

## Topic: Tubular Nanostructures for Gas Sensor Application

Three-dimensional structure preparation by the Anodic Aluminum Oxide (AAO) template method for gas sensor application is the main theme of the present work. Due to the 3D nanostructured architecture, the total active surface is large and provides many active sites to adsorb target molecules during the sensing reaction. There are many factors which can affect the reaction, such as surface additives, natural/electronic properties of base materials, temperature and humidity, as well as the surface area and the microstructure of the sensing layers.

In the present work, the sensing property of the developed sensor structure concerning the highly toxic Carbon monoxide (CO) gas is investigated. CO is a colorless, tasteless and odorless toxic gas and hence there is a need for developing fast and sensitive sensor devices that can be produced in a cost-effective way for industrial applications. For this reason, combinations of AAO-structuring and atomic layer deposition are currently utilized.

