

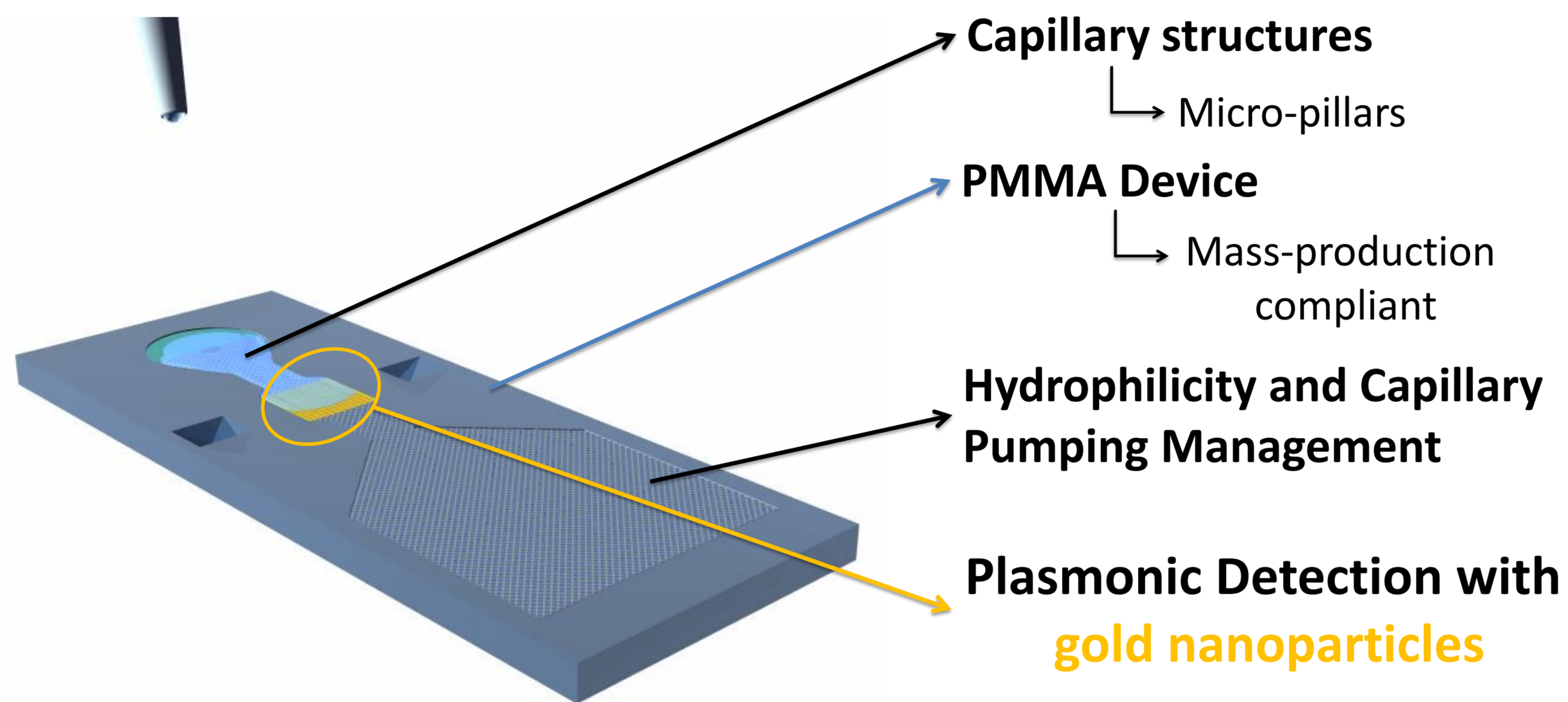
Planar optic chip manufacturing and read-out



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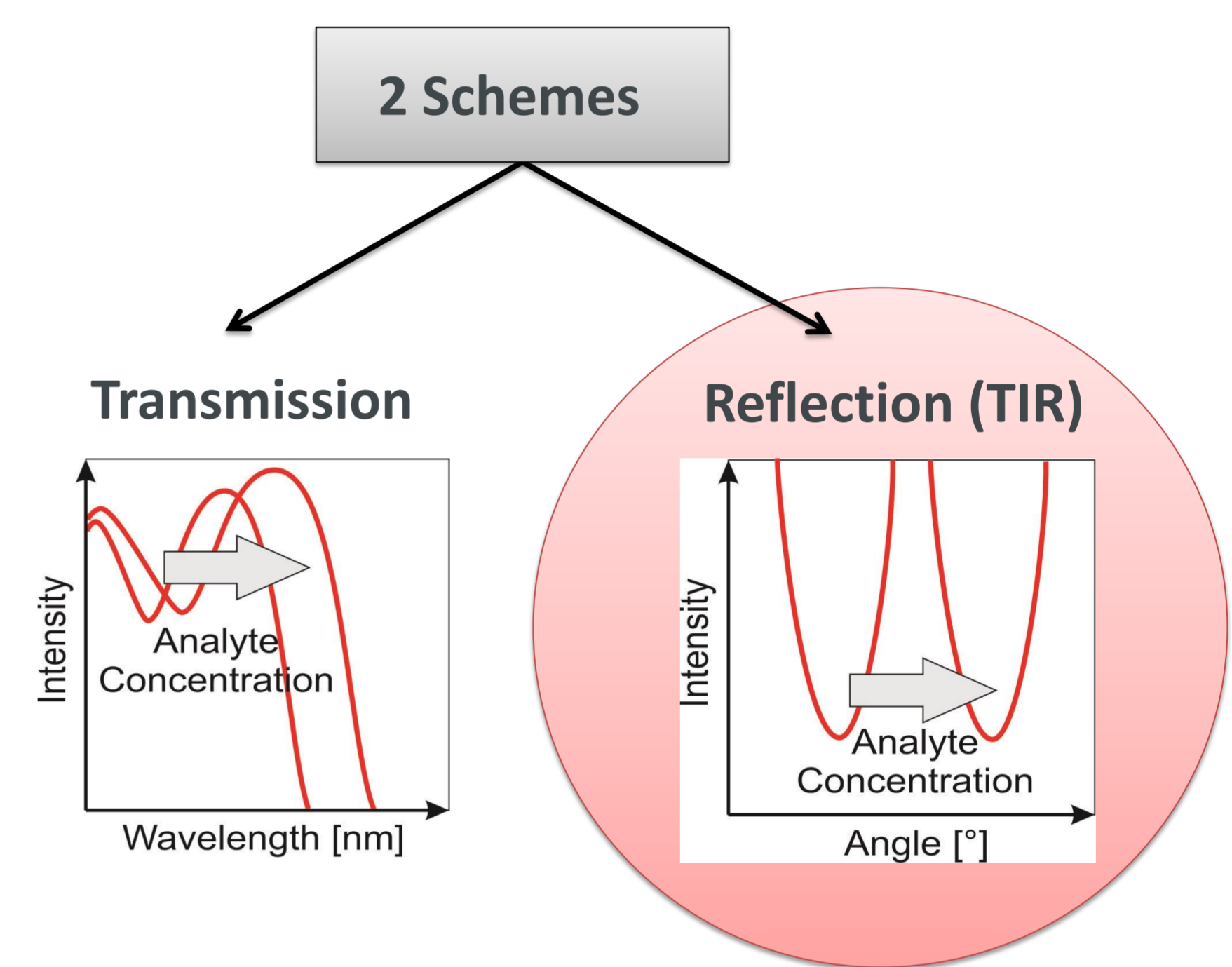


MicroBioMed Chip Manufacturing:

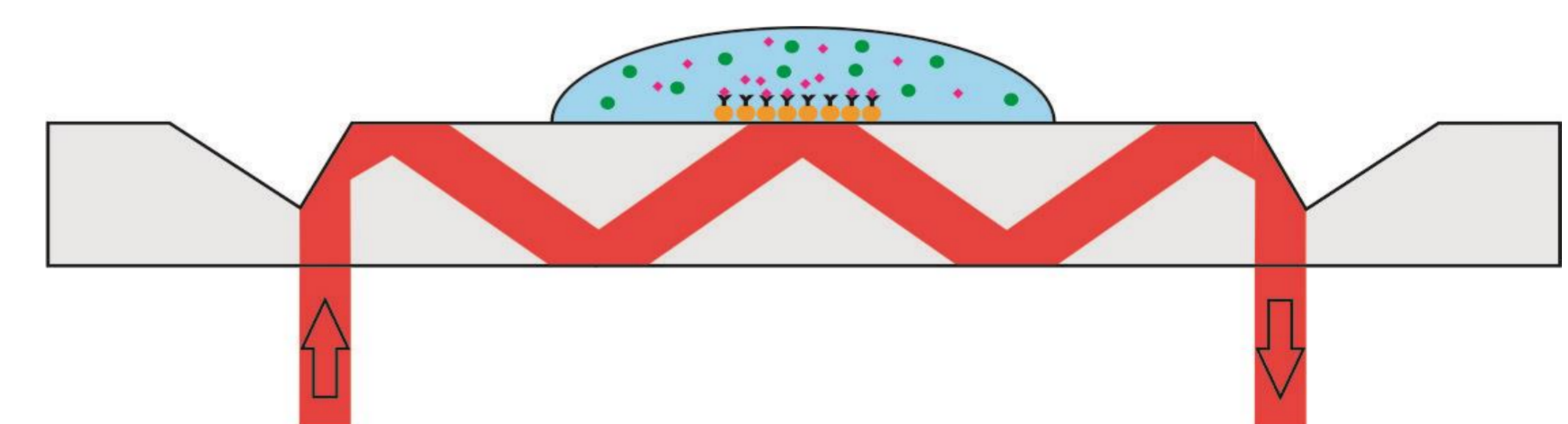
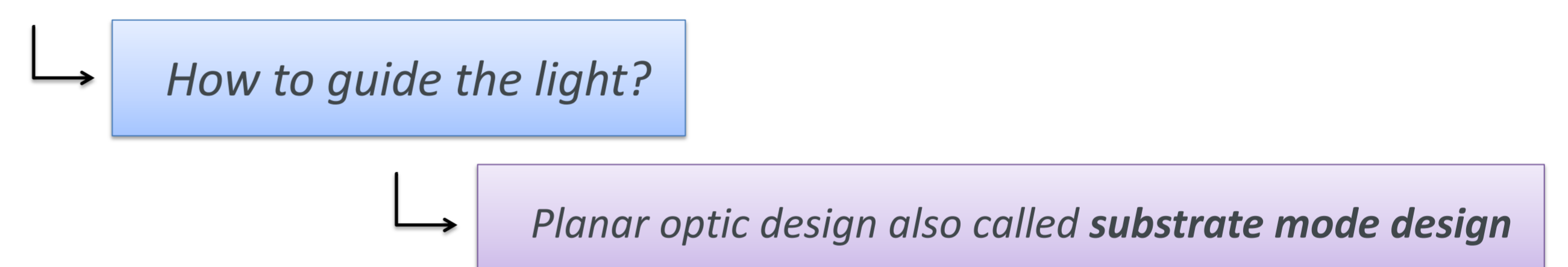


MicroBioMed Optical read-out:

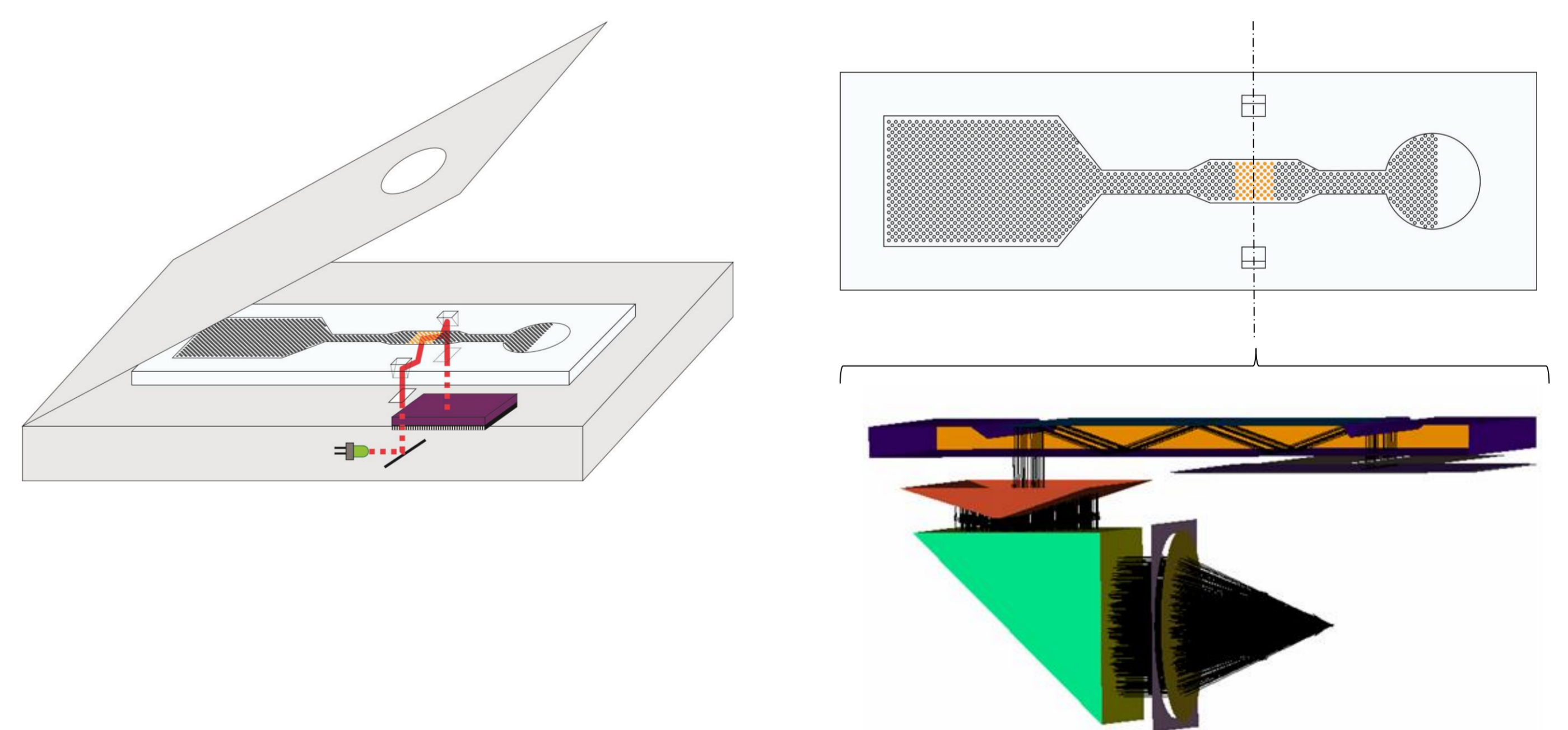
How to read information from gold nanoparticles?



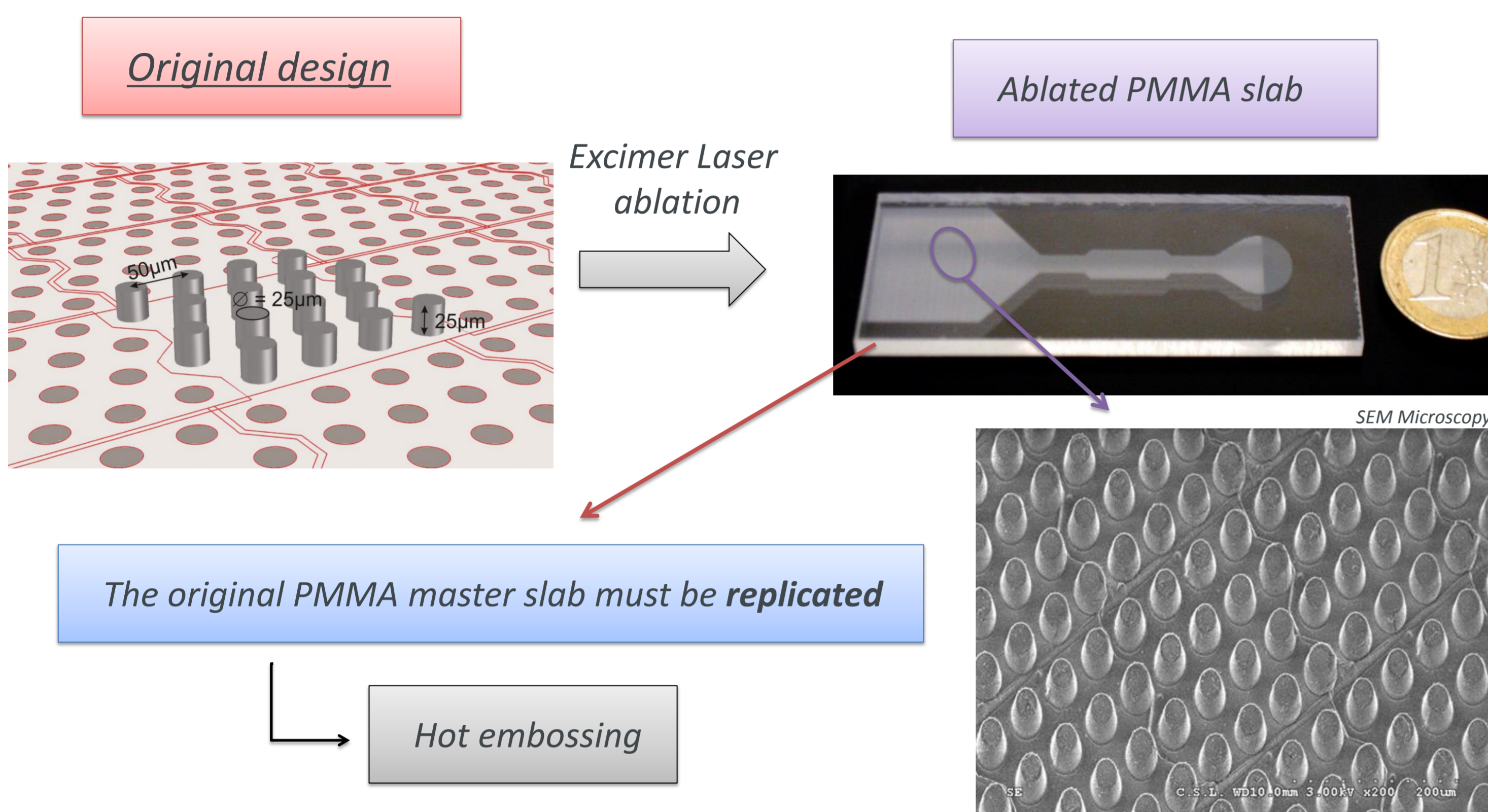
Reflection read-out:



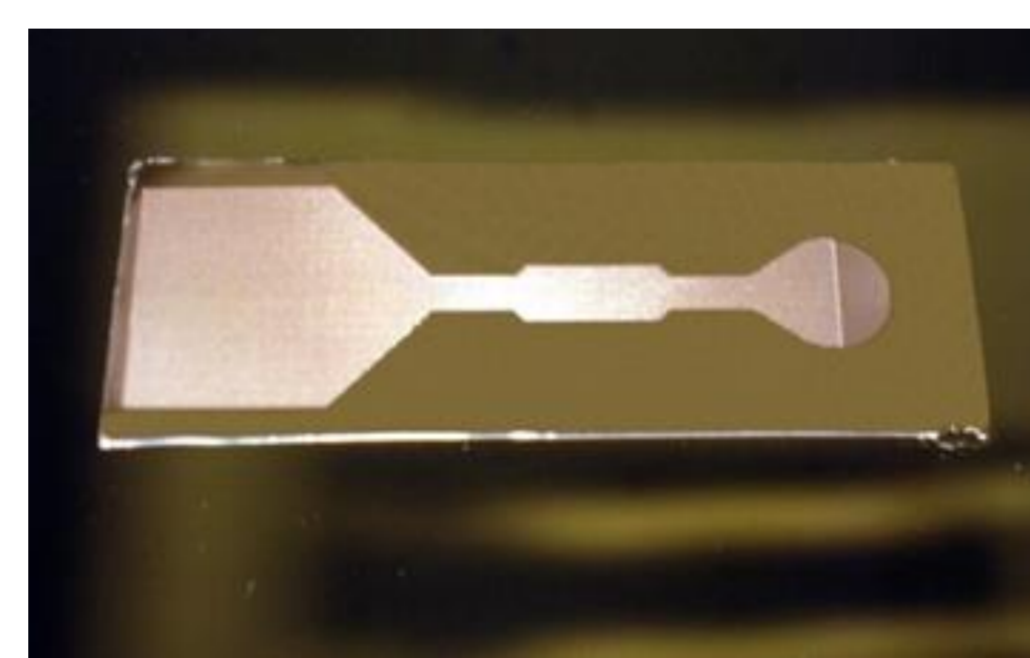
Principle: Used the substrate as a waveguide in order to transport the probing light to the sensitive area and ultimately to the detector.



- Advantages:**
- Optical coupling and out-coupling elements can be embossed (micro-prisms)
 - Monolithic read-out device
 - Read-out device smaller than in the transmission scheme
 - The light do not pass through the solution to analyze



(1) From the original texture, one grows a metallic replica using electroplating



(2) PMMA hot embossing can be performed using the metallic insert obtained from step (1)



(3) Fine metrology reveals a high reproducibility of the features size between the original master and the hot embossing replica (optical profilometry measurement)

