

Appropriate selection of the **implant biomaterial** is a key factor for long term success of implants. The biologic environment does not accept completely any material. Implantation of medical devices within the body initiates a series of reactions, collectively called the foreign body response, which aims to eliminate or isolate the implanted foreign material from the host immune system. This response limits the longevity and functionality of many biomedical implants. The success depends both, of the nature of the material and the individual response of each patient to it. The EU-funded project **PANBioRA** aims to develop a prototype involving and organ-on-a-chip provided of different sensing modules for risk assessment of biomaterials used in implants. The prototype will allow a personalized approach to select the most suitable biomaterial for a specific patient. Moreover, it will be employed on fundamental investigations addressed to assess new biomaterials under healthy or disease state conditions. The **PANBioRA** consortium consists of 17 partners from 11 European countries, active in academia and science, industry, technology transfer as well as clinical trials. Within them, two groups of CSIC, the *Nanobiotechnology for Diagnostics (Nb4D)* group from the Institute for Advanced Chemistry of Catalonia (IQAC), directed by Prof. M.-Pilar Marco and the *Chemical Transducers Group* from the Institute of Microelectronics of Barcelona (IMB-CNM), coordinated by Dr. César Fernandez will contribute by developing a multiplexed antibody-based optical lab-on-a-chip biosensor for monitoring the profile of expression of pro- and anti-inflammatory cytokines in response to different biomaterials.

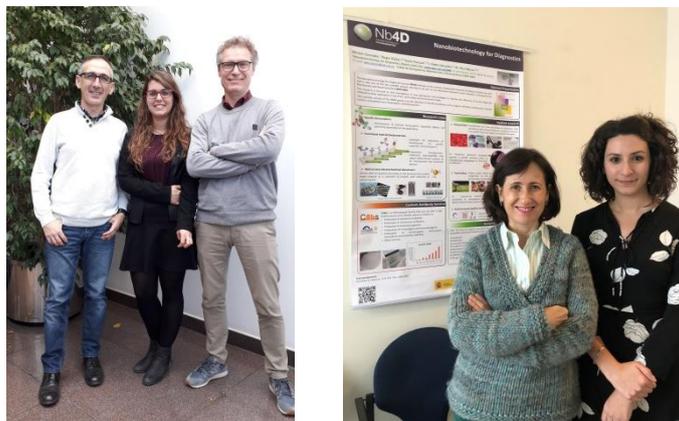


Figure 1. Researchers from the Chemical Transducers Group (GTQ)(left) and Nanobiotechnology for Diagnostics (Nb4D) (right) collaborate in the development of one of the work packages of the PANBioRA project.

From 3rd to 4th December 2018 the PANBioRA M12 partner meeting took place at Epoka University in Tirana, Albania, in order to discuss the current progress of the PANBioRA project.

More information:

https://www.panbiora.eu/fileadmin/user_upload/pdf/Panbiora_PressRelease_M12.pdf