ICFO

NANOFABRICATION SEMINAR: Not so nano anymore: Bridging Cleanroom Tools and Biological Systems

ALBA CALATAYUD

July 22, 2026
12:00 to 13:00
Seminar Room

In the cleanroom, we are usually focused on achieving smaller features, higher resolution, and increasingly precise control at the nanoscale. But in life sciences, length scales are often in the micron range, where the challenges are different: not just resolution, but large geometries, structural robustness of the molds, and high-aspect-ratio fidelity.
In this talk, I will show how standard cleanroom tools such as photolithography and RIE can be used to produce silicon molds from which PDMS microfluidic and micromechanical devices are cast, focusing on the practical limitations that arise when moving from design to real devices. Although PDMS is mainly used for biological research, which is my main focus, it is an almost transparent elastomer that can replicate features down to the nanoscale, opening the door to useful tools for our day-to-day experiments such as directing fluids, holding optical components, or stamping electrodes. Your imagination is the limit!

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