



Project Proposal

(Instructions: this proposal will appear on the PhD webpage <https://cqb.dieti.unina.it/> and will be forwarded to specialized sites. Please give a synthetic background and two to four research objectives. Include some information about the expected background of the candidate and relevant references. Please fill the part regarding the funding source/grants of the research activity needed for equipment, reagents, travels, conferences, traineeships etc.)

Project Title

Project Description (max 500 words)

The project will focus on the engineering of immune cells that can dynamically remodel the tumor microenvironment with the release of immunomodulatory model. In specific we will integrate genetically encoded sensor-actuator devices that will drive the expression of cytokines in response to the immunosuppressive environment within solid tumors.

Supervisor(s), Lab/Group details, other additional info.

The Synthetic and Systems Biology for Biomedicine Research line is coordinated by Velia Siciliano, who has extensive experience in mammalian synthetic biology, with an interest to answer fundamental biology-related questions and develop biomedical applications. We have a core of molecular and cellular biology, with flow cytometer and cell sorter. We further have a microscopy facility equipped with confocal, SEM and TEM, and a microfabrication facility.

Funding (how the reagents, equipments, conference and travels will be supported)

The position will hold on to a dedicated internal budget offered by the PI.

References

doi: 10.3389/fbioe.2019.00043

doi: 10.3390/vaccines8040732

doi: 10.1038/s41467-020-18392-x

doi: 10.1038/s41467-018-06825-7.