



Pre-announcement, pending the official announcement

RESEARCH PROJECT: POM-deter: Stimuli-responsive organic-inorganic hybrids to tackle the emerging threat of antimicrobial resistance

RESEARCHER PROFILE: Post-doc

DEADLINE (reception of applications): 10/12/2023.

LOCATION: Zaragoza (Spain)

CONTRACT: 1 year (possibility of extension to 2 years)

JOB STATUS: full-time

HOURS PER WEEK: 37.5

PROGRAMME: INMA collaborative project



Project description

POM-deter is a collaborative project between the groups BioNanoSurf and QMAD of INMA that aims at developing antimicrobial hybrid materials displaying several mechanisms of action, and assessing the role of reactive oxygen species (ROS) in such activity. The generated materials will eventually be used as coatings and in additive manufacturing processes.

Main tasks:

- Polypeptide synthesis by ring-opening polymerization (ROP) of amino acid *N*-carboxyanhydrides.
- Preparation and characterization of hybrid materials from polyoxometalates (POM) and polypeptides.
- Assessment of the antimicrobial properties of these materials against model non pathogenic bacteria and fungi.
- Characterization of the antimicrobial activity based on reactive oxygen species (ROS) detection with spin traps and electron paramagnetic resonance spectroscopy (EPR).
- Dissemination of the scientific outcome: elaborate reports, write scientific articles, conference presentations, etc

Qualifications/Skills

PhD in Physics, Chemistry or Biotechnology.

Desirable: experience in chemical synthesis and/or expertise on EPR and spin trapping techniques.

Good communication skills in English

Further information:

Send your application before 10 Dec 2023. Contacts: Rafael Martín Rapún (rmartin@unizar.es), Scott G. Mitchell (scott@unizar.es) and Inés García Rubio (inesqr@unizar.es).

Official announcement, pending (you will have further information about how to officially apply).