of such structures could help modelling more complex industry-oriented systems such as the rheology of reinforced materials or biology-oriented like the self-assembly of the mitotic spindle. In this talk, I will rationalize a simple case of dynamical self-assembly and will show that it leads to a rich variety of controlled morphologies.



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Biography:

Matthieu Labousse is a theoretical physicist who serves as a CNRS researcher and a joint Professor at ESPCI and PSL University. His research, conducted at the Gulliver laboratory, combines numerical, theoretical, and experimental approaches to study the physics of self-organization in complex systems. His work spans diverse topics, including programmable active matter, microfluidics, DNA cryptography, waves, and memory.



主催:

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