

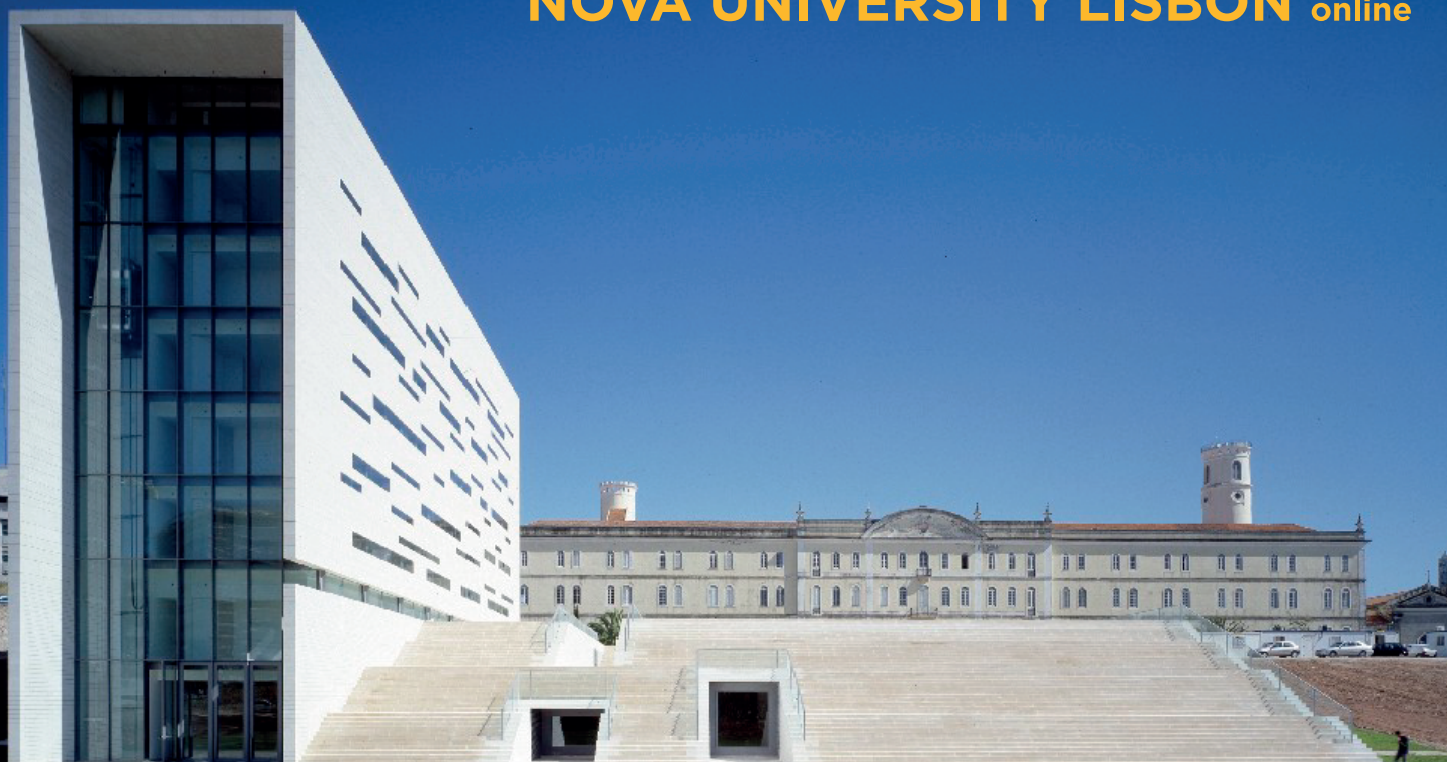
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## Abstracts Book

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### 353. Valorization of biotechnology derived spent yeast as potential ruminant feed additive

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The production of high quantities of spent yeast is a transverse problem to most industries based on fermentation processes. Traditional fermentation industries, such as breweries, and the ones that use engineered yeast to produce high commercial interest molecules, have been looking for strategies to minimize this problem. Spent yeast represents a valuable nutrient source due to its abundant levels of several high value bioactive compounds. Through an optimized autolysis process, high levels of these bioactive compounds, such as  $\beta$ -glucans, mannans, peptides, and other nutrients can be more easily available, targeting several commercial applications. Some of these compounds have prebiotic applicability in animal feed industries. The benefits of supplementing yeast in diets of ruminants trusts on the increase of cellulolytic bacteria in the rumen, increasing the energy extracted from the diets, and consequently the animal's performance (Bortoluzzi et al., 2018). Yeast derivatives have shown the potential to modulate ruminal fermentation by decreasing the starch degradation rate or by stimulating the growth of lactate-utilizers in the rumen. As the effect of it may be increased by low pH or by high-concentrate diets, supplementing the ruminant's diet with autolyzed yeast may help to counteract the negative effects of high-concentrate diets (Kröger et al., 2017; Humer et al., 2018; Neubauer et al., 2018). This research aimed to characterize a synthetic biotechnology fermentation derived spent yeast as potential additive to ruminant feed. Autolyzed spent yeast was spray dried and characterized in terms of composition and prebiotic potential. The challenge in the utilization of traditional fermentation derived spent yeast, for ruminant consumption, is to guarantee the level of protein and essential amino acids, their ratio and stability along storage. Results demonstrate that synthetic biology associated fermentation derived spent yeast presented both nutritional value and prebiotic activity showing high potential to be incorporated as an additive for ruminants feed, with an interesting amino acids profile.