

Postdoctoral Position to produce hydrogel-based scaffolds to treat skin infections

A postdoctoral position is available at the Group of Molecular and Industrial Engineering at Universitat Politècnica de Catalunya, Barcelonatech led by Professor Tzanko Tzanov. Our group has successfully developed versatile, cost-effective and environmentally friendly nano-formulation technologies based on ultrasound, self-assembling, layer-by-layer, protein crosslinking and combinations thereof within the European projects SONO FP7-228730, SskinCaps H2020-685909 – and PROTECT H2020-720851.

Job description

The postdoctoral researcher will develop novel functional nanoparticles containing natural antimicrobial peptides and lipids using versatile, environmentally friendly and cost-effective nano-formulation technologies (e.g. ultrasound, high pressure homogenisation, layer-by-layer). He/she will also engineer efficient nanoentities as highly selective biocides against *Staphylococcus aureus*.

The researcher will play an active role in the current nano(bio)technology research of the group, will design innovative research concepts and draft proposals for external funding. The candidate will also interact efficiently with consortium partners involved in the international research project TARDIS. The goal of the project is to develop innovative antimicrobial hydrogel scaffolds of targeted bio-based nanoactives with high bactericidal efficacy towards *Staphylococcus aureus*, the most common skin pathogen.

Requirements:

- PhD in Biotechnology, Materials Science, Microbiology, Chemistry or related field
- Expertise in nanotechnology
- Excellent oral and written communication skills in English.

Experience:

- Nanoparticles preparation using different methods
- Nanoparticles characterization using different techniques (e.g. DLS, NTA, TEM, SEM).
- Management of microbial cultures and antimicrobial/antibiofilm assays (e.g. MIC, MBC, MBEC)
- Eukaryotic cell culturing and biocompatibility tests

Other skills

- Team working ability in an international group environment
- Handling of multiple research and project management tasks
- Proficiency with word processing, spreadsheets and PowerPoint

Application

Please send a cover letter including your motivations for the job position and CV to: tzanko.tzanov@upc.edu