



OUR STAFF PUT FORWARD INNOVATIVE SOLUTIONS TO PLASTIC RECYCLING

The idea of recycling is to recover from segregated waste as much material and raw material as possible. Unfortunately, segregation plants face the real problem of the separation of polyolefins (a group of petroleum-derived polymers such as polyethylene and polypropylene), classic plastic packaging from biodegradable polymer packaging increasingly used on the market. This is the case where plastic waste is not selectively segregated after consumption, which in the final stage leads to the mixing of both classic petroleum and biodegradable one.

A new technology contributing to the solution of this problem is being developed at the Faculty of Science and Technology.

Professor Piotr Rychter is conducting research on the labelling of biodegradable polymer packaging with additives of natural origin, so that when producing a given package, the developed, non-toxic mixture of labelling substances will not change its biodegradability criterion. The current coding system for different types of polymers is not a sufficient tool to allow, at the segregation stage, to efficiently separate biodegradable packaging. The proposed invention will allow for effective separation of plastic waste by introducing additives of natural origin into the packaging of biodegradable polymers, causing luminescence under UV light. In view of the increasing requirements of both national and EU requirements regarding the management of environmentally burdensome waste, the invention submitted to the Patent Office of the Republic of Poland will enable the effective separation of biodegradable packaging waste from other plastics in sorting plants. This provides a real opportunity to significantly increase the improvement of the quality of the environment by reducing the amount of waste from that sort of packaging and increasing the possibility of organic recycling, where they can decompose into carbon dioxide and water.