

SHORT BIO:

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I am a Full-Professor at the Physical-Chemistry department at University of Cadiz (Spain) and I currently held the position of Director of Research Institute of Electron Microscopy and Materials (IMEYMAT), a research centre with 100 researches and a last generation equipment. I also lead the research group “Nanomaterials” for 25 years, focused on developing smart materials by their repellent, self-cleaning, depolluting and/or auto-sterilizing properties. These advanced materials have application in different fields including building, Cultural Heritage or textiles. During this period, I have leaded 15 funded research projects (1 H2020 European project, 11 National projects and 3 regional projects). It is remarkable, my role as coordinator of “InnovaConcrete”, a multidisciplinary project, funded by H2020 programme, focused on development of innovative materials and techniques for concrete-based Cultural Heritage conservation. An interdisciplinary team composed of 29 partners, with a strong scientific background in simulation techniques and nanomaterials synthesis, combined with a wide knowledge of Cultural Heritage conservation, from 11 different countries take part in InnovaConcrete.

Moreover, I have closely worked with several commercial enterprises, being responsible of 18 relevant contracts with significant companies such as SIKA, COSENTINO, COMPAC and TINO NATURAL STONE. I am also author of 14 patents, 6 of them under exploitation. The goal of these transference activities has been to bring our innovative and cost competitive technological solutions to the market. Nowadays, two advanced materials developed in our group is been scaling up at industrial level by SIKA multinational in order to be commercialized worldwide. In addition, I have collaborated with different restauration and conservation companies, providing new materials for applying in restoration of significant monuments. I also collaborate with different public institutions such as Alhambra foundation, developing consulting services. Moreover, I have received 3 prizes for my transference activities.

As results of my research activities, I am author of more than 100 scientific papers, I have supervised 11 doctoral theses (+3 on going). I have been invited as a lecturer in different Universities and as a speaker for most 30 international conferences.