Facts & Figures

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SPECIAL POINTS OF INTEREST:

- *Azeite+Global*
- *HighTech for Plants*
- *iBET & AbbVie*
- *Visit to Sumol+Compal*
- *Spotlight on Stem Cells*

INSIDE THIS ISSUE:

HIGHLIGHTS

CONCLUSION OF THE PROJECT AZEITE+GLOBAL

The **QREN** project led by SOVENA is now complete. The project was carried out by SOVENA and several researchers from iBET, FCT-UNL, Faculty of Pharmacy-UL and the University of Glasgow. iBET was responsible for the scientific coordination and compilation of results. The project aimed at developing new scientific and technical knowledge, at the level of the of olive oil production chain value, which could allow the creation of products, processes and methods of analysis and control and would also allow a greater insight into the health beneficial effects associated with olive oil consumption in a normal diet. All objectives were fully met, namely: **i)** Environmentally friendly supercritical extraction and membrane processes, were developed for the recovery of bioactive compounds; **ii)** Studies on techno-economic feasibility and on environmental sustainability of these membrane processes were conducted; **iii)** A reinforcement of the skills on sample pre-extraction treatment was attained. **iv)** A laboratory facility for incubation of solid and semi-solid samples with pressurized carbon dioxide was developed; **v)** New methodologies for fast analysis in quality control were developed **vi)** New methodologies for the analysis of olive oil extracts of and biological samples (plasma and urine) were defined;

The compounds/extracts that were recovered and that had bioactivity were characterized qualitatively and quantitatively, including the evaluation of their cytotoxicity; A clinical trial was conducted with healthy humans in order to evaluate the effect of olive oil consumption in the presence of biomarkers of disease.

POR LISBOA

QREN QUADRO DE REFERÊNCIA ESTRATÉGICO NACIONAL

UNIÃO EUROPEIA
Fundo Europeu de Desenvolvimento Regional

AMORIM CORK RESEARCH VISITS IBET

AMORIM
AMORIM CORK COMPOSITES

Last **February** iBET received the visit of the president of Corticeira Amorim, **Antonio Rios de Amorim**, along with **Susana Silva** (Head of Amorim Cork Research) and José Pedro Fernandes (head of R&D of Amorim Florestal). The president (**António Eusébio**) and the CEO (**Paula Alves**) of iBET welcomed the visitors and reinforced the interest in establishing very close relationships and strengthening the activities between iBET and its partners. The visit was an opportunity to visit our facilities and also to discuss some of Amorim's objectives in terms of R&D, helping iBET team to identify issues that could be a source of new projects, namely with **Plant Genomics and Biotechnology** group and **Membranes Processes laboratory**, and enhance even further the collaboration with the **Nutraceuticals & Controlled Delivery** area, where a project with **Amorim Cork Research** is being developed **since 2011**.

Drought Tolerance

A cooperation between **iBET** and **Fraunhofer** is established to study the transcriptome of *Jatropha curcas*, a **biodiesel plant** with a **high drought tolerance**. Morpho-physiological studies of drought response conducted have been performed. Further functional studies to validate putative candidate genes involved in the pathways affected by stress are confirming interesting mechanisms of drought adaptation.

Cleanward

Cleanward is a two-year EU-funded FP7 project which aims to develop a novel, safe, user-friendly anti-microbial **cleaning system for hospital ward surfaces** based on the use of a titanium dioxide coated ultra-microfibre fabric that will easily integrate into existing contract cleaning equipment. The coating will react with water and UV to produce a highly reactive environment killing all harmful micro-organisms quickly and thoroughly without the need for chemical disinfectant, all in an isolated, low water volume unit. Moreover, the cloths will be available for re-use without running the risk of microbiological cross contamination.
Apart from **iBET**, partners in this endeavour include RTDs and SMEs distributed through the UK, Turkey, Norway and Italy, and three end user NHS trusts – South Eastern Health and Social Care Trust in Belfast, NHS Lanarkshire and Nottingham University Hospitals NHS Trust.

A Novel, Safe, User-Friendly Anti-Microbial Cleaning System For Hospital Ward Surfaces

iBET's Most Recent Papers

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4. Lamego J, Cunha B, Peixoto C, Sousa MF, Alves PM, Simplicio AL, Coroadinha AS: Carboxylesterase 2 production and characterization in human cells: new insights into enzyme oligomerization and activity. Applied Microbiology and Biotechnology, 2013; 97:1161-1173.
5. Negrao S, Cecilia Almadanim M, Pires IS, Abreu IA, Maroco J, Courtois B, Gregorio GB, McNally KL, Margarida Oliveira M: New allelic variants found in key rice salt-tolerance genes: an association study. Plant Biotechnology Journal, 2013; 11:87-100.
6. Oehmen A, Marques R, Noronha JP, Carvalho G, Reis MAM: Propionate addition enhances the biodegradation of the xenobiotic herbicide propanil and its metabolite. Bioresource Technology, 2013; 127:195-201.
7. Pereira VJ, Marques R, Marques M, Benoliel MJ, Barreto Crespo MT: Free chlorine inactivation of fungi in drinking water sources. Water research, 2013; 47:517-523.
8. Prigol M, Nogueira CW, Zeni G, Bronze MR, Constantino L: Physicochemical and Biochemical Profiling of Diphenyl Diselenide. Applied Biochemistry and Biotechnology, 2013; 169:885-893.
9. Sapeta H, Miguel Costa J, Lourenco T, Maroco J, van der Linde P, Margarida Oliveira M: Drought stress response in Jatropha curcas: Growth and physiology. Environmental and Experimental Botany, 2013; 85:76-84.

"iBET is a First Class International Biotech Center With Scientific Abilities With High International Academic Competitions And Industrial Capabilities That Will Help Satisfy Both Biotech And Pharma Companies"

Daniel I.C. Wang, Institute Professor of Chemical Engineering, MIT