

PARTNER SEARCH FORM

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| Area | FP7- ERANET on materials science and engineering New Surfaces and Coatings |
| Call | M-ERA.NET Call 2014 |
| Deadline | 16.09.2014 |
| SEARCH DETAILS | |
| Organisation's name | FUNDACION IMDEA NANOCIENCIA |
| Short description | The Fundación IMDEA Nanociencia (IMDEA Nanociencia) is a multidisciplinary research institution focused on frontier science and technology at the nanoscale. Despite its brief history, IMDEA Nanoscience has established itself as a competitive center in the area of nanoscience at international level. Currently IMDEA researchers coordinate several FP7 projects (Large Scale, Small and medium scale, Marie Curie Training Networks, ERC Starting Grants) and participate in various other international funded projects. |
| Project proposal objectives | <p>The objective of this proposal is to develop new improved surfaces based on micro and nano technologies to reduce unspecific adhesion in general and particularly bacteria adhesion. The proposal will be submitted to the thematic priority no. 2. New Surfaces and Coatings.</p> <p>Bacterial infection is a widespread problem impacting severely the health and the economy of our society. A wide range of antibacterial surfaces have been developed by applying coatings of biocides or antibiotics. However, these strategies are often short lived as eventually biocides are depleted or coatings are worn out. An additional shortcoming is the development of bacteria resistance by biocides. To lessen this problem, there is an urgent call by the health organizations to control and decrease the use of resistance causing drugs and to prevent infections overall.</p> <p>Therefore, there is a pressing need to develop long-lasting approaches to limit bacteria colonization without causing resistance.</p> <p>To this end, this proposal aims to develop antimicrobial surfaces using primarily physical means to impart on polymer surfaces functionalities with an inhibitory effect on bacteria adhesion and/ or biofilm growth. Using nano patterning tools and surface functionalization, specific topographical features will be created on polymers films to generate exclusion barriers to adherent bacteria based on superhydrophobicity and nanomechanics.</p> |

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| Expertise offered | Nano patterning, nanostructuring, polymer formulation and modification, surface functionalization and biorecognition, bacteria biology and adhesion. |
| Target partner's expertise sought | <p>Research partners with the following expertise are sought:</p> <ol style="list-style-type: none"> 1. Materials nanomechanical properties characterization, such viscoelastic and tribological properties. 2. Microbiology expertise to provide reference microorganisms and to validate the effectiveness of the technology <p>Industry partners sought are in areas:</p> <ol style="list-style-type: none"> 1. Contract microbiology laboratories that provide antimicrobial efficacy testing services to determine the efficiency of the developed surfaces by the standard approved methods by regulatory agencies. 2. Manufacturers of devices, tools etc in need to implement anti-microbial solutions to decrease the incidence of bacterial infection in medical, food packaging personal, and other consumer products. |
| Other partners in the consortium already identified | Instituto de Ciencia y Tecnología de Polímeros, ICTP-CSIC, Spain |

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