

# Design and development of novel nanoparticles and nanostructured coatings for a wide range of industrial applications

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## Abstract

Dr. Yolanda de Miguel from TECNALIA Research & Innovation will present our recent research work on the design and development of novel nanoparticles and nanostructured coatings for a wide range of industrial applications.

In particular, after a brief introduction to Sol-Gel technology and hybrid organic-inorganic chemistry, the lecture will focus on: (1) The synthesis and functionalisation of silicon and titanium oxide nanoparticles with a variety of organic functionalities (e.g. hydroxyl, carboxylic acid, amine, phenyl, vinyl, nitrile groups) and their corresponding characterisation; (2) their applications for the development of novel high performance materials; and finally as an example, (3) the development of novel nanostructured coatings with photocatalytic properties.

## Figures

