



16th International Conference on Surfaces,
Coatings and Nanostructured Materials
www.nanosmat.org/special.html

SHORT BIO:

Dr. Maria Rosaria PLUTINO (ISMN-CNR, Palermo c/o UniMe)

Dr. Maria Rosaria Plutino has received her Ph.D. in Chemical Sciences at the Univ. of Messina (IT) in 1997. In 1996 she won a 24-month post-doctoral grant (Human Capital and Mobility), funded by the European Community that she spent at the Dep. Oorganisk1 of the Lund Chemical Center (Sweden). In 1999 she had a temporary research contract at the Institute of Chemistry and Technology of Natural Products (ICTPN-CNR), Messina. Since 2001 she has a permanent researcher position at the Institute for the Study of Nanostructured Materials of the CNR (ISMN) in Palermo (c/o Dip ChiBioFarAm, Univ. of Messina), and since 2021 she is senior researcher at CNR-ISMN, URT Messina.

Dr Plutino is also co-founder, ex-President and Scientific manager of "ATHENA Green Solutions" S.r.l., an Innovative Start-Up, and Joint and not attended Spin-off by the National Research Council (CNR) and by the Univ. of Messina. The basis of the Innovative Start-up is the Arginare entrepreneurial/patent idea (<http://www.arginare.eu/>), which has participated in various local, regional and national business competitions, achieving excellent placements and receiving awards and prizes. The company operates in the field of Environmental Technologies, offering in addition to the materials/prototypes of ArgiNaRe, other products, methodologies, consultancy and services in multidisciplinary sectors and in the perspective of innovation, sustainability and recycling (see <http://www.athenagreensolutions.com/>). In particular, mission and objectives of the company "ATHENA Green Solutions" are to research and produce systems and/or prototypes for the resolution of problems deriving from high environmental impact activities with particular reference to seagoing vessels and to marine/coastal, industrial and urban pollution.

Her main research interest is the rational design, development and structural study of new innovative and advanced, multi-component and multifunctional, nano-hybrid systems (nanohybrids and nanocomposites), obtained thanks to the use of sol-gel and (blended) polymerization techniques carried out in the presence of organic/inorganic hybrid silanes or polymeric precursors, and organic and inorganic functional nanofillers, which show implemented physical and surface chemical and physical properties, and which can present potential applications in different sectors such as building, blue-growth, textiles, environmental, cultural heritage, biomedical, sensoristic, catalytic. Recently, Dr. Plutino has

set-up green and eco-friendly synthesis protocols starting from natural substances or waste, which lead to the obtainment of functional recyclable and re-usable materials, paying attention to the life cycle of the obtained products from cradle to grave, in agreement with the circular economy principles.

The research activity of Dr. Plutino is documented by more than 80 papers published in journals with international circulation and two patents in the evaluation phase. She is also guest-editor and reviewer of different international scientific journals. Part of the results obtained are the outcome of numerous national and international multidisciplinary scientific collaborations, and are included in several research financed projects ("Blue Growth" and "Cultural Heritage" theme lines in the PO FESR 2014- 2020 and PON 2017-2020, where she is the scientific CNR coordinator); they have also been presented at national and international congresses in the form of oral communications and posters.