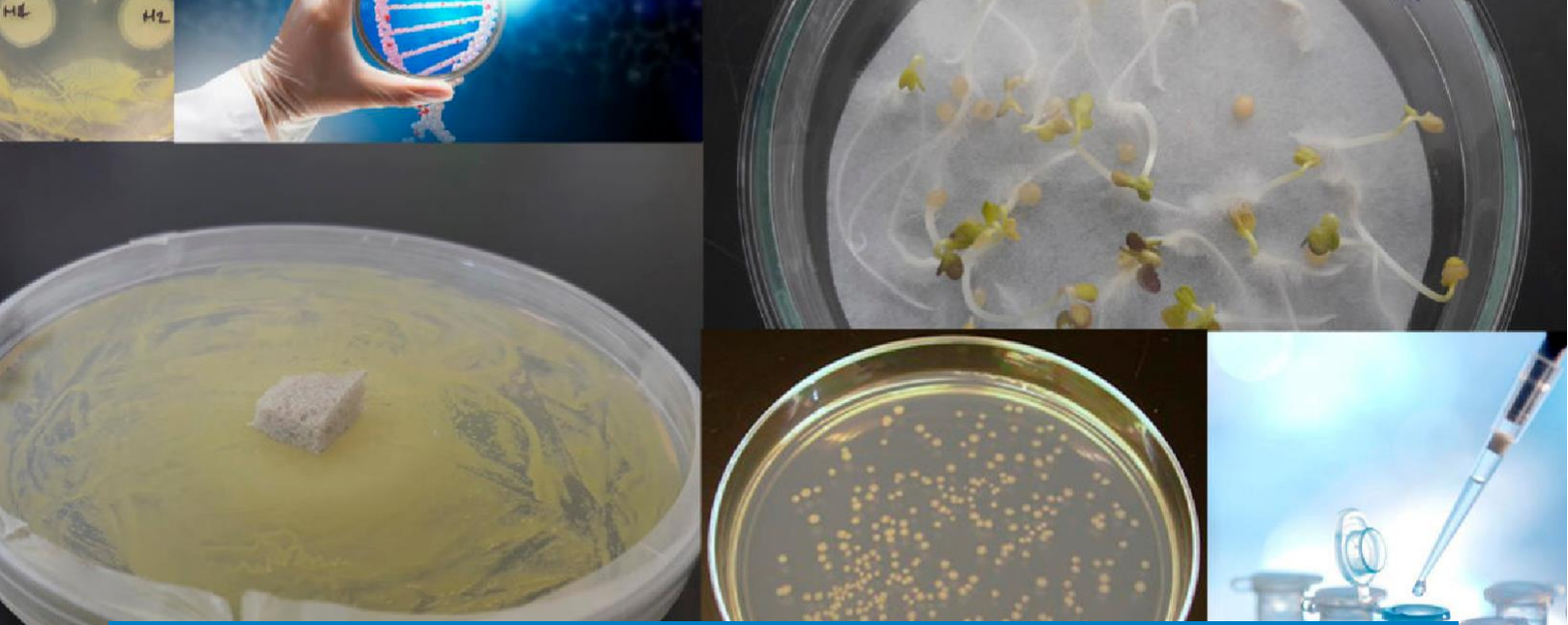

MOLECULAR BIOLOGICAL CHARACTERISATION, MICROBIOLOGICAL AND TOXICITY STUDY OF MODERN MATERIALS

COMPETENCIES

THE CORE COMPETENCES OF THE MOLECULAR BIOLOGY AND MICROBIOLOGY LABORATORY:

- Toxicity testing of modern materials, including determination of the applicability of the testing methods to the examined sample (method validation) and performance of tests (e.g. testing the biological effects of various catalysts, lubricants, additives containing nanoparticles, composite polyurethane foams, insulating materials containing plant extracts)
- Determination and testing of the antibacterial efficacy of modern raw materials (e.g. antibacterial ZnO-containing multiwalled carbon nanotubes, bacterial cellulose-based membranes, antibacterial metal alloys, antibacterial polyurethane foams)
- Investigation of applicability of magnetic nanoparticles in molecular and cell biology techniques, determination of the conditions of applicability (e.g. characterisation of magnetic nanoparticles in terms of whether they can reversibly bind the tested nucleic acids)

SERVICES

- Toxicity studies using different model organisms
- Quantitative determination of the toxicity of components used in material development by combining molecular biological and spectroscopic methods
- Antibacterial tests (effect testing, determination of efficacy)
- Determination of microbial filtration efficiency
- Development of molecular biological techniques with nanocomponents

TOOLS

- Microplate reader
- Shaking incubators
- Electrophoresis devices for detection of nucleic acids and proteins

REFERENCE

- ÉMI - Toxicity testing of plant-derived content of novel insulating materials

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