



**UAAlg ISE**

UNIVERSIDADE DO ALGARVE  
INSTITUTO SUPERIOR DE ENGENHARIA



**9<sup>th</sup> Edition**

**Starting 1<sup>st</sup> Semester**

**School Year 2016/17**

# Master in Food Technology

**Department of Food Engineering**

# WHY STUDY FOOD TECHNOLOGY?

Agri-food industries of all sizes face several challenges in response to the growing consumer demands, in terms of both quantity and quality.

Currently, consumers want foods that have different looks, taste and texture, that are nutritionally rich and balanced, have functional properties and are free of physical, chemical and biological hazards.

The development of food products that meet these characteristics requires knowledge and understanding of the biological and chemical nature of food, the changes resulting from technological processes and methods to control the different stages of production and the final quality of foods.

## WHY SHOULD YOU GET A MASTERS IN FOOD TECHNOLOGY

At ISE/UALG the department of Food Engineering, has faculty members, highly qualified in Food Science and Technology, leading different research innovative areas, **WAITING FOR YOU!**

Masters Students will have the opportunity to work in these areas and learn many aspects of research using our extensive resources from well equipped laboratories, library, software and study rooms in an intellectually motivated environment.



## CAREER OPPORTUNITIES

With a **MASTER IN FOOD TECHNOLOGY**, YOU may integrate a company's technical staff or work at intermediate/senior management level in the food industry.

**YOUR** acquired skills will enable **YOU** to develop business activities in areas of work

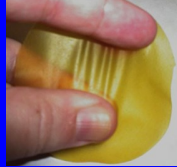
such as processing and analysis of food and beverages, research and development of new food products and processes, assessment and of environmental impact of industry, food safety and monitoring, traceability and authenticity of food products.

# On-going Research



Can a preservation process be developed to retain all the quality of the fresh food after processing? Can a package release a preservative in a controlled manner to preserve a food product and extend its

shelf life? **Margarida Vieira's (PhD)** research contribute to solving these problems. Together with Rui Cruz they develop and optimize, new processes and new food products as well as new packaging systems. On-going research is in the development of food packaging films (biopolymer) with natural preservatives encapsulated at micro and nano scale.



**Rui Cruz (PhD)** also works in the optimization of extraction methodologies applied to Mediterranean plants with further characterization of the antioxidant and antimicrobial properties of the extracts.



**Jorge Pereira (PhD)** Research in the area of Food Engineering in particular in meat products technology, in the sensory physicochemical and microbiological, characterization. Application of packaging technologies and determination of validity.



**Jaime Anibal (PhD)** research deals with the influence of ecological factors on seafood quality, with emphasis on: [1] biogeochemical processes (e.g. nitrogen cycle) controlling nutrient availability for food webs; [2] new indicators (e.g.  $\delta^{15}\text{N}$  and  $\delta^{13}\text{C}$ ) for seafood spoilage; [3] primary producers (e.g. green macroalgae) as bioremediators for nutrient rich effluents from food industries.



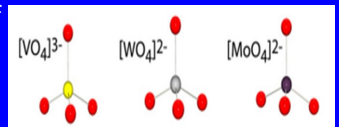
Which are the healthy/health-promoting components of a



raw food? Are they still present after storage, processing and cooking? And what about after ingesting and digestion? These are some of the questions that **Ana Cristina Figueira (PhD)** and her group are trying to find answers for the physicochemical composition of foods is determined. Their biological activities, bioactivities, and bioaccessibilities are also investigated. In addition, their potential and economic viability in the production of functional ingredients and foods is also evaluated. All food matrixes are considered for study, but a particular emphasis is being made on traditional/ethnic foods and components of the Mediterranean Diet.



**Gil Fraqueza (PhD)** research is related to investigations on the enzymes for clotting of milk, physico-chemical characterization of biological agriculture products and, on the effects of oxometalates on ion pumps which includes the following research topics (i) the role of decavanadate and decaniobate in biology; (ii) antioxidants: toxic and/or beneficial effects; (iii) ion pumps as toxins/drugs targets.



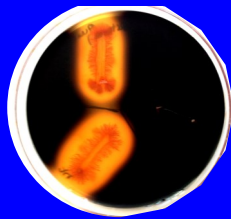
The focus of R&D carried out by **Eduardo Esteves (PhD)** at DEA is on the study of the quality changes during storage and/or processing and the study of the spoilage dynamics of fish and seafood products, such as the highly-valued meagre, mussels and clams or the less-valued, under-utilized mackerel, catsharks and triggerfish, using sensory analysis and sensometrics, as well as the statistical modelling of changes in physical-chemical and microbiological parameters.



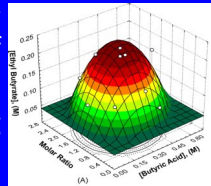
# On-going Research



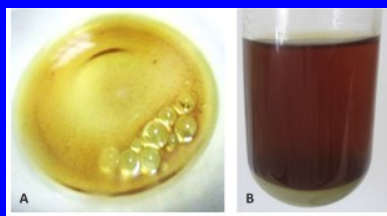
**Célia Quintas (PhD)** main scientific activity is developed in the areas of Food Microbiology, Food Preservation and Food Fermentation with emphasis on yeasts and microbial quality of fruit and vegetables. At present her research focus on foods of the Mediterranean diet, including fermentation studies on natural table olives from south Portugal (Maçanilha Algarvia e Galega) with the objectives of gaining a better knowledge on the production processes, on producing table olives with low salt level using alternative chlorides to NaCl and to extend packed table olive shelf-life. At the same time, the study of safety microbial parameters in fresh-cut fruit and the application of alternative disinfection methods. Is being carried out.



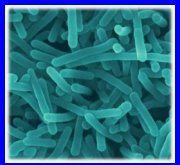
**Paula Pires Cabral (PhD)** works in the area of expertise of Process and Product Innovations, such as modeling and optimization of reaction systems. Bioreactor design and implementation. Study of enzyme-catalyzed reactions in non-conventional systems: i) Production of fruity flavors for the food industry (e.g. ethyl butyrate, a pineapple-like flavoring ester); ii) Production of structured lipids with functional/nutraceutical properties (e.g. dietetic TAGs, MLM type to reduce obesity). At present she is working with Célia Quintas in collaboration with an algarvian company on quality assessment of biological and nutritional characteristics of table olives.



**Patrícia Nunes (PhD)** develops her research in Food Engineering with a special emphasis in developing special oils with nutraceutical properties and production of structured lipids with low caloric value through biocatalysis.



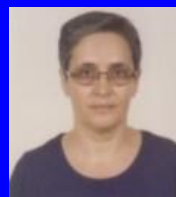
*Listeria monocytogenes* is a foodborne pathogen of major public health concern, responsible for listeriosis, a highly fatal infectious disease associated with consumption of contaminated food. The tolerance responses displayed by this microorganism and its ability to overcome both food-processing barriers and host defences are challenging for both public health authorities and food industry.



**Jessie Melo (PhD)** works on the elucidation of the mechanisms underlying these processes, crucial to establish effective control measures and ensure food safety.



**Isabel Ratão (PhD)** works in the area of food safety, using Lactic Acid Bacteria as food preservation methodology. She has special interest in Hazard Analysis and Critical Control Points system applied all over the food chain. She also has interest in ISO 22000, BRC and IFS food standards. Currently, she is working in the implementation of the NP EN ISO 22000:2005 in a purification centre of bivalves.



**Ludovina Galego**, works in the development of and characterization of spirits drinks, always envisioning the optimization of the available products and valorisation of the biological resources available. The techniques most used are GC, HS-GC; GC-MS, LC or LC-MS<sup>n</sup>.



# WHO SHOULD APPLY?



# MASTER IN FOOD TECHNOLOGY STUDY PLAN

## REQUIREMENTS

Graduates with a 1st cycle degree *sensu* Bologna Protocol, or a Bachelor degree, or a University-level Degree or a relevant academic, scientific or professional curriculum in Food Engineering/Science/ Technology, Biology, Chemistry, Agronomy, Biotechnology, Biomedical Sciences or related-areas are welcomed to apply.

To study at this university, **you have to speak English**

## How to apply?

Fill in the application form and send it together with all the documents required to the degree secretariat.

For more information please consult our website or by email.



## APPLY NOW!!



## Contacts

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[www.ise.ualg.pt](http://www.ise.ualg.pt)

Universidade do Algarve  
[www.ualg.pt/](http://www.ualg.pt/)

Academic life  
[www.aualg.pt](http://www.aualg.pt)

Faro and Algarve  
[www.visitalgarve.pt](http://www.visitalgarve.pt)

1st Year - 1st SEMESTER	ECTS
Enzymatic Engineering	5
Enology	5
Applied Statistics	5
Technological Innovations	5
Option I	5
Option II	5
	30

1st Year - 2nd SEMESTER	ECTS
Industrial Microbiology	5
Food Traceability and Safety	5
Seminar	5
Water and Environment	5
Option III	5
Option IV	5
	30

2nd Year - ANNUAL	ECTS
Internship or Project	45
Report	15
	60

OPTIONS	ECTS
Technology of Products of Vegetable Origin	5
Technology of Products of Animal Origin	5
Mediterranean Food Products	5
Functional Foods/Nutraceuticals	5
Thermal Processing	5
Water Microbiology	5
Emergent Microorganisms	5
Quality Management of Food Products	5
Modelisation and Optimisation of Food Products	5
Valorisation of Sub-Products of the Agri-Ind.	5
Environment Sustainability and Food Safety	5