

**CONSIGLIO NAZIONALE DELLE RICERCHE
ISTITUTO DI SCIENZE MARINE**



CICLO DI SEMINARI

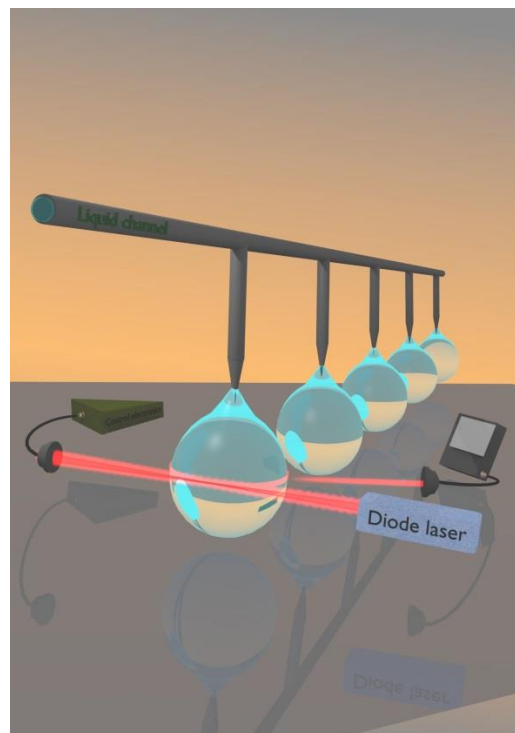
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A LIGHT CAROUSEL IN A LIQUID DROPLET

Gianluca Gagliardi

CNR, Istituto Nazionale di Ottica (INO), Napoli



Whispering gallery mode (WGM) microcavities are the optical counterpart of acoustic resonators that we usually find in musical instruments or in monuments. Peculiar light-induced effects have been observed over the last century in atmospheric studies, pointing out the existence of similar structure in nature. Here, we show that nature itself provides an excellent way to investigate new physical phenomena through WGM systems realized in liquid media, i.e. in droplets. The resulting properties can be harnessed to study light matter interaction and nonlinear optofluidics or to perform molecular detection and rheology in a liquid environment. This opens a new route to investigate a new class of phenomena relevant to different fields or to develop novel sensing approaches, which will be discussed in view of future applications.