**PROOF OF CONCEPT – Project Mico pLung (Luis Serrano)**

**Summary**

The use of *Mycoplasma pneumoniae* or its closest relative *M. genitalium* engineered for the controlled delivery of therapeutic peptides or proteins *in situ*, i.e. where they currently reside, could open new possibilities for the treatment of lung and genital tract diseases.

Taking advantage of the parasite nature of *M. pneumoniae* to lung tissue, we plan to use genetically engineered forms of this bacterium for the local, and eventually conditional delivery of therapeutic proteins in the context of distinct and many times highly invalidating respiratory disorders, as a proof-of-concept of a new technology platform.

Results of the work done at the CRG on the two projects above shall be validated *in vitro* and *in vivo* and, if successful, constitute the basis of a licensing agreement, or eventually a spin-off company created to bring the engineered bacteria or modifications thereof into the clinic. Interestingly, additional applications could be proposed at some point to diseases of the genital tract using engineered *M. genitalium* as a living vector.