## Poster presentations

**E515**

### A cocreation method on healthy lifestyle for youngsters – some cooperative results on three semester's cocreation

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E³UDRES² stands for Engaged and Entrepreneurial European University as Driver for European Smart and Sustainable Regions. This ongoing project adopts the innovative concept of I-Living Labs (ILL) for the development of a university of the future as well as for smart and sustainable regions. In an ILL teams of learners (students) set to work on a real-life challenge. This challenge is a complex problem that confronts an entrepreneur (stakeholder). In this study the cocreation of educational entrepreneurs, students and a stakeholder are presented on the topic of healthy lifestyle for youngsters.

The ILL team on healthy lifestyle for youngsters co-created many solutions to a problem during the last three semesters, making use of the methodology of design thinking. In this study the results and dynamic of the three ILL teams are compared showing a huge variance of creativity of interdisciplinary teams on the same real-life challenge.

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**E516**

### Biodegradation modelling of polylactic acid-based biopolymer by Thermobifida consortium

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Recently, biopolymers are become a very good alternative of petroleum-derived plastics, due to their biobased production and biodegradability. Polylactic acid (PLA) produced from renewable feedstocks including corn, wheat, rice, is one of the most promising biopolymers in the market, because it has many advantageous properties such as thermoplastic, biocompatible, recyclable, biodegradable and compostable polymer. PLA can be degraded by different routes including hydrolytic, oxidative, thermal, microbial, enzymatic, chemical and photodegradative mechanisms. Among them, the enzymatic and microbial degradation mechanisms are of particular interest, because these processes are very important in the reduction of PLA to CO2 and water. In this study, biodegradation of PLA was modelled in submerged fermentation by the consortium of Thermobifida cellulosilytica, and T. fusca bacteria strains at thermophilic environment for 21 days. Maximum enzyme titers of the cutinase and protease were 4.3-5.5 U/ml and 62-100 U/ml. PLA lost about 10-15% in its weight at the end of biological degradation process. These results are preliminary but can serve very good base for designing and construction of artificial microbial consortium for degradation of PLA-composites.

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