

Synthetic polymers are a key component of many materials, especially plastics. They are widely used in the production of all kinds of goods, in the industry, medicine, construction, etc. Due to the lack of toxicity, their surface in favorable conditions may be covered by microorganisms (mainly bacteria) and this phenomenon is called biofouling. Biofouling is a technical problem, leading to deterioration, loss of properties or even degradation of the objects made of synthetic polymers. In addition, the presence of bacteria – particularly pathogens – is a serious epidemiological issue, especially when aseptic conditions are required (food processing, medicine, etc.). The aim of this project is to investigate the possibility of tackling the problem of biofouling by applying special coatings on the surface of polymers to enrich them with antimicrobial properties. This approach is intended for reduction or even elimination of the adverse biofouling phenomenon. This will help to overcome major problems in many branches of industry and improve the quality of life of society.