EXCELLENCE

SUSTAINABLE

SUSTAINABLE

VIRTUAL

VIRTUAL

ORGANIC ELECTRONICS

ATERIAS

ORESEARCH

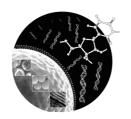
TRAINING

TRANSFER



Advanced MAterials by DEsign





Université Bordeaux Segalen – INSERM U 869 : ARNA

## Team: ChemBioMed

### PERMANENT STAFF

➤ Six extra permanent researchers/engineers are not (yet) involved in AMADEusrelevant projects



Philippe
Barthélémy
Prof.
Team leader



Bestel
Ass. Prof.



Arnaud Gissot Ass. Prof.



Laurent Latxague Ass. Prof.



Azema
Ass. Prof.



Frederic Vigier

## MOBILIZED COMPETENCES

- Molecular and supramolecular chemistry for Biomedical applications
- + Nano sciences
- + Drug delivery
- + Bioinspired systems
- + Nucleic acid chemistry
- Synthesis and applications of hybrid bioinspired molecules: Nucleoside Lipids (NLs), Gycosylated Nucleoside Lipids (GNLs), Amino Acid nucleoside lipids (AANLs), Lipid Oligonucleotide conjugates (LONs) etc.
- Supramolecular engineering, bottom up approach for the preparation of nano organized systems (nanoparticles, nanocapsules, nanotubes, nanogels etc)
- Biofunctionalization, and hybrid lipids wrapping of nanomaterials
- Formulation in water or physiological media
- Conception, design and development of specific drug delivery systems (DDS)

#### **MAIN FACILITIES**

- Conventional facilities for molecular, supramolecular and physico chemistry (organic synthetic lab, NMR, UV-Vis, tensiometer, nano-sizer, zeta potential, ultrasound...
- Specific synthesis facilities: Automated oligonucleotides synthesis, microwaveassisted synthesis, etc.

# CURRENT AND FUTURE PROJECTS WITHIN AMADEus FRAMEWORK

- Development of advanced systems for drug delivery applications
- NanoGels for Stem cells culture
- Transfection hybrid lipids for the delivery of oligonucleotidess sequences, siRNA, DNA etc).
- Self-vectorized oligonucleotide targeting biological relevant RNA sequences
- Physico chemistry of hybrid synthetic molecules (Nucleolipids, Lipid oligonucleotide conjugates etc)
- · Design of encoded supramolecular systems















