



## SysNUM Cluster of Excellence Project PheroSENSE

In this project, we are developing an optical sensor for monitoring the diffusion of pheromones. We aim to monitor and control the concentration of the artificial pheromone dispensed in vineyards upon the nontoxic mating disruption protection against the major grapevine pest, *Lobesia botrana*.

Our sensing system consists of the two main components:

- a disposable sensitive element made of specifically functionalized SiO<sub>2</sub> layer and
- an optoelectronic device which reads the induced fluorescence in the exposed sensitive element and calculates the pheromone concentration.

Our low-cost systems are selective, sensitive and stable, presenting a significant technological breakthrough regarding the existing odorant sensors.