

## **Abstract**

The term of the bacteriophage therapy denotes the use of viruses for killing bacteria. My thesis refers about the use of the bacteriophage therapy in the process of treating nosocomial infections caused by the urinary tract catheterization. I focus on the bacteria that are found in the catheters' biofilms and on the selection of bacteriophages that will be capable of the enzymatically degradation of the biofilms as well as the lysis of the present bacteria. After the body fluids contact the surface of the catheter, an environment for the evolution of the biofilm begins to evolve, which leads to its fast expansion and to the development of an infection. In the case of improper hygienically measures and unreasonable duration of the catheterization, the incidence of the infections reaches 100%. Because of the presence of the biofilm, the bacteria demonstrate high resistance to antibiotics, which is why the infections often aren't suppressed and may have fatal consequences. If applied, the bacteriophage cocktail and genetically modified bacteriophages can successfully treat the infection and even prevent from its development.

**Keywords:** Bacteriophage therapy, urinary tract infection, catheterization, biofilm, EPS