

Internship in Food Engineering

Supervisor	Prof. Dr. Suse Botelho da Silva
Project	Bioconversion of agro-food industrial wastes into xylooligosaccharides and bioactive compounds
Description	Billions of tons of lignocellulosic and starchy by-products are generated every year by the industrialization of food and other bio-based products. All this material, when not used or treated properly, can contribute to increased environmental impacts, important value losses in the production chain and considerable economic damage. Materials such as peels, fibers and bagasse can be used as substrates for microbial and fungal cultivation to obtain oligosaccharides and other beneficial bioactive compounds for humans and animals. Furthermore, this strategy allows for an increase in value to the production chain and the reduction of environmental impacts with the generation of waste. This project intends to study the bioconversion of lignocellulosic agro-industrial residues and by-products via solid-state cultivation to produce prebiotic food ingredients, rich in xylooligosaccharides (XOS) and other bioactive compounds, and to develop applications for food.
Tasks	Activities related to the project include: <ul style="list-style-type: none"> - Physical-chemical characterization of agro-industrial by-products from the brewing, wine and juice production industries. - Carrying out fungal cultivation on agro-industrial materials. - Evaluation of enzymatic activity, production of oligosaccharides and phenolic compounds from the performed cultures.
Requirements	Basic knowledge of microbiology and/or bioprocess technology is recommended but not mandatory.
Language Skills	English (Portuguese would be nice, but is not necessary).
Duration	4-6 months
Possible Beginning	February/March or July/August.
Credits	According to agreement
Payment	None