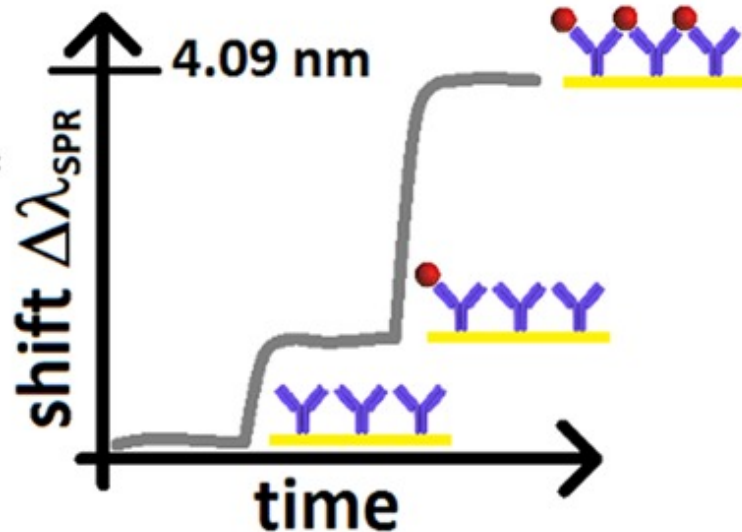
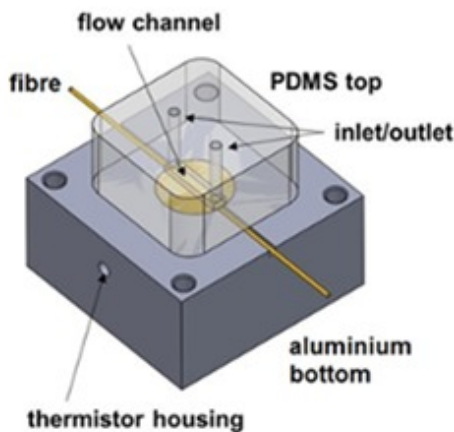


Optics and Photonics Group  
Lunchtime Seminar

“Resonance-based fibre-optic sensing: from fundamentals to real applications”

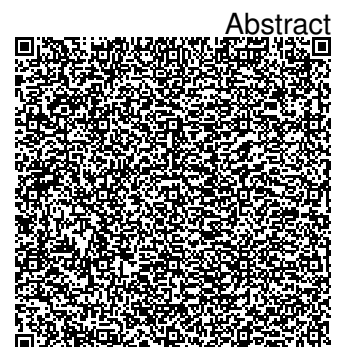
Francesco Chiavaioli

*CNR-IFAC, Florence, Italy*



1:00pm Wednesday 27th February 2019  
203 Tower building  
All Welcome

[http://optics.nottingham.ac.uk/wiki/Talks\\_2019](http://optics.nottingham.ac.uk/wiki/Talks_2019)



# “Resonance-based fibre-optic sensing: from fundamentals to real applications”

Francesco Chiavaioli

1:00pm Wednesday 27th February 2019

203 Tower building

All Welcome

Given the continuously increasing interest in fibre-optic sensing (FOS), the aim of this lecture is to provide a metrological assessment of resonance-based FOS towards an objective evaluation of the performance, as well to detail some examples of real applications from literature. In the first part, the attention will be focused on the most common parameters used to describe the performance related to bulk/volume sensing (optical refractometer) and to surface sensing or biosensing (biosensor), and also on some other parameters of generic interest. Hence, the idea is providing the basis for an easier and direct performance comparison among the greatest number of fibre-optic sensors that have been reported in literature to date. In the second part, some examples of resonance-based FOS from the literature will be presented in order to draw attention on novel approaches, devices and technology platforms towards future “food for thoughts”. In particular, the combination of FOS-based technology with the deposition of thin film overlays, nanocoatings, and nanostructures will be deeply discussed.