



## Optimization of self-assembly process for solitonic defect in CLCs coatings

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### Introduction

Cholesteric Liquid Crystals (LC) are well known and currently under investigation for their versatility in large scale of applications. One of the most common texture is the fingerprint one. Moreover, this isn't the only powerful metastable state of it. Solitonic defects as Toron for example can be generated in specific conditions which enhance the possible applications

### Project summary

The project will be based on tuning the spin coating process by playing with different liquid crystal or/and using surfactant.

The control of the self-assembly process before polymerization could help to get coating populated by those defect which we will define the surface topography and actuation.

The applications are broad. Going from biomimetics (Gecko's feet) to optoelectronic devices (Photonic Crystal).

### Project goals

- Control the self-assembly process by tuning :
  - The coating thickness over the pitch size
  - The air/coating interface (Liquid crystal nature & surfactant)
- Study of the dynamic of the coating after polymerization upon light or temperature

### Contact information

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