

**POST DOC positions available @ CNR Institute of Nanotechnology Lecce**  
**Project TITAN: Nanotechnology for cancer immunotherapy**

*Titan project will target Immunotherapy with genetically engineered T cells. Immunotherapy has achieved some spectacular success in clinical trials, but it is currently very expensive. This is partly due to the fact that it's a highly personalized therapy and can't be achieved by mass production. A key need is the widespread availability of small-scale bioreactors providing in-process monitoring. TITAN aims to the continuous sampling of critical quality attributes, in order to quickly recognize deviations from the desired range and take appropriated corrective actions of process parameters, for an optimal outcome.*

*To achieve its aims, TITAN will develop **sophisticated microfluidic and sensing tools for the accurate and efficient manufacturing of hybrid polymeric devices for medical applications.***

*A major innovative aspect will be the integration of both sample preparation and of the different analytical modules into a fully automated platform that can be conveniently accessed by end users.*

*A second TITAN aim is the **development of efficient strategies for non-viral transduction of synthetic receptors into primary T cells.** Current available methods rely on retro- or lentiviral vectors, which are efficient, but relatively costly and laborious to prepare for mass production purposes. TITAN will develop cheaper and efficient synthetic nanovectors in combination with minigenes that do not require chromosomal integration, hence abolish the risks of insertional mutagenesis.*

*To fulfil these activities TITAN will recruit post-doc researchers (proposed salary: up to 39 k€/year on the basis of the profile) with the following professional skills:*

- Analytical chemist or similar with experience in electrochemical methods for sensor characterization and measurements and expertise in chemical functionalization of microdevices;
- Biologist or similar with expertise in cell culture methods with skills in immunology/immunotherapy in cancer research;
- Electronic engineer or similar with experience in sensor micro- /nanofabrication and clean room processes;
- Materials scientist/mechanical engineer or similar for polymeric microfluidic microfabrication and rapid prototyping (skills in CAD/CAM design, 3D printing, micromilling);
- Electronic engineer or similar with electronic circuit design knowledge (analysing, designing, testing)
- Materials Chemist or similar with experience in biopolymers synthesis/characterization and develop of non-viral nanovectors for gene delivery;
- Biologist or similar with experience in transfection methods and immunotherapy;
- Molecular biologist or similar for manipulation of constructs for protein expression and SELEX technology.

**Working place**

CNR NANOTEC - Institute of Nanotechnology – Lecce, via per Monteroni c/o Campus Ecotekne

**For information**

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