AVVISO DI SEMINARIO
Lunedì 28 Gennaio 2019 alle ore 11.30
presso l’Area della Ricerca di Pisa, Aula 27, Edificio A, Piano terra

Il Dr. José Gonzalez-Rivera
Dipartimento di Farmacia - Unipi
terrà un seminario sul tema:

Synthesis and characterization of whispering gallery modes microresonators synthesized by in-situ lasing dye encapsulation during microwave-assisted styrene polymerization

Novel single-step microwaves-assisted methodology for the fabrication of spherical optical whispering-gallery-mode microresonators (WGM-µRs) will be presented. The microresonators were designed and built-up with a polymeric shell of styrene (PS) and an in-situ encapsulated lasing organic dye (nile red) as gain media. The particle size and distribution of the synthesized WGM-µRs were tuned and controlled in the range of around 200 nm up to 50 µm. The morphological characterization was carried out by SEM, TEM and fluorescent microscopy analysis. The obtained microspheres showed to support lasing single-particle WGMs spectra. The smallest polymer based WGM-µRs single-particle ever reported to support WGMs in water is here presented. Unprecedented sensitivity enhancements of around 6060 times bigger for active WGM-µR with Ø=5 µm compared to the biggest microspheres Ø (30 µm) was demonstrated, opening new horizons for applications as sensor and biosensors.