

# WASTE REVALORISATION CYCLES

Waste upcycling is an important part of CPS research. Our accomplished team of biotechnologists, microbiologists, and chemists is diligently focused on addressing diverse waste streams, orchestrating their transformation into high-value products including biopolymers, biosurfactants, enzymes, and antimicrobial compounds. Our microbial repository exceeds 150 distinct bacterial strains, with the ability to grow on a variety of plastic related substrates. These strains have been effectively harnessed specifically for plastic waste decomposition advancement as a part of research connected with currently running BioICEP, EcoPlastiC and Sustainable Fresh Meat Packaging System projects. Simultaneously, our strains possess the ability to produce biopolymers such as polyhydroxyalkanoates and bacterial nanocellulose. Part of our research revolves around biopolymers' upgrade, tackling their mechanical, thermal, and antimicrobial properties in order to broaden the scope of their potential applications. Besides plastics, our group is focusing on developing sustainable solutions for food and agro-industry waste.

