

## Novel Synthesis of Metal Oxide Nanoparticles from Type IV Deep Eutectic Solvents

**Authors :** Lorenzo Gontrani, Marilena Carbone, Domenica Tommasa Donia, Elvira Maria Bauer, Pietro Tagliatesta

**Abstract :** One of the fields where DES shows remarkable added values is the synthesis Of inorganic materials, in particular nanoparticles. In this field, the higher- ent and highly-tunable nano-homogeneities of DES structure give origin to a marked templating effect, a precious role that has led to the recent bloom of a vast number of studies exploiting these new synthesis media to prepare Nanomaterials and composite structures of various kinds. In this contribution, the most recent developments in the field will be reviewed, and some ex-citing examples of novel metal oxide nanoparticles syntheses using non-toxic type-IV Deep Eutectic Solvents will be described. The prepared materials possess nanometric dimensions and show flower-like shapes. The use of the pre- pared nanoparticles as fluorescent materials for the detection of various contaminants is under development.

**Keywords :** metal deep eutectic solvents, nanoparticles, inorganic synthesis, type IV DES, lamellar

**Conference Title :** ICGNNN 2022 : International Conference on Green Nanotechnology, Nanoelectronics, Nanomaterials and Nanomanufacturing

**Conference Location :** Barcelona, Spain

**Conference Dates :** May 26-27, 2022