

# F-5 SEMINAR



## CONDENSED MATTER PHYSICS



***Monday, May 16, 2022  
at 1:00 PM***

*via Zoom*

<https://fmf-uni-lj-si.zoom.us/j/93486495990>

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### ***Liquid crystal colloids: from nano-particles to microlasers***

The development of modern technology has a clear tendency for the further miniaturization of optical and electronic devices. This leads to significant increase of the scientific interest in the smart material such as liquid crystals. The LCs with their visco-elastic properties and molecules order enable formation of complex self-assembled structures from micro and nano-particles, the Bragg cavity by adding on the dye molecules, and liquid crystals domains.

In the first part of the presented work we will describe in details the self-organisation of nanocolloids and nanocolloids interaction with defect lines in nematic liquid crystal pentylcyanobiphenyl (5CB). In the second part we will demonstrate the electric field tuning of Whispering Gallery Mode resonances in droplets of a ferroelectric liquid crystal.

And in the third part of the work we will demonstrate the details of a setup developed for the study of an ultra-fast thermal response 10 000 K/s in nematic liquid crystal.

***You are cordially invited to attend.***