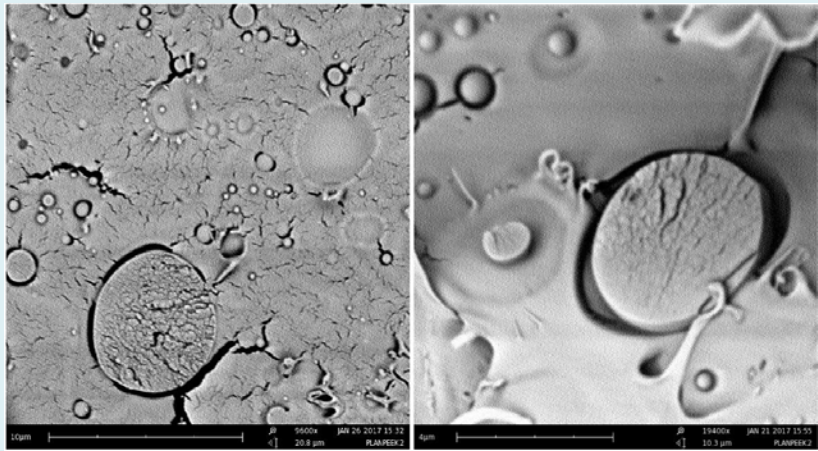


BIO4SELF project

Photo-catalytic additives for PLA

March 2017

The self-cleaning properties of PLA have been investigated by incorporating the respective functionalized materials on the outer layer of the composites. In order to reach this purpose, some photocatalytic additives (PEEK derivatives) have been synthesized to be blended with PLA by using a twin-screw extruder. The resulted functional polymers have been characterized by thermal and microscopy techniques. The evolution of benzophenone ketyl radicals have been monitored through EPR spectroscopy.



SEM image of PLA/PEEK blend

Indeed, the use of ionic liquids is able to increase the dispersion of photo-active components with PLA. Results from the above mentioned activities will be used for manufacturing and characterization of simplified composite parts.

Responsible partner: Next Technology Tecnotessile