



investiamo nel vostro futuro



POLIFARMA - Micro-and nano-polymer systems to release pharmacological active molecules

IMAST members involved:

- **DOMPE' S.p.A.**
- **CNR - Institute for Composite and Biomedical Materials (IMCB) and Institute of Protein Biochemistry (IBP)**
- **University of Naples Federico II - Interdepartmental Research Center on Biomaterials (CRIB)**
- **University of Salerno - Department of Pharmaceutical and Biomedical Science**

One of the most demanding technological challenges in the field of pharmaceutical industry is to find a way to release drugs at a constant rate and for an extended period of time so as to increase the therapeutic efficacy of the treatment and decrease undesirable effects. This kind of approach has a positive effect in the treatment of **eye diseases** (topical use) and the therapy of **early morning pathologies** (systemic use). The traditional treatment of these chronic pathologies, in fact, provides for the daily administration of drugs. However, the main limit of these conventional treatments is that the drug may have an action of short duration. To overcome this problem, within this project, the industrial research activity will be focused on the study of design, set up, characterization, formulation and **production of nano- and micro-particles systems for the delivery and controlled release of bioactive molecules**:

- able to release the drug according to specific patterns (es. order zero or delayed release or immediate release);
- formulations physically and chemically stable over time and ensure consistency of the therapeutic effects over time
- easy to use by the patient and have a low level of invasiveness;
- able to be produced at a reasonable cost and with high throughput process.

