

## **The interaction between nanosilver and selected minerals surface (especially soil clay minerals) at different environmental conditions**

The interaction between nanosilver and clay mineral surface is a very important issue. In recent years, nanosilver is systematically introduced into environment as a by-product of various technological processes (industrial wastewater). What is more, it is present in municipal waste as a ingredient of detergents and washing agents. Nanosilver may be also washed out from clothes covered with antibacterial coatings. The presence of this element in the environment is quite 'embarrassing' due to its small size and tendency to react untypically. The study on the interaction between nanosilver and soil minerals allows better understanding of the Ag(I) behaviour in the environment and its impact on mineral soil components. It is also worth mentioning that the nanosilver adsorption on the soil mineral surface and its impact on the soil structure and physicochemical properties are rarely described in the literature. Physicochemical experiments will be carried out using methods performed in chemical and soil science laboratories in Department of Physical Chemistry of Porous Materials.

Scientific supervisor: prof. dr hab. Z. Sokołowska, assistant supervisor: dr K. Szewczuk-Karpisz

Profile of the candidate:

- master's degree in Chemistry, Physics, Biology, Biotechnology, Agricultural Sciences or related
- having graduated university with at least good final result
- providing recommendation letter issued by the research supervisor
- very good command in English, including specialist terminology
- knowledge on chemistry and physicochemistry of solid and liquid phase as well as on sorption processes in above phases
- knowledge on statistical elaboration of research data