**CNM WK3: CO2 capture and conversion into value added products**

**Organizers**: Elena Shevchenko and Elena Rozhkova

CO2 capturing from dilute sources using advanced sorbents and its further conversion into carbon-based chemicals and fuels is recognized as a necessary step in addressing the continuous increase of CO2 release into the atmosphere. Nanomaterials show a great promise in design of structures capable of efficient capturing and conversion of CO2 into value added products. Functionalized nanoporous structures can selectively concentrate CO2 from dilute sources while nanoparticles serve as active catalysts in thermal reduction processes, as well as electro- and photocatalysts for transforming CO2 into CO, carbohydrates and hydrocarbons. The materials science and electrochemistry communities are focusing their efforts on thermal, electrocatalytic, and photocatalytic conversion of CO2 paying special attention to various aspects of catalytically active materials, such as their chemical composition, structure, surface termination, faceting, etc.

The workshop will focus on discussing of design principles of nanoarchitectures capable of CO2 capturing from dilute sources and its efficient and selective conversion into value-added products via electrochemical, thermal and photochemical routes.