

# **Growth of functional materials inside Photonic Crystal Fibers: towards the lab-in-a-fiber protocol.**

**Ioannis Konidakis**

*IESL-FORTH, Heraklion, Crete, Greece.*

[\*ikonid@iesl.forth.gr\*](mailto:ikonid@iesl.forth.gr)

In this talk results on the growth of glassy and crystalline materials inside photonic crystal fibers (PCFs) are reviewed, seeking specific actuating and light confining properties. Initially, results refer to the infiltration of silver metaphosphate glasses inside silica PCFs, and the subsequent thermal poling of those for inducing plasmon resonance transmission characteristics. On a different manner, the wet chemistry growth and characterization of crystalline zinc oxide (ZnO) layers inside PCFs is shown, while latest work on to the exploitation of those PCFs for developing sensing and actuating optofluidic devices is presented.