

Luciana Lisi is Head of Research at Istituto di Scienza e Tecnologia per l'Energia e la Mobilità Sostenibili – STEMS-CNR in Naples – Italy.

Her scientific activity is mostly focused on catalytic processes for energy production and emission control. She has expertise on the development, characterization and testing of targeted catalytic formulations at specific applications. She has a well-established experience in the in-situ and ex-situ techniques for studies of surface catalytic reactions and on the development and synthesis of both powder and structured catalysts on different substrates such as honeycomb monoliths, foams, spheres, etc.. She studied a wide variety of solids for catalytic applications ranging from bulk and supported noble and transition metal oxides, zeolites, mixed oxides as perovskites. She has a deep knowledge of characterization analyses such as FTIR, DRIFT, XRD, thermal techniques (TG, TPR, TPO, TPD), porosimetric analysis of micro-porous and meso-porous materials, Mass-spectroscopy.

Research Areas and Major Topics

Catalytic Processes for Environment and Energy:

Catalytic post-combustion abatement of emissions from both stationary and mobile sources (DPF, SCR, DOC, TWC)

Catalytic partial and total oxidation of hydrocarbons;

Advanced materials for CO₂ capture and conversion

Advanced material for natural and bio- gas purification

Structured catalytic reactor

Catalysts poisoning and regeneration